SOFTWARE ENTERTAINMENT TECHNOLOGY

CINEMATIC GAME DESIGN

ORIGIN has borrowed its structured approach to game design from the film industry. Just like a motion picture, an ORIGIN game goes through three major phases on the road to completion.



As in the motion picture industry, the producer is the top executive on the project development team, with final authority over both business and creative issues. Once the core design team has generated a complete design document, the producer creates a production plan for the project.

He or she tracks expenditures, budgets and resource allocation, to be sure that the project follows the specifications set down in the design document.

The producer also coordinates the packaging and documentation for the product, and works with the marketing department to prepare publicity for the game. By the release date, the producer has orchestrated the efforts of up to 30 people to present the consumer with a complete entertainment software package.



The director provides the guiding vision that shapes a game.

During production, the director is the one person who is aware of all production pieces simultaneously, and is responsible for seeing that the work of everyone on the project remains consistent with the original vision and compatible with the work of the rest of the team

As the release date nears, the director is the link between the Quality Assurance team, who find the bugs, and the project development team, who fix them.

PHASE I Pre-Production

Pre-Production can take from one to three months and begins when a game concept is handed over to a producer and a director for development into a project outline. This outline includes preliminary budget estimates, personnel requirements and projected marketability. Once a project outline is approved, a lead programmer, art director and head writer are assigned.

These five work together for several weeks to prepare a design document. This spells out all aspects of the project, and should anticipate every task necessary to create the game.

From the design document, the producer and director figure a schedule and budget. A typical ORIGIN game schedule, created with project flow-charting software, now covers an entire 8 x 15-foot wall; a typical budget easily totals a half-million dollars or more. Finally, as the last step in the Pre-Production phase, the rest of the development team is assigned, and the project moves into Production.

PHASE II Production

With their respective teams in place, the lead programmer, art director and head writer begin the actual work of creating the game. The director serves as overall supervisor and coordinator, making sure that the vision expressed in the design document is realized, while the producer tracks the schedule and budget.

Programmers typically begin with the "core" code—the actual engine that will drive the game.

Artists begin with the core graphics, followed by special animations and one-shot graphics. In Strike Commander, the first artwork created were the airplanes and terrain pieces, followed by cinematic sequences and

character close-ups. For *Ultima VII*, the artists began with the terrain and animated human figures, then moved on to objects and character portraits.

Writers typically follow the game's plot straight through. Doing so allows them to see the conversations and characters they have created in their proper context, to make sure they both work and 'feel' right.

Audio production for the game follows two tracks—one for music, the other for sound effects. The musical composer usually begins by creating the game's main theme, which will set the tone for the rest of the soundtrack. This is followed by pieces that will play in specific locations or circumstances. The sound effects engineer begins with the sound effects that will be heard most frequently. Meanwhile, if there is to be any digitized speech in the game, actors must be recorded performing their lines.

Once all the code, graphics, text and sound have been prepared, the programmers assemble them into the first prototype of the game. Four to twelve months after Production began, the project moves into Post-Production.



Even though the modern development team includes a wide variety of specialists, programmers remain at the center of the action. They must know what is possible on



Most of us enjoy playing the final, commercially released version of a computer game. The Quality Assurance Technician doesn't have that luxury—be bas to play a game all day, every day for many weeks, before it's in working condition.

If time allows, the QA team is brought in before Post-Production, to give the development team feedback on gameplay, balance, ease-of-interface and overall fun. Even if this is not possible, the QA team's suggestions during Post-Production playlest are usually implemented to improve overall game quality.

PHASE III Post-Production

In Post-Production—which lasts another two or three months—the entire product is brought together. The game enters rigorous playtesting by Quality Assurance, who fine-tune it for play-balance and fun, and track down its bugs. Playtesting is one of the most intense periods in a game's creation,



a computer, and make it bappen in the game. Programmers must remain abreast of all industry developments to be sure their games take fullest advantage of the latest technology.



Composers are responsible for the rich musical scores that set the mood in each ORIGIN game. ORIGIN's action-sensitive soundtrack demands that the game's music be written in small pieces, ranging from a few seconds to a couple of minutes in length. These pieces must link together smoothly, to match the player's decisions, whatever he may decide.

ORIGIN's sound effects engineers have a very different challenge. They must manipulate computer-generated sound waves to duplicate the "real-world" sounds being represented.

requiring close cooperation between the rest of the development team and QA.

When the game is nearly bug-free, it is subjected to a strict sign-off procedure in which the game is played from start to finish on a wide variety of computer configurations. When the game has passed the sign-off procedure without a single bug detected, master disks are sent to the duplicators for mass production.

Concurrent with software Post-Production, the packaging and documentation and other support materials are being prepared. The producer supervises the writing and editing of the manual, reference card and any other documentation or support materials, in conjunction with the marketing department. The documentation is reviewed by QA along with the game, to verify its accuracy and completeness.

Finally, the package is assembled and shipped to retailers for its official debut (and the entire ORIGIN staff celebrates its completion!). After anywhere from eight to eighteen months, the game is finally released to the world, where thousands of long-time ORIGIN fans are eagerly awaiting it.



Artists are called upon to perfort wide variety of tasks, ranging from the down map graphics of an Ultima and 3-D modeling used to create the plans Strike Commander, to the full-screen cacter close-ups and digitized point that distinguish the cinematic seque in all ORIGIN games.



Computer game writers must be than just skilled prose stylists—they adapt to the unique conditions of a tainment software. Most of what they will be interactive conversations, t are very different than the dialogue duced for films or books.



A TDA is the jack-of-all-trades development team, handling tasks ing from research to data implemen

When the core code and graphics and running, the TDA crew beg create the game world, laying out th and placing the terrain and objects graphics and text reach completion import them into the game.

Once the game moves into Post-P tion, TDAs maintain bookkeeping bug-fixing process.



lolo greets you

IMA VII's new interface is buse-driven—you can talk to s without typing a single word. click on a character brings up it and whatever he might have nother click brings up a of key words with which to he character.



do you want to reply?

game remembers what you adds pertinent key words to idees as you acquire them. For a mage might tell you to speak ksmith about iron ore. The ron ore" shows up as a possible with the blacksmith only after ementions it to you.

Ultima III THE BLACK GATE

Taking a bag from the chest

Items contained in chests, bags, and backpacks are conveniently displayed within the larger item. Inventory and status screens are done the same way, showing outlines of the Avatar and party members with appropriate slots for weapons, armor, and clothing. Signs and scrolls are displayed in gumps as well.



At the armorer's

Every character in *ULTIMA VII* has his or her own life and schedule. Most have jobs, will wake up and do their "routine" before going to work. They put in a full day, then go home or to the pub for dinner. At night, they pull back the covers, climb in and go to sleep.



A stroll in the park

ULTIMA VII's new display format gives the player a full-screen view of Britannia. Everything is much larger than before. The three-dimensionality of the world is apparent as the Avatar passes through this grove. He can move in, around and behind the trees with no difficulty.



A fascinated horse

Animals and creatures are more life-like than ever before. They are more realistically proportionately, designed and animated. Not only are there horses, cows, chickens, dogs, cats, mice, birds and foxes, but also snakes, rabbits, bats and sheep. Monsters are plentiful: dragons (including a 3-headed onel), drakes, cyclops, ghosts, gazers, trolls, giant bees, giant spiders, giant centipedes and other, more mysterious creatures.

Producer/Director Richard Garriott

Writers Richard Garriott, Raymond Benson, Andrew Morris, Jack Herman, Beth Miller Software Engineers Tony Bratton, Philip Brogden, Ken Demarest, Mike McShaffry, Paul Meyer, Herman Miller, Zack Simpson, Jeff Wilson, Tony Zurovec Artists Jeff Dee, Bob Cook, Karl Dolgener, Glen Johnson, Denis Loubet, Micael Priest, Gary Washington Technical Design Assistants Bruce Adams, Eric Brown, John Watson Audio Director Martin Galway Composer Dana Glover

Sound Effects Engineers Marc Schaefgen, Nenad Vugtinec "The Guardian" Bill Johnson Quality Assurance Jeff Shelton, Scott Hazle, Ben Potter, Kevin Potter, Scott Shelton, Mark Vittek Development Services Manager Sherry Cain Box Design and Graphics Craig Miller, Cheryl Neeld Associate Producer Alan Gardner Executive Producer Dallas Snell



You, the Avatar, receive a mysterious and taunting message from another dimension. The sender is a malevolent entity whose entire threat to Britannia is unclear. But one thing is certain—this being possesses enormous power and malicious intent.

For the first time, ULTIMA VII The Black Gate combines the familiar and popular sword-and-soreery elements of previous adventures with those of murder mysteries and horror thrillers. In addition to your combat and exploration expertise, you will need to master the arts of investigation and detection—or you will never uncover the secret of ... The Black Gate!

SCENES

An Interview with Lord British

Q: How does Ultima VII differ technologically from its predecessors?

A: Ultima VII takes several leaps forward. Keep in mind that our Ultima VI development team had approximately ten times the computational power at our disposal than for previous Ultima projects, since it was developed for the MS-DOS platform from the start. We learned a lot from that experience, so in Ultima VII we get to really strut our stuff, so to speak. Among the new features is a world that is no longer built in small (what we called) tiles. Now it is constructed with a new technology that allows more realistic and close-in views of the landscape of your environment. This, combined with a full screen viewport into Britannia, puts you right there like never before. The interface of Ultima VII is also improved over VI. There is no longer any need for twostroke commands. The new structure is an intuitive, mouse-controlled, immediate input system. It is far easier to use than ever before. ORIGIN's new sound technologies, part of the ORIGIN FX package, will further draw the player into the world of Britannia.



Q: ULTIMA VII The Black Gate is the first ORIGIN product to be labeled "MP-13, for Mature Players." What is behind the decision to take this direction, and what in the game qualifies it to be labeled as such?

A: Generating emotional reactions, in any story, is always desirable. Though the *ULTIMA* series will still continue story lines that are socially responsible and have a high ethical quality, we are giving the *Ultima VII* plot a little more bite. Toward this end, story developments that disparage things dear to the player generate strong emotional reactions. In this particular game, we felt responsible to voluntarily rate it MP-13 because of imagery associated with the evil perpetrations of The Guardian's followers. Graphically represented pain and death will help the player to empanate the strong manufacture of the strong manufactur

thize with the victims' plight. It is neve desirable to include gratuitous violence in any story, but the scariest foes are those whose evil is most thoroughly perceived.

Q: What has happened with the "You can star in Ultima VII" promotion that was advertised in Ultima VI?

A: Well, we have been completely overwhelmed by the response we hav received. Entries have poured in from the far corners of the world. Over the summer, we selected the thirteen luck winners of the contest and wrote their characters into the game. The winners will actually be able to see and talk witheir alter egos. As far as I know, this the first time that any company in the software entertainment industry has actually solicited character ideas from its fans!

OFTWARE ENTERTAINMENT TECHNOLOGY R

rakhri fighters harry you and than as you complete your an against a Ralatha capital the new phase-shield technly ship-killer torpedoes can capital ship, and only if you wrough the deadly gauntlet of and enemy fighters to lock do on target. Wing Combads even more pilots to the wingmen who accompany you



words destroy a Kilrathi capital ship



adsword turret gunner

Prince Thrakhath has swom to destroy you and the Terran Confederation. If you can survive against the finest of the enemy pilots, you'll face the heir to Kilrah in single combat. Are you up to the challenge?

You can bear his threats and those of his Kilrathi warriors if you have a Sound Blaster speech board and add the optional Speech Accessory Pack. The SAP replaces the on-screen text of your wingmen's responses and your enemies' taunts with digitized speech. It also digitizes a few key midgame sequences, bringing the Wing Commander experience even more fully to life.



A Broadsword gunner holds off a wing of enemy ships while his pilotmaneuvers for a torpedo run. The Broadsword has three turrets, one to each side and one to the rear, all equipped with cannons and tractor beams. The Broadsword gunner will use his turret's tractor beam later in this mission to retrieve a courier's ejected data capsule. In addition to torpedoes, turrets and tractor beams, Wing Commander II expands your possibilities with tailgunners, ECM, chaff and flight recordings that allow you to replay your mission from any camera angle, reviewing your own tactics and those of your Kilrathi opponents.



Prince Thrakhath



Sabre fighter in close combat with Jalkehi

The Sabre is the best of the Concordia's fighters, armed with a deadly combination of guns and missiles. But is that good enough when you're flying against three Jalkebi heavy fighters? Rookie pilots and experienced space jockeys will find their skills matched by the Kilrathi opponents' Dynamic Intelligence, a revolutionary system that automatically adjusts to the combat situation and each player's skill.

Director Stephen Beeman Assistant Director Ellen Guon re Engineers Bill Baldwin, Stephen Beeman, Charles Cafrelli, Reinaldo Castro, Richard Haley, Steve Muchow, Brent A. Thale Story Stephen Beeman, Ellen Guon Script G.P. Austin, Jeff George, Ellen Guon, Paul Arden Lidberg, Brian Martin

Art Jeff Dee, Daniel Bourbonnais, Larry Dixon, Chris Douglas, Glen Johnson, Bruce Lemons,

Denis Loubet, Jake Rodgers, Gary Washington, John Watson

Technical Design Assistant Brian Martin Sound Editor Martin Galway Sound Effects Engineer Marc Schaefgen
Music Dana Glover, "The Fat Man" (George Alistair Sanger), Dave Govett, Martin Galway, Nenad Vugrinec
Quality Assurance Leaders Jeff Shelton, Kirk Winterrowd Quality Assurance Scott Shelton, Kevin Potter,

Scott Hazle, Mark Vittek, Joel Manners, Ben Manners, Ben Potter

Development Services Manager Sherry Cain Documentation Paul Arden Lidberg, Warren Spector

mentation Design and Graphics David Ladyman, Craig Miller, Deborah A. Nettingham, Warren Spector, Gary Washington

Box Design and Graphics Craig Miller, Cheryl Neeld

Production Manager Virgil Buell Executive Producer Dallas Snell Producer Chris Roberts

TAKING COMMAND

excerpt from
Wing Commander I and II:
The Ultimate Strategy Manual, by
Mike Harrison

"We worked hard on this game in the hope that it would be a fantastic hit."

Recently I spoke to Chris Roberts and posed the question, "When did you realize Wing Commander was a hit game?" His reply:

"The first indication was at the Consumer Electronic Show in Chicago, 1990. We set up a large screen monitor with stereo speakers and had the game running on a 386 computer. After the first day, I saw that people in the industry were being blown away. Developers and designers from other companies were bringing people over to see the demo. The booth was mobbed all day long. Our sales staff and marketing people were all grins. What made the furor even greater was that no one really expected it from ORIGIN. We weren't known for simulations. I wasn't known for simulations.

"The next point was when we went to playtest. When people who play games all the time stop and say, "Wow!" you know you've hit the mark. People around the office, even people working on other projects, were playing the game in their spare time. That added to our confidence in the game.

"Once the game was released, we kept checking the game forums on the commercial, online bulletin boards. When we saw the reaction, I felt it was a bona fide hit. From that point on, it was just a matter of when the honeymoon would stop. It hasn't yet."

WING COMMANDER

The startighter pilots of the TCS
Tiger's Claw fight against overwhelming
odds, leading the Confederation forces to
victory in the Vega Sector campaign. But
one successful campaign isn't the end of

the war, as any veteran starfighter pilot well knows full well...

The Secret Missions 1 & 2

After the Confederation victory in the Vega Sector, the *Tiger's Claw* is ordered to report immediately to Deneb where the Goddard Colony is under attack by Kilrathi forces. But before the *Tiger's Claw* can enter the fray, the enemy uses a devastating secret weapon to destroy the colony.

Soon after, the Kilrathi declare a holy war. A huge Kilrathi fleet maneuvers toward an isolated star system and a planet of peaceful, primitive natives. After a Kilrathi renegade defects, you fly a Kilrathi ship in a series of "undercover" missions. You must discover the secret reason for the holy war and save the Firekkan race before the enemy destroys you and the *Tiger's Claw...*

WING COMMANDER

Throughout the Terran-Kilrathi war, are constantly improving their v fare technology and techniques. The new features include tailgunners, flig recorders, tractor beams, chaff pods, ECM, torpedoes, new wingmen, digitized speech and backgrounds, dyna intelligence that automatically adjust the combat situation and your skill, possibly even Kirathi stealth technology.

But even more deadly than you Kilrathi opponents, the Confederati fleet has been infiltrated by human tors dedicated to the defeat of the defeation forces. Now, in addition flying dangerous missions against human pirates and the Kilrathi, you muncover the traitor who threatens to destroy you and the Confederation in Wing Commander II.



MARTIAN DREAMS



ers attack your barge



dly leviathan in the Dreamworld



Buffalo Bill

You feel as though you've been transported through time to the Victorian era. The world of Mars is recreated as the Victorians imagined it. This is a world of bizarre and often dangerous "plantimals," of creatures living in beautiful crystal palaces, of gargantuan machines of steel and steam. It is a world of Victorian grace and gentility as well as timeless danger and excitement.

But your greatest challenge awaits you in the Dreamworld. In that bizarre world, you'll face your darkest fears and creatures from your own imagination, as strange twists of reality await you at every turn! You'll wander through Mars' past, discovering what you can do to resolve the problems facing Martians and humans, past and present.

Martian Dreams isn't just a game—it's "edutainment," a combination of entertainment and education. During your travels, you'll meet fascinating, unusual and sometimes dangerous historical characters from the turn of the century, including Lenin, Buffalo Bill Cody, Samuel Clemens (Mark Twain) and many others. Each of these historical characters will either help or hinder you in your quest to solve the mysteries of Mars.





Dream Machine

Stunning 256 color VGA/EGA graphics provide the breathtaking visual experience that is the hallmark of the Ultima Worklds of Adventise series. The geography of Mars is portrayed in a surprisingly realistic manner.



Relics of the past

The Book of the orb, a faded map and a hundred-year-old photograph of yourself...these are the clues that lure you into a dangerous adventure back into time and through the void of space to the Red Planet!

Director Jeff George **Creative Director** Richard Garriott **Programming** Mike McShaffry, Paul Meyer, Bob Quinlan

tima Game System Cheryl Chen, John Miles, Herman Miller, Gary Scott Smith World Building Philip Brogden

Dialogue Beth Miller, Raymond Benson, Steve Cantrell, 'Manda Dee, Paul Meyer Computer Art Jeff Dee, Keith Berdak, Daniel Bourbonnais, 'Manda Dee, Karl Dolgener

Musical Score "The Fat Man" (George Alistair Sanger), Dana Glover, Tom Hollingshead

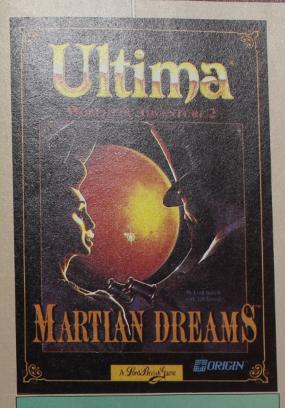
ad Effects Marc Schaefgen Quality Assurance Scott Shelton, Scott Hazle, Lyle Mackey, Ben Potter, Kevin Potter, Bob Shelton, Jeff Shelton, Mark Vittek

Cover Painting Denis Loubet Manuals Warren Spector Manual Art Jeff Dee, Karl Dolgener, 'Manda Dee

Reference Card and Install Guide Andrew Morris Map Art Jeff Dee, Keith Berdak

Package and Manual Design Cheryl Neeld, Craig Miller

Executive Producer Dallas Snell Producer Warren Spector



A BULLET WITH YOUR NAME ON IT

Martian Dreams takes you, the Avatar, on a thrilling journey inspired by the works of Jules Verne, H. G. Wells, and other futurists of the late 19th century. Hurtled back to the 1890s, to the era of steam power and gaslight, you voyage to Mars in a space bullet fired by a colossal cannon.

Upon arrival, you learn that the Martian canals really do exist, and that the plains of Mars are dotted with towns and villages of stone and glass. But the plant-like Martians who built these crystal palaces appear to have been dead for centuries. Mars is a harsh, cold planet barely capable of supporting human life.

During your adventures on Mars, you learn that the Martians, trapped in a world of dreams, possessed human hosts in order to escape their imprisonment. While seeking a way to free the possessed humans, you will face challenging puzzles, meet colorful characters and unravel dark secrets of the evil Rasputin and his Martian allies.

Do you dare enter the bizarre
Dreamworld, where reality and fantasy
intermingle? Can you find and rescue
the historical characters who have been
trapped on Mars? Martian Dreams engages you in an epic journey through
time and space, offering the very finest
in roleplaying entertainment.

WHERE FANTASY AND REALITY UNIT

EPATERIAINMENT TECHNICIOGY REPORT

Players interact with many of the era's most fascinating and influential people. These real-life people have been researched and brought to the computer screen in a manner that preserves their historical accuracy as mu as possible:

- Sarah Bernhardt, the most renowned actress of her day.
- Nellie Bly, investigative reporter vibeat the "record" set in Jules Verne's novel, Around the World in Eighty L.
- Andrew Carnegie, railroad tycoo steel magnate and philanthropist.
- George Washington Carver, renowned botanist and chemist.
- Buffalo Bill Cody, Western folk and organizer of a series of phenon enally successful Wild West shows.
- Marie Curie, physicist who disco ered radium and polonium.
- Wyatt Earp, frontier lawman bes known for his participation in the g fight at the OK Corral.
- Thomas Edison, prolific inventorists great entrepreneurial scientist.
- Sigmund Freud, the father of mern psychoanalysis.
- Vladimir Ilych Lenin, revolution and founder of the Bolshevik part
- Percival Lowell, astronomer when the orized that the Martian canals we clear evidence of intelligent life.
- Admiral Robert Peary, explore known for his trek to the North I
- Rasputin, Russia's wandering I man and mystic renowned for his cal powers of persuasion, particu over Alexandra, wife of Tsar Nich
- Theodore Roosevelt, America hero and president.
- Nikola Tesla, unsung genius a eccentric, whose greatest achieve was the AC induction motor.
- H. G. Wells, renowned British whose work included *The Time* chine and The War of the World



Your F16 cockpit

As in real life, you must look down to dall of your instruments. Most flight ulators jam the entire instrument nel onto the screen, limiting your side view, which typically consist of green plains, pyramids and cubes. In the Commander, light ripples across realistically shaded hills as you pass, gesting a physical reality unlike anyges een on a PC before.



The view outside your jet

ou can cut outside the cockpit, ning your jet fly by snow-capped ntains that recede into the mist. **Commander** uses fractal generaosimulate the chaos of natural utions, producing uneven coastgreenbelts and irregular strips of peeking through blankets of snow, d of rigid and artificial geometric



Two MiGs in full pursuit

For the first time ever, you are truly inside the cockpit. When you scan the skies for enemies, the cockpit moves around you in 3-D. Meanwhile, waves roll beneath you, and the land hazes out in the distance. Virtual Reality, watch out!



A MiG 29 suffers a fatal strike

In addition to realistic gameplay, Strike Commander also offers fully animated cinematic sequences to heighten the drama of the story line. These sequences occur at key moments in play, dramatizing crucial developments and transforming Strike Commander from a simple game into an interactive movie.





Carson, your character

The artistic team on Strike Commander is striving for an overall feel of photorealism. Character faces are carpable of subtle expression, their features more smoothly shaded than ever before. Backgrounds, even when not fractally-generated or gouraud-shaded, are carefully painted to suggest more natural surroundings.



Selim's, the mercenary hotspot Standing in front of Selim's is Jean-

Standing in front of Selim's is Jean-Paul Prideaux, leader of the Jackals, deadly competitors in a cut-throat world. Selim's Bar, like most of the buildings in the game, is a 3-D modeled set, a virtual construct that can be used exactly like any set on a Hollywood soundstage. Shots can be taken from any angle around 3-D buildings, lit in any conceivable manner.

Producer/Director Chris Roberts

Software Engineers Bill Baldwin, Thomas Blom, Rey Castro, Todd Hartmann, Paul Isaac, Frank Savage, John Taylor, Jason Templeman Screenplay G. P. Austin

Artists Chris Douglas, Danny Garrett, Craig Halverson, Bruce Lemons, Denis Loubet, Jake Rodgers Technical Design Assistants Joel Manners, Erin Roberts, Kirk Winterrowd Audio Director Martin Galway Composers Dana Glover, Nenad Vugrinec Sound Effects Engineer Nenad Vugrinec Audio Editing Marc Schaefgen Quality Assurance Jeff Shelton, Scott Hazle, Ben Potter, Kevin Potter, Scott Shelton, Mark Vittek Development Services Manager Sherry Cain Box Design and Graphics Craig Miller, Cheryl Neeld Associate Producer Alan Gardner Executive Producer Dallas Snell

TOMORROW'S TECHNOLOGY, TODAY

Most of today's flight simulators render simplistic geometric representations of terrain and man-made landmarks. This results in low-quality graphics because any screen object must bevery simple. Since the computer is rendering the object in real time, it can't be processed quickly enough to realize any degree of detail. Aircraft in such programs are usually flat-shaded and look like flying triangles, and the terrain resembles a patchwork quilt of blandly colored cloth triangles.

Textures

Chris Roberts made this method obsolete with the release of the Wing Commander series, providing gamers with unparalleled detail. Graphics are bit-mapped as 3-D objects, and then the computer essentially shoots pictures around them from every angle. During play, the appropriate images are called up, based on the player's ever-changing perspective. The advantage of this process is that detail can be incredibly rich. Fully texture-mapped ships with 90,000 polygons are possible, making them look more like studio-built special effect models than computer graphics.

Fractal Tessellations

To generate terrain, *Strike Com-mander* resorts to the polygonal approach of traditional flight simulators. Its difference lies in the refinement of the polygonal system itself.

The terrain in Strike Commander is tessellated and fractally generated. The fractals, reproducing the chaos inherent in natural formations, make the terrain look exceptionally realistic, while each vertex of the triangles forming the tessellated terrain has its own shade level. The end result of this innovative process is that, while flying over the rolling hillside, the player can't see any triangles! Amazing detail is possible in the RealSpace system, but what completes the illusion of an alternate reality is the addition of texture-mapped terrain details, such as jagged coastlines, snow peaks and ocean waves, atmospheric hazing to complete the effect.

Bit-Maps

Strike Commander uses bit-mapping to generate realistic objects. Objects such as panelling, fighter planes and burnmarks are all executed with texture-mapping.

The results are polygonal objects as rich and detailed as hand-drawn images.

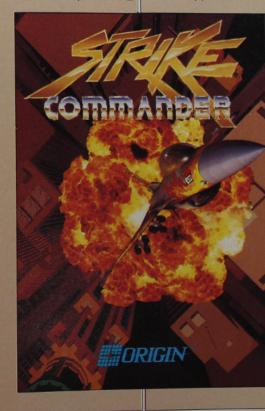
Their Integration

Roberts sums up the process enthusiastically: "Using a combination of 3-D bit-mapping, texture-mapped gouraud terrain and polygonal objects, we create a three dimensional world that is far more realistic than anything ever seen on a PC before! When you're flying in 3-D, you feel like you're there."

WILDCAT

Your role in *Strike Comma* that of a crack mercenary pilot i Wildcats. You must rely on your and guts and on the skills of yo Wildcats to survive in a merciles

The Wildcats fly a fine line tween right and wrong, profit at You must determine the viabilit missions from a logistical and n standpoint. Other characters in game will advise you, but ultim fate of the Wildcats is in your h The outcome of the scenario w determined not only by your sk battle, but by your wisdom as a standard manner.





A Fireball Strikes

The Stygian Abyss sports a fully tured magic system with over forty tills at your disposal. Compose spells m your stash of rune stones, played at the right side of this screen. instance, combining the Portotion") and Flam ("fire") runes here resulted in the death of one more creature.



Character Generation

elect your character's background n eight *Ultima* professions; pick Is like swordsmanship, appraisal magic power; then choose the trait that most suits your image of r new self.





Ghost and Mist

Translucent creatures and mist make an appearance in *The Stygian Abyss*. There is nothing so disquieting as seeing through a ghost...





A Bridge Too Far

The Stygian Abyss is a rich underworld environment, replete with plunging chasms, subterranean rivers and lava pools. You can even dive into the water here and swim to the far shore, if a deep lurker doesn't pull you under first... (Note the character panel, with all of your vital statistics.)



The Stygian Abyss removes the chore of mapping, by constantly updating where you have explored. You can write notes directly on the parchment map with your quill.

Designer and Director Paul Neurath

Programming Jonathan Arnold, Doug Church, Jon Maiara, Dan Schmidt, Carlos Smith

World Building Doug Church, Paul Neurath

Writing Brad Freeman Computer Art Carol Angell, Doug Wike

Musical Score "The Fat Man" (George Alistair Sanger), Dan Schmidt Sound Effects Dan Schmidt

Quality Assurance Scott Hazle, Ben Potter, Kevin Potter, Jeff Shelton, Scott Shelton, Mark Vittek

Package and Manual Design Craig Miller, Cheryl Neeld

Technical Consulting Chris Green, John Miles, Ed Nelson, Matt Toschlog

Creative Consultant Richard Garriott

Executive Producer Dallas Snell Producer Warren Spector

SOFTWARE ENTERTAINMENT TECHNOLOGY REPOR

Into the Abyss

As in times past, you are called to the land of Britannia by great need. Stepping through a moon gate, you arrive to witness the abduction of the baron's young daughter from her bed-chamber. Before you can intercede, the abductor and daughter vanish. Finding you alone in the chamber, the baron's guards assume that you took part in the evil deed. Judgment is passed. You are to be thrown into the Stygian Abyss, the most dread dungeon in all of Britannia.

Locked into a world of darkness, you must find a way to survive. With luck and courage you will learn to thrive. But this is just the beginning of your journey, for in the labyrinthine pits below a hidden destiny awaits you.

CILTIMA UNDERWORD: The Stygian Abyss marks a new vision for the classic Ultima series. Now you can view the world from a 3-D, first person perspective, up close and personal. Using cutting edge VR technology, you can walk and turn smoothly, leap across a chasm, dive into a subterranean pool and swim across, trade axe blows with a troll—all in fluid 3-D perspective. It's an intense experience that brings the fantastic world of Ultima to life.

Behind the Scenes

(We tracked down Paul Neurath, founder of Blue Sky Productions, to ask him about the project.)

Q: Why use 3-D dungeons for an Ultima?

A: Actually, the first five *Ultimas* all featured simple 3-D dungeons. With *Ultima VI*, Richard [Garriott] decided to show dungeons with an overhead view, to match its above-ground scenes. This was done to keep the game visually consistent and because, at the time, 3-D technology on PCs was too primitive to adequately depict the richness of an



Underworld Creatures

The Stygian Abyss is inhabited by an assortment of monsters: acid slugs, gazers and many others. Some, like goblins, are fiendishly clever, stalking you, unlocking doors and even setting traps. Others might talk to you, possibly shedding light on the mysteries of the abyss.



Death of a Lizardman

Pick an attack—chop, swing or thrust—and watch the sword in your hand strike out at your opponent. During combat, your attack type, weapon, skill, opponent's skill, force and speed of blow and luck all help determine the result of each strike.

Ultima world. Nevertheless, since the release of Ultima VI Richard has missed 3-D dungeons. That's where we came in.

O: What is the Blue Sky connection?

A: Two years ago we wrote Space Rogue for ORIGIN. In the process we became familiar with the Ultima design crew, and they with our 3-D technologies. Richard saw at once the possibility of doing a "3-D Ultima," and that's how the project got started.

Q: How similar is The Stygian Abyss to the classic Ultima series?

A: Ultima fans should feel right at home. The Stygian Abyss takes place in a dungeon made infamous in earlier Ultimas. You'll fight Ultima creatures, cast Ultima spells and talk with the descendents of characters from Ultima VI. You'll also follow a serpentine plot rich in the tradition of past Ultimas. The Stygian Abyss is faster paced than a traditional Ultima, with real time sword dueling, leaps across chasms and other heroic deeds. The scale of the game is tighter, too. You won't be traversing continents in The Stygian Abyss, but with over 24 miles of corridors and rooms to explore, there's still a lot to see.

Virtual Reality a Fantasy Wo

The Stygian Abyss achieves its compelling look and feel through Reality (VR) modeling of a fantas dungeon. A key technology is the texture mapped, light shaded surthat allow us to project bitmappe artwork into three space. Gorgeo hand drawn images of chiseled a blocks, peeling stucco or any of surface can be pasted onto dung walls and floors. The player can walk smoothly around the 3-D o viewing it from any perspective.

The creatures that inhabit *The Abyss* are built from 3-D animat models on a CAD system. Artist add fine details. For some creat over 70 animation frames show running, jumping, swinging an performing other actions in three

The game's VR modeling rur than its visuals. When you rour ner, your traction and weight simine how tightly you turn. Arreflight. Oil flasks smash against and burst into flame. Even the your hand cuts and thrusts in 3 This is as real as fantasy games



Customer Service to the Rescue! CALLS FROM BEYOND



ORIGIN Customer Service is ready willing to answer all questions and tems, eight hours a day, five days a ... Most are of the normal "How do to this?" or "Where do I get that?" cy, but a few rise above the daily the of problem solving. For instance:

e woman wrote to describe an unbenefit of our games. Concerned her daughter's persistent lying and ng, she consulted a psychiatrist. He ribed the *Ultima* Avatar series for rl! The mother was pleased with erapeutic results and her daughter enjoyed the games.

GIN games have more than their of disabled players. These players ten for hints and to say that these significantly help them with their and coordination skills. One egic noted that he loved *Wing*

A Series

IMA Trilogy

wage Empire

artian Dreams

IMA UNDERWORLD:

ne Stygian Abyss *

MANDER Series

G COMMANDER

G COMMANDER

E SECRET MISSIONS

G COMMANDER

G COMMANDER II

EECH ACCESSORY PACK

KE COMMANDER *

E SECRET MISSIONS 2: Crusade

IMA IV Quest of the Avatar

IMA V Warriors of Destiny

IMA VI The False Prophet

IMA VII The Black Gate *

IMA WORLDS OF ADVENTURE:

IMA WORLDS OF ADVENTURE:

Commander because of the mouse interface. Wing Commander is one of the few flight simulators that support play with a mouse. News of this sort reinforces ORIGIN's commitment to helping the disabled whenever possible.

- Telephone operators occasionally act as confused intermediaries between players and Customer Service. One hesitantly asked, "Do you create worlds?"
 We told her we did, but through entertainment software. It turns out that an angry mother had called her to find out what exactly ORIGIN was and why her young son had run up the phone bill in calling it so often.
- Another operator, relaying a teletyped conversation to a Customer Service rep, grew more and more bewildered as she transferred questions and replies about dungeons, gargoyles and hidden trea-

sure. Unable to restrain her curiosity any longer, she finally blurted out in the middle of a reply, "What is this dungeons and deamons stuff?" Her confusion turned to amazement when ORIGIN's games were described.

· Like most entertainments, ORIGIN's games can be either a help or a hindrance to family life, depending on how they are used. One man finished Ultima V, but his wife left him because he spent too much time playing the game. Another was late to his own wedding because he was playing Wing Commander. There is no repeatable comment on record from his prospective wife. On the other hand, another couple spent their honeymoon playing Wing Commander and both enjoyed every minute of it! Here's hoping they plan an extended vacation together with Wing Commander II.

ORIGIN PRODUCTS

Other Computer Games

Knights of Legend Omega Space Rogue Windwalker

Nintendo Games

Ultima: Exodus (NES)
Ultima: Quest of the Avatar (NES)
Ultima: Warriors of Destiny (NES)
Ultima: Runes of Virtue (Game Boy)
(All published by FCI)

BOOKS

Ultima III Clue Book: Secrets of Sosaria
Ultima IV Clue Book: The Way of the Avatar
Ultima V Clue Book: Paths of Destiny
Ultima VI Clue Book: The Book of Prophecy
Ultima VII Clue Book: Key to the Black Gate *
Savage Empire Clue Book:

Malone's Guide to the Valley of Eodon

BOOKS CONT'D

Martian Dreams Clue Book: The Lost Notebooks of Nellie Bly Ultima: Exodus Nintendo Clue Book (FCI) Ultima: The Avatar Adventures

(ORIGIN / Prima)

The Official Book of Ultima (Compute Books)

Wing Commander I & II: The Ultimate Strategy Manual (ORIGIN/Prima)

Quest for Clues II Quest for Clues III Quest for Clues IV

* Available late 1991

DRIGIN" eate worlds:

777 507 10010 17, 1117 57 10

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- Bane of the Cosmic Forge
- · Eye of the Beholder
- King's Quest V
- The Secret of Monkey Island and many more!

THE OFFICIAL BOOK OF ULTIMA (COMPUTE BOOKS)

244 pages filled with *ULTIMA* trivia! "A Decade in the Dungeons" reviews the first 10 years of the *ULTIMA* series, including an insider slook into



the life of Richard Garriott, a.k.a. Lord British. "Backstage At The Castle" goes behind the scenes for a look at the design and development of the *ULTIMA* games. Meet those involved and learn how it's done.

WING COMMANDER I & II THE ULTIMATE STRATEGY MANUAL (ORIGIN/PRIMA)

- WING - COMMANDER

Meet Chris Roberts and the Wing Commander design team. Find out all the hints, tips and maps to ace fighter flying through both games and The Secret Missions.

ULTIMA - THE AVATAR ADVENTURES (ORIGIN/PRIMA)



An exciting narrative bookthat "walks through" the complete Avatar trilogy, It's adetailed guide to *Ultima IV-VI*, with a bonus section on *Ultima VII*.

COMPREHENSIVE ULTIMA CLUE BOOKS



SECRETS OF SOSARIA (ULTIMA III)

> THE WAY OF THE AVATAR (ULTIMA IV)



PATHS OF DESTINY (ULTIMA V)



THE BOOK OF





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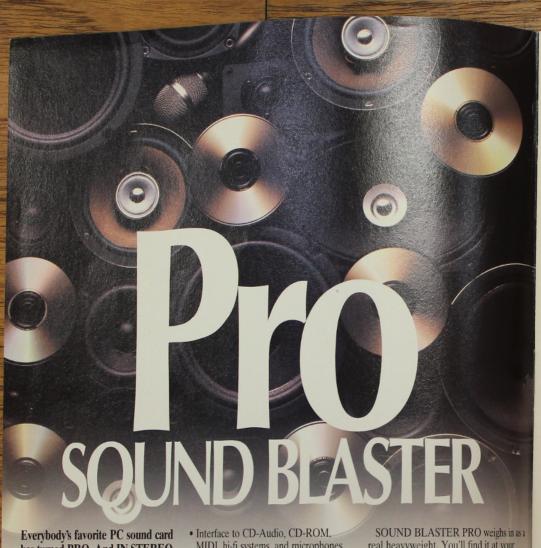
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OFTWARE ENTERTAINMEN ECHNOLOGY REPORT



LIFE IN THE FAST LANE A Brief History of ORIGIN

It is impressive to consider what ORIGIN has accomplished in just nine years. The whole software industry has taken note of this company's meteoric rise, particularly over the past two years. Soft-letter 100, a leading software industry publication, ranked ORIGIN the 55th largest U.S. software publisher for 1990, rising from the 75th spot in 1989. The tenth fastest growing independent U.S.based software company, ORIGIN is rising even higher this year.

Beginnings

From 1983 until two years ago, ORIGIN games were primarily generated by freelancers and for initial release on the Apple II. The largest games during these seven years took just over a mega-

In 1990, ORIGIN completed its first major MS-DOS product, Ultima VI. It shipped on seven low density disks and occupied four megabytes on a hard drive. Three other games followed in the same year, including Wing Commander, which set new industry standards for action/combat simulators.

Now, late in 1991

The ORIGIN team has once more doubled in size over the last twelve months. It has added an audio department that is incorporating sound, music and speech into all products in a new and dynamic manner, unparalleled in this industry.

> This year, ORIGIN is producing Continued on page 2

ULTIMA Worlds of Challe

When Richard Garriott en a new Ultima, his primary goal design a game, or even to tell is to create an entire world for ers to explore.

... a philosophy l upon the ideals of Love and Coura

That world is the mediev of Britannia, filled with hundre unique characters, creatures ar As players move through this they are constantly challenged situations and items, each requ perimentation and ingenuity. But Garriott challenges h

Continued

COMMANI

When Chris Roberts firs Wing Commander, he envision most engaging flight simulate planned to use the novel app bit-mapped graphics to enhadetail. But just as important a he wanted Wing Commande fun-easy to learn and exciti

To bring the story to life told it in computer gaming's ematic presentation. He delil patterned the flow of the gar motion pictures. The hero of appears in scenes that advan receiving his orders and chat his fellow pilots, while the p back to enjoy the flow of the

The Commander series plete characters, clearly depi-

Continued

SOFTWARE ENTERTAINMENT TECHNOLOGY REPORT

THE ELECTRONIC GAMES REVOLUTION A Glance at the Past and a Glimpse of the Future

The Past

In the beginning, there was *Pong*. Each player controlled a paddle on a TV-like screen, moving it up and down the screen in order to hit the small image of a ball moving toward them.

Soon thereafter came video games. An electronic device connected to your home TV and, like magic, there was Pong, and other similar games, ready to be played anytime you desired.

Then, from the dark recesses of hacker garages, came home computers. And the first things to become widely available for these new machines were computer games.

The Present

Gone are the days when a single programmer can sit in his room and create all of the design, code, artwork, sound and testing required to complete a product. Today's typical state-of-the-art product requires a team of 15 to 25 specialists working for 12 to 18 months.

Each year designers grow increasingly excited about the new technological tools that are becoming available. Within this next year we could see CD technology improve to the point where original CD-based games are available and replacing the multitude of high density floppy disks required today. CDs will allow the creation of products that are 650 megabytes, or more, in size. It will be easy to fill all this space. Digitized video, speech, sound and music require tremendous amounts of memory.

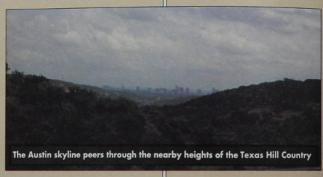
The Future

As computer speed continues to rise, as computer memory continues to grow, and as consumer tastes continue to mature, interactive entertainment will require the efforts of even more specialists with highly technical studios, operating on budgets that meet or exceed the budgets of today's top box-office movies. These products will have the same visual and audio quality of today's movies. The big difference is that they will also be interactive—you determine the sequence of events.

What of the more distant future? What about virtual reality and sense-surround technology? One day the tools will be at hand to create a complete perceptual experience. We're not there yet. But game developers wouldn't be the kind of innovative and creative people they are if they didn't take a few moments, now and then, to daydream...about what they could do if they just had a faster machine, or virtual memory, or direct perceptual feedback, or

Wing Commander (cont. from pg. 1) appearance and personality. Players care deeply about their gaming alter-egos, and the other fighter pilots come to life just as vividly through the conversations and missions they share with the hero. In fact, soon after Wing Commander's release, fans began swapping war stories on the national computer networks.

The combination of flight simulator—with its fast action, ease of use and unprecedented graphic detail—and cinematic storytelling was more powerful than even Roberts himself had imagined.



Life in the Fast Lane (continued from page 1)

another five major MS-DOS products-ULTIMA: Martian Dreams, Wing Commander II, Ultima VII, Strike Commander and ULTIMA Underworld: The Stygian Abyss. You can find more information on these products elsewhere in this report. Each fully occupies the energies of twenty dedicated designers, programmers, writers, artists, musicians and playtesters. None will take longer than 10 months to create, yet ORIGIN's investment in each is over 20 man-years. All this is planned, while simultaneously developing both the English and Japanese versions of Ultima Warriors of Destiny for NES and Ultima Runes of Virtue for Game Boy.

Meanwhile, ORIGIN is also gearing up for more Japanese. French and German translations, as well as Super Nintendo and Sega Genesis conversions and its first game for the FMTowns CD computer, complete with digitized speech.

Ultima (continued from page 1)

with the exploration of more than just the physical world—they are presented with the opportunity to investigate morality, ethics and philosophy as well. Each game in the first trilogy of the Avatar's adventures— *Ultimas IV, V* and *VI*—focuses on the Way of the Avatar, a philosophy based upon the ideals of Truth, Love and Courage.

Worlds of Discovery

Of course, every *Ultima* is an exciting, challenging game, and every one tells an intriguing, engrossing story. But to Garriott, the story an *Ultima* tells is most importantly the road map he gives his players to guide their adventure of inward and outward discovery in evernew, imaginative worlds.

Ultima VII will present the Avatar with yet another ethical dilemma, allowing players a new opportunity to explore the inner man as well as the outer world.

ORIGIN'S TWO TOP VISIONARIES: A Study in Contrast

Richard Garnott and Chris Roberts. Born in the other's homeland. Each maintaining very different lifestyles. Having contrary and passionate views on just about everything. Their common bond: a life-long commitment to creating the best possible games that computer technology will allow. Approaching game design from opposite perspectives, they listen to, learn from and influence each other continuously. The result is a steady stream of top quality ORIGIN games, certain to deliver the best that these two powerhouse talents have to offer.

RICHARD GARRIOTT

Cambridge (U.K.)-born and Houston-raised, *Ultima* creator Richard Garriott began designing and programming computer games in his early teens, working on the mainframe terminal in his high school math department. He developed dozens of fantasy roleplaying games on the mainframe before starting

"A great game should have a profound storyline and be richly detailed."

Richard Garriott

work on his first Apple II home computer. Not long thereafter, he completed Akalabeth, precursor to the Ultima series. Its disks were duplicated one at a time and packaged in zip-lock baggies with a photocopied cover-and-instruc-

tions shee

Today in *Ultima* development-team meetings, Garriott sounds more like a football coach giving a half-time talk than a programmer discussing code. Though the coordination of such a large team places a heavy demand on his time, he works directly with each member of his team to ensure that every *Ultima* game remains true to his personal vision.

Outside the office, Garriott is an avid amateur astronomer and collector of antique scientific equipment. On weekends, he can often be found participating in one of his favorite action sports, which include sky-diving, ditt-biking, spelunking and paint-gun wargames. He's recently begun lessons as a glider-plane pilot. And to break up the long hours that come at the end of every software project, Garriott often leads his team through the halls of ORI-GIN in a rousing game of laser tag!



Richard Garriott, creator of U

CHRIS ROBERTS



Although Chris Roberts was born in California, he grew up in Manchester, England. He began working on the BBC Microcomputer, a British-made machine, at the age of thirteen, and was soon hooked. Within a year, he had sold his first computer game, programmed in BASIC, to the British magazine, Micro User. In 1983, Roberts switched to As-

sembly language, and wrote three games, each of which were released separately. Of these, both Wizador and Stryker's Run reached number one on the British charts.

"A great game should be an interactive audiovisual feast that draws you into another world."

Chris Poherts

Roberts debuted for ORIGIN and the American market with the medieval fantasy *Times of Lore*, in 1988, and *Bad Blood*, a post-holocaust roleplaying game, in 1990. Roberts' next project, *Wing Commander*, skyrocketed to the top of the charts in late 1990, and has

stayed there for a full year. Wing mander, Secret Missions and Secr sions 2: Crusade continue to hold places in Software Publishers
Association's "Top 25 MS-DOS Galist. With Wing Commander II rereleased and Strike Commander this winter, we can look forward erts' continued domination of the simulator field.

Often, Chris and his team we the early hours of the morning, home for a quick shower and a fhours' sleep, then come straight I work. When the time comes for I and his team to blow off some stathey can often be found at the laiping up the water on jet skis, or in line for the latest blockbuster in picture. Roberts derives much of spiration from movies, and pays attention to film industry trends to his own work.