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Nada Chance
Xanth Fans Would
Miss This One

Legend Entertainment's
Companions of Xanth

by Johnny L. Wilson

Grundy Golem: So, you understand that each character has a personal name, a creature/race name: Jenny Elf, Che Centaur, Demoness Metria, and so on.
Dug Mundane: Okay, but who's the gorgeous blonde on the cover?
Grundy: She's Nada Naga.
Dug: I can see she's not a Naga. Otherwise she would have a long serpentine tail. But who is she?
Grundy: Nada Naga.
Dug: I know she's not a Naga ...
Grundy: Then what do you need to know?
Dug: Her name.
Grundy: Nada Naga.
Dug: I didn't ask her race. I asked her name.
Grundy: Nada Naga.
Dug: I know she's not a Naga ...
Grundy: Right!
Dug: What do you mean, right?
Grundy: She's Nada Naga. She is a Naga and her name is Nada. Her talent is the ability to change from human to Naga form.
Dug: So she is a Naga, but she's Nada Naga.
Grundy: That's the first intelligent thing you've said since you started playing this game.

Fans of Piers Anthony's Xanth books and Abbott and Costello's "Who's on First?" routine will immediately be relieved to know this conversation isn't in Legend Entertainment's upcoming Companions of Xanth. I use it as the opener, however, to show those who are not familiar with Xanth what a punful place it can be to go adventuring within. In addition, it introduces the unusual looking femme on our cover and tips off the fact that the player is going to have to get to know her in order to succeed in this adventure.

Companions of Xanth is based upon Demons Don't Dream, the latest Xanth novel from Piers Anthony. In the book, still only available in hardbound at press time, there is an argument between two demons: Earth and Xanth. Those who have followed the series know that these are the dualistic demigods who hold the futures of Mundania (Earth) and the magical land of Xanth in their hands. The thesis for both the novel and the game is that Earth and Xanth have made a bet, a gambit rather like that of Yahweh and Satan in the prologue to Job or like Nickles and Zeuss in Archibald MacLeish's J.B. They have decided to make a wager upon the performance of human beings in a test of wits and prowess.

Indeed, the interesting conceit of the game is that the player's character is Dug Mundane and that the game which Dug plays in the book is the same one, Companions of Xanth, which the player has just purchased. Of course, the premise of the game is that one demon has bet on the player's character and that the other demon has bet on a computer-controlled character named Kim. The set-up for all this has some humorous overtones and describing the denouement would reduce the enjoyment of discovery within the game experience.

So, suffice it to say that gamers will assume the role of Dug and adventure within the familiar environs of Xanth. They will encounter notorious puns and familiar characters; they will enter the infamous Gap (no, not panting for breath) and encounter Stanley Steamer, the Gap Dragon; they will solve the entrance puzzles to get into Magician Humphrey's castle; and they will stare into hypnogogic and end up in the notorious void.

The Legend Evolves

Of course, the first thing Legend veterans are going to say is, "It doesn't look like a Legend game." Indeed, the designer has gone far beyond the graphic text adventure approach of the Spellcasting series and Timequest adventure. It has even gone beyond the interstices of full-screen puzzles, cut scenes and animation in Gateway and Eric the
Unready. Indeed, the new interface looks like a graphic adventure in the true sense of the word.

In fact, looking at the screen may give people the erroneous feeling that this is a LucasArts graphic adventure in the SCUMM tradition. The art style isn’t quite the same and the command/inventory lines are not in the same places on the screen, but that feeling of deja vu is initially present. However, that doesn’t begin to tell the full story.

The truth is that this is a “smart interface.” It is point-and-click like many of those found in graphic adventureland, but the underlying parser is solid enough that it doesn’t care about the order in which gamers click. One can click on a verb and then an object, or one can choose an object and then a verb. If one clicks on an object that has special verbs associated with it, a submenu of additional commands appears on-screen. Each object usually has a default verb with it. If the player simply clicks again, that order is implemented. If the player wishes to do something else, the default can be overridden.

When the player clicks on objects and verbs that provide for multiple interpretations, the “smart parser” (that’s what we call it) allows the game to pick between possibilities. If a possibility is grammatically possible, but not a possible action in the game context, said command will appear as a “gray” command line to allow the game to know that it is not the solution. Though *Companions of Xanth* is essentially a graphic adventure (i.e. contains pictures with hot spots and objects, and limits the basic command list to 10 verbs), it contains over 100 different verbs that can be used at various times during the game.

Further, a lot of design time has been spent in trying to anticipate the weird things that gamers might try to do. So, responses and occasional animated sequences have been placed within the game to supply such contingencies. Another philosophical underpinning for the new interface is that there will be no “Hunt the Pixel” puzzles. As the player sweeps the cursor over the graphics, anything “hot” lights up, but nothing smaller than a post-it note done to scale will ever be important.

The folks at Legend have been concerned that most of their previous games tended to look like pretty pictures surrounded by a sea of text. The new interface makes most descriptions fit into two lines. If the description needs to say more, boxes expand over the inventory and companion boxes at the bottom of the screen in order to allow for more text.

Further, the new dialogue system substitutes a portrait window over the graphic presentations. The non-player character will say something and a variety of responses will be allowed for the player’s character. It is point and click like the rest of the interface, but the conversations are dynamic and change, depending on what Dug has said in previous conversation(s) or what he has done.

The new interface shows that the design team is willing to spend some time to draw more than static pictures surrounded by text. Almost every environment within the game has an animation running somewhere in the picture. In Mundanta, it is always raining (animated rain) in order to encourage the gamer to learn the interface and get out of the wet, depressing environment and into colorful Xanth. Some of the animated features will be as simple as rain falling, water rippling, and bees buzzing, but they reflect Legend’s desire to make their screens appear less static to gamers who are intimidated by their traditional graphic text adventures.

Another interesting graphic touch is that the icons in the player’s inventory line change to reflect their current status. Remember that puns abound in Xanth, so one can pick a buttercup, remove the butter and use the cup for something else. The butter will appear in the inventory as a pat of butter, but will melt if the player doesn’t do something with it. We thought this was a nice touch.

**From Scene To Shining Scene**

The game also features another new approach for Legend. Since the wager indicates that the player’s character is competing against the computer’s character, the game uses several settings as opportunities for cinematic cut scenes. These recrystallized images have been touched up by the animators so that they don’t look as rough as most recrystallized animations, and they tell not only the story of Kim’s (the competitor’s) progress, but they unveil a secondary plot through “film,” as well. In order to keep the Kim cut scenes from becoming too repetitious, players also get to see some of the meta story (remember the wager?) that Dug doesn’t know about. These cut scenes show how the demons are reacting to the situation, much like the comments from the popcorn salesman and balloon seller who represented God and Satan in the Broadway play, *J.B.*

Xanth is a fascinating place and the graphics/music of the game do their best to present some of its diversity. Though it is a reasonably sized game, the design philosophy is to have no environment larger than 15 rooms and no puzzle which requires the player to backtrack unreasonably. The desire is for players to experience the fun and whimsy which is Xanth without getting frustrated.

Michael Lindner, designer of the game, was producer of *Spellsasting 201* and *Frederick Pohl’s Gateway* (as well as co-designer of *Gateway*). His biggest challenge, in addition to remaining true to the universe described in more than a dozen Xanth books, is to interweave his “Ron Gilbert” philosophy of player-friendly design with the reality that Xanth, for all its frivolity, is still a dangerous place. In balancing the humor and the danger, lies his challenge.

Gamers who like puns will definitely want to play *Companions of Xanth*. Those who are offended by word play, need not apply. As for me, visiting Xanth is always worth the effort. **EW**
Air Ball

Michael Jordan in Flight from Electronic Arts

by Wallace Poulter

"Oh, he flies through the air with the greatest of ease,
That daring young man in his high top Nikes."

Basketball, funny enough, is the primary reason that soccer has never become popular in the U.S. In the rest of the world, soccer (or football as it is known worldwide) is the working class sport of the masses. Anyone who walks into any run-down public housing track in the U.K. is likely to see groups of kids playing soccer with almost anything: a real soccer ball, a soft drink can, a tennis ball or even a rock. Meanwhile, in the U.S., basketball is the king of the inner-city environment and it is here that some of the best ball is played in 3-on-3 tournaments. The fact that Jordan is allowed contractually to play in such 3-on-3 tournaments was a surprise.

Jordan in Flight (Jordan) arrives in a large, gaudy, two and one-half-inch deep box. Of this, some one and three-quarters inches of the box amounts to air. This, of course, might be appropriate for Air Jordan, but in these ecologically sensitive times one has to wonder why so many trees were sacrificed to the god of packaging.

Further, one must question the wisdom of a sports simulation where a 486/33 is the recommended platform. Flight simulation fans may have high-end machines of necessity, but we doubt many sport game fans do (especially in a market where some of the best sports products remain text-based). On the reverse side, of course, one could praise EA for pushing the envelope.

The Tip

First impressions are incredible. The 3D-based graphic engine is so far ahead of everyone else, it is amazing. The manual claims that flight simulation algorithms are applied to let the player view the game from any distance or angle. However it is done, it is breathtakingly impressive. Immediately upon jumping into a 3-on-3 exhibition game, the full array of Jordan's impressive shot-making ability is available. From the quick first step around the defender to a leaping wraparound dunk, Jordan is a continuous flow of superb 3D animation. Mouse control is easy to use, and the number of actions available is kept to a minimum, which helps the ease of play and keeps the simulation accessible to all levels of players.

The video replay and video edit option allow the user to not only replay the previous play, but to create and manipulate one's very own highlight film. The interface for these options continues to improve and Jordan in Flight provides such functionality in a very logical and friendly fashion. The replay and highlight part of the product should be a significant part in any purchase decision. If the user enjoys putting together highlight films of their greatest achievements, this is a major plus.

Setting a Screen

The manual is particularly impressive, although not for its look, which is almost exclu-
Anything You Want...

You Got It!....
sively red, white and black. Maybe this was some attempt to convey the colors of the Chicago Bulls. What is impressive is that four of the first pages deal with such matters as "Video Mode Support," "Sound Card Support," "Performance Issues," "Potential Graphic Anomalies," and "Troubleshooting." Someone took a lot of time testing the compatibility of Jordan in Flight and they should be applauded for their effort. In addition, Mitchell Anthony has done some entertaining work with some flip-book animation in the manual. This is a nice little touch that underscores the craftsmanship that went into the product.

In the Paint

Game play revolves around a 3-on-3 tournament held among teams based in some of the hotbeds of street basketball. Manhattan, NY, Oakland, CA, Lowell, MA are all represented, along with Jordan's own Wilmington club. For some reason, though, there is no team from the streets of Chicago, where some of the nation's best street basketball is played. Multiple options keep the game interesting for a while. Six different scoring or time methods are available from the first to score eleven baskets to using 12 minutes per quarter. In the latter, there is some strategy involved, as tiring teammates will have to be substituted to keep the team fresh.

There are three levels of difficulty, Street Ball, College and Pro. Unfortunately the Pro level is far too easy, and the reason can probably be traced to the fact that the product is based on Michael Jordan. Jordan is just too good overall and, as a result, you don't need the other players to develop a successful strategy. There are two different strategies that will win almost every time. The first is for Jordan to exclusively take 3-point shots. Jordan is so good that he hits almost 50% of the time. A quick look at the mathematicians will show you that the opposing team must shoot over 80% of their 2 point shots to beat the Jordan-led Wilmington team. A second option is for Jordan to keep the ball and run around, shielding the ball, until an angle to the basket is established. Then, head for the basket for a satisfying slam.

I also found that the best team was created by selecting the best rebounders. In this way, I could compensate if I missed a shot taken by Jordan on the outside. This way, the offensive rebounding strength would afford him second and third chances.

There are four specific plays included with the game. These are the low post cutter, high post cutter, back door screen and give 'n go. Again, if the game was more challenging, these would be useful. As it stands, there is little need for them.

Foul Trouble

What is it about basketball simulations? From the original "Larry Bird and Dr. J do very little" through "Michael Jordan and Larry Bird do even less," there seems an inability to transfer a good game to the PC market. To quote from the manual, "It has taken a long time and a great deal of ingenuity on the part of the developers to create a game that can compete with Michael Jordan in Flight."

The box copy announces "Revolutionary video-sim (TM) technology captures all the air artistry of Michael Jordan with unprecedented realism." That's an extremely accurate description, but you will note that there is no mention of a "game" in that description. Again quoting from the manual, "We chose to set Jordan in a 3-on-3, half court game because it's the best format in which to showcase his talent." It would have been more refreshing to see "With a recommended set up of 486/33, if we had gone to 5-on-5, the game would have been horrendously slow.

Hitting the Three

After especially good or poor shots, a pop-up video of Michael Jordan is played. Such lines as "What a brick" and "Maybe you should take up golf" accompany one's less impressive efforts. I did get a chuckle from the Jordan voice over, that appears occasionally during the game, when he spoke of it being time for the North Carolina defense. Dean Smith, the North Carolina Tar Heels head coach and Jordan's college coach, is generally credited as being the only person who could hold Jordan under 20 points a game.

At the Buzzer

Michael Jordan in Flight is the most visually realistic sports software on the market. The Video-Sim (TM) technology is indeed revolutionary, and Mike Suarez and Greg Zunnwalt should be congratulated for bringing us closer to a more realistic depiction of the sport. Michael Jordan in Flight, however, is only half the process. Now, they need to apply the technology to a game.
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Rules of Engagement 2 is the latest Interlocking Game System module - and can link with Breach 2 or Breach 3 (coming this fall).

- Exciting animated sequences featuring 3D rendered spaceships relate the storyline at strategic points within campaigns. Players can create their own tree-structured campaigns with the world's first campaign-builder - and can even include their own PC Animate Plus animation files!

- Rules of Engagement 2 features an outstanding interface. Game screens consist of four QuadPanels, color coded to distinguish different control systems. The central control bar coordinates all activity between panels. Users can select which of the 28 QuadPanels appear on the main screen - and can even save several configurations for use in different situations.

- Rules of Engagement 2 offers a significant advance in artificial intelligence within computer gaming. Each starship captain has a substantial dossier complete with many personality traits which affect how he, she or it reacts to orders and situations which arise.

- Rules of Engagement 2 offers immense replay value, allowing the player to design and construct both friendly and hostile spacecraft and their captains, specify the physical and mental capabilities of the enemy forces -- and design solar systems in which the battles will take place!

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STANDARD OPERATIONAL DIRECTIVES: STARFIGHTER COMBAT

Situational Awareness and Energy Management

A Rebel Starfighter Pilot needs more than dogfighting skills to defeat the Empire. Situational Awareness and Energy Management are the two keys to developing effective starfighter tactics. Situational Awareness is knowing where you are, where your enemy is, and what you need to do to accomplish your mission. Energy Management is configuring your ship's power system to achieve the maximum efficiency. Proper use of these skills will depend on your ability to constantly analyze and reassess your situation in a rapidly changing environment.

Situational Awareness and the Combat Multiview Display (CMD)

The CMD is the most important part of your targeting system. The very first thing you should do at the start of any mission is query the CMD (in ID mode) for the nearest enemy fighter [R]. Note that, though armed, Shuttles and Transports aren't considered "starfighters" and will not be selected by the targeting system in this manner. If there are enemy ships nearby, you will have to decide quickly whether to engage or proceed. You should consider yourself already under attack if there is an enemy less than 2 klicks distant! Using the targeting system and the CMD, quickly cycle through all of the craft displayed on your sensors, noting their type and distance [T or Y]. Pay particular attention to those ships most critical to your mission. As time allows, assign them to the memory locations of the targeting computer for quick reference during the mission [Shift-F5-F8]. As new ships enter the area your R2 or ship's computer will alert you with an appropriate message. Target the new arrivals in the CMD to see how they affect the overall situation. As you do this you should be building a mental map to help you determine the best way to achieve your mission.

Energy Management and the ELS Display

The primary consideration during any mission is what power configuration will optimize your chances for success. There are three main elements of concern. These are the Engines, Weapons and Shields. Depending on mission goals and the needs of the moment, energy levels may be optimized for maximum speed, firepower or defense. There are always trade-offs and you will have to learn the pros and cons of each. As the mission proceeds you may find it necessary to make frequent adjustments. There is no "perfect" configuration. Nevertheless, you should always strive to maintain fully supercharged cannons and full primary and secondary shields.

Here are some tips for managing energy in battle:

- **Shift weapon energy to shields.**
  When you begin a mission you will find your cannons are already at their supercharged levels. Your primary shields will be fully charged, but your secondary shields will not be charged at all. Note that the cannons recharge more rapidly than the shields. Experienced pilots have found they can bypass certain inefficiencies in shield recharge rates by setting the cannon recharge rate at maximum and then transferring that energy to the shields [ or Shift-F10]. Quickly build up your secondaries by transferring any accumulated cannon energy directly to the shields.

- **Use shields to store energy.**
  Shields dissipate energy more slowly than the cannons. Use shields to store energy like a battery. When you are redirecting as much energy as possible to the engines for greater speed, but still wish to maintain your shields, you can keep the shields at their normal recharge rate and redirect all the cannon energy to the engines. Then, when you need to fire your weapons, you can quickly transfer shield energy to the cannons [ or Shift-F19]. Don't forget to reset the recharge rate for the cannons!

- **Use cannons to charge shields.**
  Another alternative which allows good speed, shield maintenance and some firepower is to redirect all shield power to the engines and set the cannon recharge rate to one above normal. Then manually transfer cannon energy to the shields every few mo-
Command your planet's military resources in an effort to conquer a hostile neighbouring planet. You control a state-of-the-art workstation from which advanced software tools enable you to design new craft, research new technologies, build new installations & craft, set up highly sophisticated missions - and watch the progress of this strategic interplanetary conflict.

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ments. This increases your workload, but in a low threat environment where you're not actually using the cannons very much this works well. You can actually build up a full charge for both systems this way!

- **Redirect energy to engines for maximum speed.**
  For maximum possible speed you will need to redirect both cannon and shield energy to the engines. As long as you have already maximized your shield strength first, you should have a few minutes before that energy dissipates. Note that normal recharge rates merely maintain current energy levels.

- **Redirect energy to other systems to slow down.**
  This is the corollary to the previous rule, but is sometimes overlooked by novice pilots. When it is necessary to reduce speed, like when you want to keep a slower-moving target within range, you may choose to redirect energy from engines to shields or to weapons instead of cutting your throttle. This way, you achieve the speed desired, but also gain additional charging for other important systems. Just don’t forget to correct your settings when more speed is required.

**Weapons, Targets, and Firing Configurations**

Weapon selection and firing configuration decisions will often determine the success or failure of a mission. There are a few general rules that apply to almost every situation.

- **Homing Projectiles:** Homing projectiles such as concussion missiles and proton torpedoes are intended to give you some “standoff” attack capability. Since these are “fire-and-forget” weapons, their rapid deployment can help you quickly even the odds in your favor.

  Torpedoes are designed for attacking larger and slower ships. Torpedoes, though faster than a starfighter, can’t turn as well. An alert pilot can always evade one, so avoid using them against starfighters unless the enemy is flying straight and level or in a head-on attack. Also, it should be noted that Imperial doctrine prohibits “wasting” torpedoes on starfighters so you probably will not find yourself targeted by one. Concussion missiles, on the other hand, are designed for dogfighting. Because of their great speed they are also somewhat effective at intercepting torpedoes.

When targeting large enemy ships you must be within 6 klicks to get a lock-on. Against small ships the distance must be less than 2 klicks. At extremely long range you must keep the target absolutely centered in the targeting box. You will discover that Imperial ships are able to achieve solid lock-ons while you are still acquiring your lock. This is one area in which they maintain a slight technological edge.

- **Cannons:** For most combat and almost all dogfighting you will rely on your cannons. The dual fire mode has proven to be the most effective compromise when considering power, targeting opportunities and firing speed. In the X-wing this is especially true because the cannons are in a twin mounting that places their fire in a very small area. If the target is going to be hit at all, it will be hit by both guns and may well receive the double shot! In the X-wing, and to a lesser degree the A-wing, dual-fire mode is preferred because the wing-tip mounting of the cannons allows a much larger area to be considered by the targeting system. Although this results in a less efficient use of cannon energy (since up to half the shots may miss), it is offset by the benefit of having more firing opportunities against a small, rapidly maneuvering target such as a TIE Fighter. In fact, because TIE Fighters are smaller than an X-wing’s wingspan they can find safety between the cannons right in the center of your targeting box!

**General Notes On Combat**

Combat in space is all about positioning. You want to be in a position to hit the other guy, and you want to avoid being in a position where he can hit you. In engagements between starfighters this is a straightforward task. A starfighter’s weapons all face forward, so if you can position yourself on the enemy’s tail and stay there, you will defeat him.

- **Dogfighting to the End**
  When dogfighting, pick a target and stay with it until you have destroyed it. (See the rule relating to Hull Damage for an exception to this rule.)

- **Breaking up a Formation**
  When breaking up an attack by several enemy ships in formation, your primary task is to keep firing long enough to force a particular ship to break formation. Proceed to attack each ship in the formation until all have been forced out of their attack run. After that, destroy at will or continue with mission objectives.

- **Using Missiles on a Flight Group**
  When attacking a multiship flight group with missiles or torpedoes, lock and fire as quickly as possible. If a missile or torpedo is evaded at first, don’t worry; it will continue to track the target. After you have fired at each of the enemy ships, go back through the target list to the earliest one that still survives. Fire another projectile if necessary, but try to take it out with cannons if you can. Remember, there aren’t any reloads in a dogfight! Use them wisely. (When employing missiles or torpedoes against stationary targets it is not necessary to get a solid lock. A few seconds of “yellow” is sufficient).

- **Escort Duty**
  When flying a defensive patrol stay within a few klicks of the vessel(s) you are protecting. When you move to intercept any attackers try not to go more than eight to ten klicks away.

  A second attack on the other side will catch you too far away to get back in time. Also, when protecting other ships try to draw off the fire of large enemy ships by flying within range of their guns and popping off a few shots yourself.

- **Suicide Attacks**
  In a one-for-one war of attrition the Empire will win. They know this and will not hesitate to spend their starfighters in suicide attacks against ours. In a head-on attack never assume an Imperial pilot will try to avoid colliding with you. His devotion to the Emperor, his honor and bravery are all confirmed when he dies while destroying the forces of the Rebellion. Fortunately for the Alliance, the ruggedness of our starfighters enables them to withstand most collisions with enemy starfighters. This is especially true when all shields are fully charged. However, despite the fact that these collisions usually result in the destruction of the enemy fighter, this is not considered a good tactic.

Note that due to the rate of closure during head-on attacks, you can start firing at 1.7 to 1.9 klicks. When making a head-on attack into
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heavy fire you are advised to avoid enemy fire by maneuvering in a "corkscrew" manner until you have closed to dogfighting range. Then, when your target flies past, turn behind him and attack.

In the case of TIE Fighters or any other fighter with hull damage, you can maintain a straight and level head-on attack because the target will be destroyed with only a few shots. This is risky, however, as you will take several hits to your forward shields.

- **The "Wotan Weave"**

  Learn to do the "Wotan Weave." This is a spiral or corkscrew maneuver that will enable you to avoid enemy fire while maintaining a particular heading.

  First target the craft you wish to head towards (or away from). With this as your reference point, start turning while simultaneously pulling back (or pushing forward) on the stick. If you are doing this correctly, the targeted craft's blip will appear about half way from the center of the appropriate sensor display. Your stick will be approximately half way towards a corner position, but will require constant small adjustments. Generally speaking, when avoiding fire from a large ship use a slow spiral. (The greater the distance the slower the spiral.) When avoiding enemy starfighters (or missiles) a tight fast spiral is best.

- **Attacking Large Ships**

  When attacking large ships the "Wotan Weave" is absolutely essential for making repeated attack runs. The standard method is this:

1. Have shields and cannons fully charged, with recharge rates at maximum.
2. "Weave" in and begin firing at 1.6 klicks and maintain fire as you close on the target. You may wish to reduce speed to keep from getting too close. This will also serve to maximize your fire on the target.
3. When you've taken enough hits to require breaking off, reverse direction and full throttle.
4. Transfer all available energy to the rear shields.
5. Start "weaving" and continue to fly away until out of range or ready to make another run.
6. Restore shields to even distribution.

- **Balancing Shields**

  Whenever you've taken a few hits, be sure to even out your shields. Press S three times. This is especially important when you are going to transfer energy from the cannons to the shields. The reason is that if, for example, your forward shields are down, but your rear shields remain at full, you won't be able to transfer the energy! (Our engineers are working on this.)

- **Missile Escape Maneuver**

  To avoid a missile you must have it targeted in the CMD. You must be moving at high speed (at least 100). Turn away from the missile, then when it is about 0.4 klicks away turn hard towards it. Assuming you are successful, keep turning toward it until it self-destructs. Because Y-wings are generally unable to do this, greater reliance must be made on their stronger shields and hull.

- **Keep Cannons Supercharged**

  Supercharged cannons fire farther as well as hit harder. Need we say more?

- **Know Your Target**

  Know your target's characteristics, especially speed and armament. When closing to "dogfighting" range, (less than 0.75 klicks), match speed with your target. This will help you stay on his tail and keep you from overshooting into a disadvantageous position.

- **Control Energy; Control Speed**

  Use ELS configuration adjustments to control speed. In the X-wing and A-wing each level adjustment to the lasers or shields will result in a 12.5% change in engine power level. For the Y-wing there is a 6.25% change. The actual adjustments are rounded up in your favor.

---

**Special Characteristics Of Imperial Star Fighters**

- **TIE Fighter**

  The most common Imperial starfighter, the TIE is small and highly maneuverable. Like the TIE Bomber and Interceptor, it has no shields and even less armor. Cruising speed is the same as the X-wing. Quite deadly in the hands of a skilled pilot, it is nevertheless completely outclassed by all Rebel fighters.

- **TIE Bomber**

  TIE Bombers are the most heavily armed Imperial fighters. Each TIE Bomber carries lasers, concussion missiles, and proton torpedoes! In some ways, the TIE Bomber is comparable to the Y-wing. They have the same cruising speed and are the "heavies" of their family. Though not as challenging as a dogfight, its missiles make it the most dangerous of all the Rebel's starfighters...beware!

- **TIE Interceptor**

  The TIE Interceptor is a faster TIE Fighter with a stronger hull and four cannons instead of two. With a cruising speed equal to that of the A-wing, the TIE Interceptor is much more dangerous than its predecessor. In the hands of a highly skilled pilot it is very tough to beat, especially in a Y-wing.

- **TIE Advanced**

  The latest in TIE starfighters is the TIE Advanced. Like others in this family, it has no hyperdrive capability, but it does have shield generators. Its shields are not very powerful but they regenerate quickly. Because it is so difficult to hit there is usually enough time between hits for the shields to recover. First encountered during the Battle of Yavin, this craft is even faster and more maneuverable than the A-wing! Even in the hands of a mediocre pilot this is an extremely formidable dogfighter. However, TIE Advanced pilots require considerably more training than pilots of other craft. Fortunately, the Empire has yet to produce significant numbers of them. Needless to say, it is even tougher to beat than the TIE Interceptor, and almost impossible for a Y-wing.

- **Assault Gunship**

  The Assault Gunboat is the first Imperial design to incorporate shields and hyperdrive capability. Its cruising speed lies between that of the Y-wing and X-wing. This one also carries concussion missiles, making it quite dangerous in combat. Apparently learning from the Alliance, the Empire has begun to employ these...
gunships, using hit and fade tactics similar to our! Operating in small independent groups, they also conduct armed recon and are often the prerogative to major Imperial attacks.

Communications In Battle

[Shift-A] (Attack Targeted) is the most important wingman command. Use it often, especially when the enemy is coming from more than one direction. It is also a good way to get concentrated firepower on a single target such as a Freighter or Corvette when you wish to destroy it as quickly as possible.

[Shift-C] (Cover Me) should be used with caution. The reason is that if your wingman is already engaged and you order him to come to your aid, he will ignore the enemy he was fighting. That enemy will now have an easier time getting your wingman! Note that you must be currently targeted by an enemy craft to get a response.

[Shift-I] (Ignore Targeted) should also be used with caution. It is useful for getting a wingman to break off an attack, (should you wish to finish his target off yourself), but may make your wingman a sitting duck! You may notice that despite acknowledging your order, your wingman may continue pressing the attack.

[Shift-W] (Wait for Further Orders) should be used with extreme caution. It is more effective for getting a wingman to break off an attack but will definitely make him a sitting duck!

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<td>CRAFT</td>
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<td>Bulk Freighter</td>
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<td>Corellian Corvette</td>
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The first number is the usual minimum number of blasts necessary to bring the shields down. Shields regenerate, however, so if there is a pause in the attack more shots will be necessary. The second number is the number of additional shots to destroy the target. For example, an Assault Gunboat's shields begin to fail after taking more than 20 hits. They may not completely fail for a few more hits, and then the hull itself can take a few more shots. Note that these figures are based on continuous fire with supercharged lasers. Also note that concussion missiles are not effective against the larger vessels.

- Hull Damage
  At a certain level of hull damage a ship will automatically head towards its mothership or its hyperspace exit point. Unless the complete destruction is a part of your mission objective, let ships with hull damage go. If the arrival of other enemy ships depends on their destruction, this will help delay them.

- Pilot Skill Level
  When assigning pilots, don't worry about the default skill levels. You can only improve their skill levels. If the pilot you assign is less skilled than the one who was assigned when the mission was built, no change will occur. Of course, you may still lose the pilot in combat!

- Nonplayer Starfighter
  Note that nonplayer craft will not fire torpedoes at enemy starfighters, or missiles at other enemy craft that are not starfighters.

- Highlighted Ships
  The highlighted red part of a ship displayed in the CMD has no meaning except in the case of the Star Destroyer.

- Brushing Off Your Wingmen
  When doing close fly-bys of other ships, avoid rolls and hard turns if you have wingmen. They try to maintain position and will often collide with the craft being flown by.

[Shift-G] (Go Ahead and Engage) to order "waiting" ships to get going.

[Shift-H] (Head Home!) is useful for those pilots who are so skilled that wingmen just get in the way, and prevent you from making ALL the kills! Be careful, though, as this is another way to make it easy for the Empire to kill one of yours. The reason is that the ship receiving this order will have to make it to its hyperspace jump point, which may be some distance away, and will be vulnerable until it gets there.

Note that in the heat of battle, discipline is often difficult to maintain. Avoid putting yourself between a wingman and his target and you will avoid "friendly fire."

The Farlander Diaries

The following is excerpted from the combat diaries of the Rebel warrior, Keyan Farlander. The two entries were written during his first tour of duty, and contain detailed descriptions of the two most dangerous of his early missions.

OP 4: Protect Medical Frigate

Mission Briefing

The wounded from the attack on Briglia are being brought to a Medical Frigate. You must provide security while the wounded are being transferred onto the Frigate. Three Medevac Shuttles and the Corvette Korolev must all escape into hyperspace after delivering their cargo of wounded. First the Shuttles and then the Korolev will dock and unload. The Corvette Korolev and the three Medevac Shuttles must all survive.

Farlander's After Action Report

I hyped in and began my mission start sequence, charging up shields first. The mission began quietly, but then an Imperial Frigate, the Warpride, dropped out of hyperspace about 11 klicks away and launched a group of three TIE Bombers and two TIE Fighters, then hyperspaced away. Immediately, I targeted a Bomber, wishing I had more help, then headed toward it at full throttle. With fully charged shields I set the shield recharge rate to normal and redirected all cannon power to the engines to get my speed up to 125.

I switched to torpedoes, then when I got within 3 klicks of my target I reset shield and cannon recharge rates to maximum to bring my speed down to 50. Keeping my hand steady on the controls, I fired my first torpedo head-on because the distance between us was still greater than 1 klick. Any closer and I would have had to turn onto
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the Bomber's tail and then fire. As quickly as I could, I locked up and fired on the other two Bombers. I knew I couldn't afford a miss because my computer told me that the Waspite had returned to normal space — on the side of the Medical Frigate opposite me. And it was launching more TIEs!

Once again I redirected cannon power to the engines and set the shield recharge rate to normal. When the TIE Fighters got too close, I used the "Watan Weave" to evade them. I knew I could not stop to dogfight them, but had to destroy the second wave of TIE Bombers the Waspite had launched. Once again, I slowed down when I was within three clicks of the Bombers and fired torpedoes as soon as I had a solid lock. Then I finished off the other two Bombers before they could launch their own missile salvos.

Finally, I turned my attention to the TIE Fighters that had been dogging me the whole time. As I was engaged in dogfighting still more TIEs, the mission complete message came up on my display.

If you have a lot of difficulty with this mission, try sending the Shuttles home at the start of the mission. This is a spoiler but it will enable the Korolev to begin docking right away. Also, because there are six TIE Bombers and you only have six torpedoes, if you miss you may find the expedient way to destroy one or two is by ramming them. Not recommended, but it is quick and effective!

**OP 10: Rescue Sullustan Leader**

**Mission Briefing**

The Empire has kidnapped the Sullustan leader. You must rescue him from the Empire in order to secure Sullust as an ally of the Rebellion. You will drop out of hyperspace about three clicks behind a formation of five Imperial Shuttles escorted by a half-dozen TIE Fighters. They are on their way to the Star Destroyer Invincible 22 clicks distant. With your Y-wing you must identify and disable the Shuttle with the Sullustan leader. You will be accompanied by a pair of X-wings. SHU Kappa 5 must be boarded and SHU Rescue 1 must survive.

**Farlander's After Action Report**

Well, I'm not sure why I got to fly the Y-wing while Hamo got an X-wing. Maybe it had something to do with my success when I rescued the prisoners. Whatever the reason, I had the job of identifying and disabling the shuttle with the Sullustan leader in it.

I began my start sequence, but dropped throttle to 2/3 and switched to lasers. A quick survey of the CMD showed me that the TIE Fighter group Alpha was about to turn and attack me and I figured to take out at least one in a head-on pass. Then I switched to torpedoes as the remaining TIEs continued past me and fired one torpedo at each Shuttle — not to destroy them, of course, but to weaken their shields.

Now I noticed that some Shuttles turned to fight back, clearly not leader had escaped into hyperspace.

I brought Rescue 1 up in the CMD and assigned it to the next memory location. At the same time I checked the computer and noticed a new TIE Interceptor group. Delta. I targeted Delta 1 and assigned it to a memory location and then the TIEs nearest the Shuttle. I concentrated on TII Delta as my highest immediate priority, determined to eliminate them before TII Delta came in range.

Next, I brought up Delta 1 in the CMD and switched to torpedoes — I had three left — and fired as soon as I could lock on, one for each Interceptor. They avoided engaging me, going instead toward Rescue 1, so I was able to get good shots. If I had missed with any torpedoes, I would have had to redirect all my shield power to the engines and set the cannon recharge rate to one step above normal to get enough speed to catch up with them and still be able to keep firing.

As soon as these Interceptors were destroyed, the Invincible launched more of them. I turned toward the next wave, reset the shield recharge rate to normal, and began transferring cannon power to the shields until the shields were fully charged again. This time I had to engage the new wave of TII Delta with lasers. Once again I redirected all shield energy to engines in order to keep up with them.

The good news was that once I eliminated this group, Rescue 1 had completed its mission. I got the mission complete message once it had jumped to hyperspace. With the Shuttle gone, the Interceptors homed in on me, but I decided to stick around and shoot them up, even though the mission was over.

**Warning: Spoiler Alert**

As you cycle through the target list, the last Shuttle of the five is the one with the Sullustan leader. Stay back about 1.5 clicks from the Shuttles and fire off two torpedoes at each of the four other Shuttles. They won't turn to engage you unless you get within one click so this will allow you to eliminate them without having to dogfight. Of course, you're still going to have a tough time with the TIE Interceptors, but try to stay between the Rescue Shuttle and the Invincible and follow the procedure given above for dealing with the second wave of TII Delta.
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Circle Reader Service #54
The Rumor Bag

That's a Jai Alai!

by Pedro Alfonso Jimenez Xavier de la Mancha

All I had really wanted to do was find out about The Dig, Brian Moriarty's upcoming graphic adventure from LucasArts. So, when my source asked me to meet her in a famous Tijuana nightclub, I didn't hesitate. I even took a little overnight bag in case we ended up on the Yuatan Peninsula (what better place for an archaeological dig?) and hitched a ride to the border with the usual suspects.

Our idea was to drive the rental car to the border, walk through no man's land and catch a cab on the other side. The ride was as wild as the highway surfing sequence in LucasArt's Sam & Max: Freelance Police On The Road (the graphics adventure where our favorite detectives visit every weird amusement venue in America from the World's Greatest Ball of Twine to the dangerous Gator Golf course). In between lane changes that made a demolition derby look tame, a little magpie whispered in my ear that '93-'94 was going to be the era for cyberpunk. Not only are ReadySoft's CyberSpace and MicroProse's Blood Net in the works, but Interplay has hired the writer-director's assistant from the film Jennifer 8 to produce an unnamed cyberpunk role-playing game. Bullfrog/EA is near completion of Syndicate, a strategy game in a dark future milieu, and Cyberdreams has convinced Harlan Ellison to contribute to a graphic adventure based on the award-winning short story "I Have No Mouth And I Must Scream."

We had parked the car and walked through the pedestrian gate when one of my gentle companions pulled me back and screamed. She had seen a rat cross her path and was ready to return to the good old U.S. of A. "Are you sure it was a rat?" I asked. "It could have been [former software executive's name withheld so that industry insiders can replace it with those who have burned them on one or more projects]!" My "sources" (technical term used by journalists in order to be reimbursed for travel and entertainment expenses) laughed and I shifted gears. "Maybe it was a wolverine?"

Only the Michigan alumna was offended and the U.S.C. graduate asked, "Oh, did it come from Sega? They're doing an X-Men game." It took me a second to realize she was talking about the most popular member of the comic book's band of mutants, the Wolverine. Then, I asked her which characters were going to be in the game. She told me that X-Men would feature Cyclops, Gambit, Nightcrawler and Wolverine on the side of justice and Magneto as the ultimate bad guy.

As soon as we crossed the border, we hailed one of the fabled Tijuana Taxis. Fortunately, one of my sources spoke fluent Spanish, as opposed to the broken half-Ingles, half-Espanol I used when visiting TJ. She gave the cabbie the name of the club and he flipped a "U" in the middle of Avenida Revolution. "Spun this sucker around faster than a hockey player who just lost the puck," I said.

"Then, I guess you know about NHL Hockey," said my source. "EA's finally going to put it on the IBM." I love it when she talks hockey. "The IBM version will even have a 'coach only' option and stat compiler to go with the expanded graphics and sounds they couldn't get into the Sega version."

The taxi pulled up in front of the night club, and it was blacker than a Command HQ square after it had been nuked. That's what I told my friends and the redhead asked if I knew about Command HQ II (working title). I admitted that I didn't and she said that the new version would eliminate the secret "doc scan" technique that lets players cheat on the ??? scenario, improve aircraft carriers, make it run under 2,400 baud and possibly, add a scenario builder.

The club was closed, so we elected to visit the restaurant across the street. We would only have to wait a few minutes for our so-called friends to show up and my "sources" thought they could loosen my tongue with a little mescal. Heck, I didn't figure there'd be any problem. I must drink about 64 ounces of coffee a day and this pissy discolored stuff just goes to waste! They poured and served me, poured and served. No problem! I even bit the head off the worm to show them what a man I was.

Two of my sources swooned, but one said I wouldn't be able to bite the head off one of the worms from Dune II on the Sega. Not only is the action supposed to be much faster on the console, but the figures and objects are four times larger than those on either the IBM or the new Amiga version. The good news is that the maps have more interesting and functional terrain features than those on the personal computers, but the bad news is that gamers won't be able to save their games.

"Shure," I said (sort of), "but didja know the next game they don't even be on Arrakis? I think they're tired of drawing all that sand."

"Sec," said the redhead, "that didn't affect him at all." They all giggled at my expense and I stood up to show that I still could. I collapsed onto the table on my back. The last thing I remember was the little magpie saying that two submarine simulations should hit this fall. Remember the good old days when everyone was doing WWII flight simulations and trying to name their games Red Baron? Now, the battle is over Sea War!. The little bird said that the games will each take a very different approach on the subject, but it was funny that they opted for the same name.

Two of my sources picked me up and were ready to carry me out of the restaurant. By that time, I decided the farce had gone far enough. "Gee, you ladies are almost as smart as Zanthia, the main character in Westwood's sequel to Kyrandia." Of course, they immediately dropped me onto the floor when they realized the slurred speech was gone. I figured it wouldn't take them long to realize that "mescal" bottle had been filled with watered-down Squirt and a gummy worm, either. So, I told them the sequel would have seven game chapters, lots of nifty new technological flourishes, plenty of comic relief and a love story.

I didn't quite get the whole message out before the blonde lifted up my bag enough to pour a cold Coca Cola down my shirt. "You think you're so smart," she sputtered, "tell me where The Dig takes place?" Even though I knew it had something to do with an asteroid, I decided this wasn't the time for "share and tell."
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Computer Game Design: Who, How and Why?

We have covered the entertainment software industry for more than a decade. Even so, it is still amazing to discover concepts we had failed to consider. For example, we know pretty well how graphic adventures move characters about the screen, but we never thought about the strategies required to redraw the background for each frame. Again, we know how much attention is paid to the physics behind the vehicles/vessels in a simulation, but until recently, we never thought about the physics algorithms for a blimp camera. So, computer game design is a dynamic field that always offers surprises.

This special section on computer game design has been produced to draw back the curtain a little so that readers can appreciate some of the personalities, philosophies and techniques which are taken into consideration when a design team starts work on a computer game. The opening article is the first half of our coverage of "The 7th International Computer Game Developers Conference." Then, Chris Lombardi takes us "Behind The Screens" to view the voice talent work for Day of the Tentacle (LucasArts’ new Maniac Mansion sequel). Next, the "Abstracts from the Journal of Computer Game Design" will talk about redrawing backgrounds in adventure games and other design problems.

From the developers themselves, Verin Lewis tells us of the pleasures and perils of transforming videotaped images into computer game images, and Gordon Goble interviews Papyrus' Dave Kaemmer about next issue’s cover feature, a hot new Indy car racing simulation from the developers of Electronic Arts’ Indianapolis 500: The Simulation. After that, science fiction writer Martin Cirulis shares how he and Hugo/Nebula winner Lucius Shepard have used SimEarth and SimLife to create worlds for novels and short stories. Finally, Mike "Moondawg" Welsler reviews a book that can help readers program their own flight simulators (or, at least, appreciate what other people have to go through in order to do so), The Waite Group’s Flights of Fantasy: Programming 3-D Video Games in C++.

Here’s hoping that our readers enjoy reading about designers, design ideas and game technology as we enjoy discovering how the games move from ideas to our computer screens. We think watching the making of the games is almost as exciting as playing them... at least from our vantage point. After all, we don’t have to keep typing in those lines of code and hunting down elusive bugs. We only deal with the interesting parts, like the weird costumes game designers wear at the annual costume banquet.
Graduation Day for Computer Entertainment

The 7th International Computer Game Developers Conference

by the Computer Gaming World Staff

To some people, the financials of the computer gaming business make it too insignificant to pay attention to this fledgling industry. The same people might say that game designers, programmers, composers, producers and artists tend to live in a “Neverland” of their own making, a world of neat and cool hacks that are very hard to explain to most people. That may not be true for long, for reasons to be found both within and without the community of game developers. In many ways, this year’s Computer Game Developers Conference seemed like a cross between high school graduation and homecoming.

Chris Crawford’s “I Had A Dream” speech showed he had rethought his design philosophy and game-life goals. Though his opening day address was a bittersweet analog to the idealistic aphorisms of valedictorian speeches, it was tinged with an overarching sadness because the designer has opted to focus upon a narrow niche of interactive art lovers rather than continuing to reach as many gamers as possible. The conference seemed like homecoming as the principal founders and most famous designers of Infocom joined together to reminisce about the Cambridge Camelot where the Great Underground Empire was formed, and several clusters of designers looked like a return to the Pajaro Dunes (a resort where Electronic Arts used to have off-site meetings for planning and playing) days when Electronic Artists were going to be the royalty of the next entertainment industry.

From the time many of our public companies formed in the early ’80s with vacuum but effective promises of making “stars” out of computer game designers, the design community has tried to be its own counterculture and counterpart to the slick marketing departments that package their talent. Many ruined companies rest in the graveyard of computer game history because both sides of a commercial entertainment product were not properly integrated.

Now, Hollywood is moving in upon this pool of talent with a quick and sure step. This may imply several significant changes in the computer game industry (which are elaborated upon in this month’s editorial), but it appears that most game developers have been at this moment’s page before and, hopefully, are prepared to graduate into a world of better (and possibly more lucrative) possibilities.

With Sony’s recent acquisition of Psygnosis, Viacom’s acquisition of ICOM, and employees of Walt Disney Software, LucasArts Games, Trimark Pictures and Paramount’s electronic publishing division attending the conference, it made a perverse kind of sense to have automobile manufacturer-proclaimed futurist Harlan Ellison, one of the “old ones” of science fiction whose name must be spoken with hushed and reverent tones and a screenwriter in his own right, to deliver the keynote address for the annual awards banquet. One would think, however, that a man as brilliant as we perceived Harlan Ellison to be would have bothered to learn something about his audience before he delivered his speech.

I Have No Message, But I Must Scream

Ellison has an anger schtick. He takes his artistic weltanschau (Jewish pessimism) and uses it as a club on his audience. Without his anger and pessimism,
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The major thesis of this address is that the assembled game designers need to do something besides create games. He extemporized on incidents from his life in the army, seeming particularly proud of the way he manipulated an officer into assigning special duty in order to compile a company history he had no intention of completing and how he had challenged a fellow non-comm to perpetrate fraud.

We aren't quite sure what he means. If he means to take the games which the assembled designers are already making and fuse them with enough human emotion to bridge gaps of interpersonal understanding, then there are designers trying to accomplish this in many different ways (games with artificial personality, multiplayer cooperation, and most importantly, story). We simply don't understand why their contribution is any less significant than Mr. Ellison's contributions to society.

If he objects to the violence which is so pervasive in both video and computer games, he had been best revisited the anarchic and glorious celebration of violence in his own work. Violence is but an easy way to express conflict and resolution in any art form. It can also be powerful. That is why we advocate a more creative use of violence in certain games, but do not editorialize against violence per se.

Harlan Ellison says that the computer game design community should quit playing games with their lives. We think Ellison should stop playing games with his audiences. It's time to put away his "Bad Melville" impression and use his position as a "futurist" to challenge his audiences instead of settling for cheap laughs and letting them miss the message.

**Spotlight On Exceptional Games**

Though Ellison provided the keynote address on game design, the bulk of the evening was devoted to honoring exceptional computer games. These games were nominated from within the development community itself and each nomination was accompanied by comments from those who nominated the games. The order of honored products was determined by the presenters and had no bearing on the relative merits of each game. Every game that was honored was considered to be equally worthy. As each game was introduced, the members of the development teams were given pins recognizing their distinctive contributions to the games and making them the equivalent of the "honor society" for the "Games of '93."

The first game honored was *Patt Patt Joins the Parade from Humongous Productions*. One nominator said, "It reminded me of my favorite book when I was a kid, but it was alive." Another said, "My second youngest was fighting for the chance to play it. It's only three." Frankly, the designers loved the easy interface, the unique animation, the great sound effects and its vocal caricatures, but the most important thing about the game was that it gives the player a purpose. It is the kind of game where a child can be a participant, not a tourist.

*Patt Patt Joins the Parade* was designed by Shelley Day and Ron Gilber.

The second game honored was, as master and mistress of ceremonies Tim Birkett and Nicky Robinson observed, "a favorite" — or maybe because of — its graphic violence. *Id Software's Wolfenstein 3D* features fast, smooth, low-resolution texture-mapped graphics that not only give motion sickness to most players, but put shareware back on the map, almost single-handedly.

*Wolfenstein 3D* was developed by John Carmack, John Romero, Adrian Carmack and Tom Hall.

Next, the assembled community recognized *Comanche: Maximum Overkill* from Novalogic. Kudos ranged from the game providing a flight simulation that is both fun and easy-to-learn, to the fact that it has the best frangible terrain that anyone had ever seen.

*Comanche: Maximum Overkill* was developed by Kyle Freeman and John Garcia.

In keeping with the trend of honoring fast-scrolling three-dimensional games with awesome graphics, the community also honored *Origin's Ultima Underworld*. One nominating designer stated, "My girlfriend won't play it because it's too realistic and scary," and another said, "I don't think you can get any closer to VR without a helmet."

*Ultima Underworld* was developed by Paul Neurath and the crew of Looking Glass Technologies.

Next, *Velocity's Spectre* was brought to the attention of the assembled throng. *Spectre* was clearly recognized for its capacity to challenge gamers with real rather than artificial opponents. It was honored for its entertainment value as the presenters considered its service as a productivity destroyer. It was also cited as proof that the Macintosh really can do fast polygonfilled games.

*Spectre* was designed by Steve Newman, Sam Schillace and Craig Fryar.

Proving that there is still room for genuine innovation, the conference's next honor went to *Dynamix's The Incredible Machine*. Designed and developed by Jeff Tunnell Productions, the product combines something of the best aspects of *Sim City* and *Lemmings*. One program/article even said that this was the game she always wanted to do and, in contrast to what rival designers usually feel about another's work, she felt they had done it right. Another commentator observed that they've stuffed Rube Goldberg into the player's computer with this game. The presenters even claimed that the satisfying play experience could not be described, only experienced.

*The Incredible Machine* was developed by Jeff Tunnell, Kevin Ryan, and Brian Hahn.

Speaking of innovation making it difficult to describe a product; the developers (who didn't want to call *Stunt Island* from Walt Disney Software) a flight simulation or a film editing simulator. Those who nominated the product observed that *Stunt Island* provided a satisfying experience from placing the cameras to flying the aircraft. Most importantly, they observed that it was probably the first time someone would really want to see a saved game (i.e. film).

*Stunt Island* was developed by Adrian Stephens, Ronald J. Fortier, Cary Hara, and Martin Day.

LucasArts' *Indiana Jones and the Fate of Atlantis* was the next honoree. Although its multiple paths proved an inefficient way to make Indy "three games in one," the designers commended Hal Barwood and company because all three paths actually work. Some nominated the game because of unique sections where one builds the other's interface, and others appreciated the way this game focused on story and characters over puzzles.

*Indiana Jones and the Fate of Atlantis* was designed by Hal Barwood and Noah Falstein.

Observing that it is rare when the remake is better than the original, the final game to be honored was *Accolade's Star Control 2*. Developers stated that it is a perfect blend of action and adventure that
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becomes more than sum of its parts. Ultimately, they called it an action game for people who read with sound that is exceptional enough to make gamers think they’ve upgraded their sound boards.

Star Control 2 was developed by Paul Reiche III and Fred Ford.

How I Almost Screwed Up Civilization

In total contrast to the angry approach of Ellison was the affable talk of Sid Meier. Sid’s lecture centered upon the ways that he could have ruined his best-selling game, Sid Meier’s Civilization. Not only did it take considerably longer than two years for Sid to create “Civilization,” but it required considerable thought at key junctures of the project.

First, Sid Meier’s Civilization had a textbook feel. Meier had actually begun to build a game around the “heavy” subject of human civilization prior to his work on Sid Meier’s Railroad Tycoon, but the work bogged down because it wasn’t “fun.”

Later, after RKT was completed, he came back to the game, focused on the entertaining elements of the game, and ended up completely quickly once it started coming together.

Second, Meier admitted that he originally wanted to write a “detailed computer model” to handle the sociological, economic, ecological and political forces that forged civilizations. He emphasized the fact that there are only two kinds of computer games: ones where the player knows what’s going on and those where the player does not. In the latter category, there are games where the designer has all the fun (games that are usually not detailed enough to communicate the research to the gamer) and games where the computer has all the fun (featuring plenty of algorithms, but not process intensive enough to allow the gamer to really get into the action). Meier prefers games where the player has all the fun (where all the vital information is presented and the gamer has the ability to make meaningful decisions). Hence, Civilization ended up with phased turns, lots of reports and lots of things for the player to do.

Third, Sid Meier’s Civilization almost simulated the rise and fall of civilizations. If there is one thing clear in history, it is that there is an episodic cycle to the great civilizations. Sid opted not to go for the rise and fall theme because it would have been too discouraging to the player for the game to regularly and arbitrarily destroy the civilization he/she has painstakingly built up over the course of dozens of hours. Though it would have made the game conform to history, it would have forced the game into the dustbins of history to have imposed such a “no win” design feature.

Fourth, the designer with the most games in the CGW/Hall of Fame admitted that he almost ripped off another Hall of Fame game, Empire. Then, he asserted that, in addition to the ethical question, it is far better to look for new elements in game design than to simply cannibalize older games.

Fifth, Meier stated that he almost made the world too big. A big world sounded very good at first, because it intimated more gameplay. Instead, Meier said that it made winning the game too repetitive and not necessarily fun.

Sixth, he stated that he almost let the computer do too much management of the player’s cities. Instead, Meier insisted that designers need to give the players plenty of things to do. If said designer believes the activities constitute too much for the player to do, he/she can also provide a default that lets the computer manage items by using the same artificial intelligence routines that one must design for the computer opponent(s). “One reason I continue to program my own games,” commented the designer, “is to be aware of opportunities to find new uses for modules within existing code.”

Seventh, Sid Meier confessed that he almost made the game too civilized. After all, the name of the game was Civilization. Yet, he insists, “The game isn’t really about being civilized. The competition is what makes the game fun and the players play their best.” So, he admits that, “At times, you have to make the player uncomfortable for the good of the player.”

Eighth, Sid Meier’s Civilization almost used multi-player alliances. Sid even admitted to writing a lot of code to handle those alliances. Yet, he found that he couldn’t play balance the game with those alliances because the computer could exploit alliances almost as good as the player and this would leave gamers with a sense that they couldn’t win because the computer was cheating.

Ninth, he admitted to almost adding jets, helicopters and airborne units. However, he insisted that if one provides for new technologies close to the end of the game that it will frustrate the gamer by making them ask “What’s the use?” whenever given an opportunity to build such technology. The abstracting of later technologies was a deliberate attempt to moderate the endgame. Meier observed that lots of people felt the ending was arbitrary, but he explained that it was designed intentionally to leave the gamer wanting more.

Tenth, he confessed that he almost put mindfields and mineweepers into the game. The idea was to give the gamer enough tools to build a solid defensive perimeter. Unfortunately, Sid told us that the mindfields caused the AI to do “stupid things.” Then, he advised designers, “If you’ve got a feature that makes the AI look stupid, take it out. It’s more important not to have stupid AI than to have good AI.”

Eleventh, Meier told the assembled designers that he almost included a multiplayer module option in the game. Then, he opted not to do so for several reasons. First, he wanted the game to be turn-based instead of real-time so that the gamer could control the pace. Turn-based games do not work well in modem play (because of dead time). Second, he doesn’t believe that the community of multi-player gamers is that large. As he stated, “My feeling is, if you had friends, you wouldn’t need to play computer games.”

Twelfth, he said that he almost made the game politically incorrect, just for laughs. Finally, he admitted that, “I almost put a big animated title sequence, digitized speech, and Super VGA graphics in the game. Well, actually I didn’t, but I wanted to point out the trade-off.” Sid concluded his lecture by asserting that game play was more important than any single feature.

In the question and answer period, Meier explained that he still does all his own programming and continually updates playable, expanding versions of the games he is working on. This enables lots of mid-stream adjustments, as it subjects the work in progress to constant evaluation. Sid admitted that doing his own programming allowed him to experiment with features and approaches because he wasn’t imposing on anyone’s time but his own. “To me, programming is almost a nuisance. It’s a means to an end.”

(See Part II Next Issue) cgw
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Memories of The Class of '93

Loquacious editor Johnny Wilson is interviewed by Molly McCrack (KPIX-TV) for a special segment on violence in computer/video games.

Steve Peterson in a pose that seems suspiciously natural to those of us waiting for Champions.

George Alistair "Fat Man" Sanger leads a session in his Porter Waggoner suit.

Just like school — some classes were closed by the time we reached them. Board member Susan Lee Merrow (Broderbund Software) hams it up as she turns Kids & Computers editor Peter Scisco away from an overflowing session.

Trimark's Kelly Flock and EA's Rich Hilleman reminisce about the way things were before they were executives.

Former computer game magazine editors Russel Demaria (PC Game) and Margot Tommervik (Softalk and Softline) share the "off the record" stuff they never got to publish in their magazines.

Will Wright demonstrates a unique programmer hack for tying one's shoes.
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The model makes the game better, the game makes the model better.
Lights, Camera, Interaction

Behind the Screens with LucasArts' Day of the Tentacle

by the CGW staff

Although computer game producers don't yet call acting talents and ask to "do lunch," it is true that the "old Hollywood is quickly infiltrating the "New Hollywood" of computer game development. As the linear technology of the former and the interactive technology of the latter converge in new technologies and techniques, it is interesting to view the work of talented and flexible people who can work effectively with one foot in both technological realms.

We had such an experience at Hollywood's Studio 222, the site of the voice-acting taping of Day of the Tentacle, LucasArts' next adventure game. This wacky sequel to Maniac Mansion involves the trials of three teenagers who hop about space-time to undo the plans of a mutant appendage. It will be the first game in which the CD-ROM version and the disk version will be released concurrently. It will also be the first adventure game to offer spoken parts for nearly every action and response in the game, making it computer gamings' first full "talkie." All of the story dialogue and the majority of action responses — the "You can't do that!" and "What a ridiculous thing to do!" responses — will be spoken aloud to its players. All told, there are 4500 spoken lines in the game — a monstrous design, production and acting task.

Riding the fence between Hollywood and Silicon Valley is Associate Producer, Tamlyn Barra. This twenty-something producer got her start in stage and video production, and began with LucasArts Games in 1990. She directed the voice-acting and produced the "talkie" portions for the CD version of Indiana Jones and the Fate of Atlantis and is now overseeing the mammoth Tentacle project.

Voice acting for computer games creates new problems that actors and directors rarely have to face. For one, the actors are taped one at a time, though the storyline often calls for dialogue between characters. In a typical situation, the actors in dialogue are together and can "act off of" one another. In the computer game situation, the actors only have a script to play off of. As Barra says, "getting the actors into character is very difficult...half the studio is spent cueing up the actor for the scene."

Organization is a key issue. With 4500 lines of branching dialogue, the producer must keep track of where the actors are in the game, and what sort of reading is required for the line. Barra has to keep the entire structure of the game in mind while the actor reads, so she can correct the actors' interpretations or ask for different inflections where needed.

The actors were cast from a group of known voice talent. The biggest name on the list is Richard Sanders, probably best known for his character Les Nessman from the TV sit-com WKRP in Cincinnati. With his experience playing Les Nessman, Sanders is a natural for the role of nerdy, bow tie-bearing Bernard in Day of the Tentacle. Sanders noted (with tongue in cheek) that playing Bernard in Day of the Tentacle was a bit of a stretch for him, since he usually plays more manly sorts of roles. More seriously, he admitted that computer game acting was a challenge, since the actor is recording his lines out of context. The problem was overcome by Barra's directing efforts. She created the context for Sanders verbally and walked him through portions of the game so that he would know how his character should react.

From what we've heard, all of this hard work and talent will produce one of the best sounding computer game "talkies" yet. With its Chuck Jones style animation and the wit of the LucasArts adventure game team, Day of the Tentacle may also be one of the best playing. Who knows, maybe "Let's go lunch isn't that far away?"
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Audience Engineering (Chris Crawford, The
Global Dilemma: Guns or Butter?)

Crawford’s thesis in this article is that the customer does not
really know what he/she wants in a computer game. Therefore,
the designer reasons, the entertainment software industry ought
to be able to both attract customers to and divert them from
computer games.

His initial point is that information, even entertaining informa-
tion packaged in a computer game, is a different kind of
commodity than any other. Whereas people will buy the same
model car, eat the same sandwiches, and wear the same clothes
over and over again, they won’t buy the same game. As Crawford
states, “To be in any way valuable, information must be different
from what the customer already owns. You can’t sell anybody a
second copy of any piece of information. You’ve got to offer
them something new and different.”

Naturally, he observes that customers do purchase sequels. Yet,
he also points out that a sequel offers something familiar with
new content. After outlining a traditional James Bond plot, he
notes that the question remains how wild and crazy the ultimate
bad guy will be and exactly how Bond will save the day. Hence,
even in the context of the familiar, sequels are selling new and
different information.

Next, Crawford elucidates the way that software publishers
currently attempt to attract their audiences. He contends that
they simply use terms that are a matter of degree (faster, fresher,
bigger, etc.). He also observes that this hasn’t changed since the
early Atari marketing in 1980. Indeed, he suggests that most of
the industry is unsure about a product unless it is a sequel to a
successful product or uses a sensational new technology.

Next, he challenges the design community to move away from
developing games by reading registration cards and taking sur-
veys. Instead, he advocates creating products that appeal to a
particular constituency, the use of audience engineering in order
to develop audiences which are more responsive and products
which accomplish more.

How to Write Interactive Characters and
Dialogue (Michele Em, Return to Zork)

Em comes to this industry from work at a special effects shop
(as an artist) and as a screenwriter. Her article underscores the
difficulty of writing interactive dialogue. Since players love to
play “What if?” she asserts that the writer must continually
visualize consequences and payoffs for more than one state-
ment/action within a given situation.

Live action actor in Return to Zork

“For me,” says Em, “interactivity in dialogue, in a game
setting, means multiple choices of direction, multiple possibili-
ties for information to be delivered, and a myriad of ways to
amuse the game player.” Dialogue has the responsibility of
making the characters in a game seem credible. Em suggests that
players should be able to recognize a character by the way its
dialogue flows, whether it is presented in text or digitized speech
from an actor. Hence, writers must get inside their characters
and know their motivations and backgrounds enough to make
the speech flow in a natural way.

For games, Em tries to get each slice of dialogue into 60
character spaces. To do so, she naturally slices out as many
syllabic words as possible. They usually sound stilted in
dialogue and two or more has the added disadvantage of turning
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an ordinary line into a tongue twister. Then, she reminds
would-be writers that the dialogue must be kept short so that
the gamers can get on with the game.

For games like Return to Zork where actors are going to
perform the lines, she observes that she keeps all of the character's
dialogue together and lists the variations and reactions in logical
order. Hence, the actor performs the dialogue all at once and the
editing and mixing can take place at a later time.

This process enables her to do another task that she considers
important, check the dialogue flow. She reads the sentences
aloud in all possible combinations in order to see how they work.
This is when one often has to cut out the lines that do not work.
Em also encourages writers/designers to pen their dialogue
sequences with programming requirements in mind. IF/THEN,
GOTO and DEFAULT TO are ways to schematize the dialogue
hierarchies in the writer's mind.

Finally, she stresses the need to give each character a personal
motive and a point of view. She even encourages writers to give
each character a history, even if it isn't going to be expanded
upon within the game. This will infuse the characters with a
sense of reality that simply cannot be beaten.

Software Sprites: A Tutorial and Some Tricks
(David Joiner, The Faery Tale Adventure)

Joiner lists several techniques for handling animation. Particularly
interesting is his analysis of handling backgrounds as the
animated character moves across the screen. He suggests several
solutions to handling the background so that it can be re-used
for the next frame of animation.

- Keep a separate copy of the background. The copy of the
  background is copied over the visible background. This is
  somewhat expensive in terms of memory and is generally
  workable in the case of scrolling backgrounds.
- Regenerate the entire background every frame. Joiner says
  this is only possible if the background is created algorithmically
  or is tile-based. He warns that it is the slowest
  solution.
- Regenerate only the parts of the screen that were damaged.
  He suggests using a "damage array" would track what
  portions of the screen were overwritten by the figures.
  Joiner observes that this isn't too tough with tiles, since the
  coarseness of the array can be set to the size of the tile, but
  can get very complicated with multi-planar backgrounds.
- Save the background behind the figures and restore when done.
  This requires keeping an off-screen region just large
  enough to hold the background that the character can cover
  in a frame. Then, before drawing the character in a new
  position, the back saved region can be restored (erasing the
  old character). Of course, this becomes more complex when
  there are lots of characters on the screen. Finally, Joiner
  suggests that programmers who use this technique should
  save, draw and restore in three separate passes to avoid
  drawing backgrounds that have portions of other characters.

Invasion of the Expositors
(Chris Crawford, Balance of Power)

Crawford could not be timelier with one observation. He notes
that the expositors (i.e. Hollywood-types) are coming into
the industry and contends that this represents a problem (see
Editorial, page 162). The problem is that these so-called expositors
(novelists, directors, producers and screenwriters) do
not understand interactivity and think that it is a face of the
entertainment industry that can simply be added onto what they
already have.

Crawford rightly observes that "Interactivity isn't some minor
twist that we apply to the primary media of sound and image.
It's the very essence of the medium. Sound and image support
interactivity." As he sees it, the expositors believe that they
will be able to create the same old expository presentations that
they have always made, but make it play on a computer.

Crawford states that the expositors are ignorant of the idea
of interactivity, but wisely observes that their large corporate
bucks and fresh ideas will more than compensate for their
ignorance. He says he is going to join the bandwagon. He likes
the creative idealism of the invading expositors because they are
risk-takers. He thinks they could create a new kind of media.
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From Digital Dreams To CD Reality
A look at the technical development behind Trilobyte's The 7th Guest
by Verne G. Lewis & Michael A. Barth

Computer generated special effects in the film and video worlds has been commonplace for years. It is only recently that computer end-users have begun to see the application of these new methods on the monitor screens of their own computer systems.

In the movie industry, special effects are consistently used. From Blade Runner through Close Encounters, special effects abound. In Hollywood these effects are taken to the highest level. Using Computer Aided Design (CAD) programs, producers design sets in order to decide if they will build actual models or simply render them in a graphic environment. Fortunately for us, PCs have brought graphics development down to earth and professional quality special effects can be produced with surprisingly minimal equipment.

Fast History

Breakthrough rotoscope technology played a major role in the advancement of film animation, allowing the creative artist to import images from reality into animated sequences. Animators merged their artistically creative world with life-like forms of motion represented on film. They shot the film, ran it through a projector, the image appeared on a light table, and they could manipulate each frame a step at a time. One could then trace each frame separately to capture the reality of movement in its pure, cellular form. Digital video has made the video camera the rotoscope of gaming development.

World Of Games

In the meteoric world of high-resolution graphics games, full-motion digital video is a fast emerging phenomenon. CD-ROM is the transient medium of choice for this technology. It has the mass-storage and speed required to provide interactive video sequences to the end-user. Still, how are animated segments imported into digital media?

Moving characters must be cut out, extracted, and pasted onto rendered backgrounds in the order of their sequence of events. This poses many problems to artists, technicians, and video producers in the multiple worlds of animated film, video production, and digital imaging.

Some animation techniques overlap with those used to produce special effects in live-action video. The beauty of all this is that it is often difficult to tell whether a certain result has been achieved through animation or special effects. The camera records, frame by frame, second by second, a sequence of images that differ only fractionally from one another. The illusion of progressive movement is created by projecting the series of frames at a rate that simulates motion.

Focus On Process

The process started for us when we were introduced to Rob Lander and Graeme Divine of Trilobyte. Trilobyte is a company concentrating on original CD-ROM entertainment software. To call their work original is an understatement. Their project was The 7th Guest, a breakthrough in gaming software. I shared an interest with Rob and Graeme because I was looking into acquiring computer systems on which to develop CD-ROM base multimedia software. We spent an afternoon together discussing software and hardware options. A few months after I got my systems up and going, Rob and I offered a chance to work with them.

Was I interested? Bill Gates himself had demonstrated parts of the game at the 1992 Multimedia Convention in San Francisco. He called it, “the new standard in multimedia entertainment”. The CD-ROM game contains 36 minutes of full-motion video and dialogue recorded live by actors. It had taken the people at Trilobyte two years to develop a true, 3-D, 22-room mansion (each room taking at least one month to produce) in which the game takes place. The player can move throughout the mansion as high-resolution graphic backgrounds scroll and rotate around him. Not only has Trilobyte broadened the frontier of multimedia gaming, but The 7th Guest may well be establishing the future path that this form of entertainment will take.

Graphics Assignment

My first assignment was to develop the introductory sequence to the game. Trilobyte hired a video crew to set up a green screen background (after a disappointing experience with their blue screen, see Graeme’s notes in the Computer Game Developers Conference report) on which all their live action video sequences
would be shot. The green screen gave a neutral background to all our video sequences. This allowed us to render the green part of the image transparent. Our job was to develop the backgrounds for the introduction to the game and "paste" actors onto the different backgrounds that we developed.

I called on Andy Anderson, a graphics artist, to work with me on this. He had an extensive background in fine art, an interest in working with computer graphics, and a strong work ethic. The job could be broken down into three steps. First, we had to strip, link, and clean up the digital video images, and add any special effects required by the script. Next, we had to develop the backgrounds on which the various introductory scenes would play. Finally, we had to place the digital video onto the backgrounds.

High 8 Hits

While we were waiting for Trilobyte to provide the digital video to us, we took two approaches to the development of the backgrounds. Not only did we take the approach of rendering the backgrounds with Autodesk Animator Pro, but since several of the scenes take place outside, we took a High 8 video-camera and taped the basis for the backgrounds.

We took a ComputerEyes/rt color video "frame grabber" board and captured the various scenes. We shot a shade tree and a view of a valley from a hillside graveyard. These videotaped views would be used in part and in whole, as the base for our exterior backgrounds. This technique worked so well that we applied it to our interiors as well. We taped a bar, a bedroom, and a doll shop, which became the background for the introduction.

GIFfy J-PEGS

Once we had captured and stored these background images, we manipulated them with Animator Pro until we had the exact backgrounds called for in the script. Each background not only had to be exact and realistic in graphic design and detail, but the staging of the digital video characters was critical. Trilobyte's production company videotaped the actors in front of a blue screen background, which would later be converted to green (the color chosen to function as transparent in Animator Pro). The footage was captured and stored into individual, compressed files known as JPGs. These individual files were given to us on 250 Mb backup tapes.

We then transferred them for processing to our hard drive. We chroma-striped the JPG files to GIF files, a file format that Animator Pro could read. During this process the original JPGs were resized and cropped to 640×320, the working size for the game. Also, this process automatically converted the blue background on which the actor performed to green. Initially Trilobyte converted the JPGs to GIFs for us, but when they developed an in-house utility to strip out the chroma blue and replace it with green, we took over this process.

Background Utility

Once we had this utility, we striped the chroma blue out and converted individual JPG files to GIF files. We then reassembled the individual GIF files into continuous digital video. We treated this digital video as an animated reality, and we were able to enhance the images using special effects we developed in Animator Pro.

Compare the video camera's relationship in the production of The 7th Guest, to that of the rotoscope. The same way the rotoscope created technical advances in animation by allowing the animator to incorporate forms and movement of real life images into an animated reality, so too the video camera has allowed us to take digital images into a computerized environment. This step of video taping actors and converting them into GIF files, which are then reassembled into Animator Pro, represents a monumental break in game production.

GIFs & FLCs

This digital rotoscoping process is completed when the frames are assembled into Animator Pro. In Animator Pro there is a feature called NumPic. Using NumPic you can take a series of numbered pictures and load them into the program, which in turn can save them as a single file with a FLC (the native file format for Animator Pro) extension. The numbered series of pictures comes in and makes a FLC file. The images have been threaded together by the program.

The green background is treated as it was transparent by Animator Pro. The series of GIF files are then assembled into FLCs. These FLCs can be composed into backgrounds, rendered or captured, enhanced, and played to reveal their animated form.

Sometimes, when frames have been converted to GIFs, and then to FLCs, they don't have the same color pallettes. If you look at the pallettes of various GIFs, even those taken from the same series, often the pallettes will be noticeably different. Each frame can have a different pallette. If the palletes change from frame to frame, GIF to GIF, you get flashes of differing light as the FLC series is played. To solve this problem, Animator Pro has developed the feature called One Pallette. One Pallette lets you go into your FLC file and make all the palletes the same throughout the series.

Clean Up

Once the series is One Palletted, the images can be cleaned up. It is a matter of editing frame by frame. Perhaps there was a lighting anomaly during the shoot that caused parts of the green screen to remain opaque. The editor must make sure any areas of green screen, or other anomalies, are removed. Each frame must be carefully cleaned before special effects can be added.

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have 25 Mb or larger FLC files. Speed also becomes a paramount issue when dealing with large files. Our systems were 486s running at 33 MHz with 1 Gb (gigabyte) hard drives and 16 Mbs of RAM.

Once we had finished cleaning up and adding the necessary special effects to the digital videos of the actors, we saved the FLC files one last time. We then loaded the FLC files containing the appropriate backgrounds and matted the actors into the scene. Our finished product, a completed sequence with live actors performing in the cyberspace of our digitized and enhanced backgrounds. In one sequence we had to layer the background scene. The character was required to flee the scene into the woods. In this case we wanted the character to run behind a tree. We matted the characters to the background, and then we matted the tree over the character as he ran away.

**Finishing Touches**

Trilobyte introduces their game via a book in which the turning pages came to life. Our final task was to create a special effect for the people at Trilobyte. Gradually decreasing and increasing the Edge effect, provided by AutoDesk Animator Pro, over several stills of the first and last frames, had a dynamic graphic impact. Each introductory sequence appeared to be an engraving that came to life, played out its scene, and then faded back into an engraving.

**Delivering The Goods**

We saved each of our edited and composited FLC files on the same 250 MB backup tape that the original, compressed JPEG files arrived on. Upon delivery of the finished scene, the introductory sequence, Rob Landeros offered us an opportunity to convert, edit, and clean up all the digital video that they intended to incorporate into the game. Also, they wanted us to add in special effects for the digital video.

**Back On The System Again**

Andy handled the special effects. I focused on converting and cleaning up the JPEG files, assembling the GIF files, and cleaning up and editing the digital video. Employing the techniques we developed throughout the introduction, we proceeded to work our way through over 11,000 frames.

During the months we spent working on The 7th Guest, there were times when we felt like anyone in the embryonic stages of any technological breakthrough: overworked and out of our depth. It was critical to our success to be working for Rob and Graeme. They made certain that we had the hardware and software tools, and more important, the support we needed so much to succeed.

**Pushing The Envelope**

Thomas Edison once said, “Opportunity is missed by most people, because it is dressed in overalls and looks like work.” By working for Trilobyte on The 7th Guest, Andy and I were able to take what we know about art and computers — graphic design, video animation, and special effects — into the uncharted realms of cyberspace. In turn we were given the chance to be part of the creation of one of the most powerful computer games developed to date. Now that the work is behind us, and The 7th Guest is on its way to your computer, I think back on the time and effort that Andy and I put into this project, and wonder when such an incredible opportunity will come along again. This opportunity allowed us to help push the technological envelope and broaden the horizons of multimedia gaming.
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Papyrus Returns to the Winner’s Circle

An Interview With David Kaemmer Of Papyrus Design Group

by Gordon Goble

The 1989 release of "Indianapolis 500: The Simulation" signaled a turning point in driving simulations. There weren't a lot of "bells and whistles," but for the first time on a personal computer, one could experience a little of the true feel of an open-wheel race car. For thousands of armchair Andrettis, Indy was as close as they could get to strapping on a helmet and planting the right foot to the floor. Arcade-style it was not: the view was from the cockpit, there was but a single track (the Indianapolis oval), lap times were accurate, and the on-track competition looked like they would from an ABC in-car camera.

More importantly, the drive was real. Each corner of the Indianapolis oval had to be perfectly carved — the slightest misjudgment could result in the staggering crunch of a wall or that helpless slip-sliding away feeling of the infield grass. Just navigating the car once around the Indy course at full acceleration was an accomplishment in itself.

After a certain degree of driving proficiency had been attained, physical alterations to the vehicle could be made in the pit lane, and setting a car to its ultimate potential became a skill in itself. Indy was, and is, a subtle exercise demanding maximum concentration, and extracting addiction in return.

Twenty-nine-year-old David Kaemmer is the mastermind behind this celebrated simulation, and a founder of the Papyrus Design Group. Today, despite continued Indy sales four years into its life span and enviable customer satisfaction, Kaemmer is ready to take the stunning simplicity of the original game one step further. We managed to flag down the fast-moving but affable Kaemmer, and brought him in for a quick CGW pit stop.

ON INDY 500 - THE SIMULATION...

CGW: Indy 500 brought an innovative realism to driving simulations. What were you able to do that the other guys weren’t in terms of programming, game design, etc.?

Kaemmer: The key to Indy’s realism is that it contains a very complex and accurate physics model. I spent a great deal of time researching race car dynamics, and the model includes hundreds of variables that influence the car’s handling, just as in real life. Other games seem to use the joystick deflection to do very high level calculations — the car’s direction and speed are simple functions of the joystick position. In our model, when you move the joystick, it does no more than change the steering angle of the front wheels. Likewise, the throttle and brake inputs are converted to pedal deflections. Any speed or directional changes are then calculated (many times per second) using gobs of Newtonian mechanics. That makes it feel very much like a real car. Tuning the chassis by changing the myriad wing, tire, suspension, and gearbox settings also alters the car’s speed and handling just as the equivalent changes do in real life.

CGW: How long did it take to put all this into a workable package?

Kaemmer: About two years for the Indy PC version plus another eight or nine months for the Amiga version.

CGW: Do you feel you underestimated the number of people interested in the subtleties of driving a “real” race car over other “arcade” style games on the market at the time of Indy’s release?

Kaemmer: To tell you the truth, I didn’t give it much thought at the time I was developing it. I thought it would sell well because I had so much fun playing it!
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If anything, I probably overestimated how much interest there would be in it. Flight simulators usually do very well, and I have always thought of Indy as being Flight Simulator on a racetrack. I did underestimate the number of crazy lunatics (myself included) who would drive a 500 mile race. I put that capability in figuring that there was no harm in making it possible, but nobody would actually do it. Of course, then I had to try it in order to say that I had done it. In doing so, I discovered that driving the 500 miler was the most fun activity in the game (although you can get a wicked case of “joystick elbow”).

CGW: How much time did you spend on research at the “Brickyard”? Is the track a completely faithful representation of the real thing?

Kaeffer: The only research I did at the “Brickyard” was visiting the museum and riding around the track in a bus. I did pore through a lot of books, maps, and video footage in order to get the dimensions of the track and the location of all the grandstands correct. The track in the game is a faithful representation of the track as it was in 1988. In 1989, the real speedway was resurfaced (eliminating the bumpy spots on the pit lane), then in 1990 some VIP boxes were added along the inside of the front straight. So now, the original simulation is a bit dated, I’m afraid.

CGW: Are you aware of the obvious Indy 500 “Game-Within-A-Game” that consists of discovering just how many cars can be destroyed in a single melee?

Kaeffer: That’s gruesome. I’m shocked that people would do such a thing. Twenty-nine was my best. How about trying to win a 10 lap race by crashing out all the other cars before someone else wins? On a kinder, gentler note: Best single lap speed — I heard on Compuserve that someone turned a 243.10 mph lap, which is as far as I know, the all-time simulation record. Another good game for those who have mastered the simulation: What’s the lowest boost at which you can win the 500 miler (or the 150, 60, or 25)? A friend of mine claims to have won the ten lap race with a boost setting of 1, although I’m not sure I believe him.

ON PAPYRUS DESIGN GROUP...

CGW: What is your official title with Papyrus?

Kaeffer: Co-founder and Vice President, Technology.

CGW: Would you like to mention any other people who deserve recognition for their work on this game?

Kaeffer: On the original Indy 500, Richard Garcia did a significant amount of programming, Rob Hubbard at EA did a fantastic job on the Adlib and Roland sound drivers (Indy was one of the first games, if not the first, that used those boards for sound effects), and my wife Althea went beyond the call of duty during its development. (You try putting a one week old baby to sleep with the scream of doppler-shifting Indy engines blaring out of the Roland MT-32 in the next room.)

On the new game, John Wheeler is my primary programming assistant, and is doing a fabulous job with the instant replays and the whole user interface. Adam Levesque is building the tracks and 3D objects, and Doug McCartney is drawing the texture maps and menu artwork. They all deserve a lot of credit, doing a great job and maintaining a good humor, all while working with a perfectionist like myself.

CGW: Was there a Papyrus before Indy 500?


CGW: So, was Papyrus formed in order to develop Indy 500?

Kaeffer: We did form Papyrus with the intention of developing games, although Indy wasn’t in our plans at that point. We traveled to San Francisco and pitched a few game ideas to EA in ’87, and we mentioned the possibility of doing an Indy 500 game. Unbeknownst to us, Rich Hillman at EA was simultaneously looking for someone to do an Indy 500 game, and so the ball started rolling.

CGW: What has Papyrus done besides Indy 500 and this new game, and what do you do other than game development?

Kaeffer: We do a lot of contract programming. We’ve done educational software, business productivity software, systems software, you name it. Our focus is on projects which require technologies similar to those in game programming: high speed graphics, sound, any type of program in which a myriad of complex problems need to be solved. We continue to do game development mainly because we enjoy it, but also because it’s a good way to keep our technologies current.

CGW: Were you pleased with the arrangement between yourself and Electronic Arts pertaining to Indy 500? Did EA do a satisfactory job marketing the game?

Kaeffer: At the time it was a very good deal. We were an unknown quantity to EA (and to just about everybody), so they gave us a big break. Financially for us it’s been about a break-even, but the game has helped our visibility, since a lot of people in the industry know it and like it.

Indy 500 never sold as well as we and EA thought it would, but I don’t think EA’s marketing can be faulted. There are probably some things EA would do differently if they had marketed the game again, but they had a tough sell. There is only one track in the game, and an oval at that! It’s difficult to sell the game’s realistic physics when every other Tom, Dick and Harry with a driving game calls theirs “the most realistic driving game ever.” I think game buyers become fairly skeptical about the inflated claims that they see all the time. So naturally just about everyone who picks up the box thinks “Test Drive on an oval… no thanks.” EA drummed up a lot of publicity about the game, it was featured in stories on ESPN and Entertainment Tonight, and was reviewed by the major auto magazines, and they all loved it.

ON THE NEW PRODUCT...

CGW: When will the new product be shipping? What is its official name, and what is the projected price?

Kaeffer: We haven’t yet decided on
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VerifiCation Menu:

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lpTHS)

// all
items are
of fixed
size

the name, but it will be shipping in Oc-
tober, 1993. We currently expect the list
price to be $69.95.

CGW: Modern and head-to-head play is be-
coming all the rage. Are you planning to
incorporate either of these two features
into the new product?

Kemmer: Yes, two-player modern play
will be included. We also would like to
allow more than two players to compete,
and are exploring the feasibility of differ-
ent approaches to that problem. We'll
have more information within the next
few months.

CGW: How many tracks will be in-
cluded with the new game? What mea-
sures are you taking to ensure the fa-
thfulness of the new tracks?

Kemmer: Three or four tracks will be
complete by the time the product ships,
with all the others on the IndyCar sche-

dule to be released as add-on packs as soon
as they are done. The tracks that are in-
cluded cover the variety of circuits the
IndyCars run on: a superspeedway, short
oval, road course and/or city circuit. We
have researched the tracks extensively, using
detailed track maps to get the track
lengths, widths, corner radii, etc. correct.
U.S. Geological Survey data to get the
altitude changes correct, and photos and
video to get the surrounding details
grandsrands, trees, etc.) in the right
places. We also scrutinize in-car footage
to make sure that the cambers and gradi-
etnts are correct everywhere — yes, there
is banking.

CGW: Replays are a popular and an
important feature of driving simulations.
One complaint I had concerning Indy
500 was its inability to save more than one
replay...will the new product include the
ability to save multiple replays for later
games, and will replays be any longer than
those in the original Indy?

Kemmer: Multiples, yes. Longer...we
may have the length of instant replay
depend on the free memory in the ma-

machine, although 20 seconds already seems
interminable, doesn't it? Multiple car set-
ups can also be saved.

CGW: How will customized car set-up
differ from the original? Will this opera-
tion be simpler or more technical/true-to-
life?

Kemmer: There are a few extra opti-
tions: speedway or road course wings, rain
tires, and you can change the engine's
power curve and reliability by playing
with the spark advance and fuel/air mix-
ture. Brake bias will be adjustable from the
cockpit. None of the complex settings
adjustments will need to be made in or-
der to have fun with the game, though. You'll
be able to choose from three default set-
tings which range from an easy to drive
setup through a fast and hairy setup.
However, tweaking your settings can give
you an advantage.

CGW: How large will the program be?

Kemmer: It'll be bigger than Indy 500.
It runs in 386 protected mode, so it will
require a 386 or better (a 486 will increase
the graphics realism, by allowing texture
mapping in real time). It will require 2
Megs of RAM, and use between 2 and 4
Megs of hard disk space, plus about 500K
for each add-on track.

CGW: How long has it taken to put this
whole thing together? When did you de-
deide that there would be a new product at
all?

Kemmer: We've been working on the
new game for almost 1 1/2 years, with
another four months to go. We decided
that we were going to do it about a year
and a half ago. I've been wanting to do it
since Indy was finished, but it had to
become financially feasible first.

CGW: Have you driven race cars your-
self, or has anyone else at Papyrus?

Kemmer: No to both. However, I do
commute into Boston every day, and I
believe after seven years of that you be-
come eligible for a USAC license.

ON THE COMPETITION...

CGW: Recently, it has been Micro-
prose' World Circuit that has captured the
imagination of digital racers. Have you
played this game?

Kemmer: Yes, it's a nice game. In fact,
when I first saw it, I was disappointed,
since we were already hard at work on
our game, and I was hoping it would be yet
another lame driving game. The graphics
in it are very good, it looks very much like
you are driving a race car. But the physics
still leave much to be desired. It doesn't
feel like you are driving a race car. It
doesn't give me the sense that I'm in
control of a car — more like it's in control
of me, and it won't let me go where it's
not safe to go. With the line magnet off,
it feels even less like a car. The car set-up
changes don't materially change the han-
dling either. I haven't had the patience to
see if they change your lap times.

CGW: Was there ever any attempt to
get your new product to the marketplace
before World Circuit?

Kemmer: No. We could've hammered
the game out quickly, but I prefer to take
the time to get everything right. Our new
game will be as far beyond any other
driving game as Indy was when it came
out. Indy has stood the test of time very
well. It's still selling, and a lot of people
are still playing it, even after several years.
We have exceeded that level of depth in
the new game, so I'm not worried that
another driving game will come along and
take away from our sales.

CGW: Finally, what will your new

game have to offer that is superior to
World Circuit?

Kemmer: It feels like you are driving a
real race car. The physics model is actually
superior to Indy's. Engine and skidding
sounds are dynamic, giving you feedback
about the car's handling. Car set up is
much more extensive than in World Cir-
cuit, and settings changes really alter the
way the car handles. Plus you get to drive
on many different types of courses: high
speed, full throttle superspeedways, fast-
paced short ovals, sweeping road courses
and challenging city circuits. The circuits
do have different cambers and profiles as
well as altitude changes. You'll find that a
corner at the bottom of a hill will offer
substantially more grip than one at the
crest of a hill.

The graphics have a tremendous
amount of texture mapping — projecting
bitmap images onto 3D polygons, much like
Ultima Underworld — which adds greatly to the realism and the sense
of speed. The cars are polygon-rendered
in real-time, not pre-drawn. Plus they are
all texture mapped, so they look like real
Indy cars, complete with sponsor's decals.
They also break into pieces if they smash
into the barriers. The instant replays are
also very extensive, with a lot of TV-like
camera footage (and the screams of dop-
pler-shifted engines).

If confidence is a virtue, Kemmer is bet-
ter than most. Only time and the game-buy-

ing public will decide if the "new Indy" has
what it takes to out-drive the competition.
In the meantime, though, it certainly looks
as though the gloves are off.
A Study in Using Maxis' Software Toys as Tools

by Martin E. Cirulis

As a Science Fiction writer, I sometimes long for the Golden Age of SF, when you could get away with writing a lurid tale or two about exploring the steaming jungles of Venus or encounters with the desert nomads of Mars. An age when the average reading audience was a trifle less questioning, an age when basic science wasn't so readily at hand, an age when they bought what you told them. Alas, things have changed in SF to the point where the believability of the set is almost as important as the plot. Contrary to mainstream belief, good SF is not simply made up; it is painstakingly built, from fact to extrapolation to fiction. WorldBuilding, the act of creating scientifically valid alien settings, has grown into a cottage industry itself, with seminars and how-to pamphlets available at almost every SF convention one would care to attend.

Unfortunately, all the advice and references in the world cannot tell a writer how his ideas will interact in ways he hasn't thought of yet. WorldBuilding is an act of modeling, but until now it has been a static model—a beautiful construct when done well, but lacking any sense of the dynamic. You could sculpt a perfect figure, but you could never be sure how it would move, jump or cry. But now, this limitation has been inadvertently addressed by those clever kids at Maxis with two of their always interesting Sim products, SimEarth and SimLife. With the investment of a little imagination and logic, these two products move from the realm of software toys to that of writing tools.

Recently I had need of these two programs in one of my current projects, an SF epic I am co-writing with Lucius Shepard, author of Life During Wartime and The Golden, and winner of a bevelful of Hugo, Nebulas and World Fantasy Awards. Being the junior partner and the one with three quarters of a B.Sc., I became responsible for crafting the backdrop. After climbing out from under a pile of geophysics and biology texts with a wad of notes and ideas, I decided to run some sims my way and see if my ideas would fly...or swim...or just sort of ooze.

Now before we go any farther, a small distinction must be made: The programmers at Maxis would probably be one of the first, followed by thousands of science majors with their hard-won knowledge, to point out that the Sim toys are not meant to be exact models of reality. Many shortcuts have been taken with the actual eco-processes they mimic. Having said this, it's important to point out the resemblance they have to reality rather than their limitations. To use SimEarth and SimLife as tools, one should realize they are to WorldBuilding as the 1 Chung or Tarot cards are to telling the future: They can't actually give you tomorrow's headlines, but they set your mind on paths that you might have missed on your own. For instance, I may never have thought of a race of ice-bound, intelligent trichordates, but seeing them develop on the screen of SimEarth made me consider the possibilities; at least enough to hustle down to the library and see what there is to know of trichordates and their unsuccessful sojourn on the real Earth.

With that little technical disclaimer out of the way, let's get on with the real nuts, bolts and chips of WorldBuilding...the Sim way.

SimEarth: Order out of Chaos

SimEarth is the least adaptable of the two programs because it is designed with most Earth parameters—size, gravity, chemical composition and such things—hardwired in. There are still ways around this. Besides, if endless alternate Earth's were good enough for Star Trek, they are good enough for us, at least for starters. This program won't be of much use to you if you are writing about exotic world forms like Roche worlds or ultra-dense planetoids, but if you are of the old school and a basic spherical world of comparable size to Earth is good enough for you, then SimEarth is sufficient for some interesting experiments.

Of course, in both programs you should operate in experimental mode, as there's no use limiting the power you might need to alter things to your liking. Also, you will probably want to turn the auto-disas-
**SimEarth** is used to investigate the implications of the initial conditions that you have thought up. Use the Geosphere and Atmosphere Model Control panels to create the basic pattern of your alien world and try to think of everything first. A world of vicious storms is going to have pretty serious cloud-cover, so you should probably crank up the Cloud Albedo and Rainfall factors, while a little research will tell you that you should probably also increase the planet's Axial Tilt to power those storm patterns.

You should probably try not to fool with the biosphere settings until you have some sort of clear evolutionary philosophy, as these changes are the most gradual and hardest to justify scientifically. If you don't have any pet theories to try, just let things go with the factory settings and assume that the world has the same basic rules of life. Earth does, which, depending on which professors you talk to, may pretty much be the case in the real universe. Later on, if your initial design seems to be very partial to life you may want to up the Reproduction Rate or fiddle with the Thermal Tolerance if you find yourself with a desert world. A world orbiting a hot, young star can be reflected with a high Mutation Rate, a factor to be remembered when creating labs in SimLife as well.

Some of the changes you make can be subtle, others extreme, but try to have a rationale for all of them and above all else, stick to them. Remember, each run you make is an experiment; if you end up with a blazing, Venus-like inferno, or a globe of undifferentiated goo where amoebas are king, maybe you should rethink your initial ideas or perhaps re-search a little more deeply. Altering the settings halfway through, like turning off an inconvenient Greenhouse Effect, is wise; unless you have some sort of alien intervention plot in mind. This goes for popping in biomes or life-form classes as well; just stick to what the world you've designed will give you. Maybe it won't be exactly what you were looking for, but it might be just the inspiration you were looking for. And pay attention to the composition and density of your model atmosphere, these are the little details that can make a world seem like a living thing in a story instead of a sound stage from the SF backlot.

Once you've run a few simulations, print out a map or two that strikes your fancy and take some notes on rainfall, temperature, and altitude of various biomes and nearby life form classes that you think might be handy for your story. With some of these details recorded, you should have some idea of the specific plants and animals that will inhabit your world. Do some more research, whip up a few funny species, and prepare for your next Sim project.

**SimLife:**

**All the Myriad Ways**

Once you have detailed a few original and interesting life forms, you should see how they might interact, and SimLife is ideal for this. In fact, in some ways it's better at simulating alien environments than its predecessor. Clever use of the Physics menu can simulate conditions on a variety of alien worlds and the way they affect life. If your life forms live around bubbling volcanoes, up the cost of walking. Low G world or thick atmosphere? (The latter possibly indicated by your SimEarth data). Lower the cost of flying. High winds and storms? Better up the Soil and Climate Change ratio.

The main thing here is to try and keep the experiment as small as possible and still get it to do what you need, unless you have a 486million and memory chips to burn. Since SimLife isn't a Windows application yet, a huge (and therefore pretty slow) experiment can keep you off the keyboard a long time and put your writing way behind schedule. Of course, your computer doesn't have to sleep when you do...

After you have the lab set up, you must populate it, and it is here that the program requires as much from you as you do from it. Before designing anything, you must have a few things straight in your head, and know what has to be altered in the experiment to reflect these things. How big, roughly, is each square of terrain? (reflected in movement costs) Does each icon represent a single specimen or a group? (Reproduction method in animals and Food Value in plants) Are the days long or short? (Day Length ticks).

Again, imagination can compensate for seeming limitations in the program. If you were working on an ecosystem where all life was in constant flight, a situation that is seemingly not addressed very well by the simulation, making flying easy won't cover it you'd have to find a way to reflect the true lack of solidity of your world. A way around this is to rig up a completely aquatic environment, making all plants of the floating variety and all animals the swimming kind. True, the experiment won't reflect all the genetic permutations of the gaseous environment, but the effect is pretty close, and as long as you know they are all actually flying, the data and any conclusions you draw from it should still be valid.

With these factors settled you can get down to the serious work: specific designs of life forms. This task can be divided into two groups of generalities, Plants and Animals.

Plants are the easiest to work with because plant life is more easily categorized, and the program gives you less options in
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their characteristics. Say I have a lovely, detailed sketch of a purple and orange spike- tree that tinkles in the wind and glows at night. If it is also deciduous, needs a lot of moisture, grows in a temperate climate, and has dropping seeds, I might as well use a Poplar model from SimLife's library. Here the program isn't as useful in helping you make up new things as it is in helping you figure out where your new things will grow on your alien world. I have found it very useful to do a simple botanical study by populating a lab site with a random spread of Earth plant species from the library and watching to see what takes hold. If I do this and notice that the Poplar plants are doing very well, I should probably make a note regarding the abundance of purple and orange spike trees around my mid-latitude villages.

Since there are more genetic characteristics and considerations for animal design in SimLife, there is both more leeway and more work in the testing of things truly alien. The 'What comes out of top' text that I describe above for plants works using the animals in the Earth library as well, but the answers you get from this process will be much more general. If you have a specific site in mind but are not sure how to populate it, then a general test will show if it can support a large population of grazers or whether carnivores should be large or small. But be warned, this kind of experimentation is time consuming and doesn't always give accurate results as the initial burst of random animals can wreak havoc with your plant ecosystem before any kind of stable animal population occurs.

The more difficult but far more rewarding method is to try to fit the beasts of your imagination into the genetic framework SimLife provides. The key here is to work with your general categories. There are as many theories of what alien life may be like as there are StarFleet uniforms at SF conventions, but no matter how esoteric those theories are, they can be generalized in a very realistic way.

The inhabitants of Alpha Centauri C may be incomprehensible glowing spheres, but if those spheres drift around all day evaporating little colored rocks off mountain tops, then they are basically Herbivores. If they travel with other glowing spheres, they may be basically herbivores. If they drop off hundreds of little shiny specks that eventually grow into glowing spheres, then they are basically already formed and have many young. And so on. This is a very important World-building technique regardless of whether you are Sim-ing or not, but with SimLife at your disposal, it is indispensable. If you are having trouble making these generalizations with your creations, then perhaps more research or fleshing out is in order.

Once you have these generalizations down, it is a relatively simple matter to plug them into SimLife's genetic codes and give them electronic life in the fields of your computer's memory. Even the documentation for SimLife agrees that the creation of a stable food web is fairly difficult, so don't be too depressed if the first few experiments are failures. Once you get the hang of things, you can start putting more consideration into your results. Just keep in mind what you are testing.

If you are simply interested in whether your Gormanian Hell-Hounds can survive on a diet of cute furry things, don't knock yourself out on creating a bizarre and complex experiment. Put your effort in creating the Hell-Hound model and just populate your lab site with good old Earth squirrels for edibles. A few runs through and close examination of the History charts will give you a good idea of the ratio of cute furry things to Hell-Hounds that would work on your world. If everything just keeps dying off, then

fiddle with the Hell-Hound design a bit or even better fiddle with the Squirrels and, Voilà! The birth of Gormanian Vapor-Bunnies!
Flights of Fantasy: Programming a Flight Sim in C++

by Mike “Moon Dawg” Weksler

A few years back, I saw a small flight simulation program listing in a computer graphics book. It was a little C program that "flew" a gunnights over a grid (superimposed over green land with a blue sky). With visions of F-10s dancing in my head, I set out to program this sim. Eighteen months, several over-my-head computer books, two C compilers, one C++ compiler, and a third party graphics library later, I completed what more or less can be described as a flying lawn mower simulation with a nice “cockpit” and a graphical user interface. It was educational and fun, but it was a much more arduous project than I ever expected.

What really needed was a good reference book that was written at the intermediate programming level with easy-to-understand programming examples and ready-to-use program routines. My “Lawnmower Commander” was a patchwork of code from different books and programming libraries, and I remember thinking that there had to be an easier way. In fact, hacking into the wee hours, I would imagine an announcer coming over my stereo: “Does this happen to you? Can’t get that poly-fill function to draw your sky? Is your gunnight permanently drawn onto the ground at some indiscriminate location that speeds by in a mocking manner? Can’t get a clean compile to save your life? What you need is a book for the intermediate programmer that specifically addresses flight simulation topics!” Flights of Fantasy: Programming 3-D Video Games in C++ is the very book my imaginary salesman would have pitched to me.

“You’ll find all the essentials to create a complete working flight simulator as good as Red Baron or Falcon 3,” touts the press release. Of course, this is ridiculous marketing amplification. Rather, this is a great foundation for learning the fundamentals of C++ programming, bit-mapped graphics, 3D polygon filled graphics, and flight simulation. After reading a few of the chapters in Christopher Lampton’s easy-to-read style, I soon realized that I could have written my “lawnmower” simulation in an evening with this one book, my Borland C++ compilers, and my hacker’s enthusiasm. Of course, it would take staying up all night, but what programmer hasn’t arrived at a clean compile with a Carl’s Jr. breakfast burrito at dawn.

Enclosed, please find …

Each chapter has ample C++ examples illustrated with cutting-edge rendered graphic illustrations. The book takes the reader from a graphics primer, through the fundamentals of wire-frame and poly-fill animation, right up to polygon clipping, hidden surface removal, and the use of look-up tables and integer math to speed up one’s calculations. Additional chapters cover the necessary math and viewpoint translation calculations necessary to get a flight simulation off the ground. The book also addresses topics all the way from the use of C++ “classes” and “objects” to optimizing one’s source code with Borland’s Turbo Profiler—a tool bundled with the Borland C++ compiler—which allows one to optimize code. Additionally, the PCX viewing code in the bit-mapped graphics chapter will save the novice reader from getting too deep with a third party graphics library.

Unfortunately, there are some dry spots in this hacker’s oasis. For example, the chapter covering fractal landscapes only provides a function for drawing a random jagged line across the screen, with a reference pointing the reader to more in-depth books on fractal 3D terrain generation. In other words, anyone looking in this chapter to try to figure out how to program the terrain to Comanche: Maximum Overkill or Strike Commander will be sorely disappointed. Also, the sound chapter, while providing the basics of interfacing with the SoundBlaster, could have provided more examples.

Fortunately, the author provides a useful chapter on basic flight dynamics and then covers the featured “FoF” flight simulation in depth. While not boasting gourmand shading, dithered horizons, texture mapping, nor any weapons or other aircraft to fly with/against, this bi-plane simulation is the perfect specimen with which to dissect and poke around in its guts. Especially interesting was finally learning how left, right, and rear views were programmed as well as 3D poly-filled mountains and other ground objects.

Clean Compile

Flights of Fantasy: Programming 3-D Video Games in C++ is available from the Waite Group Press for $34.95. While not as complete as touted, this 556 page book serves as an outstanding reference to the novice and intermediate game programmer. The wealth of provided code (both in the book and on the provided disk), flight simulation program, and useful bibliography give the reader the foundation for further studies in this mist shrouded area. Topics of discussion pertaining to this book and code can be found in the Game Design section of the CompuServe Gamer’s Forum (GO Gamers), courtesy of the “Fly by Night Group.” One can find the author, Christopher Lampton, on CompuServe at [76711,311]. Hopefully, Mr. Lampton will follow up this work with an in-depth look on such topics as real time texture-mapping, 3D fractal terrain, and dithered horizons, bringing these esoteric topics into the realm of the intermediate game hacker.
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The introduction to the visually stunning *Journeyman Project* leads you through a smoke-filled post-atomic apocalypse where rival nations unite in a peaceful utopian sphere. The convoluted plot begins in 2318 on the skyborne city of Caldoria, where the world nervously awaits the return of the Cylrollans. These squeaky-voiced aliens have ideas of global harmony more syrupy than anything Michael Jackson had ever dreamed. Within this universe on the brink of bliss, time travel has become a workable technology, but is restricted to prevent the time stream from getting warped by irresponsible use.

The government has formed an elite guard to shield against bad times and to repair any rifts in the continuum from sabotage. The Temporal Protectorate (the gamer's employer) is headquartered in the Temporal Protectorate Annex, a top-secret bunker. Very few humans can be admitted to the controls of Pegasus, the last existing time machine. The gamer's objective is to follow whatever missions are assigned to mend the rifts in time.

**Tempus In A CD**

Before talking about the specific missions, however, it is necessary to touch briefly upon the interface for the game. *Journeyman's* interface, like *Spacechip Warlock* and most other graphic-rich games, reduces the area of the action on the monitor by establishing a mechanical convention. Here, it is the narrow view-glass of the snap-on electronic monocular that is an integral part of the BioSupport Suit. Considering the weighty data chunks of QuickTime movies and sound files in *Journeyman*, it was wise to slim the window down. Even with my speedy Hitachi drive, I just had to get used to the drag-and-lag on the action as the CD-ROM data stream chugged along with long load times and slow uprates. When the game is loading, it is impossible to move, select or save. Waiting and sweating is all that can be done.

Because each loaded sequence is a QuickTime movie, it has to cue the player to the beginning in order to run. For instance, even when saving a position at the console of the Pegasus time machine, the place where destinations are chosen, when one restores to that position, he or she has returned not to the jumpseat but back into the elevator, and will have to go through the whole entry sequence again. While the movement buttons can be activated with the mouse, the program likes the keyboard's arrow commands better. The digital compass and the mapping BioChip can help the player go home again after navigating those modular corridors and tunnels. The cursor arrow traces a path for each step taken. As handy as this is, there may be some times when it is necessary to jump before leaping while one surfs the space/time continuum. It is advised to save positions often, or suffer a thousand deaths.

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mental hazards, as well as inventorying acquisitions and monitoring energy levels. Every second spent questing burns up energy, so one must remember that the meter is running and time may simply run out while the player's character hoots through history. The first goal is to hop back 200 million years to retrieve a time log disc, then return to the Annex to enter its temporal coordinates into the machine. This is to check against any discontinuities in history.

One must also be careful not to cause any glitches while traveling; upon each return the player must check that there aren't any warps in the grooves. In the Sydney Australia mission, it'll be tough darts if a player can't get his or her genes together. The Mars Colony mission requires a lot of energy to keep up with uppity robots and not bomb out. The ship may finally be coming in for the alien watchers, and it could be up to the player to make sure the Cyrollans have a happy landing. The Norad VI mission can be the most touch-and-go, with a missile that just doesn't want to say no.

It does make a difference which sequence is taken on missions, and some of the objects one acquires in one mission may be vital to survival in another. The complex environments of Journeymen are believably fantastic, and the solidly rendered and polished machines, vehicles, devices, tools, keys, doors, controls and robots work with convincingly precise action (though some devices may need an extra mouse-nudge or two). The excellent sound effects sharply support and underscore the dramas as one grapples with new and unpredictable catastrophes.

**Extemporaneous Conclusion**

Journeyman is a challenging, take-no-prisoners game, as tough as they come with its many logic puzzles and its no-instructions, no-returns machineries. It is all the more rewarding after puzzling past each conundrum. For these new realms of the CD-ROM graphic adventure game, perhaps its time to draft new rules. This is different country than the text-adventure game or even the Ultimas of action gamers. There is plenty of room on the disk to include complete hints and answers for those who want them when they need them. To see glimpses of these fully rendered worlds and not be able to enter them is like paying for a cruise and getting stuck in the cargo hold.

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Circle Reader Service #34
SCORPIA FEELS THE PINCH OF UPGRADE ULCERS

This time around, we aren't going to be looking at a game. No, this tale is a cautionary one: Life On The Edge, or The Perils of High-Tech. Fred, get the refreshments ready, I'm gonna need it after reliving this experience.

Sharp-eyed readers noticed that the April (#105) issue had only one instead of my usual two articles. The Mail column was present, but the View was rather conspicuously absent. There was a reason for that. In order to play a computer game, one needs that indispensable item: a computer system. For much of January, I was without that essential little item and this is how it happened.

As the end of '92 approached, I reassessed my current system, a 386/120 with 2 megs of RAM and a 40 meg hard drive. There was no doubt about it, I needed more horsepower, more memory, and more drive space. In short, a new system entirely.

This didn't exactly thrill me. In '88, I bought my first MS-DOS machine. Only two years later, I was buying a 386. Now, I had to upgrade again. Three systems in four years is no joke, especially when your livelihood depends upon staying up with the current games and you don't have much choice. So, I went shopping for a system I hoped would last, maybe (hah!) a little longer than the usual two years.

It seemed to me that a 486/60 with 8 MB of RAM, 120 MB hard drive, and local bus video would be just the thing. I could get such a system at the local store, for a good price. The one hitch was the local bus video (VLB). Up to that time, all the VLB's were proprietary. Each manufacturer had their own way of doing it, and provided the necessary video card.

Of course, if the card was unsatisfactory in any way, you were stuck: either use that card or go back to an "ordinary" 16-bit video card. This did not appeal to me. Also, several independent card manufacturers were beginning to advertise VLB cards, and these had to be generic. How could you use a generic card in a proprietary slot?

Naturally, you can't. However, just at that time, the VESA standard for VLB had gone through. No more proprietary slots; everyone would use the same technology for local bus (at least supposedly). Therefore, any decent VLB card from any manufacturer would work, thereby allowing choice. That did appeal to me.

The end of the year is always a confused period, and the changeover to VESA added to it. Everyone was retooling their motherboards for the new standard. I would have to wait a little while, but it was only supposed to be about two weeks or so. In the meantime, I arranged for some friends of mine to buy the 386. They were a little hesitant to take it when the replacement wasn't on hand, but I reassured them it was okay. I could tough it out for a couple of weeks, and no major games were on the horizon anyway. Had I but known...

So, the Tuesday after New Year's, I check in at the store, everything seemed okay, and we put the order in. Then we learned something: VLB doesn't work in a 50Mhz machine. On a 486/25, or a DX2 25/50, or a DX2 33/66, yes. On a pure 50, nope. Standardization, don'tcha' just love it? Well, the 66 didn't cost much more than the 50, and besides, the way technology has been rocketing along, maybe it was better to get the fastest machine. We switched the order to a 486/66, and then I hurried home to my cave to wait out the two weeks.

It was a little weird, looking over at the empty table where the 20 used to sit. It was even weirder, not playing any games. At least I got caught up on some reading, and I still had my trusty Apple IIe so I could log on to the nets. For some reason, though, I was feeling a little restless.

The two weeks passed, and I managed to live through it. Then, the great day arrived: the system was waiting in the store. Yay! Naturally I hurried right over there. They opened up the case, plugged in the video card, and turned on the system.

Nothing happened.

Unfortunately, the in-store machine was a 486/50; so we couldn't test the card on it (but we did anyway). With the same result, which meant nothing. So they took the 16-bit card from their machine and put it in mine. The system came right up. That was a relief, but still...

Phone calls are made. One to the computer manufacturer (the manual was a little, umm, indecipherable on some points, ahem). No, nothing needed to be done to enable the VLB; it was set and ready. Any VLB card should work after being plugged in. Hmmm.

Then, a call to the card manufacturer. This was more involved, and less satisfactory. Finally, we get to someone who seems to know something. "Oh, the OPTI chips? We've been having some problem with those" (and a few others, as it turned out later). "We're working on a new chip right now." Of course, they can't say when it will be ready, but "soon."

Now what? Wait for the new chip, or send the card back and get another one from someone else? Presuming, of course, that someone else has a card ready. And what if that card has some problems? This is the first of the first generation VLB cards, which makes it all pretty chancy. Let's wait.

Another week goes by. The chip arrives. It turns out to be exactly the same chip that is already on the card, and doesn't work any better. More calls to the card manufacturer. More confusion. Apparently there isn't any "upgrade," this is their only chip.

Enough is enough. Send this turkey card back to them. VLB can wait. I can wait until this whole situation settles down, and I know for sure that I'll get a card that works. So, now the store orders a regular 16-bit card for the interim since we know that it will be okay. It arrives in a few days and once more, we start testing the system out, one card at a time. Everything works. I breathe a sigh of relief.

(Continued on page 100)
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Circle Reader Service #71
Lemming
On The Edge
Psygnosis' Lemmings 2: The Tribes
by Saul Serafina

It's always a bit disconcerting when cold reality rudely intrudes on an involved gaming session. There I sit, my entire being enveloped in a universe, the most important thing in my life being that this pixel goes there, and Life seeps through a drafty cerebral window. As I save another band of lemmings in Psygnosis' new Lemmings 2: The Tribes, I realize that I've safely tucked away more lemmings this month than dollars in my savings account. I've certainly done more to further the digital existence of these creatures than I've done for a real dying species. And I've definitely invested more thought into their salvation than into my own pitiful soul. Do I pause (or "paws" in lemmings parlance) to reevaluate my existence? Do I turn off my computer and write a letter to my congressional representative? Hardly. I plod on stupidly but happily, blind to my fate, hoping that some kind deity will see fit to clear my path of nasty impediments and deadfalls, just as I clear the paths of the stupid but happy creatures on my screen.

Meet George Lemming

For those who haven't had the pleasure of meeting this delightful pet, the lemming of the computer variety is a small (approx. 20 pixels), cute (green button that bounce with their That Girl stride), incredibly stupid (approx. 20 IQ), yet gifted with extraordinary innate skills. They are known to build stairs, dig ditches, bore tunnels, scale precipitous cliffs, and even explosively self-destruct through the force of their will. They live in a remarkably perilous environment, and would have long gone extinct but for the efforts of many tireless gamers who the lemmings are thought to worship as deities. From a lemming command chair, empowered with a mouse, glorified gamers command the lemmings to perform the different tasks within their repertoire. If the lemmings are fortunate enough to have a quick-witted gaming deity, they will be able to avoid the certain death that lurks everywhere in their world and arrive safely at their homes.

The Origin of the Species

This is the lemming gamers have known, loved, and "nuked" with a grin. But these creatures have changed a bit since we've last seen them — in fact, they've mutated in many odd ways. In Lemmings 2, gamers will discover an island off the coast of Sequelia that has been biologically isolated for many software seasons. On this gaming Galapagos several species of creatures can be found that are genetically descendant from the original lemming. Due to the bizarre geography of the island (divided into 12 pie pieces) and the widely divergent ecosystems to be found there, the Basic Lemming (Pelorbus Lemmings) has speciated into 12 distinct types. The forces of selective market pressure have yielded the most bizarre of adaptations. The types discovered include Circus Lemmings (Lemnica slapstikus), Sports Lemmings (bruce genericus), Beach Lemmings (grand habondis), Polar Lemmings (idiodromicus), Medieval Lemmings (brave-su-robinicua), Highland, Egyptian, Shadow, Space, Outdoor, Classical and Cave Lemmings.

Each of these lemming types brings distinct skills to the party. The Space lemmens zoom about with jet packs, the Cave lemmens wield huge clubs that bash through walls, and Beach lemmens shoot the tube on surfboards. All totaled, there are 55 different skills, up from eight or so in the original! Overkill? Perhaps, but this variety makes for very challenging play. Just when one feels comfortable with the skills available on a level, the skills get shuffled up and new ones must be learned. Though a bit overwhelming at times, the new and constantly changing skills keep the game fresh, which is important in a game with over 120 levels.

These levels are divided into 12 groups of 10 — one group for each of the tribes. Each tribe offers a self-contained series of puzzles with their own delightful graphic look and distinct lemming antics. Lemmings 2 is different from the original in that there is no predetermined number of lemmings that must be saved to complete a level; rather, there are three tiers of success. If the player botches a level and saves only a few lemmings, he or she is...
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You never heard it so real.
awarded with a bronze medal. Saving them all earns a gold, while mid-range success earns a silver. Also unlike the original, there is a larger scene to the game. If one loses, say, 10 lemmings on the first level of a tribe, there will be 10 less on level two — one's success carries over from level to level. The object is to complete the puzzles in each tribe level with a gold medal, which might be one of the more challenging tasks in computer gaming. Each of the tribe's medals is a piece of a talisman. In the game's fiction, the talisman must be reconstructed so that the lemmings can make a grand Exodus on an Ark and escape the coming End of the World. *Lemmings 2* is truly a game of biblical proportions.

**The Way You Do The Things You Do**

The interface is basically the same as in the original game: One still chooses lemming tasks from a menu across the bottom of the screen, and one still assigns the tasks by clicking a cursor box on the individual lemming. One interesting addition, probably borrowed from *Psygnosis Creepers* game, is a “fan” cursor. With the fan, the player can blow certain flying or air-ballooning lemmings around the screen. The best new addition is the Fast Forward command that matches the lemmings in double-time and eliminates any dead time in the puzzles. Level passwords have been thankfully done away with and replaced by a game saving option.

**On the Level**

The puzzles have been lovingly designed and ooze cute out of every pore. The lemmings even die adorably, and there are new and vicious ways for them to be killed: gobbled up by ravenous creatures, gobbled down by battlemech robots, and mutilated by other more demented devices. The potential size of the levels has increased; one can now not only scroll the screen horizontally but laterally as well. As in the first game, some of these puzzles require superhuman feats of coordination to master. New players should be warned: though funny and friendly, this game isn’t going to curl up in your lap and purr.

Everything about *Lemmings 2* squeaks of quality: the delightful animations, the clever puzzles, the sound track with original music for each tribe, the people-friendly interface. The package even includes a brilliant little novella that tells the story of Lemming Island in a style that melds A.A. Milne and Douglas Adams — it’s classic Brit wit. In the final analysis, puzzle lovers who don’t mind being beat over the head with a Cute Club, and don’t mind beating their own heads over difficult puzzles should find *Lemmings 2* to be one of their better purchases of the year.

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Ride the Winds of the Maelstrom

Merit Software’s Maelstrom

by Douglas Winship

The obvious assumption when first stepping into the Maelstrom is that this is another thematic reprise of such games as Spaceward Ho! or Reach For The Stars, an explore-and-conquer game of intergalactic empire building. Not so. As the name suggests, this real-time game throws the player into an oftentimes bewildering array of less than straightforward challenges. Furthermore, almost nothing is as it seems in this universe, whether threat, opportunity, or (more commonly) both. While the player is learning to ride the winds of the storm, the animated sequences of enemies overrunning planet Harmony appear all too often and not always for obvious reasons. Fortunately, once the storm is mastered, it’s an exciting ride.

Maelstrom takes place in a post-war galaxy, populated largely by independent planets. Peace is being threatened anew, however, by a new and malevolent super-power, the Syndicate. A renegade former agent of that empire (the player) has decided to lead the defense of Harmony, a third-rate power whose conquest by the Syndicate would spell disaster for the free galaxy. Harmony may be small and weak, but it is very wealthy, and it is the player’s job to exploit that wealth to end the Syndicate threat forever.

With its tiny population, Harmony cannot stand alone against the Syndicate. The player must form a coalition with the other threatened planets, sometimes rescuing those that have fallen prey to the evil empire during the course of the game. Harmony must remain free long enough to attract sufficient money and manpower from the other free planets to mount a force that is able to deal a death blow to the Syndicate headquarters—wherever that is.

The player runs Harmony from the Executron 1200 Holodesk, which provides information and communications facilities. The player can converse with Harmony’s department heads and VIPs on other planets and is provided with background information files on them. As the game progresses, new characters are discovered, and the files of known persons are updated. One of the most important responsibilities of the player is reviewing resumes and hiring and firing the ship’s officers, mining foremen and other middle management types. Finally, the player must issue orders to one or more of the executives and assign sufficient staff and budget to the project. The labor force is the most critical commodity in Maelstrom. It is very hard to get more, and the military can “spend” much of it in a hurry if a battle is lost.

The government of Harmony has four departments at the player’s disposal: Mining, Research, the Military, and the Secret Intelligence Network. Each is critical to the outcome of the game, and their respective demands for budget and human resources must be carefully balanced and adjusted throughout the game. We’ll look at each in turn, from least to most complex.

Puttin’ On The Fitz

Fritzolium tri-gem ore (Fitz) is the heart of Harmony’s economy, the reason for its peril, and its primary defense. The planet is essentially a gigantic lump of this hyper-volatile fuel and munitions ingredient. The main reason that the Syndicate has not just bombarded Harmony into submission is because said action would almost certainly set off a chain reaction destroying the entire planet, including three-fifths of the galaxy’s Fitz. (No need to feel safe though, the Syndicate is surely working on a way around this...)

Harmony begins the game with two working mines, but scores more are needed to supply the money to fuel an offensive war machine. One must survey the planet to find the most concentrated ore patches; then, hire mine foremen to exploit them. Each mine’s efficiency is totally dependent on the quality of the foreman hired to run it. In time, mines become unprofitable or even peter out altogether, so routine monitoring is a must. The mining department will provide the fewest surprises during the game, but those it does provide are very valuable. Mining is very labor intensive and is not a renewable resource, but it is lucrative. Ships cost a lot of money, and Harmony needs a lot of ships.

Marching On Dow Chemical

While Harmony must buy most of its weapons, defenses and computers from other neutral planets in the galaxy, especially early on, it does have a small but motivated R&D department. Top and not-so-top scientists are available to lead research in a variety of scientific fields. Again, the quality of these employees dictates how likely they are to succeed in each project they undertake. Research labs will provide new weapon systems that can either be kept in-house or sold as patents to the major arms manufacturers for big cash payments. Unsold weapons cost less to buy and are unavailable to the rest of the galaxy. R&D will also produce various other inventions of various degrees of usefulness to other
dicate saboteurs on Harmony, though this last job is out of the player's control. If SIN has a large enough chunk of the budget, Harmony is mostly sabotage-proof.

All other missions must be determined by the player and will be assigned to the first available agent. Though agents are hired like executives in other departments, the early missions do not require high quality agents as in other departments. Later, the quality of agents does become an issue, but fewer are needed. SIN agents are responsible for most of the surprises in the game.

With a ride from the military, SIN agents travel to other systems, even Syndicate homeworlds, to discover any information previously undiscovered there. This searching needs to be repeated as the game goes on, as things change. These recon missions can become exciting should the agent discover a Syndicate base. If a VIP from somewhere, even Harmony, is kidnapped, then SIN needs to act fast to rescue him or her. SIN agents also are propaganda masters who can travel to neutral planets and stir up public sympathy for Harmony. If they are successful enough, the leader of the planet may elect to offer direct aid to Harmony. SIN is cheap and easy, but the player should not get careless because of this. It should be used only where necessary, and only the best agents should be used on high risk insurrgency and rescue missions.

There are a number of hidden treasures spread across Harmony and the Galaxy. These items are in the same place each time, and the player should note where they are so they can be found earlier in the next game. Also, certain of the more complex events happen in every game, but their timing is never the same from game to game, so the player must learn to recognize the signs that one event or another is about to take place and react appropriately. Enough random actions occur to keep things fresh from game to game.

Stormy Matters

Maelstrom has an attractive user interface based almost entirely on the mouse. The only time the player needs to touch the keyboard is when entering a new savemame name, and even then there is an on-screen keyboard for die-hard rodent pushers. All in all, the interface is Maelstrom's main weak point. The game is simply so big that there are times when the player needs more information than can be displayed on screen at one time. Pop-up windows might be a solution, but the design requires one to keep a piece of paper handy in order to keep track of everything.

The documentation suffers from the same problem. There is more information to be presented than is convenient and the manual ends up being more confusing than helpful. It is written as if it were the owner's manual for the Harmony control center, down to a warranty disclaimer from the head of R&D. What this offers in atmosphere, it sacrifices in clarity. It lacks a tutorial or fast-start section and one must read all the way to page 41 before finding either what the actual victory conditions are or what the basic strategy of the game might be.

In spite of the manual and interface, however, Maelstrom is well worth the effort to be expended in learning it. It seldom drags as the game progresses, and if it does, the player can crank up the clock until something happens. Maelstrom will take plenty of time and many games to win, providing much more than the average number of "Lost Evenings" without getting old. Best of all, there just aren't many games out there that are very similar to Maelstrom at all, so those who appreciate big games should take a ride.
Transcontinental Competition

MPG-Net's Empire Builder
by Ken Hill

For many years there has been a niche in the board game market for games involving trains and railroads. This genre has produced some classic games over the years: Rail Baron, 1830, Railway Rivals and many others. One of the most popular rail games released in recent memory is Mayfair Games' Empire Builder (EB). Now, fans of EB can take their dreams of riding the rails to fame and fortune to the electronic network of the MPG-Net. With this excellent implementation of a classic board gaming system, the rail game fanatic can experience a game with other players around the world as easily as if they were all sitting around the same table.

Take A Load Off

Empire Builder is a game played on a map of the United States and southern Canada in a modern era. The object of the game is to make money faster than your competitors. The players do this by picking up loads from cities on the map and delivering these loads to other cities. Players have three demand cards (with three possible contracts per card) at all times which gives them nine possible combinations for earning the green stuff. For example, a demand card might indicate "Cans to Los Angeles, $34 Million" or "Imports to Winnipeg, $20 Million." The farther away from the source of the demand, the higher the card will pay upon successful delivery.

Players construct their rail network by connecting dots on a grid superimposed on the map. Starting from a major city like Chicago, New York or Seattle, they build track across the country which they can use to fill the needs of the demands listed on their cards. The price of track is determined by terrain; mountain mileposts and river crossings cost more than building in open country. Routes into cities are also expensive. Two preliminary rounds of track laying start the game, after which trains are placed on the map and a turn sequence of "move then build" is followed for the rest of the game.

There are six major cities on the map. Other cities on the map fall into two other categories, medium or small. Access is limited to these cities in order to provide some competitive flavor to the building process. Most cities provide commodities roughly corresponding to their "historical" economy. Detroit provides cars, Des Moines and St. Louis, corn, and the Pacific Northwest or Maine, wood.

Each turn, players move their trains around the map, picking up and delivering loads, and making money. Once a player successfully delivers a load, he or she draws another card from the "demands" pile and continues. Early in the game, most of the earnings are re-invested in track building to expand the network. Later on, players can upgrade to faster or more powerful locomotives to run on their mature lines.

Disasters like floods, snow storms or strikes appear from time to time to hamper the players. Getting caught in a derailment or similar disaster can be a minor annoyance or a major tragedy depending on the situation. The first player to amass $250 million in cash has successfully connected to five of the six major cities on the map wins the game.

Net'n on the Rail Road

On MPG-Net, potential players gather in a conference area and wait for other players to appear. Once they are ready to play, one player starts a game by establishing two guidelines for the game: starting cash and victory conditions. The other players join the creator in his or her game group and the game begins.

Once the Windows-based front end is started by the host computer, players are presented with a beautiful representation of the game map in a window. Other windows soon pop up with additional information. Each player can see their current cash position, train level and loads they are carrying in a small window labeled "You." The player can also see the same information about the other players in the game (except for cash position). The "Demand" window shows the player's current demand cards, while a click of the

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mouse shows the demand cards of others. There is also a "Control Panel" window which has icons for all the major game functions.

The MPG-Net implementation of the game is true to the original down to the finest detail. The map window in which players will spend most of their time is roughly 1/6th the size of the entire map. The player can scroll the map using the scroll bars on the side of the window. One can toggle between the larger, more detailed play window and a smaller representation of the whole map. Unfortunately, this map shows only the position of the trains and not the track networks, and so is only useful as a reference.

The game has several features that make the game both easier and faster to play than the original. Even long-time EB players sometimes forget where loads can be obtained. This problem is easily solved by clicking with the mouse button on the demand card. Not only does all the possible pick-up points for the commodity become immediately marked with a box, but also the destination for that load. Clicking with the right button will display these helpful markers on the larger scale play window, while clicking with the left will display them in the full-map window.

Most game functions can be accessed from the control panel. Train movement can be started with a click on the movement icon. After this, the player simply points at the next milepost along the route and the train moves along. Right-clicking on the movement icon causes the train to "auto-move." The player's locomotive will move as far as it can along the current route until it reaches a decision point or runs out of movement points. This feature speeds up play and eliminates some of the endless clicking necessary to move an engine.

Building track is as simple as clicking on the build icon and using the "crayon" icon to draw track connecting from one milepost to another. Another time-saving feature is the "survey" option. This allows players to draw track on the map before their turn and build all of it quickly when the appropriate time arrives. Not only does this help with route planning and cash management, but it speeds the game up tremendously.

Players can also send public or private messages to other players during the game using the "Telegraph" icon. All of the important aspects of face-to-face play have been duplicated except for slipping that extra load on your train card while no one is looking!

The Windows-based interface is a joy to use and makes excellent use of sound cues to let the players know when important events occur. The arrival of your turn is signaled by a hearty "All Aboard!" while news of disaster cards is preceded by a newsboy's call of "Extra! Extra!" Telegraph wires click, steam engines chug and diesels purr, all of which adds to the gaming experience.

Rough Track

If the game has any drawback in its current form, it is the slowness of play. Despite all the efforts of the programmers to provide tools to speed play, the game can take a while. In my experience, a two-player game lasts around two hours. Each additional player in the game adds about half an hour to the length of the game. While these times mirror how long the game will play in person (at least with only three or four players), it is really longer than it has to be. After all, I don't have to count cash, physically draw track, or handle mundane bookkeeping chores in this version.

There really isn't the fault of the implementation but is more the nature of the game itself. There is a natural pause in the game, even when played in person, when a player draws a new demand card after delivering a load. Early in the game, players build track almost every turn which can slow the game as well. MPG-Net seems to have recognized this in their implementation and have taken steps to minimize the problem.

There are a number of minor problems with the system. The survey function at the time of this review only allows one section of track to be "pre-built." Many times, a number of spur and connections must be built in a single round and this limitation slows play. Also, while the software is a Windows-based package, I would advise against trying to run any other application while the Empire Builder front-end is operating. A number of problems can arise, ranging from the changing of screen colors to a total crash of Windows, forcing the player out of the game. None of the game windows are re-sizeable. It would be helpful if one could size the play window to a larger area if one is using one of the higher resolutions that Windows supports like 800x600 and 1024x768. In fairness to MPG-Net, I should point out that EB is very much a "work in progress" and many of the problems discussed are being ironed out. As the system matures, I'm sure that improvements will be made.

Minor problems aside, I was very impressed with the job that MPG-Net has done in converting one of my favorite board games to the small screen. Their implementation of the game is sure to pass the scrutiny of the fanatics who love games of this genre. It is simply the best computer implementation of a board game that I've played to date. The ability to play with other rail game fans across the country is icing on the cake. At a time when finding an opportunity to get the gang together for an evening of board gaming is getting more difficult, MPG-Net gives one the opportunity to play the game at anytime—without submitting the living room to the ravages of beer cans and pretzel bags. CGW
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D.C. True’s new strategy game, *Shadow President*, is an extremely detailed geopolitical simulator that balances the world on its players’ shoulders. It also allows players to kick said globe around like a beachball, but that’s definitely not advised. There are five alternate reality scenarios, all set in January 1990, ranging from genuine Earth to Super-Iraq (guess who won the Gulf War?). The game runs in continuous time, with days varying from half a minute to several seconds.

Requiring a fairly sophisticated computer set-up, *Shadow* takes up 7.5 megabytes of hard disk space, a minimum of 550K free memory, a good sound card/speaker set up, and advises using a math co-processor and 486 chip. However, I ran it on a beat-up 286 and it worked fine. VGA graphics are crisp and up to current standards. It does occasionally lock up, particularly in some of the military sub-menus, but this might be due to my pushing the capacity of an older machine. Caveat: save often.

The players of *Shadow President* find themselves transported into the Oval Office. There is no election. One just steps into the seat of power and starts to act. This is accomplished not only through the player’s computer, but through the “Shadow Network” as well. The latter is the instrument that allows one to control the destiny of the United States and the world. The Shadow Network, or the on-screen display, is a world map with a series of buttons set below and to the side. Using the mouse, the player points and clicks to various countries, interacting with them much as in Chris Crawford’s *Balance of Power*.

A good President is an informed President, and this is where *Shadow* provides bells and whistles. Players can access country-by-country data from the “CIA World Fact Book” that comes as part of the software, accounting for much of those 7.5 MBs. A series of “filters,” or push buttons, change the map to display economic strength, alliance orientation, military spending, strategic value, etc.

In addition, the player has a stable of advisors: Secretary of State, Defense Secretary, CIA Director, etc. These advisors will put in their two cents on proposed policies, and will even resign if you do naughty things. (The Press Secretary is an attractive blonde. My wife dubbed her the “Peachwood Button.”)

Power! You want it, you got it! Presidential authority is exercised through a series of menus and buttons. The Shadow Prexy can dole out foreign aid, rearrange the Federal Budget, and raise/lower taxes at whim. The budget menu allows across-the-board spending cuts the likes of which Ronald Reagan would have drooled for.

In addition, the player may act as statesman and propose trade relationships, try to influence other countries’ policies, attempt to bring about peace, or wage covert war. Finally, there’s the dreaded “War Room” in which military affairs are handled in highly abstract fashion. Troops are committed to countries or launched on invasions as easily as setting a number, and combat results are displayed instantly. This is also where a player can conduct—gasp!—nuclear war!

**Join The Network, Seize The World**

*Shadow President* gives the player a varied and sophisticated array of tools to monkey with the planet. The player defines the goals and the means. Whadda ya wanna do? Nuke Ohio State? Keep things running on an even keel? Raise the world’s standard of living? Balance the budget? You’ve got the means, the ends are your business.

But this is not *Risk*. Conquering geographical areas until one covers the globe like the symbol for Sherwin Williams Paint Company is not going to provide victory. A player is measured by several scorecards. Most immediately important is Leadership Effectiveness Rating (LER). A low LER means that everybody laughs at you and kicks sand in your face. Every time a player does something that doesn’t work out, LER drops. Guard that LER well, or you’ll find even Chad won’t exchange cultural programs.

A second important factor is “Ruthlessness.” Do too many nasty things and you’ll find yourself assassinated. Third, your popularity with the U.S. electorate is key. Remember: he who has a 90% approval rating in summer 1991 can be out of office in January 1993. More importantly, let popularity drop too far and the game will be abruptly terminated with an impeachment notice.

**Playing Chicken On The Hot Line**

So how does the game play? With a fairly long learning curve. There are lots of subtle by-plays among the nations, lots of hidden actions going on. Everybody knows what’s coming about August 2, 1990, of course, and Saddam can be easily thwarted. But he’ll be back, and there are other pitfalls out there. As President, the player makes the international climate, and the more ruthless your policies, the more chaotic and violent the world be-
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comes. Conversely, be an international nice guy and the world smiles with you. Mostly.

As a learning tool, Shadow does a good job of providing information and showing players how complicated the world is. As a simulation, it has certain real-world problems. A simulation, particularly one that draws heavily from contemporary headlines, must parallel the real world. This reviewer found certain...well, anomalies.

Most jarringly, American armed forces are paper tigers. Saddam’s army kicks U.S. tail whenever armed force is applied. A typical counter to Iraqi invasion of Saudi Arabia put a million and a quarter U.S. troops against 800,000 Iraqi soldiers. The resulting clash took months, and U.S. casualty figures mounted to the 50,000 range. This sure isn’t the Desert Storm I remember. In addition, committing troops causes one’s popularity to free fall indefinitely. Once again, this isn’t borne up by any real-world situation. Even Vietnam took three years for the public to cool, with Nixon reelected in 1972. Who programmed this thing? Cyrus Vance?

More inaccuracies: the USSR is belligerent and uncooperative. In 1990? Actually, Gorbachev was so desperate to save his regime, he was signing anything in exchange for cash. (Remember the Grand Bargain?) In short, as in many political games, the model reflects the designers’ sensibilities rather than actual realities.

How does Shadow work as a game? The problem is that you can’t do cool stuff. Effectively running a nation is a tedious business of details. A good world leader prevents bad things from happening and works to raise boring things like Third World GNP. Alas, an entertaining game must let the player be an activist, making things happen, good or bad. The simulation aspect of Shadow President forces one to be more passive than active if stability is the desired goal.

Shadow President, despite its wealth of detail, confines a player’s actions to running through menus and inputting numbers, finely calibrating economies and relationships. It’s highly ethical and educational, but boring. A player yearns to break loose and do something wild like invade Canada to bring home the Stanley Cup. Or drop a nuke on Tokyo just for the hell of it. Unfortunately, such actions cause the world to “tilt” faster than a pinball game in a Chicago bowling alley. Fortunately, such actions are possible, since rebooting a game is infinitely easier than rebooting the world.

Games that stress responsible management, yet stay fun, emphasize hands-on challenges: like Sim City, Civilization, or Railroad Tycoon. Large scale, highly abstract political simulations like Crisis In The Kremlin and Shadow President have many virtues but tend to be too arid for real entertainment. This one is predominantly for those who love to input numbers and model complex systems models. As for me, even invading Canada is more fun than carefully massaging the numbers in this educational, but less entertaining game. The reluctant verdict on Shadow President: a work of art that belongs in every civics classroom, but it sure won’t drag me away from Duke II.
Scorpion’s View

Scorpia Finds Plenty of Venom on Serpent Isle

There is some speech, although not much. Fortunately, the lion’s share of it is by Denis Loubet as the Great Earth Serpent, the best voice in the game. Not that he sounds quite like that in real life; some audio magic was performed on the recordings. No matter, it is well-done and perfect for the part.

Serpent Isle is certainly the cleanest-running product that Origin has brought out in a while. The game is very stable: no bizarre graphics, no missing inventory items, virtually no crashes. Once, and only once, the game froze on me. That was in Fawn, while reading a scroll found on a body. After rebooting and restarting the game, I was able to read the same scroll with no problems. I consider this a momentary hiccup, since nothing even remotely similar occurred anywhere else in the game.

So, the game is clean, the storyline good, many new places to visit, good sound and graphics...what could be wrong? Plenty. Some of it is minor, but there are also some major problems with this game.

It runs under the VooDoo Memory Manager, which was universally hated in The Black
Gate. Fortunately, aside from a planned add-in, Origin has announced Serpent Isle will be their last project to use VooDoo. That being the case, I will skip my planned diatribe (heh) and only say: let us raise a cheer to this heartening news, and hope we can use our chosen memory managers in future Ultima games.

Inventory is the same nightmare it was in the previous game. Items in packs and bags move around, cover each other, and generally make it difficult for you to find whatever you're looking for. On several occasions, I had to start taking things out of the backpack just to locate a particular object. This jostling around may be "realistic," but it does not add anything to the game and can be a great time-waster.

This is especially true of the spell reagents. Even keeping them in a separate bag doesn't help very much. Try locating a dark item, such as nightshade or black pearl, when it's against a black background. It is very hard to keep track of how many you have of each item. What we need here is a "reagent bag," similar to the "runes bag" of Underworld, a bag with a light bottom that keeps the reagent neatly in place and readily countable. Failing that, it needs at least a hot key of some kind to show how many of each reagent is in the bag.

Food is another sore point. As before, once a party member becomes hungry, he whines and moans about until you stuff something in his face. Even with a packload of food, he is totally incapable of feeding himself. This is nonsensical. The whole food business itself is a nonsensical and nit-picky detail we can do without. Let us try to get all the food in question and then at the end of the game, hand-fed by the Avatar.

The artificial intelligence of the party characters hasn't improved a lot since The Black Gate. They have smartened up enough so that those equipped with missile weapons usually stand back to use them instead of rushing up to the front line. However, should you have people set to "attack nearest," and the nearest happens to be an enemy on the other side of a wall, those party members will try to push themselves through the wall to get to it. They completely ignore the visible threat in front of them. Party members also cheerfully walk over or through the most blatant traps, no matter how carefully the Avatar maneuvers. They do not seem to notice these things at all.

Those are the minor, albeit aggravating, matters. Now we come to the more serious ones. Disk access is the first. The game goes to the drive constantly. The party can hardly take a step or any sort of action without the drive light going on. The more animation of any kind that is happening, the slower the game becomes. It can become exasperatingly slow in some instances, even on a 66 MHz machine. The fastest movement is usually obtained in the open wilderness, on a clear day, with little or no extraneous animation going on (in which case, the party can move quite rapidly). Speed is also better when the Avatar is going solo or has only a companion or two along.

It takes, on average, a minute or more to load in a saved game, and slightly less to save a position, with the files being in the 400-500K range. This is definitely not state-of-the-art, especially when The Summoning, whose save files balloon to 700-800K by the end, can save such monsters much, much faster. Even with a SMARTDRV cache, I found no material improvement in either disk access or save/restore times in Serpent Isle.

**Warning: Specific Hints Follow**

Where the game really falls on its face, however, is in the construction of some of the "puzzles." In order to explain this more fully, I will have to give away some solutions or partial solutions. Then again, considering the circumstances, this may not be a bad thing.

Up north, after you get through the mountains, one of the first things you find is a small cave with five pedestals, five Ophidian runes, and a barred door. By trial and error (which doesn't take long), you can figure out how the runes should be placed on the pedestals, but this doesn't open the door.

Further north are the Gwani, a peaceful race of fur-covered humanoids. You help them with their current problem (a sick child) and all they say is that perhaps someday they can do something for you in return. They make no mention of the mysterious cave. They seem to know nothing at all and, of course, there is no way you can bring up the matter in conversation. There is no one else around to talk to and really nowhere else to go. You could be stuck here for a long time.

It turns out that you must call in a special Hound to track Batlin at this point. Then, and only then, the Gwani suddenly remember the cave and tell you how to get into it. Why couldn't they tell you this in the first place or why couldn't you simply bring up the matter yourself (having visited the cave)? It is a very frustrating sequence.

There is the matter of Shamino's Castle (which does not shed a very good light on his past). You can get in and enter all the outer rooms, but the central keep is barred by a mysterious force field that nothing will dispel or remove. I spent a long time in the liver room over this before finally giving up on it.

Once again, the Hound to the rescue. Here you track someone else, and the trail leads to the castle, where the barrier is now mysteriously gone. No explanation is given for this, it just happens.

In the castle of the white dragon, you must proceed room by room. Most of the doors are locked, and require a key or lever to open them. Eventually, you come to a room with a key, none of those you have worked, and there is no lever. This looks like a dead end, but it isn't.

Through most of the game, you learn that a locked door needs a specific key to be opened. Bashing, explosives, or lockpicking just won't do the job in most cases. I tried these methods anyway on several doors in the castle, with no positive result. It was my misfortune to stop before reaching the one and only door on this level that could be opened by bashing. Are we having fun yet?

There are other situations like these in the game, which seem designed to frustrate more than anything else. It is especially bad because they are major points, where you are stuck with really nothing else to do (or nowhere to go), until you figure out (through desperate trial and error) what has to be done to progress to the next stage of the game.

Loose ends show up, too. Return to the Bull Inn late in the game and find that everyone except Wilfrid is dead and Wilfrid isn't talking about it. Apparently, he hasn't noticed that his brother, brother and all the guests have been slaughtered. Worse, a manned guard tower is only a few steps away, and no one there seems to have anything to say about it, either.

Revisit the Gwani and you note that most of them are dead, but the survivors seem completely unaware of it. The same holds true in Monitor, where the sole survivor is totally oblivious to the carnage in the city. It is all very exasperating.

In sum, Serpent Isle is a good story gone wrong. While the main plotline is solid, execution of it is inadequate. There are irrelevancies (the whole business of Shamino's background is bogus), loose ends, too many poorly-designed "puzzles," and an amazing programming oversight that allows you to complete the game without performing what is supposed to be a crucial ritual.

**Origin** needs to re-examine Ultima IV for a refresher course on the concept of Avatarhood (something that has gone steadily downhill since V), as well as how open game design and logical plot connections are supposed to work. With that, and the elimination of some of the more irritating minor features, the next Ultima may well be a game worth playing. Serpent Isle, however, is likely to provide more aggravation than enjoyment for most players.
Scorpion's Tale

(Continued from page 80)

However, we've been doing all this with one of the store's in-house monitors, my own is still in the box. Let's just be certain and try it out before I take it home.

The monitor is defective.

If thoughts could kill, half the world's population would have died in that moment. It is now four weeks, almost the end of January, that I've been without a game computer. Not since I got my first Apple way back in '81, have I ever gone so long without a game to play. Never, with any system, have I had such problems, or been so frustrated. ARRGGHHHHHHHHH!! KIHHHHHLLL!!

Fortunately, my self-control asserted itself and I did not actually go berserk, even though I certainly felt like it. We managed to get an order in to the manufacturer in time, and they promised the replacement would be there tomorrow.

It actually did come the next day, and it actually worked. I plugged it in, and hooked everything up, mainly cables and wires, since all the cords were already inside. Then, I turned the system on, and it booted with no problems.

Okay, so far, so good. Next, re-boot all the files backed up from the previous machine. That went well. But out ProComm Plus with the new modem. Hmm, no dialing. Spend most of the afternoon fiddling around with settings and thumbing through the manual, to finally track down the one letter I needed to change in the modem string to make it work... but, it made it work.

Let's see how the Gravis Ultrasound SoundBlaster emulator does with the Ultima Underworld demo. Gee (ear to speaker), there is some sound there, but it's awfully low. The GUS amplifier, let's say, weak. I need amplified speakers now. Luckily, the computer store owner has a pair of slightly-used Roland speakers he doesn't need and sells them to me.

So, it's the last weekend in January, and finally — FINALLY! — the system is together, up and running properly. That's when I discover the Michelangelo virus in the partition table. Well, it could have been something worse; this is one of the easier viruses to remove from the system. Anyway, it's gone, my MS-DOS machine is fine, and I CAN PLAY GAMES AGAIN!!!

The following week, my Apple died.

It is, of course, on the Apple that I answer all the letters I get from CGW readers. This, in some ways, was more serious than not having an MS-DOS computer, since I could still reply to questions on games I had played in the past. Now the mail is piling up fast.

Answer by hand? My handwriting was never very legible and has gotten worse over the years since I've been computing. Hey, there are times when I can't even make out my own hand printing, never mind writing. It's that bad. Well, I know it, it ain't easy holding a pen in a pincer.

The mail continues to pile up. Some of it, alas, gets mixed in with old stuff already answered, and goes out in the trash during one of my rare "clean-up" fits. I don't like to think about that one.

Finally, the Apple is up and running again, and I settle down to the backlog. Slowly but surely, it gets taken care of. At last, everything is caught up, the computers are working, and life returns to normal in the cave. WHEW!

So be warned: when the latest in high-tech comes around, let someone else mess with it first! Don't be the first one on your block (or in your cave) to buy the new toy; it may come with more headaches than you ever imagined.

Okay, next time, we'll return to the usual bill of fare here at the Tale. Meanwhile, if you need help with an adventure game, you can reach me in the following ways:

On Delphi: visit the GameSIG (under the Groups & Clubs menu).

On GEnie: Stop by the Games Round-Table (type: Scorpio to reach the Games RT).


Until next time, happy adventuring! 

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Circle Reader Service #58

Computer Gaming World

Circle Reader Service #43
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Circle Reader Service #77
They’re Going to Hell for This One!

The Bad Boys at ID Software Take Their 3-D Engine to New Depths

by Chris Lombardi

next generation technology jump. It’s a high-altitude, wind-aided, Carl Lewis of a leap ahead.

Gamers who choose to accept this new mission will find themselves in the skull of a space marine, the likes of which we saw die en masse in the film Aliens. In fact, the script of this game could be transformed into Aliens with a simple Search-and-Replace and a slight twist of setting. There you’ll stand, playing cards with three other space station Rent-A-Marines, popping powder donuts and jaying about the red light delights to be found planet-side, when the alert klaxon sounds. But it’s not another genetically engineered gerbil loose on aisle 12 — there’s real trouble about, and that straight flush you were just dealt is shot to Hell.

Strutting out into the hallway with well-armed cocksureness, you see a sight that makes you regret that your combat briefs are airtight. It’s a muscular, horny, pizza-nightmare of a demon with a soul eatin’ grin. Yes, he wants your immortal being, and, no, he’s not beyond using gross surgical means to get it. If the trigger finger is fast enough, you’ll live to shoot another, and your multi-level quest to find the source of these soul snatchers will have begun. Off you go, four better-armed, though less lyrically endowed and a friend, will be able to hook up remotely. The rest of us can play with ourselves; a state of affairs to which we computer gamers are well accustomed.

As mentioned, Doom is a great improvement over Wolfie. One glance at a scrolling screen is enough to prove it. Whereas Wolfie had nicely textured walls with bit-mapped adornments, Doom has opulently textured walls with bit-mapped adornments. Whereas Wolfie has bare ceilings and floors, Doom has carpet, tile, ceiling panels and light fixtures. There are immense computer banks with rows of important looking lights, and monitors displaying bit-mapped planets and space station maps. There is furniture: tables, chairs, counters and crates — there are even cards on the table for the poker game mentioned earlier. Gamers will also be able to put their own touch on the surrounding, as one’s bullets will pooh-mark the walls, which will bear those territorial markings for the rest of the game. If the environment of Wolfie “put you there,”

upstarts that brought us this gaming “experience” hasn’t been sitting on their C compilers this past year. They’ve been very busy. So busy, they’ve probably yet to hang all of their awards on the wall.

We don’t know what nasty sludge is seeping into the Texas water table, but whatever it is has given these boys some strange visions, and what’s worse, the programming sorcery to carry it out. Doom is the name of their next creation, and unbelievable graphics technology is their game. Doom is, not too surprisingly, another 3-D action game based on Id’s award winning game engine. But what is surprising is how far they’ve taken this new incarnation beyond Wolfenstein. Doom is not the typical Dante’s on a circle by circle descent to God-knows-where.

Wolfie players who ventured solo into Hitler’s den may now enlist help in Doom. Doom is (God help us) multiplayer. Those fortunate enough to have access to a network will be able to hunt by fours. Those of lesser fortune, though blessed with moder
then *Doom* will pick you up, hurl you in, close the door, and turn the key.

Ever wonder how the Nazis kept their fortress so well lit in *Wolfie*? Well we hadn't either, but now that we've seen *Doom* the question does come to mind. One of the more impressive features of the graphics is the addition of light, or rather, the removal of it. There are gorgeous lighting effects in *Doom*, long shadows stretching from doorways, overhead beams casting patterns on the floor, flickering fluorescent bulbs as irritating as life, and caverns so black you can't see your pistol muzzle in front of your face. If you thought bumping into a Nazi henchman in a suffocating maze was unnerving, try knocking head-long into Satan's soul steward in a darkened alley.

Another major shift from *Wolfie* to *Doom* is in the lay of the land. The *Doom* room architecture now includes non-orthogonal walls — a college boy's way of saying that they are not restricted to right angles. In addition, there are new variable ceiling heights and multiple levels within a level, as one might find in an *Ultima Underworld*. In *Doom* there are curving and descending hallways, stairs to upper and lower areas, recessed "conversation pits," and elevated platforms. The effects they've created with these new tools are enough to cook a gamer's circuits. At one point, you can climb to an upper level and look out across a vast area of virtual space with all sorts of graphic monkey-business going on down below. It's the computer game equivalent of one's first Grand Canyon vista.

The Id 3-D system has changed very little in the actual mechanics of the game. Keyboard users will still have the Alt, Ctrl, and arrow keys as their best friends, and the number keys will still cycle through the ridiculous stockpile of weapons that one keeps on their person. The weapons still suggestively protrude from the bottom of the screen, and they still animate in visceral pulses of power, though they do wild new things. There's an animated, thrusting double-bayonet that reaches out into the screen, as well as a shotgun that one's bit-mapped arm will pull back and cock after every blast. There are other, more twisted armaments to be found and fired, though we'll save some surprises for later. One new and welcome interface addition is an automap feature that will keep track of the sights seen and the places yet uncovered. This will be an essential part of a *Doom* session, as the non-orthogonal floor plans are disorienting and labyrinthine.

Again as in *Wolfie*, the primary directive is to scavenge the floors for ammo, health rejuvenators and treasures, while fighting back hordes of baddies that lurk in every dark corner. Those who wished for a bit more interactivity in the world of *Wolfie* will be satisfied — a bit. There are switches on the walls that can be flipped to interesting effect. Walls will move, platforms will rise from the floor or descend from the ceiling. There's even a room in which bits of the floor pulse up and down like pistons, making for a seasick trip across the hall. Id hopes to make some of the computer terminals interactive, though they didn't implement that in their latest working version. Basically, as the mechanics go, *Doom* is the same "hitch up yer jockstrap" shoot-n-scrounge as *Wolfie*, though on a completely different planet.

The question that comes to mind these days when discussing a game of such graphic intensity is the computer horsepower required to play it. In its current state, enjoying the full experience of *Doom* will probably take a muscular 386 machine; however, there will be options to resize the graphic window and switch off some of the graphic detail so that lower-end gamers will be able to play at a decent clip. Increased realism has its costs, though realism of the *Doom* kind may make it worthwhile.

August looks to be the month in which gamers will be Doomed to wander shadowy halls rife with Satan's spawn. Like *Wolfie*, *Doom* will be distributed through shareware channels and direct from Id. The first episode (one level) will be freeware and will offer frugal graphics compared to the rest of the game. However, in the registered version, Id won't hold back. Who knows what depths Id will go to bring this virtual experience to a bullet-casing littered world? One just can't be sure of such things with these Id guys. There's only one thing we can be sure of — we'll have one Hell of a time. CGW
European Invaders?

CGW’s Foreign Agent Stalks Europe’s Premier Computer Show

by Keith McMillion

Lord British, Chris Roberts, Sir Tech’s Robert Sirotek, Leisure Suit Larry, and a six foot tall Zool — were all in town (old London Town that is) in April ’93 for the Spring European Computer Show. Every year this major European computing event gets more important, and although there did not appear to be too many big releases, there were some real surprises.

The Yanks are Comin’

The Electronic Arts stand was surprisingly dominated by just one piece of software — but what a piece of software — Origin’s long awaited Strike Commander. Graphically and audio-wise it seems to be all that has been promised, and with the full version coming in around the 50 Mb (!) this is certainly one of the biggest releases of the year. Sierra’s stand was back to back with that of MicroProse, and both US giants were showing off a couple of new releases. MicroProse had their new UK-written multi-aircraft flight combat sim, Dogfight, and the usual collection of “F-something” over various platforms. Legacy, their new UK-produced horror adventure looks tasty and should be opening its coffin any night now.

Sierra has had a busy period with lots of new PC games, but it was two products under their Dynamix label that attracted most attention. Aces Over Europe is the latest add-on to the excellent Aces Over The Pacific flight sim. Apart from upgrading the game’s AI, it introduces several new plane types, many of which make their welcome debut on any PC simulation: the British Spifire, Tempest, Tornado, Mosquito, the German Me 109, Focke Wulf 190, and the Me 262 jet. This range has now staked the crown held for so long by LucasArt’s S.W.O.T.I., but Lord British did mention that one future project is to adapt the Strike Commander engine to a WW2 flight sim...very interesting.

The other Dynamix title is their first attempt at serious role playing, Berndal at Krondor. This is a CRPG based on the respected Riftwar novels of Raymond E. Feist, and claims to be the largest gaming world created in any similar game. The explorable area is stated to be some 224,000,000 sq. ft. as opposed to 5,290,000 sq. ft. in Ultima VII, and a “small forest and multi-level dungeon” in Eye of the Beholder (all figures and quotes from Sierra’s distributed PR materials).

Over Here

Coktel Vision’s stand caused many a queue as people stopped to look at the CD version of Inca, with more of those amazing graphics and some equally stunning sounds. The UK’s own Ocean had a couple of titles on offer, including plugging the forthcoming A-Train Construction Kit from Maxis. Other titles in the pipeline include yet another golf game, International Golf Championship, Odyssey - a sequel to Epic (hope it’s better) and a snazzy looking flight sim entitled Inferno, an update of the elderly, but still excellent F-29.

Krisalis was keen to show all of its new sci-fi adventure Shadoworlds, and it certainly is a neat piece of programming—it was soothing to see the software demonstrators managing to get the space marines killed as often as this reviewer did!

Sheffield-based Gremlin Software had a very busy show, exhibiting the Amiga and now PC versions of the very popular arcade game, Zool. This is among the sharpest arcade game on the IBM and even a six foot tall Zool wandering around couldn’t steal attention from the forthcoming Little Devil. This is a great game that is graphically like a Don Bluth title but has some cracking puzzles and problems. The animation is top notch, controls are good, it has wit, and bags of gameplay. This could be the surprise release in the next few months. Finally on the Gremlin stand was their new driving game Nigel Mansell’s Racing, based upon his Formula One Grand Prix experience, not his Indy Car stint. This is a straightforward arcade game, and the least said about it the better. Bearing in mind that the crashes (even into walls Nigel!) are quite tame, this will not be the best value product this year with its asking price.
Impressions is now a two-country software outfit and is hiring software programmers at a rapid pace. Cohort 2 has just come out, but two other products were the reason for stopping. The Blue and the Grey. Impressions’ US Civil War game is a progressing treat, and Ed Grabowski was keen to stress the importance of getting this one right. “We are using some of the best people available to ensure the most historical accurate miniatures warfare... this will be the best release, and we are very excited by it.” The other area of interest was the use of voice commands with When Two Worlds War, and it is uncanny to see the effect of speech on drop down menus and commands.

Pygmosis from Liverpool, now working closely with Sony, seems to get better each year. Combat Air Patrol, Walkers, Hired Guns and a CD-ROM product Microjson. The star of their show, though, was definitely the brilliant Lemmings 2.

US Gold maintains a big presence at the ECTS, and it seems that they are getting more and more PC oriented. The main new products on show were the add-on disks for Command & Conquer - Maximum Overkill (more whoosh and bangs, but with even better sceneary), Flashback from Delphine, the AD&D Construction Kit (the first decent build-your-own?), and the conversion of the best selling German RPG Blades of Destiny and the eagerly awaited Eye of the Beholder III.

This third (and supposedly final) episode in SSi’s best selling series is sub-titled the Assault on Myth Drannor and is set in the Forgotten Realms world. The party of heroes is sent to recover an artifact of divine power from the dread undead lich Achwellan. The plot is as old as the Dwarf mines but the gaming system looks a little fresher. The Westwood Studio team responsible for the good Eye of the Beholder I and the better EOTB II has now moved onto adventure worlds anew and it seems that SSi has had to develop their own gaming engine from scratch. The finished product looks very similar to that used in both the earlier titles, but possible goodies like auto-mapping and a genuine free flowing 3-D environment are not within this product. Enhancements do include group combat, external locations, and some areas that are underwater. One’s characters don’t exactly swim through these scenes, but the effects are still good and add to a game that claims to be 50% larger than EOTB II.

Shortly after seeing preview of Beholder III, the new Westwood adventure title, Lands O’ Lore was also previewed. The latter appears to use a straightforward development of the original Westwood EOTB engine, now released from some of the limitations of the AD&D worlds. This looks a fare nicer product than the SSI offering. Time will tell, but it seems likely that SSi will try and get EOTB III out ASAP to at least capitalize on that release before the obvious comparisons are made with the new Westwood offering.

Virgin and Westwood’s Lands O’Lore - The Throne of Chaos would take the award for the most surprising new game. Lands O’Lore is not another graphic adventure in the Legend of Kyrandia vein, but, as mentioned, is styled more after their previous Eye of the Beholder release. Led by another terrific opening sequence, the player is introduced to a wonderfully revolting villainness in the form of Scotia. To all appearances she seems beautiful, but this agent of the Dark Army is actually a horrid creature capable of changing her shape at will. Eight distinct story sections, 30 unique areas, from castles, to dungeons, swamps, ancient ruins and The White Tower. No longer fettered to the AD&D system, Westwood has opted to adopt a less statistically intensive approach and go for simplicity. Character statistics are now reduced to: Attack, Defense and Magic.

The interface is a slick update to the EOTB system. Movement and direction changes handled in discrete “square at a time” moves via a bank of direction arrows; inventory management and object manipulation are all fully mouse driven; and the graphics are an absolute delight. There is a fair proportion of combat in real time. Westwood states that there will be more use of magic spells in L.O.L, and the accompanying graphic and musical effects look very special.

Another Westwood release on show was the CD version of Legend of Kyrandia. This debut release for Westwood/Virgin was the surprise graphic adventure of 1992 and now hits the silvery disk with another 85MB of digitized speech and sounds. All conversations are now spoken by an ensemble of professional actors and actresses, and the casting director has done a great job. The splendid nasty of Malcolm is particularly bitter and twisted, and he cackles and jeers his way through this quite polished adaption. The plotline and puzzles are the same as the disk-based release, but this is no mere shoe-ware. The CD version of Legend of Kyrandia will be available for multimedia PCs in the Summer of 1993.

Also about to be released on CD are two of Virgin’s recent boggles, their Space Simulation Shuttle and their involved sci-fi strategy game, Dune. Shuttle CD will contain over 45 minutes of sampled speech that will allow all communication between the Space Shuttle and mission control to be spoken. Add to this a full blown space encyclopedia with more than 1,000 VGA photographs and over 150,000 words of text along with several major enhancements to the control system, and you have possibly the most comprehensive title of its type.

Other forthcoming PC releases from Virgin include Caesar’s Palace, a gambling compilation running under Windows with four versions of Poker, Blackjack, Baccarat, Roulette, and Craps; a football game from the programmer of Kick Off I and 2 called GOAAAAAAAAL-A (Amiga, ST and IBM PC); Beneath a Steel Sky (billed as the world’s first computer-based animated comicbook), Archie Maclean’s Pool and two Amiga/ST titles in Cannon Fodder and Apocalypse.

The End of the Show as We Knew It

ECTS is coming of age. Many people now take this show very seriously as witnessed by the various dignitaries and icons that attended this year. Last year the show was still awash with the Amiga and its software. This year it was hardly mentioned, let alone seen. Lots of talk about 3DO, but the real buzz was CD. The consensus seemed to be that it was bound to happen, and soon, requiring only a couple “must-buy” products to finally get it airborne.

ECTS, which now bills itself as the world’s only dedicated trade event for computer and video games, was held from Sunday 4th April to Tuesday 6th April 1993, at the Business Design Centre, Islington in London. It is traditionally held as both a Spring and Autumn event.
Caught in the Net

Thank you for taking the time to review The Kingdom of Dakhlan. We were delighted to see your magazine review one of the games offered on our network.

I would like, however, to update your readers on some changes that have taken place here at MPG-Net. Since CGW went to press, we have made some price changes. The maximum cost for connecting in the continental United States is now $4 per hour through the network nodes. In addition, MPG-Net supports two local nodes of their own. Our Poughkeepsie area node (914-724-3940) is available for $2 per hour. Our New York City node (212-643-0653) is available for $3 per hour. We plan to add more local nodes in the future.

If you or any of your readers have any questions or wish to find out more about our network, call 800-438-4263 (GET GAME) and we’ll be happy to assist you.

Janet Brothhead
MPG-Net Director of Customer Service

Thanks for the update, Janet. We’re always glad to print news about lower rates.

SEALed With A Kick

Warning: This letter contains strong language which may be offensive to some readers.

I must object to the comments by Johnny L. Wilson in his “Dancing with SEALS” sneak preview in issue #106. How valid is his preview of a game based on the SEAL teams when he did not serve and proudly parades his anti-war attitude while ridiculing his acquaintance’s son for his favorable viewpoint of special forces and claiming that Apocalypse Now and Platoon are realistic films.

I served in Vietnam as a SEAL. We supported riverine operations and helped the Navy PBRs (Patrol Boat/River) to interdict VC supplies shuttled down sampans and portaged through shallows by bearers. We intercepted VC couriers and after killing or capturing them, passed the information they were carrying to Navy Intelligence.

I consider Platoon absurd, totally unrealistic and pure propaganda. The Green Berets, while being propagandistic on the other side, was much closer to reality, aside from filming the setting sun in the wrong direction, and instills a proper patriotic attitude in the boy mentioned.

Most Americans have a strange reaction to the act of killing. In real life, you shoot the enemy and you kill him dead, whether or not he is armed, whether or not he is going for his gun, whether he looks dangerous or appears benign. That way, you stay alive and your men stay alive. Many of our senior officers and civilian leaders do not believe this. They would rather that we got killed than our enemies did. That attitude is stupid and it is wrong! My interrogation techniques could get a little rough; my guys could make hamburger out of two or three young, innocent-looking, unsuspecting VC. I did not worry about whether or not I was killing the VC properly (what is improper killing I wonder?) because at least my guys and I were out in the boonie bush killing ‘em, not sitting behind some desk or in a cozy college stroking our meat.

To me, a Purple Heart is not a badge of honor. I consider them enemy marksmanship medals and I am happy not to have ever “won” one. In battle, I always kill my enemies before he has a chance to kill me and use whatever it takes. Never did I give Charlie an even break. I shot from ambush. I used superior firepower. I never engaged in hand-to-hand combat unless there was absolutely no alternative. To me, the combat knife should be a tool, not a weapon. All the whiz-bang knife fighting, karate/judo/kung fu b.s. you see in the Rambo-Jumbo shoot-em-up movies are just that: bullshit. The real-life rules of war are simple and effective: stay at arm’s length whenever possible and shoot the shit out of the enemy before he sees you. That is not ruthless, immoral or unfair. It kept my SEALS alive and there were fewer of the enemy. Keep your anti-American, anti-war attitudes out of your reviews and have veterans decide if a game realistically portrays combat.

Harry
Chicago, IL

Dr. Wilson responds: I should have thought that the empathy that I, an admitted opponent of the Vietnam Conflict, gained for Vietnam veterans from my experiences of playing SEAL Team would have proven something of the healing value of the game. I also would have thought that my pointing out how easy it is to differentiate targets in the simulation, as opposed to the nightmare reality faced by you and your colleagues, would have indicated that the playing experience had brought at least a minor degree of additional understanding of the difficulties you faced. I said that my goal in playing the game was to survive. Your letter sounds like that was a realistic goal in the actual experience. That seems a point in the simulation’s favor.

I am sorry that you felt I was “bragging” about the purple hearts earned by my character. I was intending to show what an “iffy” experience each mission had been for me. Indeed, I talked about the purple hearts and unsuccessful missions in the same breath. What I was attempting to show was how this program could increase one’s sensitivity to the Vietnam experience, even to those such as myself who had been the Vietnam vets as being “on the other side” because they weren’t protesting with us. Playing the missions in the SEAL Team beta reminded me in a most powerful way that those involved in the conflict were doing their best in a thankless, impossible task.

By the way, I was not the one who called Platoon realistic, it was the Vietnam vet of my acquaintance. Further, he was not disappointed with his son’s desire to serve in the armed forces, but rather with his son’s obsessive desire to see combat.

For a different take on the same coverage, please read the following letter.

Border Crossing

I’ve been following this great magazine since 1985. There certainly have been a lot of changes in computer gaming, as well as changes in your magazine. I have always felt that your editorial staff has been responsive to your readers and always tried to present the best critical judgment on the current games. For a good job well done, I congratulate you. It is no small effort making it to issue #106.
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Sound Blaster Pro 16 Bit $220
Sound Blaster Pro Basic 8 Bit $154

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I find myself in a quandary, critically, technically, and in a matter of personal taste. First, the technical:

1. I do not have the bucks to purchase a new computer, nor is my computer one that can be upgraded with a new motherboard. I am rapidly finding myself left behind as more and more games require over 10 MB of hard drive space, as well as nodes of memory and speed that my 286 simply cannot muster. Most of the games that I would have played are now unplayable on my machine. Ah well, such is the curse of outdated technology.

2. As I peruse the games in issue 106, and as I browse my favorite software store, most of the games I see really don't interest me. Many "walk-abouts" that are just coming out seem to be simple rehashes of old Sierra and Infocom titles. Something as unique as Lemmings, as creative as Heaven & Earth or as captivating as the original Eye of the Beholder series simply seems to have gone the way of the old 10 MHz machines. This issue's emphasis on telecommuting (again, prohibitive for me because of big bucks) and all the war strategy games leaves me cold. The "Taking A Peek" section offered nothing that hasn't been done before. I just don't think the industry is growing or developing newer and more creative games. It seems the industry is depending on technology (faster machines, better graphics, more disk space or CD-ROM) rather than using the old noggin to generate a new idea of a story or make a better game.

3. And now for the criticism. The cover. I went to college during the Vietnam era. My memories of war are not glorious, nor do I think wars teach strategic lessons that can't be learned somewhere else. Having someone dressed in military uniform with automatic weapon in hand, trying to sight the enemy in what seems like a jungle setting is not my idea of fun and games. It instantly brings images of body bags, exploding mines (with flying body parts), friends killed and a black marble wall in Washington. The blood red border reinforces the death motif stronger than you realize. Your art department could not have done a better job of portraying an image so full of exactly the opposite of what CGW is about.

David C. Hicks
Whiteland, IN

The 5th Wave

By Rich Tennant

The cover photo was not just someone dressed in a military uniform. It is a historical picture and, along with the game, helps to teach some important lessons from history. We do not believe that history is learned in denial of or isolation from some of the uglier aspects of reality. In SEAL Team, games are faced with ethics similar to those faced by individuals in realistic situations. Without such products, based on painstaking research as opposed to conceived in the minds of the design team, our understanding of the past would be much lessened. We believe that covering such games does teach important lessons. The article tried to point out some of the differences between the game and reality. Those lessons were lost in the bring powerfully home to me in the course of playing SEAL Team. We did not intend to glorify war and did not feel that this was the purpose of the EA product. Instead, we thought it was a personalization of war that might make individuals think twice about its so-called glory.

As for the creativity bug in the industry, we recognize the validity of some of your concerns. We see too much MOTS, as well. Yet, designers have to be careful because the market doesn't always like innovation. Think about such games as Trust & Betrayal: The Legacy of Siboot and Powermonger. Both had extremely innovative elements, but were not well received by the gaming public.

As for the machine requirements, we also see products like Civilization and Conquered Kingdoms that do not push the edge of processing power, yet provide unique, creative gaming experiences. For CRPGs, the best solution may be the purchase of a new machine or one like Interplay's The Bard's Tale Construction Kit andSSI's Unlimited Adventures in order to make their own games.

Computer Wargaming Hurl

I am appalled that CGW continues to expand Computer Wargaming World each month. A full third was dedicated to CWW this month, though only 20% of the readership are wargamers. Being into CRPGs/Adventure, I was very disappointed this month! Where was Scorpio? We make up 25% of the readership and had nothing of interest in this issue. Space Quest IV, again?

Adam Mayo
Greenville, SC

Scorpio's presence was reduced due to her severe withdrawal pains when she was without an MS-DOS computer. She was able to stay on-line with her old Apple II, but we couldn't find any new games for her to review on that platform. As for the CWW space allotted, we do not choose wargame coverage over CRPG/Adventure coverage. We simply review all the games in as timely a manner as we can. Sometimes, CWW will be large and at other times, we will get letters from wargamers complaining about how much CRPG/Adventure we give. It's a two-way street and we try to be fair about it. The reason it seems CWW gets more coverage is because of the specialized strategy articles contained within.
On final approach to the United States

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Circle Reader Service #93
intermedia '93, the heir to the International Conference on Multimedia and CD-ROM, featured an odd mix of skeptics and visionaries. One of the highlights of the conference was Mark Cantor, the founder of Macromind (publisher of Macromind Director, the tool used as an authoring tool for many CD-ROM entertainment products), boldly stating in a general session that he didn't think CD-ROM products were very interesting. Another was NEWS Electronic Data executive, John Evans, comparing the average user of smart TV with his labrador retriever. Just as this dog gets confused whenever he has to go after more than one stick, so the average couch potato might become lost in the possibilities of interactive TV. More substantive was Tele-Communications Inc.'s John C. Malone boldly pledging that his company is interested enough in the marriage of multimedia and cable television that they would buy 14.5 million units of the first manufacturer to provide a "magic box" for $350 or less. Along these lines, Microsoft demonstrated the Smart TV interface that they are developing.

It was sobering to hear Evans talking about this industry celebrating sales of 5,000 units on a CD-ROM title in comparison with TV Guide's millions of readers, and to compare Philips' proud announcement of 100,000 worldwide penetration with Malone's desire to place millions of pieces of hardware in the homes of cable subscribers. It was almost black comedy to hear entertainment veteran Barry Diller (formerly of both Paramount Pictures and Fox Television, currently the chief executive of the QVC shopping network) questioning the wisdom of anyone trying to sell an $800 box. In all fairness, Diller apologized immediately thereafter, observing that there were at least two companies in the audience trying to capture people's imagination with an $800 box. Yet, he didn't believe that interactive entertainment would become a mass media phenomenon until a magic box with new uses and a compelling reason to buy was available to consumers without effort (i.e. when it was installed as part of the cable system for a low monthly fee).

It was inspiring to view demonstrations of possible Smart TV interfaces and hopeful to hear honest discussions of the barriers to converting from an analog (the present broadcasting media) to a digital world. It was exciting to hear proven entertainment magnates like Diller going one-on-one with Bill Gates of Microsoft and John Sculley of Apple in order to remind them of the minimalist interface and front-end theatricality which would be necessary in order to engender a breakthrough. It was a relief to hear substantial discussion about standardization and watch one demonstration where the same compact disc (Compton's Newsweek Interactive) was used in a Sony MMCD, MPC, DOS-based machine with CD-ROM and Windows-mediated machine with CD-ROM and hear people like Sony's Dr. Toshi T. Doi commit their companies to further inroads in standardization.

Common Sense about Multi-Media

One would certainly expect a top executive in Rupert Murdoch's global media empire to understand the underlying philosophy and the business of retailing media. As the keynote speaker for the conference, John B. Evans (Director of Development for Murdoch's NEWS Electronic Data division) was the ideal speaker and certainly knew his audience. "Did everybody sign the non-disclosure agreement? It's the usual way these things start. If you really want to get the word out, you've got to make people sign non-disclosures. Otherwise, they don't tell anyone."

He blended fascinating insights with scintillating analogies. For example, he observed that just as the Ice Age did not occur overnight, "The Information Age has been here long enough that publishers are just beginning to notice that it's getting a bit chilly."
His thesis was that convergence, the coming together of traditional media and interactive media, is "very threatening to media."

He described the traditional media as being an overcrowd, drowsy organization that must "become digital, narrowcast and interactive." The major problem as he sees it is how to get the couch potatoes to get up off their rear ends and take an active role in the interactive side of the information age. He wondered if the couch potatoes are going to be smashed by the invasion of huge amounts of information or fried by the electronic gad- getry or not. Yet, he hypothesized that, since the amount of information which is already available is overwhelming, the secret will be the introduction of customizable filters — dumb filters — in the form of "software that can catch." In other words, putting the "Me" in media.

In Evans' vision of interactivity, connectivity will no longer be demographically related according to who or what one is, but more "cybergraphically" related ("How do you feel?" or "What are you interested in, now?''). Finally, he suggested that the reason multimedia is currently having trouble is because engineers tend to think in linear, logical paths, while the creative process is tempestuous, chaotic and confusing. The goal is to bring the creative process to the tools, turning readers into editors. When the couch potato can use voice recognition to say, "Get me this," the age of interactivity will truly have arrived.

Barriers and Breakthroughs

Several barriers still exist to seeing the vision of multimedia reach its full potential. Fortunately, several companies made announcements at intermedia which indicated that they were attempting to breach these barriers. Though the installed base of CD-ROM drives is still relatively low, Robert van Eijk, product manager of CD-ROM for Laser Magnetic Storage (a wholly-owned subsidiary of North American Philips) announced that they expect the installed base of their CD-ROM drives to reach 15 million units in 1996 (up from the current estimate of 600,000 units). They also announced two new drives that will both conform to the MPEG standard and be compatible with Eastman Kodak's photo-CD format (the CM 215 and CM206), both retailing for under $500.

Another problem faced by multimedia is the multiplicity of formats. We were impressed when Dataware unveiled one authoring station that supported DOS, Windows, Macintosh, Unix, Sony's MMCD, and Japan's DOS-V and NEC-PC formats. A similar solution to the multiplicity problem was introduced by Mammoth Micro Productions. The company unveiled XA-Streaming, providing a software solution for using the same disc over a multitude of platforms.

Another criticism of multimedia has been its limited video capabilities. Hence, John Hawkins of Philips introduced the new CD-1 upgrade with total full-motion video. The upgrade cartridge will provide additional memory and full-screen full motion video. It is fully compatible with existing CD-I systems, increases the memory efficiency of existing units by 30%, allows film playback from existing 5" discs and allows CD-I the capacity to publish high-speed video games. Note: Currently CD-I's installed base worldwide is only 100,000 units (with roughly half of those in the U.S.) and the company expects to double that base by this time next year.

In the more mainstream CD-ROM world, Mediavision unveiled their Captain Crunch video card. The nifty fact for gamers is that this card will enable them to play back video at 30 frames per second at regular CD-ROM data rates. By the end of the year, Mediavision expects to have these add-in boards for under $300 street price.

Portability is another issue faced by CD-ROM users. Apple Computer managed to address this issue by introducing the AppleDesign Power CD, a unit which allows users to access Macintosh CDs, EK's Photo-CD and regular audio CDs. They also introduced the AppleDesign Power Speakers to assist users who want a complete multimedia experience on the run.

Bradbury and Bandwidth

One session at intermedia made it clear that Ray Bradbury's vision of interactive television directed by a viewer at home (a minor scene in Fahrenheit 451) may not be very far away. This panel brought together John Scully of Apple, Bill Gates of Microsoft, John Malone of Tele-Communications, Inc., and Barry Diller of the Quality Value Channel together on the same panel. Diller insisted that "interactive" is an unfriendly word. Control, as in remote control, is the issue and any interactive service must allow people to point the controller and say, "Yes." Anything else will be unsatisfying. John Scully contended that any successful interactive experience would have to include lots of personal choices. "People will gravitate to what they are interested in. We are creating an entirely new level of enabling technology that will create a lot of new industries."

Both Malone and Diller, coming from the television industry perspective, lectured the assembled technocrats that information alone is not enough to get people excited about interactive possibilities. "If you want big numbers," stated Malone, "you've got to emphasize the entertainment bias." Diller seconded the notion by observing, "You've got to theatricalize it.

Questioned about the value of CD-ROM in a world with a data highway for its infrastructure, Bill Gates responded that "CD-ROM is leading users and developers into learning how to use what is going to be available." Asked how Microsoft fit into the futuristic vision of information, education and entertainment on demand, Gates denied that Microsoft had plans to own television networks or cable systems. "The great success of Microsoft was making ourselves dependent and working in partnership with lots of people. We're not going to own cable stations, networks, etc. We'll keep delivering software and protocols — interface and system software. We have more people building this software than anybody else. We'll figure out a way to make money.

John Scully responded to a question concerning the future of education by stating that "The school where you go to learn facts is going to come to an end." He believes that teachers will become coaches who teach pupils how to data surf (skim through tons of information) and find information without being overwhelmed. The emphasis will be on learning to think and research, not just repeat facts. Diller concurred with Scully's belief that education will undergo a fundamental shift, but insisted that the social experience of the school has to stay. The question is, will it be a total on-line experience or a partial on-line/partial off-line socializing experience?

intermedia or Intermediate Technology

For years, the technological community has prophesied that CD-ROM and multimedia are "the next big thing," that society always seems to be seeking. Now, the same prognosticators are saying that these technologies are basic tools for building this ultimate infrastructure. For gamers, the message is a mixed bag. It indicates that connective games with broader bandwidth (better sound, video and response times) are closer than ever. Yet, the largely unsatisfying fulfillment of the old CD-ROM promises lead them to hold their expectations in reserve. We'll have to wait and see if the potential connective games of the new technology can ever live up to their potential. Thus far, we cannot say this about CD-ROM games. Time will tell concerning the data highway.
TOP AD WINNERS ANNOUNCED

You people are sick. That's all we can make of it. Each January Computer Gaming World turns to you, our readers, and asks you to pick the Top Ads. Two years ago you picked SSI's Eye of the Beholder "You Are There" as the best full-page ad in the January 1991 issue. The next year you continued your love affair with the gruesome and grotesque by pegging SSI's Eye of the Beholder II "Bigger...Better...Meaner than Ever" as the best. SSI gives us Undead times two and you eat it up.

So it should be no surprise that you again have gravitated to the macabre with your selection of Bethesda's The Terminator 2029 "Prepare For The Future" as the top full-page ad in the 1993 CGW Top Ad contest (183 points). The terminator's evil grin and laser beam eyes stopped you in your page-turning tracks. Never let it be said that CGW readers are afraid to face death. We laugh at death, we play with death, we beat death's pants off, huh?

Close behind Bethesda is Electronic Arts' two page spread for Populous II "Back with a Vengeance" (169 points), and Nova Logic's Maximum Overkill "Tear into a New Reality" (161 points).

The top partial page ad goes to Access Software for its Links 386 Pro "Rivaled only by the game itself" half-page spread (308 points). Taking second is Microleague Sports for its half-page spread "For New Excitement, The Name of the Game is Microleague" (233 points).

Thrustmaster's Flight Control System ad garners third place honors with 214 points.

Gene Monroe of Tampa, FL, and Andrew Stein of Seattle, WA, are the co-winners of this year's contest. The two came the closest to picking the actual winners and will split the $250 cash prize, as well as receive life-time subscriptions to CGW. Congratulations to all the winners!
Edutainment 101

by Chuck Miller

The world of shareware

The word “edutainment” was coined to describe a new breed of educational software; products that effectively combined education and entertainment in a single package. While the idea in software design may seem rather new, educators have employed it in the classroom for centuries. It is, in fact, no surprise that learning can be increased by making the process more entertaining and enjoyable for the learner.

Though educational programs have traditionally been relegated to the commercial market (very little has appeared in the shareware channel), more programs are finally starting to arrive from the creative minds of shareware authors. This month we’ll look at three recent titles for MS-DOS compatibles: Word Blazer, Word Rescue and Math Rescue.

I’d Like a Word with You

Word Blazer by Multitask Software Systems is a digital derivation of the traditional crossword puzzle. As the first release in The Family Word Puzzle Game Series, Word Blazer is a simple offering, providing the player with an enjoyable gaming experience while unobtrusively helping him or her with spelling and observation skills. Of course, the devoted word wrangler will find it especially appealing.

Word Blazer contains over 150 original crossword puzzles covering a variety of subjects from words beginning with the letter “D” to words describing “things to wear.” As with the traditional game, the player is presented with a puzzle from which he or she must locate all the words in a corresponding list. When a word is located, the player highlights each letter of the word (with the mouse pointer) and selects the Check button. If the word is correct, it will stay highlighted on the crossword grid and will appear highlighted on the word list. If incorrect, the letters revert to their original state. Successfully completing a puzzle rewards the player with an animated fireworks display.

Several options are at the player’s disposal. Puzzles need not be finished in one sitting, as those in progress may be saved for completion at a later time. Some basic hints are available for each puzzle, as well. And, a Clock option is provided for timed play. In addition, if one would like to take a puzzle away from the computer, a copy can be sent to the printer. The only drawback is that each puzzle must be printed individually and one copy at a time.

If Word Blazer is weak in any one area, it is presentation. Sound support is limited to PC speaker beeps. Graphics, though VGA and SVGA are supported, are simple line drawings and fills. With the visual and audible quality offered in the newer commercial products, I hope that Version 2.0 of Word Blazer is upgraded in this regard.

While more of a mental diversion than a true edutainment title, Word Blazer is still a worthy addition to one’s stable of workhorse education programs (the first add-on volume, Arts & Entertainment Pack, should be available as you read this). However, younger players will want to keep a dictionary nearby for definition hunting with some of the more difficult words encountered during play.

Word Blazer requires an MS-DOS compatible system with 640K RAM, a Microsoft compatible mouse, a hard drive with 4MB of free space and a color monitor (SVGA, VGA, EGA). Registration is $49.99 (a little high given the quality of its presentation) plus $3.50 shipping and handling. A sample diskette is also available for $5.00. To place your order or for additional information, contact:

$5.00 Sample Diskette
Multitask Software Systems
237 West Spruce Street
East Rochester, NY 14445
(800) 836-4721

Apogee to the Rescue!

The name Apogee Software is not new to readers of this column, as several of their releases have been featured in the past. Now, with edutainment in mind, we turn to two of Apogee’s latest releases: Word Rescue and Math Rescue.

In Word Rescue [IBMPC RT #27849], the player must assist Benny Bookworm in undoing the dastardly deeds of the mean, old Grizzlies. It seems that the Grizzlies, who can’t read, have been stealing words from all the books in the land so that others can’t learn to read either. The player must help Benny by matching up each word with its appropriate picture so that he can get them back into the books where they belong.

Math Rescue [IBMPC RT #30766] is similar in story. This time, however, the Grizzlies are out after numbers. Benny, who is now a butterfly, again needs the player’s help. This time, one must restore all the missing numbers to their rightful places (the Grizzlies have been taking them from traffic signs, paychecks and telephones, creating quite a stir), having one’s mathematic skills of addition, subtraction and mixed questions tested in the process.

Those familiar with Apogee’s Commander Keen will find Word Rescue and Math Rescue to have similar environments. Both feature three different episodes (the first being shareware) and are horizontal and vertical, side-scrolling games with hand-eye coordination being important to play. And, like Commander Keen, action is of a nonviolent nature. Items are collected and opponents are “slimed.” However,
no one or thing is visibly destroyed or mutilated (while the player’s character can “die,” it is handled in a “lifted-gently-up-to-heaven” fashion). This makes both titles excellent choices for younger children.

Word Rescue and Math Rescue are designed for youngsters in mind (though us older “kids” will still find them entertaining). Difficulty is adjustable to one of three levels: Easy (ages 4-7), Normal (ages 7-10) and Hard (ages 10-up), making the games great for families with children spanning a large age bracket.

In presentation, Word Rescue and Math Rescue are a step ahead of Word Blazer. While still EGA in mode (come on, Apogee, get with the VGA!), the graphics are more detailed and more attractive in appearance than those of the latter title. Music and sound effects, however, are excellent and add immensely to the atmosphere of the game (requiring an Ad Lib or Sound Blaster compatible sound card). In addition, both titles have the same high level of playability and addictiveness that has become a trademark of releases from Apogee. They are difficult to quit playing — even for an adult!

Both education titles will “rescue” the player from many dull hours, filling them with enjoyable learning. In fact, they are so much fun to play that one might actually forget he or she is learning in the process.

To register Word Rescue and Math Rescue and receive all three episodes, send a check or money order for $30 each, plus $4 shipping and handling to Apogee Software, or call their order number with a VISA or MasterCard in hand. Both games require an MS-DOS compatible with EGA/VGA graphics.

Apogee Software
P.O. Box 476389
Garland, TX 75047
(800) 426-3123

Red Faced Phase

We’d like to apologize for a little slip up in the May installment of this column. In the review of Catacomb Alps we gave all of the design credit to Id Software. Actually, only partial credit goes to Id; they designed the 3-D engine used in the game. The creative credits go to J.A.M. Productions, a small development group headed by Jim Row and Michael Maynard. They have licensed Id’s engine and plan to create a series of 3-D games for the shareware world. Their next product will be Blakeshade: Aliens of Gold, coming to a BBS near you in July.

Send Us Your Best

If you have authored a shareware or public domain game and would like to have it considered for review in this column, please send two complete copies (preferably on 3.5" disks) with documentation and a cover letter to:

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Computer Gaming World
130 Chaparral Court, Suite 260
Anaheim Hills, CA 92808.

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July 1993

Circle Reader Service #67

Circle Reader Service #68

Page 117
Jacques: Bonjour. While I remain safely in the Calypso, Felipe has descended into the realm of the El-Fish. Felipe, can you hear me?
Felipe: Mais oui.
Jacques: Tell me of your findings.
Felipe: It is so odd. El-Fish cannot be placed into any known category. It tries to be many things, one could say camouflaging itself, yet seems to do none well. Although at times it looks indescribably beautiful, I seem to lose interest in its worth and purpose so easily. Je ne sais pas, je ne sais pas...
Jacques: Felipe, have you bubbles in your brain? You fail to make any sense. Return to the surface immediately!
Felipe: I will bring a sample with me. You will see...

Our Courtenay friend Felipe has stumbled upon El-Fish, a curious “software toy” published by Maxis, the same source of such well respected Sims as - City, -Earth, and -Ant. El-Fish is short for “Electronic Fish,” as in a computer-based aquarium. Briefly, El-Fishers may catch their own fish, mutate or breed them with other denizens of the deep, then produce their own aquarium-like environment in which to place their creations. Fully detailed fish will swim in a most realistic manner throughout the aquarium, while clams open and close, snails crawl, and divers dive, all accompanied by digitized tunes, and set against a scenic and colorful background of the user’s making.

Sound beautiful? It is. Sound interesting? In the beginning it is, but...

My views on El-Fish began to sour when I discovered I was to be robbed of eight megabytes of hard disk space by the bare bones program, plus an additional half meg for each new fish, and almost that much for a fully designed tank! Efficient it is not.

Entering the program, my first impulse was to view a default tank with default fish, just to discover the look of a completed product, and I was impressed — perhaps the loss of disk space was worth it after all. Running on a 486-33 machine with a high-resolution video card, my screen was transformed into one of the most beautiful aquariums I had ever seen (and this from a guy who keeps two real tanks of his own).

Pleasing scenery aside, the real stars of this aquatic show were the fish themselves. Although no shockingly mutated strains were evident in the default tank, the varieties of fish that were there frolicked and moved with graceful precision and remarkable realism. Though these fish didn’t seem to have any “depth” (when a fish swims toward the viewer from the rear of the tank, it doesn’t get increasingly larger), the scrolling was smooth, and each fish did exactly what fishes do in the course of their aquatic lives. I remained transfixed for several minutes, in awe of the animated graphic capabilities of personal computers in the 1990s.

The next logical step was to try my hand at the design of an original environment. Design is made possible through a handsome, menu-
driven interface, that is both conveniently and aesthetically organized. Unfortunately, it is also very slow. The first order is to develop its overall look, starting with background shading, followed by the addition of static objects, such as rocks, plants, and coral. Animated objects like slow-moving snails, bubbling air tubes, and even a cat's paw that reaches into the tank on occasion are then added. Most objects can be placed at the front or rear of a tank, and the resulting sensation of depth is quite good.

Once a tank is created, it can be saved, then the actual fishes can be added and/or created. Several stock fish are ready-to-go, or, taking evolution by the hand, one can build a new model to suit one's own personal taste.

The first step in fish creation is to nab some starting specimens. Any number of our scaly friends can be fished from a small saltwater bay or freshwater lake. The captured carp can be used as they are, or transformed via "evolution" or cross-breeding into something more visually interesting. Unfortunately, this is not a situation wherein the El-Fish can actually move a fin from here to there or stretch a mouth to obscene proportions—none is granted the sort of genetic godhood found in SimLife. It is more a matter of starting an invisible transformation process and hoping the program comes up with something pleasing to the eye.

When the look of a given fish is right, the fish must "learn" all of its 256 possible movements, involving a processing-intensive animation process. The animation of each fish on my 486-33 took upwards of fifteen minutes, and is definitely not a fun thing to witness for that length of time. A nice jog around the block, or a quick meal might fit in nicely at this point, just don't make it a File-O-Fish.

Once back at the computer, the new fish is placed into the aquarium. Clones of a single creation are allowed, and each variety will swim together in a school. When all fish are in place and are happily motoring about, the aquarium keeper can choose appropriate musical accompaniment from a small provided selection, and then sit back and relax.

That's it...and that's the problem. According to Maxis, "El-Fish buyers will most likely be interested in software that fully exploits the power of their system, in order to show off their computers' graphics and sound capabilities." While it's true that the El-Fish graphics are darn close to state-of-the-art, it's questionable as to whether there's enough substance to warrant its purchase. It would make a lovely screen saver, but it uses too much computer power to make that possible. (Actually, the manual states that it can be used as a "very limited screen saver." Very limited, indeed. It does not work with Windows, does not go away when you move a mouse or touch the keyboard, and you must execute it manually from DOS.) Any enjoyment stemming from the sloth-like tank and fish creation is fleeting (and becomes plain dull after a while), and the vast amount of disk space involved can be a real problem in these space-conscious times.

The biggest failure of El-Fish is inability to maintain the player's interest. Once an aquarium has been created and viewed, there just isn't much else happening. Objects in the tank don't interact; the optional cat's paw never snatches a fish, bigger fish don't consume smaller fish, and there is nothing along the lines of the "ecosystem maintenance" for which I had hoped.

El-Fish would have made the basis for a great simulation. Discovering the compatibility of certain fishes with others, the likelihood of certain fish eating certain plants, disease control, and so on, but these elements would steer El-Fish away from its "software toy" intentions and towards a full-blown game/simulation, and that was apparently not its purpose.

Maxis mentions children, desktop publishers, CAD designers, engineers and programmers as likely interested parties, but I would think that computer hardware dealers would be a more logical target. Running El-Fish continuously on an in-store monitor would look and sound pretty impressive, and might even induce some neophyte buyer into a purchase.

In this world, there are participants and there are observers. El-Fish is, despite the creativity involved in the development of each new environment, designed for the observer with a lot of computer time to kill. As an aquarium owner I can say that watching fish glide through a tank of water is the ultimate relaxation technique, and El-Fish comes about as close to digitally mimicking that experience without actually having to bail out the old defunct fin-wagger. Unfortunately, as one who requires a bit more interaction in my computer simulations and my fish tanks, El-Fish didn't exactly float my boat.

**Fishy, fishy, El-fish...**

El-Fish has an "undocumented feature" that will generate strange types of fish. The animation engine can display many sequences of binary digits, including those in text documents, spreadsheets, etc. The mutant fish below was generated by feeding the text of this article into the animation engine. To try this feature, do the following:

1. Change the file extension of the file you want to animate to .ROE. (DOC files often work, but avoid .COM or .EXE files.) Copy the .ROE file to the El-Fish "FISH" directory. Load El-Fish and select "ROE" and then "RESTORE FROM." Highlight your new .ROE file and click "OK."

**WARNING:** If the program doesn't like your .ROE file, it may crash. Use with caution.

The Goble Guppie
Robots are clearly a culturally diverse group of creatures. Artificial metallic beings first played a part, from time to time, in Greek and Roman mythology. The term "robot" is actually taken from a Czech word meaning "forced labor" and first appeared in a play by Karel Capek in 1921. While robots have enjoyed many celebrated international appearances in film and literature, it was in Japanese animation that the creatures were finally elevated to the gleaming gods and demons of mankind’s future. Now, robotic design has once again been upgraded, this time by a race of conquerors from outer space. According to this frightening account, the earth was very nearly wiped out by the first attack wave of alien machines. Not wasting any further effort in attempting to say "Howdy!" to these unpleasant newcomers, our planet’s survivors quickly began to duplicate the enemy’s technology. The result was the “ultrabots,” a trio of mega-robots designed to match the alien machines bolt for bolt. It is also the name the action strategy game from Novologic which features the most impressive small-screen robots since "Gigantor."

Ultrabots takes place on the remains of several blasted cities of earth. The player enters each city via a central base and immediately takes control of the “situation room.” The robots fighting to defend earth have already been deployed throughout the battlefield and have already been instructed to engage any nearby enemies. Likewise, enemy robots have also been deployed, several of which may be dangerously close to home base. While each city has a different set of orders and circumstances awaiting its champion, the goal in each remains the same — destroy the enemy command base. Once a city has been won, more challenging cities then become available. Ultrabots features 13 such cities which must be protected.

The player is able to leap instantly to a control center for each robot in order to issue each its instructions. While it is possible to manually guide the robot through each order, most commanders will find it far more prudent to activate one of the creature’s many pre-written programs. This is done by first selecting another robot or location and then selecting an instruction such as “patrol” or “engage in battle.” Once instructed, the robot will proceed on its own until told to do otherwise, leaving its commander free to attend to its fellow fighters. However, a robot which has been damaged beyond the point of usefulness, or one which has run out of energy, will attempt to retreat on its own.

Energy for the robots is provided by a net of relay devices. The relays pass on energy from home base, and must be within a minimum distance from each other in order to stay active. One nasty way to render an army of ultrabots useless is to take out the relay nodes close to its home base. Without the net, the robots must depend on the very limited power provided by internal batteries. One of the ultrabots, the net-building “scorpion,” is able to carry and deploy additional relay devices. The scorpions may also scoop up an enemy node and put it to work in their own energy net.

There are three varieties of ultrabot, each with its own abilities and intended use. "Humanoids" are indeed designed according to human anatomy, and are the most powerful fighters of the bunch. Equipped with some intimidating armor and weaponry, these creatures may also cause extensive damage by direct collision with another robot. “Scouts” are the runts of the litter, and are best used for reconnaissance. While their armor and weaponry are weak, they are able to move far faster than other ultrabots. For spying purposes, they may alter their height and are equipped with more extensive sensor equipment. Unfortunately, a discovered scout may be destroyed before it can move itself to safety.

“Scorpions,” as mentioned above, are responsible for building the energy net. They are agonizingly slow and not awfully well-armed. Scorpions are, however, equipped with a useful "sting in the tail" long-distance weapon. It is most unlikely that an effective battle can be mounted away from the net. Therefore, the scorpions must be allowed to venture into unfriendly territory and they should only do so under the protective eye of their “big brother” humanoids. In addition to their unique weaponry, the ultrabots are also equipped with a variety of defenses. These include deployable mines and decoys, electronic counter measures, and an invisibility field.

A successful campaign will most often be guided from the home base or “situation

![Ultrabots game cover](Computer-Gaming-World)
room.” Here, commanders will find the most useful strategic map and status display. Robots which have been damaged in the field, beyond their limited abilities for self-repair, must also return to home base for more complete therapy. Here, the player must decide how much energy to divert from the net in order to attend to these fallen soldiers. Similarly, the player may also divert energy to create more energy relay devices, although this is usually not necessary unless an abnormal large number of them have been lost or destroyed in battle. Winning a scenario requires quite a bit of robot-hopping from the home base, as no one robot will be able to conquer the enemy on its own.

Each of the three ultrabots features a unique dashboard and control panel. A wide windshield glass is featured above a smaller video screen which serves several functions. The video screen connects to a camera which can scan side to side as well as zoom in on specific targets. Its most valuable function, perhaps, is to display a strategic map of the area. Unfortunately, this map appears in annoyingly low resolution and fails to point out which enemy is currently attacking or even which friendly robot the player is occupying. It is on this strategic map that the player sets the robot’s destination as well as its current target.

The mouse is probably the most convenient method for issuing commands to the robots, although the joystick or keyboard may also be used. This is accomplished by placing the cursor directly over, and then clicking on, one of the control panel’s many switches or buttons. The interior of the robots are drawn in exceptional three-dimensional detail, as are the robots which appear outside the shield screen. A variety of sound effects, some of which resemble an angry neighbor pounding at the door, also enhance the action. Ultrabots features the most impressive robot-battle graphics ever seen. However, they lack the depth and realism of those used in Novalogic’s helicopter battle simulation, Combat I: Maximum Overkill.

Some of the battles take place at night, during which the robot’s commander will have to rely on the video camera’s thermal detection system and strategic map. Each robot is also equipped with a radar system. Other features include an automatic log function which saves a player’s progress upon exiting the game. There are three levels of training which the player may experience before attempting to battle in one of the cities. The instruction manual is complete, although perhaps a bit confusing in several places. Exactly what the game’s bi-level, hinged package is supposed to represent remains, perhaps, the most confusing mystery of all.

Ultrabots’ intense graphics may confuse some purchasers by seeming to promise arcade action rather than a challenging strategy exercise. Nonetheless, the substitution of Ultrabots’ close-up grittiness for the orderliness of a more traditional strategy game still makes it a very novel and worthwhile experience. As to whether the robots are pleased with this new addition to their cultural heritage, they are not saying. Perhaps the ability to review their own software will appear in their next major upgrade.
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MISSION CONTROL
Let the Games Begin

by Alan Emrich

As we head into the dog days of Summer, most wargamers seem to find more time for their hobby. This usually lasts until Fall when family obligations again come to the forefront of personal schedules. In the meantime, we should all enjoy the good campaigning weather and fight our simulated battles while the sun shines long. With many good releases in hand and rumblings of Gary Grigsby's *War in Russia*, *Warlord II* and *Command HQ II*, these, indeed, are the glory days computer wargaming. (May they continue forever....)

**Tournament Deluxe**

We have now reached the commencement of the grand experiment known as the Computer Gaming World/New World Computing Empire Deluxe tournament featuring *Empire Deluxe*. With 64 players planted firmly in place, allow me to set up our starting situation.

Answering the call to arms, *Empire Deluxe* players with modem and network access sent us e-mail indicating that they wanted to participate in this great event. At stake were several prizes, the most notable of which was the grand prize offered by New World Computing: a trip to California featuring tours of Disneyland, Universal Studios, New World Computing and Computer Gaming World magazine. While not in the same league as Publishers' Clearing House, that's not too shabby a prize for us computer strategy gamers.

The faithful have assembled on-line and, at press time, the games have begun throughout the United States (and Canada, which has a single, brave participant). Interested gamers will want to note what networks these embattled few are using to contact us and in what numbers each network is represented. This is given in the table below:

<table>
<thead>
<tr>
<th>Network</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>CompuServe</td>
<td>23</td>
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<tr>
<td>Prodigy</td>
<td>15</td>
</tr>
<tr>
<td>GEnie</td>
<td>13</td>
</tr>
<tr>
<td>The Sierra Network</td>
<td>6</td>
</tr>
<tr>
<td>America OnLine</td>
<td>4</td>
</tr>
<tr>
<td>Internet*</td>
<td>2</td>
</tr>
<tr>
<td>Delphi*</td>
<td>1</td>
</tr>
</tbody>
</table>

* = Through the CompuServe gateway.

Next issue there will be tales to tell of battles won and lost. Even as I am preparing for the summer conventions ahead (CES, Origins and GenCon), the tournament will continue in single elimination fashion until there is but one undefeated player left standing. I'll also bring you the latest wargaming news from the Computer Game Developer's Conference. With many top wargame designers attending, there is sure to be some juicy gossip.

What follows are the match-ups, given in pairs of opponents. For their computer network identification, use the first letter for each network from the previous table (i.e., T = The Sierra Network, C = CompuServe, ...).

Good luck, good sports, and may the most sound tactician win.

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An Inspection of *Aide de Camp*
by Alan Emrich 140

V for Victory:
*Velikiye Luki* Replay
by Michael Peck 143

A Vertical Jump Jet
Review by Paul Rigby 146
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Liberty or Death, the latest strategy game from Koei, recreates the American War of Independence. Players assume the role of George Washington or William Howe, attempting to either foster a successful revolt or stop it in its tracks. Unfortunately, Koei has done little more than regurgitate the same model and interface used on all of their previous products.

This system was impressive when it was initially released with Nobunaga's Ambition over six years ago, however, it is now hopelessly out of date. From the EGA graphics to the weak documentation, no part of this product is anywhere near current industry standards. Furthermore, there is only one scenario and players do not have the option of a modified set up. There are no historical "what ifs" either in the setup or the occurrence of major international events.

Liberty or Death follows the same province-to-province format as all previous Koei games. Players control individual officers, each of which has a military unit attached to him. Recruiting and maintaining forces are essential elements of the game, and players must be careful to keep a balance between the size of their army and the supplies and resources available.

At certain intervals the commander in chief must report to his political masters. This involves requesting military support and delegating financial resources. The player is responsible for the conduct of the war and can be relieved if the powers that be decide that the situation has deteriorated below acceptable levels.

When battle is joined, players have the option of controlling individual units via a tactical screen. There are a variety of options and command choices to be made at the tactical level. Unfortunately, most of them do not make much difference to the outcome of the battle in question.

Perhaps the designers of Liberty or Death were attempting to simulate the frustration felt by British officers when they encountered irregular tactics from the American insurgents. The lack of simple geographical information is particularly annoying. Some provinces cannot be successfully attacked without the use of boats. This is logical and the use of boats adds an interesting strategic dimension. However, it seems strange that local commanders would not know they needed boats until they had actually invaded the province (by which time it is too late). Until players learn the peculiarities of the map they will want to save often and be prepared for multiple resets.

Ultimately, the real failing of the tactical element of this game is the inability of good commanders to gain better results than weak ones. While there are many things to do on the tactical screen, the battles are grinding attritional affairs. A good general can obtain a slight advantage through the use of terrain, however numbers will still decide the outcome of most encounters.

It could be argued that the lack of tactical control and the inability of the supreme commander to radically affect the outcome of a battle conducted by his subordinates is actually historically accurate. The real problem with Liberty or Death is that strategic command and control is not much more rewarding.

All of the political and strategic elements of a revolution are accounted for in the game. Popular support is important, and chronic shortages of men, equipment, supplies and money all greatly effect the nature of the war. However, the documentation does not explain either the individual elements or their cumulative effect on the campaign.
For instance, while support in a particular province may be raised or lowered based upon a number of activities, there is no explanation of the overall impact of popular opinion. As well, popular opinion appears to shift for some reasons (such as a military victory) that are not elaborated upon in the manual. When this is combined with a clumsy and out-of-date interface, the construction of strategy becomes aggravating.

On Avoiding “Death” (Strategy Tips)

The British fleet is a crucial asset. As a blocking force it can strangle the rebellion while providing much needed resources to the British; as a military force its bombardment capability can turn the tide in many battles. If heavy fighting is expected, the fleet should always be used to support land actions. If the fleet has been committed to an area, try to draw the Americans into battle along the coast, where the fleet may be used against them.

In tactical combat terrain, forts and hills can be used to minimize casualties. Entrench units wherever possible. Remember, superior numbers will usually determine the victor. A slight advantage can be gained by attacking a single enemy unit with two or more friendly units at once. Whenever possible equip engineers with cannons, as they are the only units capable of inflicting damage without suffering casualties of their own. They are also the only units which can harm the British fleet.

Take careful note of the geography of each province. Some require boats for a successful invasion, and some, like Montreal, are almost impossible to successfully attack if the British fleet is present.

Remember that support is the key to victory. Although the documentation does not say so, experience and common sense suggest that the greater one’s support the more food, money and soldiers will be available.

Keeping an army in existence is also important, particularly for the Americans. The British can reinforce more quickly and with greater strength, especially at the start of the war. Do not overextend your forces by trying to control too great an area at the start.

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MOSKOW CAMPAIGN, Typhoon & White Storm, Aug 1941 to Feb 1942.

TO THE RHINE, The Allied Advance In The West, 29 Aug to 11 Dec. 1944.

ROMMEL AT GAZALA, Battles for Tobruk, 26 May to 27 June 1942.

STALINGRAD CAMPAIGN, The Turning Point In Russia, Jun 1942 - Feb 1943.

KURSK CAMPAIGN, Operation Zitadelle, Summer 1943.

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Friends, Romans, Taxpayers

Acquiring "Talents" for Making Money in Caesar

by Alan "Perennial Taxpayer Maximus" Enrich

Okay, I admit that I'm hooked on Impressions' Caesar, but I can tell from countless messages that I'm not the only one out there. Like many who enjoy this game, however, I'm not generating the kind of revenue I need to get my "Prosperity" rating in line with my other, more successful ratings. Thanks to some inside tips from Impressions, this article can reveal some of the revenue-building angles within the game and begins with some elaborations upon pages 77 and 78 of the manual. This first section touches upon the industry formula in Caesar. There is much going on behind the scenes of commerce that successful players should be aware of.

Jarring Revelations

Industry is, of course, one of a player's two main sources of income (the other being the population tax). The tax base is represented by the productivity of individual workshops. Workshop productivity is measured by the number of jars, up to a maximum of seven, in front of each workshop. Therefore, one must strive to get the maximum output from every workshop built so that they will generate more taxes and fill the player's purse.

Page 78 of the manual lists the elements that can increase or decrease each individual workshop's output of jars. Allow me to elaborate upon them with specifics so that industrious urban planners can plan industrious urban areas:

The rules encourage having a nearby workforce. The truth is that only residential squares within three squares of a workshop will have a positive influence on their production of jars. (This has nothing to do with unemployment, by the way, which is an entirely separate formula). The workshops have a reciprocating effect on the nearby laborers: enforced poverty! That will be discussed a little later on in the section on property values.

Besides housing within three squares, nearby heavy industry centers also directly increase jar production at workshops. Like the housing effect radius on workshops, this radius is three squares. Note that workshops do not need either housing or heavy industries within three squares to produce any jars of finished goods at all, but they will certainly produce more when these two important production resources are nearby.

To Market, To Market, Jiggity Jig

There is one last secret to increasing workshop output. If one has a marketplace either adjacent to or within a radius of six squares along a road, the productivity bonus is in effect. Of course, having more marketplaces as outlets for an individual workshop's goods will increase the demand and, hence, the output of jars at that workshop. Keep this symbiotic relationship constantly in mind when designing the commercial areas of your city. It is important to place heavy industry workshops, houses, markets and roads in the most efficient manner so that they generate the maximum number of jars from each workshop.

A last note on markets: their six square radius is not only important for indicating that works produced by workshops are being sold, but also serves as the radius in which they positively influence the growth of houses. Sadly, markets also limit the potential growth of a residential area, but that will be discussed a little further on.

Collecting Business Taxes

When collecting taxes, workshops are taxed as a unit. If only one square of a workshop is under "administrative influence," the whole of the workshop is taxed and the player will receive full revenue from it. Remember, heavy industries and markets do not pay business taxes directly — workshops do! The formula revolves around a few key variables (the city's population, roads leading away from the city, etc.) but the number of jars in front of every workshop is the major deciding factor for generating more business tax income.

Hint: The preset taxation values are at about the right level for maximum growth and maximum revenue. When adjusting them, it is generally wise to do so in small increments. For example, raising your business tax rate above 5% will cause production to drop off in later years, but note that there is a lag time, both for driving down the business market as well as for recovery once rates are again reduced. Therefore, avoid raising the business tax rate until the city is making a profit.
Improving Property Values and Slumming Around

The other major source of revenue is taxing the citizens. This section will present information that will help you to build and maintain high property values, the yardstick by which this income is measured. Unlike Sim-City, one need not think in terms of low cost housing for the citizenry. Instead, as many affluent neighborhoods as possible are needed for both domestic tranquility and revenue generation.

Table 1

<table>
<thead>
<tr>
<th>The Land Value Table</th>
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<tbody>
<tr>
<td>Map Symbol</td>
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<tr>
<td>Baths</td>
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<td>Giant Baths</td>
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<td>School</td>
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<tr>
<td>Hippodrome</td>
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<td>Market</td>
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<td>Rubble (on fire)</td>
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<td>Rubble (cold)</td>
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<td>Heavy Industry</td>
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<td>Business</td>
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<td>Forum (size 7 &amp; 8)</td>
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<tr>
<td>Fountain (with water)</td>
</tr>
<tr>
<td>Well</td>
</tr>
<tr>
<td>Reservoir</td>
</tr>
<tr>
<td>T-Intersection</td>
</tr>
<tr>
<td>4-Way Intersection</td>
</tr>
<tr>
<td>Plaza</td>
</tr>
<tr>
<td>Housing (size 1 &amp; 2)</td>
</tr>
<tr>
<td>Housing (size 3-5)</td>
</tr>
<tr>
<td>Housing (size 6-9)</td>
</tr>
<tr>
<td>Housing (size 10-13)</td>
</tr>
<tr>
<td>Housing (size 14-15)</td>
</tr>
<tr>
<td>Housing (size 16)</td>
</tr>
</tbody>
</table>

Avoiding the “Filthy Lucre” Syndrome

According to Suetonius, Emperor Vespasian tried to raise revenues from the populace by instituting a very unpopular tax on public restrooms. When accused that this money was filthy lucre, Vespasian was said to have held a coin under the accuser’s nose and ask, “Does it smell, my son?”

To keep one’s reputation from smelling and driving the people to riot, it is important that you raise property values. Always remember that this is the de facto measure of the population’s standard of living in Caesar.

Each square on the city map begins with a property value of 0. The proximity of virtually everything one can build improves that value, except for fires, rubble and new housing starts. This information is presented in Table 1, which defines the numbers used for determining land values.

In Table 1, “Val” represents the amount added to the land value for each square of a tile. For example, each square of a school (which has a tile taking up 4 squares in a square shaped pattern) increases nearby property values by +1. Therefore, a square directly adjacent to a school has its land value raised by a full four levels (due to being within the school’s influence radius, see below).

The “Rad” value is the radius that each individual square of a tile projects its modifier on property values. For instance, a square next to a hippodrome, which occupies 8 squares in a pattern that is 2 squares high by 4 squares wide, has a +1 value over a 5 square radius. Thus, a square next to a hippodrome would receive a +8 property value modifier.

The “Lim” value is the maximum land value that a square within the radius of the item can reach. Most tiles come without limits, but business, in particular, severely limit the nearby property values. No matter how many other factors might influence the neighborhoods near industries and businesses, the maximum land value limit of 3 means that they will create and perpetuate slum living conditions to nearby houses.

Finally, Table 1 shows that the value of housing is modified by a variable known as “G.” This stands for “growth” and is determined by one’s tax rate and unemployment (the lower the better).

Driving Down Property Values

Naturally, one should always put out the fires and clear away rubble. That will stop the immediate failout to neighborhood land values from neighboring calamities. Rebuilding those neighborhoods, however, may not be as easy as it was to establish them in the first place. The big reason is the detrimental effect of creating new housing. Table 1 shows that tent cities can drive down property values at an amazing rate. People who paint whole

Table 2

<table>
<thead>
<tr>
<th>Minimum Housing Civilities Requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td>Housing Level #s</td>
</tr>
<tr>
<td>------------------</td>
</tr>
<tr>
<td>1, 2</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>3, 4</td>
</tr>
<tr>
<td></td>
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<tr>
<td></td>
</tr>
<tr>
<td>5, 6, 8</td>
</tr>
<tr>
<td></td>
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<tr>
<td></td>
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<tr>
<td></td>
</tr>
<tr>
<td>7, 9</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>10, 11</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>12, 13</td>
</tr>
<tr>
<td>14 - 16</td>
</tr>
</tbody>
</table>
areas with tents (i.e., new housing) are, according to this table, begging for trouble. Often, it is better to add new housing one square at a time and let each dwelling improve a bit before planting a tent next door.

The Real Pillars of the Community: Property Values

The land value of a square should be thought of as its potential property value. While there are no property taxes for the property value of residential housing forms the basis of the taxes paid by the city's citizens. Therefore, it is vitally important that residential areas be constructed in the absolutely the highest value land areas available.

Now, land value is the main consideration for improving the level of local housing. Land values, as indicated in Table 1, might have artificial ceilings placed on certain squares when they are located near a market, office, heavy industry, business, barracks, gate or a prefecture. Consequently, land values (and the housing built on that land near these facilities) cannot rise to their full potential.

<table>
<thead>
<tr>
<th>Source</th>
<th>Radius</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baths</td>
<td>3</td>
</tr>
<tr>
<td>Giant Baths</td>
<td>4</td>
</tr>
<tr>
<td>School</td>
<td>4</td>
</tr>
<tr>
<td>Hospital</td>
<td>4</td>
</tr>
<tr>
<td>Theater</td>
<td>4</td>
</tr>
<tr>
<td>Amphitheater</td>
<td>6</td>
</tr>
<tr>
<td>Hippodrome</td>
<td>7</td>
</tr>
<tr>
<td>Marketplace</td>
<td>6</td>
</tr>
</tbody>
</table>

The Secret Ingredient to Property Values: Civilities

Now, the effect of all cumulative modifiers presented in Table 1 is less when an area is not served by the basic amenities described in page 29 of the game manual (i.e., water, administration, etc.). Also, while land values have a direct effect on the growth of housing, there are other variables that affect the home market (and, hence, tax) value.

In other words, land value is also the absolute maximum that housing levels in a given square can rise to.

There is another, secret cap or ceiling that is placed upon housing development. These are the special minimum requirements for housing to evolve up to a certain level of wealth. They are presented in Table 2.

The requirements in Table 2 are cumulative. To achieve a level 16 house, all seven of these minimum requirements must be met and then increase to a given square of housing.

The numbers such as 2x1 represent a housing tile that is 2 squares across by 1 high. Notice that type 8 houses are out of sequence. The reason is that types 6 & 8 (and 7 & 9) houses are actually of identical quality. This gimmick allows for a fair housing of the areas where a 2x1 housing tile will simply not fit. In order to see these different levels of housing, first click on the house icon, then press and hold left mouse button. After that, press and hold the right mouse button so that both are held down simultaneously. That will present a display of these different graphics (as it will be for baths and temples, too).

Urban civilities have their own positive effect on housing growth and improvement beyond their contributions to the land value of the neighborhood. Specifically, while their effects vary (and are hard to quantify for the rather tricky housing upgrade formula), their range of influence is provided in Table 3.

<table>
<thead>
<tr>
<th>Source</th>
<th>Artificial Land Value Increase</th>
<th>Radius of Influence</th>
</tr>
</thead>
<tbody>
<tr>
<td>barracks</td>
<td>+4</td>
<td>5 squares</td>
</tr>
<tr>
<td>gates</td>
<td>+2</td>
<td>2 squares</td>
</tr>
<tr>
<td>temple</td>
<td>+2</td>
<td>2 squares</td>
</tr>
<tr>
<td>temple</td>
<td>+2</td>
<td>3 squares</td>
</tr>
<tr>
<td>oracle</td>
<td>+2</td>
<td>5 squares</td>
</tr>
<tr>
<td>prefecture</td>
<td>+2</td>
<td>3 squares</td>
</tr>
</tbody>
</table>

Important note: Houses grow, when periodically checked by the computer, from the top-left corner of the screen to the bottom-right one. Thus, each row of housing grows to the right, then drops a row for the next check. This can be an important consideration when planning neighborhoods, as the highest land value should be located at the top-left corner of the block in order to better preserve the values of the rest of the neighborhood when they are checked.

A final word about improving baths and temples: in order for a bath tile to become a great bath, one simply has to raise the land value beneath it. Raising a temple, however, requires not only an increase in land value, but also an increase in the population of the neighborhoods surrounding it.

Caesar's Planning Commissioner Commentaries

When counting the radii of influence of a certain tile, be sure to count diagonal squares. Never forget the cumulative nature of overlapping influences on land and housing property values in Caesar.

The fountain in the lower-right corner is well connected to two other fountains and will keep running.

Water is power in Caesar. In order to receive full benefits from a land square, it must be within the receiving radius of a fresh water source. For the record, those radii are presented in Table 4.

Note that hooking up two fountains to a single reservoir doesn't work at all. However, hooking up a third fountain to the middle link in a chain with a reservoir on each end and a fountain attached in between works very well.

The Red Tape Measure

Not only do land squares require water, they also need administrative control or they won't pay their full share of taxes. Liberals will love that things simply will not prosper unless they're under the taxing influence of government administration. How large the government office is determines the length of its arm, as shown in Table 5.

<table>
<thead>
<tr>
<th>Security Structure</th>
<th>Artificial Land Value Increase</th>
<th>Radius of Influence</th>
</tr>
</thead>
<tbody>
<tr>
<td>barracks</td>
<td>+4</td>
<td>5 squares</td>
</tr>
<tr>
<td>gates</td>
<td>+2</td>
<td>2 squares</td>
</tr>
<tr>
<td>temple</td>
<td>+2</td>
<td>2 squares</td>
</tr>
<tr>
<td>temple</td>
<td>+2</td>
<td>3 squares</td>
</tr>
<tr>
<td>oracle</td>
<td>+2</td>
<td>5 squares</td>
</tr>
<tr>
<td>prefecture</td>
<td>+2</td>
<td>3 squares</td>
</tr>
</tbody>
</table>

The Verdict Is In On Suppressing Riots

The other function of government administration, of course, is suppressing those who are less than content with its rule. For example, every square within a three square radius of a workshop (or within two squares of heavy
industry) has a maximum land value imposed upon it of three. Therefore, no matter how many other nearby features might raise the land value, this property value ceiling enforces slum living conditions on the very houses that improve production at workshops. That makes them prone to riot, so keep the strong arms of government, as shown in Table 6, near these slums. For the record, the security structures artificially increase the land value of an area (for anti-riot purposes only — not for taxation) within their radius of influence.

As many Imperial Governors have found out, the price of plummeting popularity is ruinous rioting. It's bad enough when barbarians have to be dealt with, but to have one's own citizens up in arms...! Perhaps an explanation of how a riot gets started is in order.

A general, city-wide check of domestic tranquility is calculated regularly for the city. It is based on two things: the population tax and consumption levels. The higher these two elements are, the worse things will be "vis a vis" rioting.

After the city's general rating is calculated, a specific rating is calculated for each housing square in the city. This value is equal to the general rating (which may be a negative number), plus any local bonus as described in Table Six. If this value works out to less than zero for any given square in the city, there may be trouble!

Specifically, that number is added to an "unrest factor" for each individual housing square. This unrest factor is the cumulative result of these additions over time; the worse the local security level is, the more negatives that are added to this factor.

When the unrest factor exceeds a certain level, a rioter is born. The amount of unrest required to spring forth a rioter varies by the quality of the housing in that particular square. Consequently, single tent housing will crank out rioters with relative ease. Note, however, that only the bottom four levels of housing will ever produce rioters. Rich levels will accumulate unrest, but they are too gentle to actually riot. That is, until their housing levels decline to one of the bottom four levels, at which time they begin to act out against the stored anger of their oppression.

All Roads Lead Where?

Brace thyself, citizen. It is almost certain that too many roads are adorning Caesar's provincial capitals out there. Straight from the programmer comes this tip:

The only places where roads are actually required is to connect houses to a forum and businesses to their marketplaces, period. Unlike past experiences with SimCity, traffic congestion is never a problem, so one must think of these city streets that can be built as, in fact, major avenues of commerce (i.e., a via). Those who want to optimize their property values may not want to run roads around their civility structures (baths, schools, hospitals, theaters, amphitheaters and hippodromes). Instead, it is often more beneficial to property values to pack housing directly next to them instead.

For those who like to build roads in the provinces, you will save a few dollars if you pay to clear out intervening bad terrain with the shovel icon before you lay down the road. Even if you can't afford the road right away, this technique at least opens up a channel for armies to travel.

Defending the Ramparts

Those who build city walls will find it useful to run a road just along the inside of them. Next to the road, build a barracks. The idea is to place your barracks in such a way as to get your soldiers to pop out of them and begin patrolling the road along the wall's interior. This places them well to counter any barbarian incursions that manage to get over the walls.

When fighting barbarians in the field, the thing to note is that some tactics work better than others against each particular tribe of barbarians. The secret, of course, is to find out which through trial and error. Regulars, too, fight much better than auxilaries. Players who outnumber the barbarians by as much as 2-1 may still lose if their army is largely auxilaries.

Try increasing wages for the military at the start of the game and avoid conflict until you are strong enough to win the first battle. This will raise the troops' morale and make it easier to win future battles.

Reading the Unemployment Statistic

Unemployment happens. Now, while it is logical to assume that opening businesses helps reduce unemployment (it does, but only if they are prospering), other tiles effect the global unemployment number as well. Heavy industry structures will help reduce unemployment. So will marketplaces. Even building forums will make a slight dent in unemployment.

Hail, citizen! May these tips serve the leader well in his ascent through Caesar. Remember, as a politician, it is your job to enjoy the fruits of others' labor. Spend wisely, if you care. 

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July 1993

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A Bird’s Eye View from Vancouver

The Road from Sumter to Appomattox

by Terry Lee Coleman

The American Civil War is not just for Americans. Rather, it cuts across all gamer’s nationalities. Never was this more apparent than in a tournament of the classic boardgame A House Divided (from Game Designer’s Workshop) at the Origins national game convention five years ago, where six of eight quarterfinalists were from Canada! My opponent from Toronto (whom I must confess, beat me — my only loss at A House Divided in three years) confided to me that in some ways, the American Civil War is almost a Canadian pastime. No surprise then, that a new company from Vancouver would come out with an American Civil War game.

What is somewhat of a surprise is the grand wargaming scope attempted by Adanac Command Systems Corporation in their first game, The Road From Sumter to Appomattox (Sumter), released for both IBM and Amiga computers. Three scenarios cover Manassas, Shiloh, and Antietam, while campaigns cover action beginning in either 1861, 1862 or 1863, with play ending in 1865 in all cases. American Civil War (ACW) simulations on computer are hardly new, the most notable being SSI’s Gettysburg: The Turning Point, deservedly enshrined in CGW’s Hall of Fame.

Despite successful designs on the tactical level, computer games trying to cover the entire conflict from a strategic standpoint have ranged from Data east’s laughable North & South to the uneven and overly political No Greater Glory (SSI). If the renowned designer Ed Fisbutter has trouble encapsulating the entire ACW, what makes our Canadian friends so confident?

Focus... or Could You Adjust the Picture, Please?

Perhaps inspired by PBS’s The Civil War, designer Frank Hunter opens the game manual with a touch of humanity, by remembering Richland Kirkland, the “Angel of Marye’s Heights,” who gave opposing wounded Union soldiers water as they lay dying. In that same spirit, I will attempt to be sympathetic to what the game accomplishes, rather than what it wishes to be (which is not always obvious).

Graphically, Sumter is quite pretty, with its 256-color VGA display (which I suspect might look even better on an Amiga). One can easily get the unit manifest from a function key, and although the units look “blocky” in closeup, this is more the failings of the IBM than the graphic design — even Civilization has this problem to a degree. After a couple of playings, telling the various units apart becomes fairly simple.

What is not so simple is that all people who have a passing interest in the ACW, may or may not know the difference between a division and a brigade. Since the designer states that Sumter was designed to be played rather than set on a shelf, why not give some basic information on military units in the manual for the neophyte?

Even worse, the player must “arm” the various units before they may fight. The idea is to show the difficulties in getting supplies to the front, especially for the Confederates. While different charts are easily accessible, showing manpower ratios, cannon and foodstuffs available, does the average player really need to know how much cotton he has in Florida, as if that might effect his mounting an offensive? Supply wagons litter the map, adding to the confusion, often meaning the game appear like some distant cousin of the famous boardgame Campaign for North Africa. Logistics are certainly important in any simulation, but for the amount of “detail” involved, there are still many abstractions.

Forage is included, of course, but why not the option of scavenging for ammunition? In

<table>
<thead>
<tr>
<th>TITLE:</th>
<th>The Road From Sumter to Appomattox</th>
</tr>
</thead>
<tbody>
<tr>
<td>SYSTEMS:</td>
<td>Amiga, IBM</td>
</tr>
<tr>
<td>GRAPHICS:</td>
<td>VGA</td>
</tr>
<tr>
<td>PRICE:</td>
<td>$54.95 (PLUS 5% SAH)</td>
</tr>
<tr>
<td>DESIGNER:</td>
<td>Frank Hunter</td>
</tr>
<tr>
<td>PUBLISHER:</td>
<td>Adanac Command Systems Corporation</td>
</tr>
</tbody>
</table>

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many areas of the South, church bells and other metal works were melted for bullets and cannonballs. At Pea Ridge, a company armed mainly with shotguns shot a mixture of rocks, salt and nails. Here is where the designer could have gone for simplicity, perhaps giving the players so many food and ammo points to pass around per state, instead of making Sunner the computer version of "I Was Quartermaster at Gettysburg." Politics muddle the issues in Sunner as much as in real life. This is evidently what the designer intended. Players must think about ramifications of European Intervention, Emancipation and the like. A broadening of strategic problems is quite appropriate in a game on this level, and the player is not burdened with tedious political detail as in No Greater Glory. Players can even experiment with historical options, such as moving the Confederate capital to Atlanta.

Where Exactly is That Trail?

Movement in 19th-century America was quite difficult, something Sunner recreates very well. Once again, wartime jargon gets in the way — now on the battle map there are counters, like sheep, in order to tally sheep each night. Still, movement is pretty simple: clicking first on the unit, then on its destination. While the movement rates are listed, the hex scale is not given, so players will have a bit more trouble figuring out how far their units are going compared to the actual wartime marching rates.

Basically, water is three times as fast as going by foot, while rail is five times as fast, provided that the player has not exceeded his rail movement capacity for the turn. Units extend movement points to enter various types of terrain, much as in a boardgame, except that in Sunner, the movement points are not printed on the units. Morale and supply also affect unit speed. In practice, the movement rules work well, providing a degree of uncertainty as to when units will reach their objectives, making for interesting campaign decisions. As in some SSI games, units will sometimes act on their own initiative, retreating or entrenching in the face of the enemy.

Sea movement is very detailed, with separate rules governing river or ocean-sailing ships. Ironclads are available for both sides, but their expense makes it rare for the Confederates to purchase one. The blockade of Southern ports is handled abstractly, with effects increasing throughout the game, depleting Rebel units of supply. Confederate raiders are effective during the first two years of the campaign, then become as scarce as they were historically.

"You Like These Oak Clusters? Well, They Sure Cost Enough!"

Leaders are the core of the game. This is good, because they help Sunner overcome many of the more mundane and tedious design elements. In general (no pun intended), the leader rules make sense. Most of all, they are fun.

Tactical abilities range from three to ten at the start of the game, and leaders such as Lee and Jackson increase their values quickly as they win battles. Initiative ratings vary greatly and improve as the leader stays with a particular command, getting to know the unit, as it were. Better organized leaders (Lee again) initiate the values more quickly, resulting in quicker reaction and mobilization to counter enemy threats. Battles such as Chancellorsville are therefore possible to recreate in the context of the game. Aggressiveness comes from a willingness to engage the enemy and can be as much a liability as an asset. Overly aggressive commanders have appropriately higher casualty ratios. Having separate Rally ratings allows every commander to affect desertion differently, and also allows McClellan to have some use in the game.

At various times, screens pop up, showing certain units being trained, armed or whatever. A dynamic leader in a high-profile area, such as Washington D.C., gives the player the feeling that he is accomplishing something between battles. The player may also reassess leaders and promote leaders after they have accumulated enough "promotion points." (Sorry, Stonewall, but I gave that new opening at Vicksburg to Pemberton. You know how hard he's worked.) Regardless of which side is chosen, putting the right leaders in the right places takes a lot of skill. The best thing about the leader system is that it allows leaders to be promoted to positions past their abilities, returning aggressiveness without the necessary initiative or tactical abilities to lead larger forces.

"After 'Em, Boys! Huzzah!"

Sunner has a simple combat system to resolve "trivial" battles, and an involved tactical sub-game for those with too much time on their hands. The simpler method evaluates each side and assigns a relative advantage to the side with the best combination of fresh and experienced troops, good defensive terrain, morale, and the best leader. Units are pushed until their morale breaks, at which point they are withdrawn by the computer. A similar fate awaits units having the misfortune to become exhausted.

Mr. Hunter joins a growing number of computer wargame designers in providing information to the players on how the system works. The astute player will be able to figure the probability of success for individual units. Seen from this perspective, the game system seems to model combat much as a board wargame would (although many wargamers will want more control, which the simulation allows them to adjust).

The inherent irony is that computer wargames are supposed to be new and somehow different — able to free the gamer from the mundane restrictions imposed by cardboard counters and paper maps. Sunner has some good ideas. For instance, the tactical combat system is entertaining for a while. However, these very strengths that are sprinkled through Sunner are mirror images of games, both board- and computer-based, which have done those same things much better. At times, Sunner seems little more than an homage to Eric Smith's The Civil War boardgame (Victory Games, 1983), with similar rules for supply and leader removal. Smith's game also differentiates between smaller (trivial) and larger battles, having different combat tables for each. Both games emphasize naval operations almost to a fault. Where the games differ
Columns, line deployment and facing are all included, with changes in formation subject to unit training and morale. Each brigade can be given separate orders, through the use of “operations points.” Leaders may lead units directly into battle or stay in the rear and rally troops. If all this sounds somewhat familiar, it is because many board wargames, particularly those on the ACW, have accomplished similar goals with less meandering (Terrible Swift Sword by TSR and Chickamauga by West End Games come immediately to mind).

From a computer game perspective, SSI’s ACW games have a much more authentic feel, particularly in the command area, where to overcome uncertainty, the players must think differently than a board wargamer. Moreover, Sunter’s biggest failure is that the “tactical game” simply does not fit with the rest of the design, from either a complexity or philosophical standpoint.

“Tough Time of it Today?” “Yep. Lick ‘Em Tomorrow, Though.”

What Hunter and the fellows at Adanac Command Systems Corporation have fallen into is the old trap of realism vs. playability which plagued their boardgaming brethren for the past three decades. Sunter risks offending both “control freaks” and those just looking for a good, clean game about the ACW. The research makes no claims to be perfect, yet the game has a wealth of information. Gameplay is often irritating, but certain aspects, such as the use of leaders, when used with the simpler combat system, make all the trouble worth the while.

Underneath all the confusion and various bugs which surround every new release these days, Sunter offers a different perspective on the ACW. What Hunter & Co. need to do in future releases is to trust in the uniqueness of their personal vision, and not feel the need to use every idea from every other ACW game ever done. When they implement things like a cleaner interface, less cumbersome supply rules, etc. all mentioned previously in this article, what a truly great game Sunter would be! csw
The Greatest Battles of the 20th Century

A Scenario Disk for The Perfect General

by Richard Savage

The Perfect General has remained on the Top 10 Wargames charts for quite a while. Now, it has spawned its second sequel, Greatest Battles of the 20th Century (hereafter GB20). GB20 contains 20 new scenarios to further stretch the tactical imaginations of hard-core perfect generals, spanning WWII, Korea, Vietnam, and a few hypothetical "what-if" scenarios. These range from the conventional WWII type, where the Russians attack in Europe, to the more bizarre, such as the Japanese attacking Hollywood (figuratively, perhaps not so bizarre) and finally, Ross Perot getting elected president and invading Libya! As you can see, there's something for everyone here.

The game offers a broad range of conflicts. Five of them are about the Russian front in WWII, one of my favorite theaters of war. Vietnam and Korea have finally made the list, along with only one WWII Pacific theater battle, Bataan. There are two covering the Arab-Israeli wars, and the aforementioned "what-if" scenarios. All in all, there is a lot of good modern-gaming ahead for those who already own The Perfect General.

Unfortunately, modern-gaming is the only way to play these scenarios and derive any satisfaction from them. I had hoped that, by the third installment of this game, QQP would have improved the notoriously abysmal artificial intelligence. Sadly, the only difference I could find was that the computer now uses more heavy tanks, obviously in an attempt to compensate for lack of tactics. "Better AI through superior firepower" must have been the motto used when creating these scenarios. At first, it was amusing to motor up to a victory point city with an armored car, infantry aboard, and find a monstrous heavy tank inside the town, soon reducing the armored car and infantry to a pile of smoldering junk. Once this tactic was discovered, however, I soon learned to fool the computer into wasting its firepower on other targets, or I...
simply used artillery to pulverize the town before cruising in.

The computer does seem to try, but with sometimes hilarious results. If one puts a mine in front of a bridge, the computer will try to hit the mine with artillery to neutralize it. Unfortunately, the computer also seems to take out its own mines when they're in range. In one game, I watched in amazement as the computer artillery fired round after round at one of its own mines that it had set up in its initial placement. None of my units were near, so I theorized that the computer AI must have a list of artillery targets, among them mines, though it pays no attention to which side the mine belongs to!

I don't want the player to come away from this review thinking that this scenario disk is bad. In spite of the dense AI, there is plenty of value here. First, Vietnam finally breaks into the Perfect General wargaming world. The three Vietnam scenarios are fun to play, especially "Long Binh," where the Viet Cong player has only infantry, bazooka, engineers or light artillery to choose from.

Those wargamers who want to buy a lot of panzers will relish the thought of using 325 build points as the German player in "Stalin-
grad." or 350 points in the "Moscow Push." Finally, there is the "big ugly brother of all panzer battles," Kursk, where the German is in mechanized nirvana with 372 build points (400 in the long scenario).

Finally, the "what-if" scenarios provide some comic relief, and in one case, "The Hollywood Dream," a real nail-biter of a game. Previously unmentioned, but falling into this category are "Operation Sea Lion" (German invasion of Great Britain), and "Shenyang," (Soviet Union invades China). Both are a hoot, with see-saw battles that can go either way.

I've played The Perfect General and its scenarios via modem more than any wargame on the market today. The modem set-up is clean and easy, the graphics pleasant, the sound satisfying, and the interplay superb. However, it's time for this venerable warrior to get a face-lift. Rumors abound about a Perfect General II with much improved AI and a few much-needed new units. (Ed: Indeed, Andrew Visscher of Solitaire's Journey fame is diligently working on PGII and we hope to see the product by Christmas of this year.) Meanwhile, GB20 will provide more field rations to nourish us starving grunts until that promised feast. ESW

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July 1993

Circle Reader Service #62
Mapping the Future
Board and Computer Wargaming Link
Through Aide de Camp

by Alan Emrich

At the recent Computer Game Developers Conference, I sat in the wargames roundtable led by Thirty-Sixty Pacific’s Dave Menconi (currently busy at work on Jim Dunnigan’s Victory at Sea). The den of debaters included Sid Meier, Mark Baldwin, Bob Rakosky, Ed Bever, Thurston Scarfoss, Andrew Visscher, Roger Keating and a host of other wargamers. The debate drifted over to board wargaming as the roots of computer wargaming, and how each can best borrow from the other, when Dave Menconi posed the question, “How many of you here also play board wargames?” With only a few exceptions, everyone in the room shot up. It seems as if many of us are, indeed, board wargamers under the skin.

The Bane of Board Wargaming

As many wargamers know, one of the great bane of this hobby is “landing a live one” to play against. For better or worse, much of wargaming is done solitaire. While many choose this isolationist path, I believe that most of us would prefer to challenge a wargaming friend than to play both sides of a boardgame or beat up on a predictable computer AI with regularity.

To that end, modems have linked more and more wargamers together via computer. Of course, there are those wargamers who will only stick with their boardgames and who shy away from computers. Some readers of Computer Wargaming World might refer to them as the Luddite Legion and mock their answer to modems: playing games by snail mail with handwritten instructions being sent back and forth. Mocking their use of typewriters instead of word processors, however, only widens the gap between board and computer wargamers. If we want to broaden the wargaming experience for all of this hobby’s enthusiasts, we should encourage everyone in it to be “bit” (as one California grognard wryly puts it), meaning players of both board and computer wargames.

Computer Wargaming 101

If I were trying to convince a non-computer wargamer to play a computer wargame, I'd invite him or her (yes, I know several women wargamers) over and plop them down in front of my computer rig and dazzle them. However, they haven’t been excited enough yet to buy a computer just to use that one piece of software. Now, I think I’ve found the program that will get computers into the homes of my board wargaming friends.

Aide de Camp from HPS Simulations (a mom-and-pop operation featuring war-gamer/computer programmer Scott Hamilton of Point of Attack fame) is the bridge between board and computer wargaming. It is enough of a “Holy Grail” product for board wargamers that they will actually plunk down the money for a computer. Fortunately for all parties concerned, readers of this article can sell them their old computers as the machine requirements for Aide de Camp are extremely modest. It requires an IBM or compatible with a 286 processor, hard drive, VGA display and at least 500K of free RAM. Even the use of a mouse is optional.

What it Isn’t

It is more proper to describe what Aide de Camp is as well as isn’t. It isn’t a game. It is a do-it-yourself wargame kit on a disk. With it, users can easily create computer versions of their favorite board wargames.

It’s a snap to design board wargames with computer assistance using Aide de Camp, and it can be a great tool for playtesting them, too. Boardgame variant freaks like myself can enjoy the power of programming “what ifs” into their board gaming experience using Aide de Camp. What if a stack of new units I just invented appeared along this road? What if these armies had met 20 miles further south? The possibilities are limitless and the tools in this program are powerful enough to deal with them all.
When a map and counters from a board wargame have been translated into Aide de Camp (or invented completely from scratch for all the wannabe wargamer designers out there), the game can be played. The action is performed in the traditional Igo Hugo (I go, you go) sequence but the program comes with no artificial opponent to play against. Instead, as one is performing their move, the game is "filmed" and saved as a file that can be transmitted either electronically via modem or through old fashioned snail mail to another wargamer who owns a copy of Aide de Camp. That player then reviews the opponent's last move, carefully studying the film to see that no unit exceeded its movement allowance, and the proper combat results were applied. Then, that player performs a turn, saves it, and sends the file back.

Map Maker, Map Maker, Make Me a Map

When I received Aide de Camp, it was a blank slate. Save for the tutorial, there was very a map or creators available for me to slam into the disk drive and start playing. Although this may soon change as HPS Simulations nails down deals with boardgame companies to convert their products to Aide de Camp games, one must now create the game they wish to play before playing it.

Step one is to create a map. Both the map(s) and counters are created by way of a rudimentary paint program built into Aide de Camp. It is here where one notices that the interface is plainly antiquated. This keeps it consistent with the packaging, documentation, tutorial and 16-color palette which are all safely to the rear of the industry's state-of-the-art. However, I've seldom met a wargamer who was put off from playing a game that had a less-than-scintillating look to it or a slightly longer learning curve than it should in an ideal world. To the true grognard, the game is the thing and, after the time is invested in mastering Aide de Camp, the game rewards are there in spades.

The map is created in "hex squares." However, later revisions of Aide de Camp have graphically enhanced the map to lose its squarish look and take on the comfortable hexagonal-looking pattern which wargamers have come to know and love. Terrain types are defined by name, and one paints them in three different sizes. These sizes represent their presentation at the three different map display zoom levels. No values are given for terrain (such as movement and combat effects), so players will have to play honest with each other when considering terrain effects.

After terrain is placed on the map, each hex can have a secondary terrain type, objects placed there (like a town or resource or whatever one cares to create), hexes (such as rivers) and hex-to-hex lines (such as roads) can be defined and location names can be typed in. When completed, it is easy to end up with a map that is quite pleasant to look at, especially when the counters start to dance on it.

A single game on Aide de Camp can be as large as 30,000 hexes, and there can be up to 10 paper maps represented on the display at once. Players of War in Europe or Europe will be happy to hear that. Even if that isn’t enough, the system still makes it easy to maneuver pieces between multiple games of ADC. Thus, my panzer division could move from Russia to France by simply deleting it in this game and adding it to the other. It’s a snap.

Counter Balance

Similarly, the counters are made up by painting them in three different levels, one for each zoom display. In addition to the counter’s face, six numeric values can be typed in for every counter created. They could represent movement, combat, range, etc., and can be raised and lowered on the fly during play.

For those games where units are limited to a “force pool,” that feature has been built into

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QQP's Strategies of the Month

Vol. 21

CONQUERED KINGDOMS: • Ah, those nasty little sneaks - spies! Often under-used, they can be devastating and can turn a game in your favor. Some examples: Sneak a spy into an enemy town behind enemy lines. (Obviously this has to be a town with multiple squares.) Your opponent probably has only one unit in sentry to get points. Slipping a spy into a vacant town square will not get you any points, but it will prevent your opponent from getting any either. As an example, in map #1 there is a 1000 point town. If owned by your enemy, just slip a spy in there and unless he is prudent and moves his unit around in the town each turn, he won't earn the 1000 points per turn for that town.

Another good way to use a spy: After turns 3 & 4 go into his hinterland. When his units that were used to secure coal, gold, and wood move off these places, you can move your spy or spies onto those empty enemy resources and secure them for yourself. It may take several turns before your spy is caught. Opponent realizes what happened - if ever.

More on these little buggers next month.

SOLITAIRE'S JOURNEY • Mrs. Mop is a game that you may have to play a few times before you realize that it takes more than luck to win. One rule is not to put any kings in the two reserves. You should very rarely keep a single card in the reserves. Use these piles sparingly because it's quite simple to get caught with no possible moves.

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July 1993
Aide de Camp as well. However, I found that when I remove a unit from the map, it doesn't return to the force pool (I have to re-add it). Aside from that nuisance, games like Advanced Third Reich and War in Europe greatly benefit from the inclusion of this feature (or, for a wild variant, it is easy to play without force pools and build unlimited quantities of whatever unit type is desired!).

Getting Around the Battlefield

Movement is usually done in tactical mode, where a unit's path is defined hex-by-hex and filmed for one's opponent to observe. Those wishing to move greater distances (by rail or sea, say) or with some trust of their adversary, can opt to move pieces by strategic movement. This mode entails picking up a unit and then teleporting it to its destination (thus skipping all of the intervening hexes). Strategic movement can be a real time saver.

Generally, after movement, the combat phase usually ensues. Note that it doesn't have to be that way in Aide de Camp. At any time, one can roll a die (or several dice — from 1-99 of from 1-99 sides each). After a die roll, it is usually a good idea to type in a comment, which can also be done at any time (they are particularly useful for explaining what one is doing after combat — i.e., retreating, taking losses, etc.). Combat is a flexible mechanism of die rolls and comments and one can easily make it work with most any combat system, even ones with multiple rounds and die rolls per round.

Sam Peckinpah,
Eat Your Heart Out

For every combat result, a summary is displayed at the bottom of the screen. It shows the number of attacking and defending units plus a calculation of the various total points on each side. These totals don't take into account adjustments for supply, terrain, forts, etc. so the players will have to do that math on their own (as if we're not used to it). After this is done, the replay shows all the moves, battles and unit actions that have occurred on the map from the time the last replay was shown. In other words, the other player's moves and combats are shown to the non-phasing player, along with results as he applies them. Wanting this film of an opponent's move is an absolutely absorbing experience and one I recommend to other wargamers highly.

Cute little mnemonic devices are included in the program which remind players which units have moved and fought this turn (so one can keep from accidentally moving or fighting with the same piece more than once per turn, if that is the rule of the game being played). Like the replays, these can be cleared to conserve memory when saving the game.

Once a player's turn is done, the game is saved and the file can be transferred to the next player. Note that each participant must own a copy of Aide de Camp and whatever boardgame they are playing. The file size for a saved game of A House Divided is only about 2K. This means that wargaming by E-mail over networks such as Compuserve, GEnie and America Online can be very practical.

The Wannabe Wargame Designer's Kit

Another way to look at Aide de Camp is as a "creation kit" for wannabe wargame designers. With it, original maps and counters can be created, along with force pools, etc. One can then create their own rules, terrain and combat effects on paper and test the system out. If something doesn't work or playtesting discovers a change that needs to be made, it can be done simply and easily. The best part is that a would be designer can playtest his games by E-mail with interested gamers everywhere. After it is thoroughly polished, perhaps it can even be submitted for publication in print.

Dispatches from the Emperor

The best part is that one doesn't necessarily have to draw the maps and counters to every game they want to play using Aide de Camp. Not only will regular opponents divide up the work ("I'll make up the Panzergruppe Gunther game if you'll do Stalingrad Pocket"), but certain wargame companies are already joining the bandwagon and creating Aide de Camp PBEM disks to support their boardgames. As I write this, I know that The Gamers has signed on and several others are nearly aboard.

Keep in mind that this program is not for beginners. There is a high learning curve involved at the outset, particularly for the graphically and artistically impaired. Those who have memorized the rules to a "monster wargame," however, should have no problem handling Aide de Camp.

Not only is this the kind of program that makes so much sense that one wonders why it wasn't invented before, but now that it has appeared, I predict that it will have a major impact on the board wargaming hobby. I honestly believe that Aide de Camp is a piece of the grognard's Holy Grail and has built a bridge that board and computer wargamers can cross freely. For any board wargamer with an IBM computer (and, preferably, a modem), Aide de Camp is a must have product that will change the way you play wargames.

Frankly, I'm glad to see these two sides of my wargaming hobby merging closer together. At first, some wargamers become a little bit schizophrenic when they sit down and play boardgames solitaire (by playing their best for both sides). Next, the schizophrenia continues switching between playing board and computer wargames. Now, at least, some of this is coming to a happy ending as Aide de Camp makes connecting up and playing electronic board wargames a reality.
The following article is a replay of *Velikiye Luki* by Three Sixty Pacific, which covers the Soviet offensive to seize the town of Velikiye Luki in late 1942. The story begins on the opening day of the “Fortress in the Snow” scenario, in which the Germans try to punch a hole through the Russian cordon around the city before the Russians breach the city’s defenses. The game was played using the optional rules for limited intelligence.

**Prologue**

As the dawn sun shimmered off the deep white shroud that covered the Russian landscape, two fiercely determined armies prepared to race against time. After two weeks of hard combat and heavy casualties, the Soviets had seized the outskirts of Velikiye Luki, but a hard kernel of heavily fortified defenders held the center of the town. For their part, the Germans could at least breathe a sigh of relief that sufficient reinforcements had arrived to mount a counteroffensive. But they had to break through the Soviet ring before Velikiye Luki collapsed.

**Turn 1 (8 a.m.)**

**Report of Gruppe Wohler:** Our counteroffensive against the Red Army would be a tricky proposition against the numerous enemy formations. Would the superior training and organization of the Wehrmacht prevail? Gruppe Wohler faced two major problems. First, many units were of mediocre quality, and they would be quickly spent in an offensive thrust. Second, the usual logistical shoestring meant only a handful of troops could be given attack supply over a sustained period. Accordingly, the hard-hitting 8th Panzer and 20th Motorized were given offensive supply (supply allocations can radically boost or slash a unit’s combat and morale ratings). The remaining units were given defensive supply, sufficient to hold the line but not undertake any serious attacks. Many units spent the morning moving into attack positions. (In *Velikiye Luki*, combat occurs before movement). The initial attacks went well. The Russian infantry in the center were blitzed by a panzer/infantry attack well supported by artillery.

**Report of 3rd Shock Army:** Given the strong Fascist relief forces lurking near the city, we decided to give priority to the assault on Velikiye Luki. But combat the previous day had left many of the besieging forces tired and disorganized. Consequently attack supply was given to 46th Guards Rifle and a supporting tank brigade. All other formations were given defensive supply. The attack against Velikiye Luki was disappointing. 46th Guards concentrated all artillery, tank and engineer assets against a single fort defended by two strongly entrenched artillery battalions. Despite the heavy firepower, the Nazis still refused to retreat. Clearly bunker-busting is a slow business.

**Turn 2 (12 p.m.)**

**Gruppe Wohler:** Now the assault gained momentum. Again, 8th Panzer and 20th Motorized push on. Contact was made with a Soviet ski brigade in the north. Now the mysterious red stars on our situation map began to resolve into tank and infantry symbols. The enemy seemed to be thickly clustered along the railroad into Velikiye Luki.

**3rd Shock Army:** Again, the Velikiye Luki defenders held out against all-out assaults by 46th Guards Rifle. But reports indicated the enemy suffered heavy losses; surely a couple of artillery battalions cannot withstand the assault of a reinforced Guards division. Meanwhile, the enemy relief effort became worrisome. Reconnaissance reports showed German troops massing along the rail in the center. Divisional and corps engineers were dispatched to build entrenchments as a fall back line along the railroad.
Turn 3 (4 p.m.)

*Gruppe Wohler:* Daylight faded but the fighting did not. Night combat was tiring, but with two-thirds of each December day cloaked in darkness, pure daytime assaults were luxuries the attacker couldn’t afford. Propelled by discipline and Benzedrine, we continued to punch into the Soviet lines. Although our artillery was less effective at night, Soviet defensive artillery was totally ineffective. If only we had just one more panzer division, we would already be in the streets of Velikiye Luki. Unfortunately, the bulk of our infantry continued to merely screen the enemy positions.

*3rd Shock Army:* The Velikiye Luki attack forces rested this turn in preparation for a major assault later than night. A tired regiment of 46th Guards was replaced by fresh, full-strength battalions. That illustrated the importance of keeping a reserve; attacking with all your troops only means all your troops will exhaust themselves at the same time. Along the main front, the Germans continued their push along the railway line into Velikiye Luki. In the snowy, trackless wilderness, the railway is the best road around, and the village of Chernezezt stood in the center of it. We garrisoned this village with a tank and infantry battalion backed by anti-tank guns. Meanwhile, a tank brigade was moved up to hold the village of Glazny in the north (in deep snow, villages are about the only defensive terrain visible on the map).

Turn 4 (8 p.m.)

*Gruppe Wohler:* According to the reports — heavy combat and mixed results. In the north, a long-shot attack by a single panzer-grenadier battalion from 8th Panzer against a Soviet tank unit in Glazny succeeded. Even village walls and armor plate were no match for an assault by high-morale troops. Other attacks in the center chewed up more Soviet battalions. An attack by 20th Motorized against Chernezezt failed.

*3rd Shock Army:* Disaster at Glazny. A tank battalion had entered the village earlier in the evening and should have been able to withstand an attack by a single enemy battalion. The commissars needed to create better morale! German attacks along the rest of the front were starting to bleed our front line troops. Chernezezt held, though the defenses have been reduced to a skeleton battery of anti-tank guns. Even when we won a skirmish, we still seemed to suffer heavier losses than the enemy. In the north, the HQ and supply depot of a ski brigade were overrun. Tonight the Nazis will celebrate on vodka. Fortunately, another 46th Guards attack on Velikiye Luki eliminated one of the two enemy artillery units holding the fort.

Turn 5 (12 a.m.)

*3rd Shock Army:* Don’t the Germans ever sleep! The last defenders of Chernezezt were wiped out, but, strangely, the Germans did not occupy the village. Fortunately, some field fortifications had been set up behind the village as an anchor point. An attack by a full tank brigade against Glazny failed miserably; their commander blamed it on insufficient supply. However, the main problem is that our brigades could only attack individually, and lack proper infantry and artillery support. On the other hand, there was rejoicing around Velikiye Luki that night; after a whole day and night 46th

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Circle Router Service #95

Computer Gaming World
Guards finally captured the strongpoint. But the were still nearly a
dozens more to capture — truly a sobering thought.

Gruppe Wohler: Our plan to kill enemy units was succeeding
handsomely — a ski brigade overrun and a tank counterattack
squelched. Even though exhausted and disrupted by incessant fight-
ing, the elite mechanized units continue to function well.

The Aftermath

By 4 a.m., the battle had petered out. The German mechanized
units, maxed out in fatigue and disruption, were finally beginning to
show the strain. They would have to spend the next day recuperating.
Even worse, the supply situation was so bad that almost no units could
be given offensive supply. Although the Soviet frontline troops had
taken a drubbing, the troops around Velikiye Luki were sufficiently
rested (or had been replaced by rested units) to renew the assault.
Ironically, the Soviets were winning on victory points, at least after
the first day of battle. Although the Germans slew hordes of Reds, the
victory points were weighted towards territory (which the Soviets
mostly held) as well as disproportionately penalizing Axis losses.

Lessons Learned

Velikiye Luki is a long game. Even the scenarios comprise over a
hundred turns, and night can see as much combat as day. That’s why
supply allocation is so vital, because it effectively determines whether
a unit is a killing instrument or cannon fodder for the next six turns.
Both sides easily have enough supplies for defensive purposes; it’s the
huge logistic consumption of attack
supply that’s the problem. Especially
for the Germans, juggling who gets
what is a nerve-wracking task. No
more than one or two divisions can be
given attack supply, and that should
be for key missions, such as storming
Velikiye Luki. On the other hand,
though it’s tempting to allocate mini-
mal supply to a division, be careful. If
by chance they are attacked, they’re
dead meat.

In **Victory: Utah Beach**, the
Americans and Germans had roughly
similar capabilities. In **Velikiye Luki**, the
German and Soviet armies are
inght and day. The war in Russia was
more than a conflict between opposing
ideologies; it was a battle between two military systems, and **VL**
shows it well. The Soviets have a huge army, but with relatively poor
morale and an inflexible artillery. The Wehrmacht is a mixed bag,
ranging from very high morale troops (especially the SS motorized
troops) down to Luftwaffe cannon fodder.

The heart of the Wehrmacht are the high quality mechanized and
SS units which carry the burden. The remainder are not much better
than their Russian counterparts, and are adequate for holding the line.
The Wehrmacht’s deadlines is in the high morale of its elite units,
often one-third higher than their Red counterparts. Players will find
that numerical superiority is nice, but it’s nice to get three or four odds
shifts for superior morale. The Germans’ excellent artillery is another
major advantage. German players who were kicked around by Ameri-
can firepower at Utah Beach will enjoy sinking it to their Bolshevik
opponents. German artillery can be used on-call rather than being
pre-allocated, and is more effective at night than Soviet guns. Like a
fast boxer the Germans can make narrow but sharp jabs all over their
opponent until he finally weakens.

The Soviets, on the other hand, have a plethora of essentially
mediocre units. Even the Guards divisions pale beside 8th Panzer or
20th Motorized. Their assaults must be either probes or all-out blood
baths, and their defensive options are basically limited to stand and
die. Similarly, while 3rd Shock Army has a great deal of artillery, most
of it is low-value divisional pieces. It’s the rocket batteries and heavy
howitzers that are the cutting edge, and they’re needed to subdue
Velikiye Luki. A major problem is that combat losses are expressed in
percentages, so even if a horde of Soviet battalions defeat a small but
high-morale German unit, the morale shifts mean the Soviets will
probably suffer more losses than their opponents. Red players can only
cut their heads as high odds attacks are whittled into nothing by
terrain and odds shifts. And playing with the one division or brigade
per attack rule adds to the frustration, because the array of Soviet
independent tank and infantry brigades are individually weak.

In general, the best strategy is to
pick one or two divisions and give
them decent supply. Then make a
few high-odds attacks rather than ex-
haust all your units with attacks up
and down the line. Because combat
and moving at night) cause fatigue,
reserve regiments are vital. Take full
advantage of the cross-attaching fea-
ture; reinforce assault divisions with
extra artillery and especially tanks.

The siege is a separate game in
itself, and to call it frustrating is an
understatement. In the replay, it
took a whole day just to take a
strongpoint guarded by two weak
artillery battalions. Even the weakest
German units can get six odds shifts
for morale and terrain, and the deluge of Soviet shellfire is muted by
urban cover. The only way is to whistle down the defenders by
repeated attacks. When a division or regiment is worn out, pull it out
and replace it with another. **Velikiye Luki** is a grinding match, and
who grinds most wins. cew
The More The Harrier

Climbing Aboard MicroProse U.K.'s Jump Jet

by Paul Rigby

The Harrier, with its complex flight models and unique military role, has been under-represented in computer simulations. Suddenly, like salespeople on the scent of money, several versions are showing up at once. One has already been released by Domark, while another is the subject of this review. Named Jump Jet (J/J), this is the latest flight sim to be designed by Microprose UK.

In J/J one flies either an RAF GR5/7 or a USMC AV8B through day and night missions in practice flights, single sorties, a single day's worth of flying in any arena (to a maximum of eight missions) or one of three campaigns. Campaigns can be conducted in the Falkland Islands, Hong Kong or Nordkapp for up to 10 days. Upon completing a mission on any one day, the player is provided with an update of his side's progress.

... well, hidden (situated amongst a cluster of trees, for example). Thus, the action is forever available on the player's doorstep whenever one is ready to blitz into combat mode.

As with most Microprose simulations, the player can alter the difficulty and realism of a number of factors such as the flight model or the enemy. Other pre-mission factors include reviewing pre-selected waypoints on the tactical map, reviewing pre-selected targets, selecting one's armament and reviewing orders. Then, it's into the cockpit and away, from either a carrier or ground base.

The flight model appears to encompass most of the aircraft's actual characteristics, and meets all of the basic aeronautical demands. The stall model and the conversion from vertical to horizontal flight is competent, with reference points remaining constant during the process. In addition, the player is given a choice of HUDs for Nav, VSTOL and Attack. An example of J/J's realistic HUD can be observed when the jet is pulled up towards vertical. The HUD ladder bars then dip down and point in the middle towards the horizon, so that it is much easier to keep oriented at any time. This feature is portrayed well in the game. However, the HUD itself appears oversized.

Microprose UK has developed a new graphic engine especially for J/J. It is a fractal-based landscape similar to Midwinter 2, but is "gouraud shaded" so that the scenery appears very smooth. Gouraud shading actually takes the individual polygons and smooths them out. The result is a virtually seamless landscape. On occasion, though, one can see the landscape being built, which doesn't help one's "suspension of disbelief" at all. The technique enables players to fly down valleys rather than over them, offering a tremendous visual experience. This scenic structure also yields some added tactical enhancements, enabling enemy concealment on a hillside or, more alarmingly, just around the next corner.

From here on in, J/J begins to rack up disappointments. A little background is in order. Throughout the game's development, MicroProse U.K. has boasted about the game's graphics and, more pertinently, its realism. Many times project managers and designers on the game have mentioned RAF Wittering (a UK, GR5 base) to recognize help and advice they received for improving the flight model and making it more realistic. The company also identified a number of advanced features that were targeted for J/J (see below for details) that never appeared in the final game. J/J cannot, therefore, be viewed as an action or "fun" game like Novalogic's Covert Low's Maximum Overkill or an abstract tactical game like ATAC. Apart from heavy statements of realism quoted in the manual, the company has marketed the game into the realm of realistic flight sims. "You'll never get closer to the real thing," exclaims the box cover. This is the territory occupied by the Falcon 3.0s and Ace of the Pacifics of this world.

With this in mind J/J immediately falls between two schools. Yes, the core flight model and in-flight operations appear to model the real thing quite well. They do not go to Falcon 3.0 extremes, but, on the whole, the effect is admirable. However, the real hummer is the campaign, the core of any flight simulation. Basically, MicroProse U.K. has taken a decent flight model, some fancy graphics and planted it onto an old-fashioned campaign structure derived from F-19. Witness the campaign
You stumble back to your office after a long, hard day of detective work. You can't wait to get cozy with a bottle of whiskey, but your answering machine has an urgent message. "This is a life and death emergency. Women are disappearing. Donna's missing. Please, come quickly." Donna's rescue is only the beginning of an adventure that indulges your wildest fantasies as it plunges you into fun and danger. While on screen you're dazzled by innovative and original Japanese animation that's taking other countries by storm, and is now available in the U.S.

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System requirements: 386 or faster machine with 640K RAM hard disk with min. 11 megabytes of available space required, mouse recommended. Graphics compatible with EGA, MCGA and VGA (VGA highly recommended). Sound support: Sound Blaster, Thunder Bird, Pro Audio Spectrum and Adlib.
features: fly a set mission which has been randomly generated, fly along preset waypoints, hit a pre-set primary and secondary target, fly back to base. End of story. There are no wingmen, no interaction with one’s own forces, no dynamic battlefield, no feeling of being involved. What is offered is another ill-conceived “You vs. The World” flight simulation that purports to be a realistic simulation. Instead, it is reminiscent of flight sims we thought we’d seen the last of two or three years ago.

With today’s powerful hardware, I don’t know why a close air support aircraft like the AV8B would be simulated without the dynamic, vibrant, unique world that the AV8B aircraft flies in (e.g., the Forward Area Battle, or FAB). It seems MicroProse U.K. has simulated dozens of aircraft and then inserted them into JJ — change the name and no one will know the difference. Once again, the reason is because the world that aircraft flies in is too generalized.

This isn’t the only shortcoming, though. Other disappointments stem from conversations with JJ project managers and designers. There had been many intriguing features revealed and discussed, some in great detail, during the later stages of the game’s development. Among the features missing since those conversations are “full-control” campaigns where the player would have had total control of the campaign situation. This would have involved the player flying out on recon missions to decide whether to return and destroy specific targets; being in control of one’s own supplies and the essential supply routes; the use of wingmen; commanding a squadron of Harriers; integrating minor role-playing aspects into the wingmen’s characters (i.e: wingmen improving their skills over time); wingman fatigue; wingman interaction and so on.

Another lost promise is the on-screen camera. For example, when a weapon is fired in most games, the player sees the projectile zooming out in front of the aircraft and that’s it. Microprose U.K. discussed introducing an animated sequence at this point showing the external view of the Harrier, then the Sidewinder firing, lifting off the wing-tip and taking off.

The above abbreviated list of missing features are included as evidence of odd occurrences. Some of the features, such as the camcops, were in advanced development — they were even shown to selected pilots at RAF Wittering, who reportedly liked them a lot. Their absence follows a trend that seems to happen all too frequently in today’s entertainment software industry.

The clincher is that none of the features listed above have been succeeded by more advanced, more robust attributes. In fact the game has totally deteriorated from an intriguingly advanced state into a dressed up version of F-19. The difference between my initial previews of JJ and the final product are so stark as to warrant deep suspicion or, in my case, outright indictment.

Jump Jet contains much that is good. However, the praiseworthy aspects of the simulation are so much icing on a sour cake. The core of Jump Jet is old-fashioned and tired. After initial amazement at the beautiful seamless graphics, frustration steadily mounts as one sees how little this worthy feature is “worked” — how little any of the worthwhile features are used, for that matter. The result is, ultimately, boredom. Harrier devotees should take a look at Domark’s AV8B Harrier Assault which, although flawed, contains more imagination, flair and invention than MicroProse’s ornate, Jump Jet. CGW
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3020 Issaquah-Pine Lake Rd., Suite 341
Issaquah, WA 98027-7255
(206) 392-9941

DR. JAM: This program artificially injects
the musically impaired with a little soul. Its
horde of features will have even the most tone
deaf wannabe playing decent sounding stuff.
One can choose from a number of pre-de-
defined styles (i.e., country, techno-pop, reg-
gee) and then play up to four different
instruments using the keyboard. Of course,
the user can twiddle with all of the elements,
changing rhythm, editing drums, changing
the key, instruments, chords, etc. It's loads of
fun if one is so inclined, and sounds wonder-
ful — especially with a General MIDI sound
board. All of the user's creations can be re-
corded and saved for future play-back. If it
can have us White Boys playing funky music,
it can probably do wonders in the hands of
someone with the slightest hint of talent.
IBM ($599). Circle Reader Service #1.

Broderbund Software
500 Redwood Blvd.
P.O. Box 6121
Novato, CA 94948-6121
(415) 382-4400

WHERE IN SPACE IS CARMEN SAN-
Diego?: Apparently driven from the Earth
by hordes of young sleuths, Carmen San-
diego has taken to the stars and has taken to
taking stars for her prurient pleasure! Gamers
ages 12 to adult once again don their ACME
detective badges and blast off after Ms.
Universe in an attempt to recover stolen astra-
nomical phenomena from Carmen and her
14 VILE agents. This is definitely the most
colorful and wackiest game of the Carmen
line, offering 50 digitized NASA images and
dozens of goofy, animated cartoons. As per
Carmen's style, the game package includes a
book — this time the Peterson First Guide to
Astronomy — and an on-line database which
players will scour in search of the clues
needed to nab Carmen and her gang. An-
other option, Star Search, offers an interest-
ing part of the game where players scroll
around an actual star chart, which illustrates
the major constellations. For those new to
astronomy, this aspect of the game provides
an excellent introduction. With its extrava-
gant graphics and crisp user-interface, there
isn't a better way to learn one's way around
the solar system. IBM ($79.95). Circle
Reader Service #2.

Cactus Development Company
7113 Burnet Rd., Suite 214
Austin, TX 78757-2216
(800) 336-9444

CACTUS LEAGUE COLLEGE BASKETBALL and CACTUS LEAGUE
PROFESSIONAL BASKETBALL: Anyone who is looking for a statistically accu-
rate, up-to-date strategy game (in something of the style of XOR's old Bas-
ketball Stratego) would do well to consider both this product and its sister game which
covers professional basketball. Whereas the
old XOR game displayed numbers moving about the court, this new game puts a
diamond on the court to represent the ball
handler, and the diamond will change
color depending upon the offensive play
invoked. Gamers can customize teams, rely
on the computer as coach as much or as
little as they desire, and develop custom-
ized league schedules with a couple of key-
strokes. Unlike Bob Chaikin's B-Ball and
Lance Haifner's Final Four College Basket-
ball, however, the emphasis is on coaching
rather than controlling the flow of play
through the passing. IBM ($49.95, data
disks sold separately from $19.95-$24.95).
Circle Reader Service #3.

Gremlin Graphics
Carver House, 2-4 Carver St.
Sheffield S1 4FS England

ZOOL - NINJA OF THE NTH DI-
MENSION: One need not have an "nth"
of brain to play this twitchy and reflex action
game. Zool, a British patchwork of several
cartidge game characters, is one bad little
dude, karate chopping his way through six
worlds of goodies and baddies. Once past
the torturous code wheel copy protection,
Fruit World, Tool World, Toy World,
Fairground World, Sweet World, and Musi-
< insert text here >

Humongous Entertainment
13110 NE 177th Pl., Box 180
Woodinville, WA 98072
(206) 485-1212

PUTT-PUTT'S FUN PACK: Here's a
collection of games for the youngest ones in the family. Putt-Putt, the little car hero
of Putt-Putt Joins the Parade (reviewed last
month in this column) will take kids
through six simple games adorned with
speech and animated fun. There's Tic-Tac-
NOW AVAILABLE ON PC

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Goodlettsville, Tn. 37072
Phone: 1-(615)-972-8085 • Fax: 1-(615)-851-6098
Taking a Peek

Toe, where Putt will make his moves with his antenna; Checkers, with animated pieces a la BattleChess; Remember!, a Concentration-type game; Cheese King, a hang-man variant; Pinball, which is more like a make-your-own Pachinko kit; and Blocks, where kids must spin blocks with graphics on them to form a completed picture. The package comes with a small coloring/puzzle book for when Mom and Dad want to play their grown-up games. It's all good, quick, clean fun to introduce little gamers to the family's "big person" machine. IBM, IBM CD-ROM ($39.95). Circle Reader Service #5.

Interplay Productions
17922 Fitch Ave.
Irvine, CA 92714
(800) 969-GAME

BUZZ ALDRIN'S RACE INTO SPACE: Bite the moon dust, space cadet. This detailed strategic simulation puts its players in the moon boot of the leader of the U.S. or Soviet space programs in the '50s, '60s and '70s. The player competes with another human or the computer as he or she does their part for the Cold War, illustrating their nation's ideological superiority through a demonstration of technological prowess. The player directs nearly every aspect of a space program: scheduling launches, choosing research programs, training astronauts, and tapping CIA/KGB spy information. Players run the show through a dynamic interface, laid out as a space station that changes as one's space program advances. Hundreds of digitized photos and animated clips will tell the story of the player's successes and failures. The package also contains a historical guide to space exploration lavishly illustrated with NASA photos. Educational and challenging, Buzz is a masterful treatment of its topic. IBM ($69.95). Circle Reader Service #6.

MicroProse
180 Lakefront Dr.
Hunt Valley, MD 21030-2245
(800) 879-PLAY

DESKTOP TOYS FOR WINDOWS: When boredom strikes, clobber bunnies with mallets over their little furry noggins. Wallop is one of five games on Dr. Floyd's Desktop Toys, a new variety pack of dubious utility. Other games include Stack Hunt, a find-the-furball variant; word-puzzle Crypto Games; Web Spinners, an uninvolving geometric pattern maker that is a remake of EA's original Worms; Kye, an interesting puzzle-solving game; and Pentomino, which will drive puzzle-lovers to distraction. The head of the Pack is Dr. Floyd, who appears at timed intervals to offer witty remarks. The program also has a calendar for keeping appointments, if bonking bunnies doesn't become an obsession. IBM with Windows ($39.95). Circle Reader Service #7.

SUPER STRIKE EAGLE: MicroProse tries their hand at sim s-a-la cartridge, and the result is about what one might expect. The game tries to be two things, both a first person combat simulation and a third person shoot 'em up. Taking off from their carrier, players will fly in an overhead view toward an enemy island blanketed with "ack-ack" sites and enemy bases. If the player's bird is intercepted by a bandit, the perspective turns to the first person, where the player does battle in a dumbed-down flight model. When over enemy bases, the view changes to "chase-plane" perspective, where the player flies over nicely textured terrain, similar to that in Strike Commander. The game's relationship to computer-based sims is comparable to that of Classics Illustrated comic books to classic novels. Super Nintendo ($69.95). Circle Reader Service #8.

Ocean of America
1855 O'Toole Ave., Suite D-102
San Jose, CA 95131
(408) 954-0201

WIZKID: This game is just plain silly. As the story goes, Wizball, Wizard, and Nifta the cat had banished Zark from the land of Wiz for being naughty...Nifta had 8 kittens, and the Wizard and Wizball got married and had a kid...Wizkid. Zark came back, threw Wizard and Wizball into dungeons in his castle and put Nifta in the turtle jail...<asperated pause>...What are these people inhaling? The game is about as inane as its premise. The player controls Wizkid, a rip-off without apology of Pacman, who scoots around the screen bopping bricks and gobbling up goodies and musical notes for the "bonus tune." Uninteresting crossword puzzle variants are interspersed into the arcade action, again, leaving one wondering just what the hell these people were trying to do with the game. It's a case of strange people outstrangering themselves, to a pointless end. Amiga, IBM ($39.95). Circle Reader Service #9.

Origin Systems
12940 Research Blvd.
Austin, TX 78750
(512) 335-5200

STRIKE COMMANDER: From the darkest mists of vaporware emerges one of this hobby's most awaited games, Strike Commander. This flight simulator is very much Wing Commander meets Falcon 3. The cinematic storyline tells the tale of a
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Circle Reader Service #98
band of mercenary pilots in the early part of the next century trying to earn a profit as the world political situation continues to deteriorate. The flight graphics are stunning, but very much require 486/333+ horsepower to fully enjoy. Neither having a very sophisticated flight model, nor the kind of blistering action of Wing Commander, the game falls into a limbo zone somewhere in between, perhaps leaving hard core flight sim and hard core action gamers with a lukewarm feeling. IBM ($79.95), Speech Pack (sold separately), IBM ($24.95). Circle Reader Service #10.

Raya Systems, Inc.
2570 West El Camino Real, Suite 309
Mountain View, CA 94040

THE AIDS AVENGER!: This action game is a platform from which to educate young and old about the Human Immunodeficiency Virus and its result, AIDS. Players take the role of AIDS Avenger as he patrols his neighborhood in search of the goblins that are spreading incorrect information about the AIDS virus, its causes and its effects. The AIDS Avenger is a thought policeman, listening in on conversations and reading people’s minds, making sure they are thinking correctly. If not, he must input the correct information and then blast the goblin that was possessing the person and injecting these incorrect thoughts. There are four play levels, each escalating in the sexual explicitness of their content. Locks can be put on the levels to ensure that its players are not exposed to information not befitting their age or maturity level. IBM. Circle Reader Service #11.

Road Scholar Software
2605 Augusta, Suite 1000
Houston, TX 77057-5618
(800) 443-7623

RAZZLE DAZZLE: Though perhaps a bit pricey for a screen saver, this is quite a screen saver nonetheless. The program creates incredible psychedelic images of an amazing variety. What’s more, it not only works in the Windows environment, but in DOS as well. While the packaging bills it as a graphics program, in addition to being a screen-saver, this supposed additional graphics program is actually some simple configuration for the screen-saver and the ability to print screen images to disk. Ever elusive “medical studies” have show this program to lower blood pressure, so it claims to have health advantages as well. In spite of the stretched marketing claims, the program is recommended for “day trippers” who enjoy wild graphic pyrotechnics. IBM ($49.95). Circle Reader Service #12.

ROM Time
8601 Wilshire Blvd., 8th Floor
Beverly Hills, CA 90211
(800) 926-7273

HYPER BACKGAMMON: This game is a variation on the standard backgammon theme, where each player has only three stones and the game board is squeezed down to 24 “triangles.” All the normal rules apply and the doubling cube is included. The package boasts that the computer opponent (no two-player option) determines the best play for over 32 million game situations. This vast database is apparently the reason why the game is published on a CD-ROM disc. This extensive artificial intelligence plays a very strong game, but, unfortunately, there are no difficulty settings offered, so the computer will trounce all but the best human players. If one doesn’t mind this fact, nor care much about graphic presentation, this product will offer plenty of quick-playing challenge. IBM with CD-ROM ($39.00). Circle Reader Service #13.

Sierra On-line
P.O. Box 485
Corte Madera, CA 94925
(209) 683-4468

GOBLIINS 2: Sierra’s French friends at Coktel Vision have devised two more ways to frustrate and delight puzzle game fans. Named Winkel and Fingus, these two goblins have set out on a seven episode Goblin Quest to rescue the king’s captured heir (To heir is Goblin, too). As in the previous GOBLIINS, players must use the individual skills of the goblins in concert in order to bypass many fiendish puzzles. The landscapes are colorful and the animated goblin antics even more so. GOBLIINS is a good choice for young and/or beginner puzzle lovers. IBM ($39.95). Circle Reader Service #14.

LOST SECRET OF THE RAIN FOREST: This new Sierra Discovery Series game offers a graphically rich adventure gaming environment for kids 10 and up. Its Indiana Jones meets Opie Taylor as Adam Greene, a young American boy, ventures to Iquitos, Peru, with his ecologist father to unveil The Lost Secret. However, nothing goes as planned, and soon Adam is himself lost in a lush jungle with talking animals and beautiful plants. Armed with dad’s Forder, a device for identifying plants, animals and pollution, Adam’s mission is to learn the forest’s secrets, re-unite with his dad, and make it through the day without frosted Cocoa Bombs or TV. Children will love the stunning settings, and should have no trouble with Sierra’s graphic interface while they try to solve
Nominees for Computer Gaming World’s Games of the Year Awards

The nominees for the 1993 Computer Gaming World Game of the Year awards are:

**Action**
- *Minotaur: The Labyrinths of Crete* (Bungie Software)
- *The Games Summer Challenge* (Accolade)
- *Wolfenstein 3-D* (Id Software)

**Adventure**
- *Alone in the Dark* (I-Motion)
- *Eric the Unready* (Legend)
- *Legend of Kyrandia* (Westwood)
- *Quest for Glory III* (Sierra)
- *Star Control 2* (Accolade)

**Role-Playing**
- *Crusaders of the Dark Savant* (Sir-Tech)
- *The Summoning* (SSI)
- *Ultima Underworld II* (Origin)
- *Veil of Darkness* (SSI)
- *Waxworks* (Accolade)

**Simulation**
- *Aces of the Pacific* (Dynamix)
- *Comanche: Maximum Overkill* (Novalogic)
- *F-15 Strike Eagle III* (MicroProse)
- *Stunt Island* (Disney)
- *X-Wing* (LucasArts)
- *World Circuit* (MicroProse)

**Sports**
- *Front Page Sports: Football* (Dynamix)
- *Jack Nicklaus Signature Edition* (Accolade)
- *Links 386 Pro* (Access)
- *MicroLeague Baseball 4* (MicroLeague Sports)
- *Tony La Russa Baseball II* (SSI)
- *Wayne Gretzky Hockey III* (Bethesda Softworks)

**Strategy**
- *Air Bucks 1.2* (Impressions)
- *Caesar* (Impressions)
- *Dune II* (Virgin)

- *Shadow President* (DC True)
- *SimLife* (Maxis)
- *Utopia* (Konami)

**Wargame**
- *Carriers at War* (SSG)
- *Castles 2: Siege & Conquest* (Interplay)
- *Conquered Kingdoms* (QQP)
- *Empire Deluxe* (New World)
- *Pacific War* (SSI)
- *Siege* (Mindcraft)
- *V for Victory: Velikye Luki* (Three-Sixty)

**On-Line Games**
- *CyberStrike* (GEnie/Simutronics)
- *Kingdom of Drakkor* (MPGN)
- *Hundred Years War* (GEnie)
- *Legends of Future Past* (Digital Dreams)
- *Shadows of Yserbius* (TSN/Ybarra)

The winners will be announced in October.

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puzzles and learn about the diversity of life. IBM ($49.95). Circle Reader Service #15.

PEPPER'S ADVENTURES IN TIME: Another new product in the Discovery Series, Pepper's Adventures takes a young girl back in American history to fix the awful mess her whacked-out uncle caused. Pepper, accompanied by her trusty hound Lockjaw, hangs out with the colonists to find out what went wrong and who that Ben Franklin guy is. She'll be aided by a Truth Detector (would that we all were), a good wit, and a jaunty walk as she makes the puzzle-solving rounds through storybook scenery. Dialogue is decidedly contemporary as Pepper talks with characters who sound as if they're from Bill and Ted's Excellent Adventure. The "learning adventure" is geared towards ages eight and up, although it may be difficult for those that young. IBM ($49.95). Circle Reader Service #16.

Strategic Simulations, Inc.
675 Almanor Ave., Suite 201
Sunnyvale, CA 94086-2901
(408) 737-6800

UNLIMITED ADVENTURES:SSI has handed their world building tools to the amateur game designer with this role-playing construction kit. Now, players can create Gold Box adventures using their own designs and imported art, or can select from the many resources provided for them. To get players started, the package includes 70+ monsters, 40+ humanoid creatures, dozens of spells, plus all the tools one needs to map out entire dungeon levels and combine them into complete worlds. There are also tools for editing or creating one's own monsters, NPCs, objects, etc. When finished, the adventures can be shared or traded with friends. There are already groups of users on the major bulletin board systems that are trading art, ideas and completed levels, so there's no shortage of adventures. One might even say the supply is...unlimited. IBM, Mac ($59.95). Circle Reader Service #17.

Tsunami Media
P.O. Box 790
Coarsegold, CA 93614
(209) 683-8266

PROTOSTAR: Protostar unites many different game elements around a generic space opera theme. The humans are threatened by a hostile alien race, and the call goes out for a star captain who can rally neighboring factions around the Human flag, disrupt the alien supply lines which feed a mounting offensive, earn cash to finance the Human resistance, and battle the enemy ship-to-ship. There are elements of role-playing in the outfitting of one's ship and crew, elements of strategy in the trading of goods for cash, and elements of action gaming in the starfighter encounters. Old time gamers will perhaps see Simdog or Starflight in the game, though while graphically superior to these predecessors, it doesn't have half the interface elegance or story as either. IBM ($69.95). Circle Reader Service #18.

Velocity Development
1644 Colonial Parkway
Inverness, IL 60067
(708) 991-0594

SPECTRE SUPREME: Last month we peeked at Spectre, a lightning paced multiplayer shoot-em-up. This month finds Velocity with an update to their original Macintosh hit. In this new version, players still scoot around poly-filled cyberspace in tanks, but many new surprises have been thrown in the pot. There are new obstacles (acid pools, ice fields, cyber-mud) and new enemies (orbiters, slicers, hunt-killers) that can now be radar or optically cloaked. Fortunately, there are new weapons to battle these new baddies, including proximity mines, smart missiles, scattershots, among others. For games with access to a network, the game now supports eight nodes and 16 new types of multiplayer games, including team cybersports like football and soccer. The original Spectre was one of the best network action games around, and they've only strengthened that distinction with this upgrade. Mac ($69.95). Circle Reader Service #19.

Virtual Reality Laboratories
2341 Canador Ct.
San Luis Obispo, CA 93401
(800) 829-VRLI

VISTAPRO 3.0: It seems the end result of the Computer Revolution will be to eliminate the need to move from one's chair. This product takes a complete tour of the world's natural wonders and drops it into one's lap. With a few menu selections one can behold the grandeur of such landscapes as the Swiss Matterhorn and the Californian Big Sur coastline on the PC screen. It's quite an amazing program, taking U.S. Geological Survey Data Elevation Maps of natural landscapes and rendering them in beautiful detail. One can even create animated "fly-throughs" of the rendered areas, so one can soar through the craters of Mars or circle the peak of Mt. Fuji. This new version adds a heap of new features, including the addition of trees, fractal cloud patterns, extended video card support, the ability to map any PCX image onto the landscape, the ability to render 24-bit images, and refined image quality menus and functions. Additionally, it offers the ability to link numerous .PCX files into a single .FLC animation. Alternatively, a large .FLC file can be broken into individual .PCX files. A powerful program for powerful-good graphic fun. Amiga ($99.95), IBM ($129.95). Circle Reader Service #20.
The games in Computer Gaming World's Hall of Fame have been highly rated by our readers over time. They have been rated for their impact on the computer gaming hobby during their peak period of influence and acceptance by our readership. Note that the dates listed for each game are the copyright dates and may preclude the actual release dates. Specific formats listed are those which CGW has in its possession.

The Bard's Tale (Electronic Arts, 1985)
Many formats

Chessmaster (Software Toolworks, 1986)
Many formats

Dungeon Master (FTL Software, 1987)
Amiga, Atari ST, IBM

Earl Weaver Baseball (Electronic Arts, 1986)
Amiga, IBM, Macintosh

 Empire (Interstel, 1978)
Amiga, Atari ST, C-64, IBM

F-19 Stealth Fighter (MicroProse, 1988)
IBM

Gettysburg: The Turning Point (Strategic Simulations, Inc., 1986)
Amiga, Apple, C-64, IBM

Gunship (MicroProse, 1989)
Amiga, C-64, IBM

Harpoon (Three-Sixty Pacific, 1989)
Amiga, IBM, Macintosh

Kampfgruppe (Strategic Simulations, Inc., 1985)
Many formats

King's Quest V (Sierra, 1990)
Amiga, IBM, CD-ROM

M-1 Tank Platoon (MicroProse, 1989)
Amiga, IBM

Mech Brigade (Strategic Simulations, Inc., 1985)
Many formats

Might & Magic (New World Computing, 1986)
Apple, C-64, IBM, Mac

M.U.L.E. (Electronic Arts, 1983)
Atari 8-bit, C-64

Pirates (MicroProse, 1987)
Many formats

Railroad Tycoon (MicroProse, 1990)
Amiga, IBM, Macintosh

Red Baron (Interplay, 1990)
Amiga, IBM, Macintosh

SlanCity (Maxis, 1987)
Many formats

Starflight (Electronic Arts, 1986)
Amiga, C-64, IBM, Mac, Sega

Their Finest Hour (LucasArts, 1989)
Amiga, Atari ST, IBM

Ultima III (Origin, 1983)
Apple, Atari ST, C-64, IBM

Ultima IV (Origin, 1985)
Amiga, Apple, Atari ST, IBM

Ultima VI (Origin, 1990)
Amiga, IBM

War in Russia (Strategic Simulations, Inc., 1984)
Apple

Wasteland (Interplay, 1986)
Apple, C-64, IBM

Wing Commander (Origin, 1991)
IBM, Sega

Wizardry (Sir-Tech Software, 1981)
Many formats

Zork (Infocom, 1981)
Many formats

King's Quest V
Sierra On-Line, 1990
Amiga, IBM, IBM CD-ROM

King's Quest V was an amazing addition to the best-selling adventure game series of all time. It was the first game in which real painted images were scanned and used as the backgrounds for the adventure, and was the first game to sport Sierra's parserless interface. Although some players were disappointed in the move to a non-typing interface and the easier puzzles that this entailed, King's Quest V was an important landmark in a series that has defined a genre. Indeed, it points toward the future of interactive storytelling on the computer.

M-1 Tank Platoon
MicroProse, 1989
Amiga, IBM

The first simulation to realistically depict armored warfare as platoon-oriented (both Accolade's Steel Thunder and Electronic Arts' M-1 Abrams BattleTank treated the vehicles as operating independently), M-1 Tank Platoon emphasized leadership, platoon integrity, terrain effects and air support in a viable and entertaining simulation. M-1 Tank Platoon not only set the standard for armored vehicle simulations, but pointed the way toward an update of MicroProse's classic Gunship that would emphasize platoon integrity as well.
### Top Adventure Games

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<td>LucasArts</td>
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<td>Star Control II</td>
<td>Accolade</td>
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<td>Indiana Jones: Fate of Atlantis</td>
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<td>Sherlock Holmes CD</td>
<td>ICOM</td>
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<tr>
<td>King's Quest VI: Heir Today</td>
<td>Sierra</td>
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<td>Last Manly in: Lost in L.A.</td>
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<td>Lost Files of Sherlock Holmes</td>
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### Top Role Playing Games

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<td>Ultima VII</td>
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<td>Might &amp; Magic: Clouds of Xeen</td>
<td>New World Computing</td>
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### Top Simulation Games

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### Top Strategy Games

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### Top 100 Games

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### Top Wargames

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<th>GAME</th>
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<tr>
<td>Conquered Kingdoms</td>
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### Top Action Games

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<td>Wolfenstein 3-D</td>
<td>Id Software</td>
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<td>Lemmings</td>
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<td>Telm Classic</td>
<td>Spectrum HoloByte</td>
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<td>Oh! No! More Lemmings</td>
<td>Psygnosis</td>
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<td>Out of this World</td>
<td>Interplay</td>
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<td>Terminator 2090</td>
<td>Beltedta</td>
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<td>Conan the Cimmerian</td>
<td>Virjin</td>
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<td>Speedball 2</td>
<td>Konami</td>
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<tr>
<td>Ancient Art of War in the Stars</td>
<td>MicroProse</td>
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### Top Sports Games

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<td>Jack Nicklaus Signature Golf</td>
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<td>Tony LaRussa's Ultimate Baseball II</td>
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<td>NFL Pro League Football</td>
<td>Micro Sports</td>
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<td>Tony LaRussa's Ultimate Baseball</td>
<td>SSI</td>
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Poll is based on reader survey cards in each issue of CGW and published two issues subsequent. Data on more than 100 games is archived and top ten lists may contain games which scored below the Top 100 cutoff.

Games on unnumbered lines have scores equal to the line above. AD=Adventure, RP=Role Playing, SI=Simulation, ST=Strategy, WG=Wargame, AC=Action, SP=Sports

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**The Computer Gaming World Poll**

A monthly survey of the readers of Computer Gaming World Magazine.
What's Hot

PC Research Hits List
of Top-Selling Software

March, 1993

PC Games (MS-DOS)

<table>
<thead>
<tr>
<th>Rank</th>
<th>Title and Source</th>
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<tbody>
<tr>
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<td>X-Wing (LucasArts)</td>
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<td>2</td>
<td>Alone in the Dark (Interplay)</td>
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<tr>
<td>3</td>
<td>Empire Deluxe (Broderbund)</td>
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<tr>
<td>4</td>
<td>Space Quest V (Sierra On-Line)</td>
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<td>5</td>
<td>Ultrobots (Novalogic)</td>
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<td>6</td>
<td>Wolfenstein 3-D/Spear of Destiny (Formgen)</td>
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<td>7</td>
<td>Tony Larussa Baseball II (Strategic Simulations)</td>
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<td>8</td>
<td>Comanche: Maximum Overkill (Novalogic)</td>
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<td>Sim City (Maxis)</td>
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<td>13</td>
<td>Police Quest (Sierra On-Line)</td>
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<td>Links - Manna Koa (Access)</td>
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<td>Microsoft Flight Simulator (Microsoft)</td>
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<td>18</td>
<td>Civilization (MicroProse)</td>
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<td>19</td>
<td>Leisure Suit Larry V (Sierra On-Line)</td>
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<td>20</td>
<td>Ultima Underworld II (Origin)</td>
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Amiga Games

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<td>Operation Combat (Mean Machine)</td>
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<td>AD&amp;D Gateway to Savage Frontier (Strategic Simulations)</td>
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<td>5</td>
<td>Legend of Kyrantha (Virgin)</td>
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Macintosh Games

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<td>Prince of Persia (Broderbund)</td>
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<td>Award Winners: KQV &amp; Red Baron (Sierra On-Line)</td>
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<tr>
<td>3</td>
<td>Civilization (MicroProse)</td>
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CD-ROM Products

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<td>Street Atlas U.S.A. (Delorme)</td>
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<td>Cinemania (Microsoft)</td>
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<td>Battle Chess (Interplay)</td>
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<td>6</td>
<td>Manik (MicroProse)</td>
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<td>7</td>
<td>World View (Aris Entertainment)</td>
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<td>8</td>
<td>Secret Weapons of the Taftwaffe (LucasArts)</td>
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<td>9</td>
<td>Key Chipmumper Pro (SoftKey)</td>
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<tr>
<td>10</td>
<td>Grolier's Illustrated Encyclopedia (Software Toolworks)</td>
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What You've Been Playing Lately

Every month our mailbox bulges with hundreds of Reader Input Cards from our most loyal and outspoken readers. Over the years we've found these cards to be an invaluable source of feedback. Within 10 days of releasing our latest issue we can expect to see cards pouring in with suggestions, encouragements, trades and many good laughs, in addition to the data for our Top 100 poll. Through your efforts, we know exactly where we stand with our readers (you don't mince words), and we are treated to well-articulated opinions on anything and everything related to gaming. This column is a forum for these responses and for the results of our "Playing Lately" query on the Reader Input Card. Thanks for taking the time to fill them out... keep 'em coming!

Playing Lately? Results For CGW #106, May 1993

1. X-Wing (LucasArts)
2. Civilization (MicroProse)
3. Empire Deluxe (New World)
4. Gary Grigsby's Pacific War (SSI)
5. Ultima VII (Origin)
6. Front Page Sports Football (Dynamix)
7. Conquered Kingdoms (QBP)
8. Ultima Underworld II (Origin)
9. World Circuit (MicroProse)
10. Star Control 2 (Accolade)

Just Me and You...and our CPU

In issue 106 the pitting minds at CGW asked you about computer gaming's effect on your relationships with other humans. The overwhelming response indicates there are a lot of neglected Significant Others out there. Where families of gamers were concerned, the classic "Battle for the TV Remote" has been moved to the computer room, where the power struggle continues. On the positive side, many of you have made cyber friendships on networks and have made gaming a part of family Quality Time. Here are some samples:

"On any given evening, there are 4 chairs in front of my computer! One person playing X-wing, one controlling the keyboard (the 'on deck' circle) and two people waiting. Not much progress is made -- either productive or in the game!" - E. Dahl, Northfield, MN

"What other people? Chips n' Bits and UPS love me. Who else do I need?" - M. Akle, Sugar Land, TX

"Since Civilization, my wife no longer argues that our computer is simply a very expensive Nintendo machine. I can't get much computer time anymore -- she became a Civ fan!" - L. Johnson, Baton Rouge, LA

"Makes my eyes red, takes all my money. Keeps me outta bed, ticks off my honey."

"I stay up late too often playing games. It often irritates my wife when I don't come to bed on time. However, our three cats like it, because they get a midnight feeding that they wouldn't ordinarily get."

"That's just you on the bus, but look to your left -- the bleary eyed guy passing on the way to work might be me?"

"My friends all have computers. My wife, however, is considering putting a contract on Sid Meier."

"Careful management of one's time is essential. Negotiate for more gaming time. Change plans. Take out the garbage. Tolerate the relatives!" - M. Rogers, Huber Heights, OH

"Significant Other?....oh yeah, she's the one I see in the reflection of my monitor all the time."

"In our house the only strife caused by gaming is due to us having one computer. My wife and I have to schedule our time on-line to be fair. Also, we found a good housepainter through the Sierra Network. What a surprise that was!"

- K. Miller, Windsor, CT
- E. Reed, Odenton, MD
- R. Miller, New Fairfield, CT

This list is based on data sold by Software Etc., Babbage's, Walden Software and Electronics Boutique. For more information, please contact PC Research at (703) 435-1025.
Computer game programs have grown so massive and the number of possible configurations has become so huge that incompatibilities and glitches seem to be breeding at an exponential rate. Consumers and publishers are both frustrated at the need for adding patches into "buggy" programs, but they seem to be an interim solution that is going to be with the hobby for a while (presumably, until a standard platform configuration is agreed upon). So, until the golden age of standardized platforms and bug-free programs, Computer Gaming World will publish a regular list of the latest updates of which we are aware.

These patches can usually be downloaded from most major networks (e.g., Compuserve or GEnie), but can also be obtained from individual software publisher's own BBSs or direct from the publisher with proof of purchase. We continue to urge publishers to keep us updated on the latest versions/patches to their games.

(*) indicates new files.

**Aces of the Pacific 1946 Add-On Disk Update:** Single Missions will now be saved correctly, and several fixes have been made to Career Pilots, including the elimination of known Shell System Errors. 3/10/93

**Air Bucks Version 1.2:** A major overhaul of the original airline strategy game. 4/17/93

**Ancient Art of War in the Skies Update:** Version 02 of the game. 3/01/93

**Batman Returns Update:** Corrects problems with MS mouse lock-ups and lock-ups on Day 8. 1/24/93

**C文明is with Stack:** Allows players to use Impressions with the Stack's utility. 3/05/93

**Civilization Version 1.0.8 (Macintosh):** Lates and greatest version of the reigning king of strategy. 2/23/93

**Darkwood Version 1.5 Update:** Latest version of CyberDreams' adventure. 1/20/93

**Darklands Version 07 Update:** Latest version of MicroProse's RPG. 3/05/93

**Dune II Patch File:** Fixes problems with the delivery of items from CHOAOM. 4/18/93

**F-15 Strike Eagle Help Info Text:** Text file containing known problems and suggestions for those having problems with the sim. 1/08/93

**F-117A Stealth Fighter V04:** Update to MicroProse's jet simulator. 1/29/93

**Front Page Sports Football:** A new version is available which improves upon the original release in many ways. 2/15/93

**Great Naval Battles/North Atlantic Update:** Updates all GNBNBA files to version 1.2. 2/23/93

**Gunship 2000 Islands and Ice Patch Version .085:** Corrects keyboard lockout problems some games are having. 2/11/93

**Hockey League Simulator 2 Update V1.11:** New version for the IBM. 2/23/93

**IndyJones/Atlantic Mac Patch:** Corrects the "desert balloon" crash bug in the Mac version. 4/15/93

**Island of Dr. Brain Update:** Fixes "Ooops 10" error, music room puzzle, and several other problems. 12/25/92

**Links 386 Pro Update Version 1.09:** Includes new drivers for specific video cards, a new Sound Blaster Pro 16 driver, and fixes the Harbour Town Hole 14 lockup. 3/03/93

**Magic Candle III Version 1.16:** Fixes problems with Sound Blaster support; mirror of honesty/candlewick problems, difficulties with transferred characters from MC2, and other minor glitches. 2/17/93

**Mantis Update (IBM):** Adds new features and improves gameplay. For disk-based version only. 3/01/93

**NFL Pro League Football '92 V1.1:** Contains many upgrades, fixes, and additional schedule. 1/26/93

**Pacific War V1.1 Update:** The "official" SSI update to Gary Grigorry's Pacific War. 4/18/93

**Shadow President Update Version 1.0b:** This version will run in ca. 30k less memory than the previous version. It also includes minor adjustments to the internal processing. 2/12/93

**SimLife Upgrade V2:** Fixes minor problems in Maxis' artificial-life simulator. 2/10/93

**Solitaire's Journey Patch V1.03:** This is a patch for those having prob-

lems with saved Tournament games and those having mouse troubles. 2/12/93

**Space Quest 5 Patch:** Corrects the following: (1) Inability to Restore or Quit after running out of time on WD-40's ship. (2) Inability to skip polishing the Star Con crest in EGA mode. (3) Loss of cursor when Roger steps off the log which spans the river on Kiz Uragubi. 2/26/93

**Star Legions Update:** Fixes some machine-specific lock-ups, problems with phasers firing out of the FOV, changes to mission ratings, fixes to award sequence. 1/15/93

**Sunputer to Appomattox Update:** Fixes the "Build" routine and eliminates the memory error that some gamers were having. 3/13/93

**Task Force 1942 Update:** Corrects the waypoint problem, among others. 2/19/93

**LaRusaa's Ultimate Baseball V1.1:** Upgrades SSI's baseball simulation to the latest version. 1/29/93

**Tom Landry Football V.1.03 Update (IBM & Mac):** Corrects problems with high-speed modem play. 3/06/93

**Twilight 2000 Colonel Upgrade (VGA only):** Adds extra sounds and graphics, and adds a new ending to the game. 2/23/93

**Ultima VII Version 3.4:** Lord British fixes some minor leaks in the roof. East Britannia. Updates from Version 3.0 to 3.4. 2/17/93

**Ultima Underworld I Patch:** Replaces old patch to UW1. 2/25/93

**Ultima Underworld II Patch:** Fixes the "strike" problem, local bus difficulties, and a few others. 2/24/93

**Wilson Pro Staff Golf Update:** Corrects mouse driver problems and errors where incorrect driving clubs were selected for certain ranges. 4/21/93

**World Circuit Modem Update V1.05:** Corrects problems with 2400 baud modems. 4/8/93

**X-wing I/O Soundcard Patch:** Allows I/O port settings of 210-260. 4/15/93

**X-wing Roland Sound Patch:** Fixes crash bugs associated with the Roland soundcard on 486 machines. 4/15/93

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**The PRODIGY Weekly Top Ten**

Computer Gaming World is Prodigy's on-line games expert. Look for us in their Game Center, a forum where users read articles posted on-line by CGW and exchange messages on the bulletin boards (we can be reached there at EXPT "40B"). The Prodigy Game Poll is run by Prodigy based on a list of games provided by CGW and is updated weekly. Note that it is not a cumulative rating over time (like the CGW Top 100 Poll). Instead, the Prodigy Game Poll is a weekly "Snapshot" of game popularity with gamers rating their favorites on a 1-10 scale. The highest total point earners make their Top 10. We provide this data to our readers as another barometer of "what's hot" in computer gaming.

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**GAME POLL**

**TOP TEN RANKED GAMES**

**Week of April 14 to April 22**

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**THE SOFTWARE CONNECTION**

- **Copy, Tool, Help, Exit**

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July 1993
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Entertainment Software Enters The Hollywood Era

Although the full convergence of the entertainment software and motion picture industries may not occur for at least another six to ten years, pre-production work seems to have already begun on the corporate side of the fence. James Cameron, master of special effects for Terminator 2, recently announced the formation of a new company to create a digital studio. The idea is to rely more on computers to handle the special effects burden. This announcement began to generate renewed speculation about building 3-D models of actors and sets for expensive post-production work (cameo shots for sequels where the actor/actress doesn't want to take the time to appear, but might let their image be used at a reduced price). It also initiated discussion about the possibilities of parallel production for computer/video game development, allowing re-use of properties and talent for interactive versions of films.

Cameron's announcement was greeted with such interest in the Hollywood community that it occasioned a rare public appearance by George Lucas, chairman of the parent company for special effects house Industrial Light & Magic, in which he announced a more solid relationship between ILM and Silicon Graphics, Inc. (makers of the Reality Engine®). Such a relationship signified that ILM did not intend to surrender their technological lead in the special effects arena.

At the same time, Tele-Communications, Inc., one of the country's largest cable television providers, announced that they would be constructing a fiber-optic data network to provide entertainment and educational programming, as well as shopping, on demand. The new infrastructure would provide both a significantly wider bandwidth for both downloading and uploading data through the cable television provider. At the time of their national press conference, the company hinted that their new data network would impact gamers, but TCI was unwilling to specify who their partners would be. They only hinted that a 500 channel system would need programming and that game software companies were interested. They even specified that multi-player games would be possible.

The day after the press conference, a leak from Sega's corporate headquarters in Japan indicated that the video game company planned to create a Sega channel which would allow gamers to download Sega games to their cartridge consoles for the price of a specialty cable channel.

Sega of America's Doug Glenn later explained that the company would market a tele-cartridge which would serve as DRAM and would store a program (to be downloaded from the cable in about two minutes) for as long as the console was turned on. Whenever the console was turned off, however, the DRAM would be cleared and the game would have to download that game again or download another.

Almost in response to the Sega leak, Viacom International (one of the largest television syndicators in the country) announced its acquisition of ICOM, and then along with Sony Electronic Publishing (which just took a major stake in Pygmyson), Paramount (which not only has its own electronic games division, as well as working with Spectrum HoloByte and Interplay Productions on Star Trek: The Next Generation and Star Trek properties respectively), Walt Disney Software and LucasArts Games, most studios are starting to take an interest in interactive entertainment.

Though the Hollywood invasion means that interactive entertainment can potentially reach a lot more people and could feasibly turn some entertainment software genres into wealthy individuals, there are some potential downsides for both the dedicated computer gamer and the entertainment software developer. First, Hollywood is a mass market industry. This means that the new blood which will be coming into the entertainment software industry in order to supervise Hollywood's new financial stakes will be some of the players we have seen around Hollywood studios for years. They will be people who do not understand interactive entertainment and will try to reduce game development to the lowest common denominator of the so-called "HighConcept." Developers will have to be careful that their designs do not become a reduc-}

tion ad absurdum (reduction to the absurd) based on demographic surveys and the desire to be all things to all people. We've seen that. It's called television.

Second, there will be a heavy emphasis on pyrotechnics. Just as many movies are made as special effects extravaganzas to draw in the matinee and drive-in crowd (an archaic form of theater which once appealed primarily to teenagers who usually watched only part of the movies), there will be a tendency to develop technologies in search of a game. Naturally, this happens to some extent at the present time, but we can well imagine production review and new product meetings in the future where the principals spout questions like, "What can we do in order to use our new morphing technology?" and "How do we prove we're using more colors in our game than they are in theirs?" Will story become a secondary element? It is all too probable. At least, it is probable in the short run.

Third, we can expect to enter a grand new era of cross-promotion and licensing deals. Hollywood has always known how to exploit properties and cross-collaborate in the most effective manner. Let's just hope that the games are not underfunded when the "new money" of the old Hollywood discovers how small the current entertainment software market really is. As a corollary, don't expect prices to come down, even though the new players are more experienced at spreading the risk.

Fourth, expect it to become harder for small development houses and independent designers to get their products into the distribution system. Why should a Hollywood that used to own its own distribution system (before the government broke them up) hesitate to tie up the software distribution for its new products, especially since they already have such a system in the recording industry? Expect this invasion to slow down electronic distribution of games via cable, except when the studio has a stake in the cable system, whether through ownership or royalty agreement.

Finally, expect the content standards of games to be liberalized considerably. Up until now, there have been relatively few games which have concentrated on mature subject matter. Computer games are still looked upon as being for children and adolescents. Hollywood will attempt to broaden the market and the new money will force the old developers to take more risks in subject matter. Such risks will necessitate a voluntary ratings system. Perhaps, with the motion picture studios participating in the software industry, the MPAA ratings system will be applied to computer games.

In short, Hollywood is bringing new money and potential new distribution to the entertainment software industry. Yet, those who care about the quality of computer games will have to be more vigilant and more dedicated than ever in order to keep computer games from becoming as numbingly uninvolved as that so-called "interactive movie" that has toured the country recently. Narrowcasting is the future, not broadcasting. Those who refuse to learn that lesson may discover that interactivity (i.e. personal choice and control) isn't quite as entertaining as they thought it might be.
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