



# Chapter 1

## Understanding Machinima

The first question you might have after picking up this book is, What is Machinima? This is a question I get asked a lot these days. Machinima is tricky to grasp at first, but in simple terms it is defined as *animated filmmaking within a real-time virtual 3D environment*. Much thought was put into this definition because our upstart Machinima organization (Academy of Machinima Arts and Sciences) wanted to make it clear from the start what the term “Machinima” really meant. We also wanted to readily explain why Machinima is different from its creative lineage—filmmaking, animation, and 3D game development.

Believe it or not, the name Machinima was actually more accident than design. The original term was “Machinema,” which represented the merging of machine and cinema. When an early email appeared on this new technology and movement in 1998, the name was misspelled and the new name stuck. Who said nothing good ever happens by accident?

Now that you know what Machinima is, you’re probably wondering where it comes from? Read on, because I’ll be presenting the story behind Machinima in this chapter. Once you understand what Machinima is all about, we’ll start using important tools like Machinimation in Chapter 2 to create animated Machinima productions. You’ll be surprised at how much you can do with a little knowledge and the right tools. We have a lot of ground to cover in this chapter, so let’s get started.

### Machinima: A Marriage of Mediums

“Animated filmmaking within a real-time virtual 3D environment” sounds great to repeat at that social mixer you’re attending this Friday, but what does this definition really mean? Machinima is a mixture of several creative platforms—filmmaking, animation, and 3D game technology. Each one is defined by a set of features and has its own advantages (and weaknesses, in some cases). Let’s look at these initial mediums to better understand how they fit in the Machinima definition.

## Filmmaking

With filmmaking, a camera records actions, events, and performances as they occur. Multiple recordings (known as “takes” in filmmaking) are made until a director is satisfied with the results. This process is repeated until all of a film’s scenes are recorded. The director selects the best takes from all of the film’s scenes and they are edited together for the final film. Although this process is extremely flexible in the recording and filming stages, it’s a real pain to work with once you’ve wrapped the shoot. Imagine having to call in your cast and crew again if you found a shot was flubbed or missed—*yeesh!*

## Animation

Animation is a creative process an artist uses to breathe life into their artistic work. This is usually accomplished by creating multiple hand-drawn frames (commonly referred to as *cel animation*) or by using animation software to generate frames (computer animation). The frames are then displayed in rapid succession, simulating the illusion of life. The advantage to animation is that this work is limited only by the artist’s imagination. However, the disadvantage is that animation is an extremely time-consuming process. This makes it inefficient if you want to revise the characters, animation, or camerawork. Once you’ve created your animated characters and backgrounds, revisions can bring you back to the beginning of the creation process—*not something to consider lightly*. Imagine Pixar needing to re-render a scene from *Monsters Inc.* because a director discovered that something was wrong with that particular shot. That’s definitely a problem if the scene took more than 30 hours to render in the first place!

## 3D Game Development Technology

3D game technology provides the interactive space (environment and platform) in which events and performances can happen. It also provides the ability to control the various elements within the space. 3D games such as *Unreal Tournament 2004*, *Half-Life 2*, and *Halo 2* create spaces within which a player interacts. Users are given the freedom to do and go where they want. In addition, this environment allows for the developers to control various elements in the virtual space. Also, game engine physics provide an environment so that every element doesn’t need to be animated. Instead, properties are assigned to objects, which makes the objects react in an appropriate fashion. Here’s an example to consider: A metal container can be pushed off a ledge and it will land with the same force as a real-world metal container would land. The metal container doesn’t need to be animated by the animator or filmmaker, nor does a sound effect need to be added to the soundtrack. (The game engine provides triggered sounds as well.) This allows the Machinima filmmaker to focus more on the filmmaking process. Again, this is more like a live-action shoot—the filmmaker just knows that the metal container will fall and shoots their film accordingly.

## Putting It All Together (Filmmaking + Animation + Game Tech = Machinima)

Now that I've defined the three Machinima components, let's put them back together again.

With Machinima, visual narratives are created by recording events and performances (filmmaking) with artistically created characters moved over time (animation) within an adjustable virtual environment (3D game technology platform or engine). I know this sounds like a mouthful, but it works! This unique combination of creative flexibilities along with tried-and-true artistic techniques makes Machinima a medium to revolutionize visual-based storytelling as we know it (not to mention making you sound intelligent to your glazed-over mixer date).

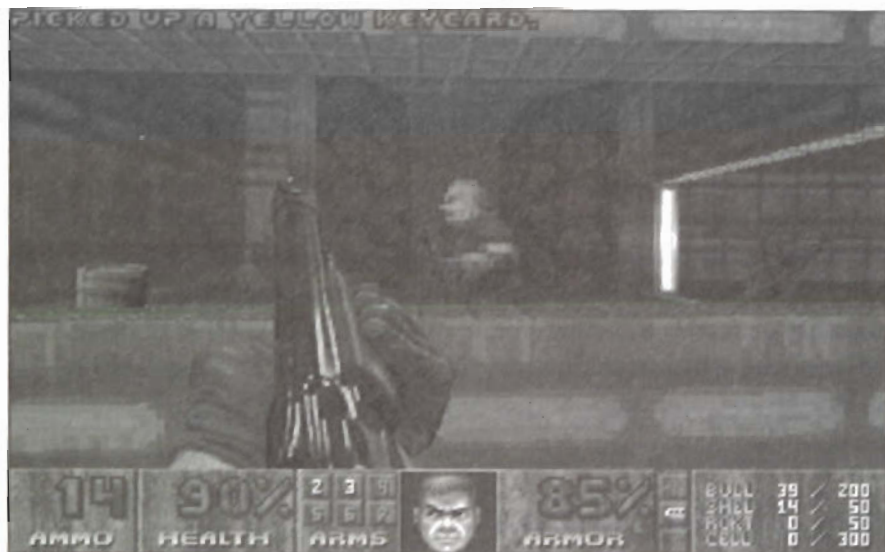
## The History of Machinima

When the gaming community first discovered that their favorite pastime was becoming a vehicle for creative filmmaking, a rush of gamers (including your favorite author here) became budding filmmakers. Thanks to companies like id Software and individuals like John Carmack, who developed 3D game platforms that could be readily extended, the seeds for Machinima were planted. Game enthusiasts soon learned that games not only provided great interactive entertainment, but the underlying technology could be used to create passive entertainment.

### Recording the Game

When DOOM was released by id Software in 1994 (see Figure 1.1), it included a revolutionary feature known as demo recording. Contrary to the "demos" of the Amiga heyday (see the sidebar on the Demoscene), this feature allowed a gamer to record the action of the game as it occurred. A user could set the game to record and then all of the events in the game (all of the player's actions and other events in the game world) would be recorded. This resulted in a demo that could be played back in real-time through the game engine. This not only was an extremely cool feature, it was also incredibly efficient because it captured only the positions, orientations, and movements of the game elements instead of full frames of information.

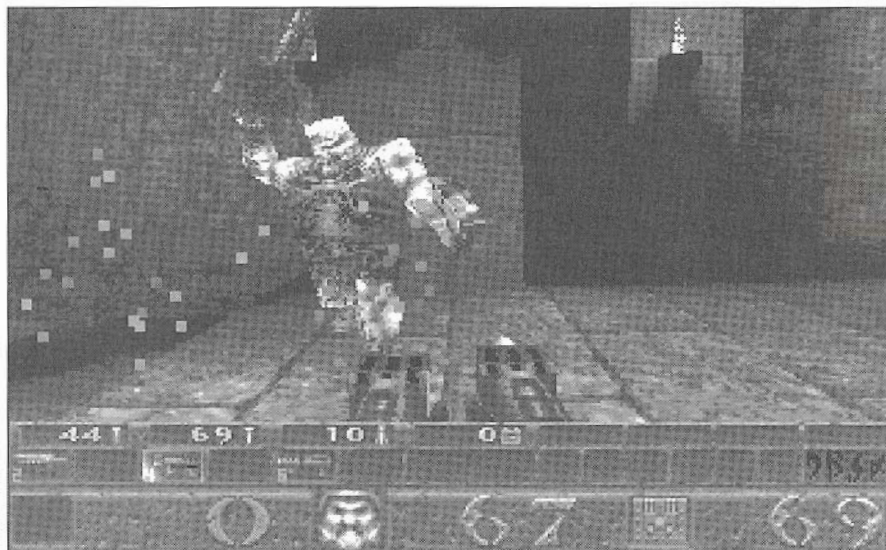
Players could record demos to show off their feats or matches against other opponents. And with the demo's small file size, players could send them to friends who also owned the game. This allowed other gamers to watch the demo on their own computers. The demos also served an educational purpose because they helped players study scenarios and improve their skills.



**Figure 1.1**  
id Software's groundbreaking game, DOOM.

In 1996, id Software released Quake (see Figure 1.2), which was the company's first true 3D game. (The earlier DOOM simulated a 3D environment commonly referred to as a 2.5D game). DOOM didn't allow the player the freedom to see underneath or above objects in the game world. With the full 3D environment of Quake, the player could essentially go anywhere. id Software also chose to keep in the extremely popular demo recording feature. Players began to record multiplayer deathmatches with a more cinematic flare. And at this point a critical shift occurred—*the viewpoint of the player became the viewpoint of a director*. This new technology really started to pave the way for the birth of Machinima.

Players took to recording demos like never before, using the recording feature to document high-profile matches between star players as well as teams of Quake players (known as *Clans*). The demos became feature reels, providing in-game replay of exciting battles within Quake's virtual walls. Websites started hosting the demo files so that anyone owning Quake could download the demo of a popular deathmatch and replay it in full 3D as it was recorded. While this became a popular portion of the ever-growing Quake community, it was more interesting that this game—an interactive platform—had also become a playback device. The demos had become more than the digital recordings of the game events—they became entertainment for a new audience.



**Figure 1.2**  
id Software's first entirely 3D game, Quake.

## The Evolution of the Dynamic Demoscene

Back in the '80s, software hackers would often use their programming talents to create introductory sequences, or *intros*, for software they had recently cracked. These intros were attached to the hacked software as a way of "tagging" them, letting the world know which team had cracked a particular software's security code.

As personal computers became more powerful, so did the intros that were developed. With the powerful Commodore 64 yielding its crown to the more powerful Amiga (a personal computer that was designed from the ground up as a multimedia workhorse), the intros became increasingly complex and much more visually compelling.

Soon, the hacker teams began to push the limits of what was possible, each team trying to best one another. As competition became increasingly more fierce, the teams began to focus solely on the intros rather than on cracking the software itself. These intros, now separated from the hacked software, became known as demos—a demonstration of the team's programming, visual, and musical prowess. This new interest in demos spawned a community, ultimately known as the *Demoscene*, as hundreds of people became involved in creating demos.

With more robust computers to work with, demos started incorporating 3D, looking similar to the sales reels of computer animation studios. As 3D acceleration became more prevalent, the demo teams began using this technology to expand their demos. Some teams began developing narratives using the strengths of their team's programming and visual talents. These early forms of Machinima were created using a team's internal efforts—without the use of an established game engine or the

tools by which to develop the assets. The demos started becoming more like music videos. Competitions were developed, giving demo teams technical challenges that encouraged them to push the limits. The demo scene became more popular as teams like Future Crew, Gods, Pulse, and Haujobb gained fans.

## Clan Reels and Quake Cinema

As the audience grew for demo files, some clans began to put “signature” movies together. These demos allowed the clans to show off. They incorporated various shots of the team players in the game, displaying the player’s talents, such as rocket-jumping or circle-strafting. Some of these demos were entertaining, but most were self-serving and only appealed to the team itself or their hardcore fans.

One well-known clan, the Rangers, took an important step by creating a demo that included a narrative. Its film, *Diary of a Camper*, was a one-shot film that centered around a lone player challenging the Rangers (see Figure 1.3). (The term *camper* is a gamers’ term for a player that stands next to, or “camps out,” at a strategic location in the multiplayer game where weapons or ammunition replenish themselves, allowing the player to have a never-ending supply.) Although the film had a simple story, its production was noteworthy. The Rangers choreographed the players as actors, hitting their marks while another player acted as the camera, recording the actors as the scene progressed. The actor players also typed in dialogue that appeared in the recording. (This is also a feature of the multiplayer game—the ability to send text messages to other players that appear on screen.) Once completed, the demo served as the very first Machinima film—a narrative story told within the game space. (Note that this approach fits right within our Machinima definition—filmmaking within a real-time virtual 3D environment.)

Naturally, *Diary of a Camper* became extremely popular within the Quake community as word spread that the Rangers (already a popular clan) had created the first Machinima film—or *Quake movie*, as they were known. Others immediately followed. Obviously, the idea of playing director appealed to quite a few Quake players.

## Quake Movie Momentum

While we were all giddy making our Quake movies, one person who really identified with DOOM, Quake, and the emerging demo recording capabilities was Uwe Girlich, a Ph.D. in Germany. Beginning with DOOM in 1994, Uwe became interested in how the game recorded demo files. He took on the considerable task of cataloging the specifications for the demo format. After completing the specs of DOOM, he then continued with other games based on the DOOM engine (DOOM II, Hexen, Strife, and so on). In 1998, Uwe



**Figure 1.3**  
*Diary of a Camper, the Rangers, 1996.*

focused on cataloging the demo format for the newly released *Quake*. This time, Uwe not only cataloged the demo format, he developed a new program that converted the demo file into a text file. The text file contained all of the demo file information—the recorded information associated with the game entities and events. This program, LMPC (Little Movie Processing Center), paved the way for more *Quake* movies (and eventually, Machinima) as additional programs were developed by enthusiasts that incorporated LMPC and its conversion features.

The most popular movie editing tool developed was Keygrip. David “crt” Wright created the program as a nonlinear editing program. Keygrip became known as the Adobe Premiere for *Quake* demo files. This tool was quickly embraced by the *Quake* movie community, and with it more *Quake* movies were created. Other moviemaking programs surfaced, such as *Film At Eleven* and *DEMENTed*, but neither of them took root as Keygrip did.

*Quake* movie sites such as The Cineplex, Psyk’s Popcorn Jungle, and the *Quake* Movie Library surfaced as more people created and watched *Quake* movies. These sites provided *Quake* movie fans with a place to go to get the latest films and reviews. Classic *Quake* movies continued to be released, such as Clan Phantasm’s *Devil’s Covenant* (the first feature-length *Quake* Movie), Avatar and Wendigo’s *Blabhalicious*, and Clan Undead’s *Operation Bayshield* (see Figure 1.4).



**Figure 1.4**  
Frames from *Devil's Covenant*, *Blahbalicious*, and *Operation Bayshield*.

## Next Up: Quake II

id Software released the next installment of its Quake franchise, Quake II, in December of 1997. Quake II found an immediate audience of players because of its polished networking features and state-of-the-moment graphics. The community of Quake filmmakers embraced Quake II also because they were particularly excited about the enhanced level of visuals that came with the new game.

Although Quake II was the new kid on the block, narrative films weren't immediately made with it (though deathmatch films were). The programs that made the Quake movie community flourish hadn't been updated yet. And while id Software included demo recording features with its newest game, movie development with Quake II didn't surface until the community was able to upgrade its own tools. The Quake movie community, therefore, continued to release Quake I movies—new classics such as the ILL Clan's, *Apartment Huntin'* and QdQ's *Scourge Done Slick* (see Figure 1.5). Before the year was out, however, Uwe Girlich started upgrading his LMPC to support the new Quake II DM2 demo movie format. Soon to follow was DEMented2 and the highly anticipated Keygrip 2. The Quake Movie community was finally able to create films using id's newest 3D engine.

The Quake movie community became invigorated with Quake II's graphics engine and the new demo making tools. Keygrip 2, in particular, included the innovative demo server feature, which allowed for recamming. *Recamming* was a function of the demo server that allowed the person using Keygrip 2 to adjust the camera once the action had already been recorded. This feature alone was a defining moment for Machinima because recamming provided a powerful and flexible feature that did not exist in 3D animation or live-action filmmaking. A new crop of Quake II movies became available, and users were filming matches and applying new camera work by changing camera positions and angles on matches after they were filmed.

With Quake II's new graphics and support for user-created models (PPMs, or Plug-in Player Models), the quality of Quake II productions quickly usurped those of Classic Quake. Strange Company, one of the first teams to focus solely on Quake movies, created





Figure 1.5

QdQ's *Scourge Done Slick* and The ILL Clan's *Apartment Huntin'* (both released in 1998).

the first Quake II film to use entirely new assets. Based on the works of H.P. Lovecraft, Strange Company released its Quake II film *Eschaton: Nightfall* in February of 1999 (see Figure 1.6). Around the same time, Zarathrustra Studios released the first Quake II-based comedy, *Father Frags Best* (see Figure 1.7). An immediate hit within the Quake community, *Father Frags Best* parodied the sitcoms of yesteryear, making light of family situations although updated with jokes suited for the Quake audience. Later, in August of 1999, The ILL Clan's seminal piece *Apartment Huntin'* (directed by Matt "ILL Clinton" Dominianni) achieved a large win, becoming the first Machinima film to be featured on Wired's Animation Express.

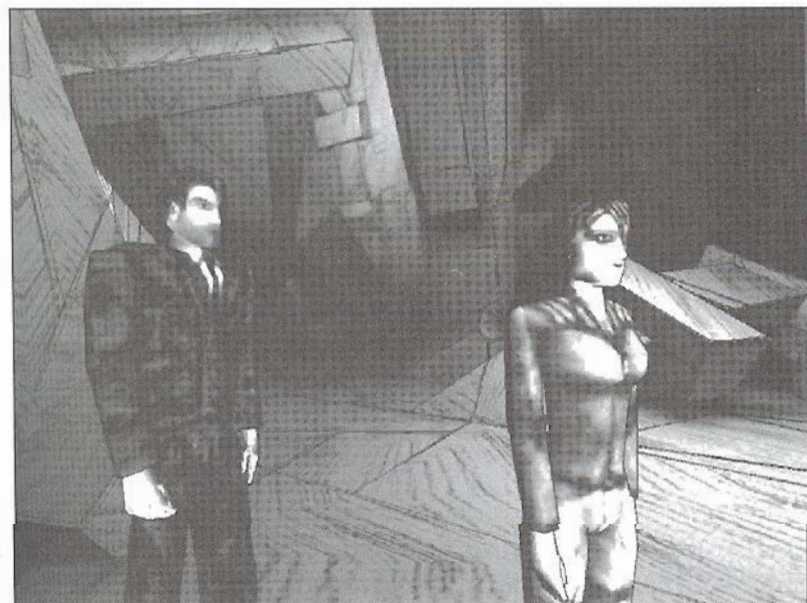
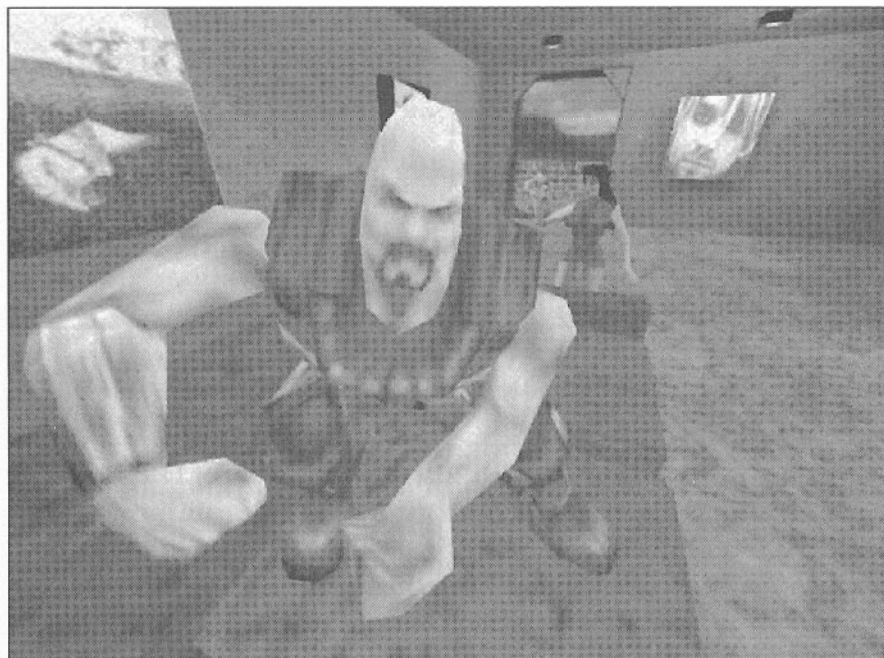


Figure 1.6

Strange Company's *Eschaton: Nightfall* (1999).



**Figure 1.7**  
Zarathustra Studio's *Father Frags Best* (1999).

## Quake III Takes the Stage

As the *Quake* movie community continued on its path of creating both *Quake* and *Quake II* movies, game developers continued to leapfrog one another by creating more powerful game engines. Not to be outdone, id Software began work on its next game, *Quake III*. Once again, the movie community looked forward to the features the new id engine would deliver.

id Software delivered *Quake III Arena*, its most advanced game to date, in December 1999. Focused solely on deathmatches, the game was a fast-paced FPS (first-person shooter) that not only delivered one of the fastest 3D action titles to date, but also delivered on the expectation that it would raise the bar in terms of 3D game visuals.

When the *Quake* movie community first heard of *Quake III*, the initial reaction was similar to the reaction to *Quake II*. However, the community soon learned that the tools it relied upon for *Quake II* movies would not be upgraded for *Quake III Arena*. This occurred because id Software wanted to protect the networking code that the game was based on. This wasn't an easy decision for id, but the company needed to protect its latest game from being compromised by online cheats. The game's demo format included the

information to this network code, and id Software, wanting to keep the integrity of its trademark multiplayer game intact, warned the Quake community that exposing this code would be grounds for legal action. While some steadfast filmmakers still chose to use Quake III Arena for their movies, they had to do it without the support of the utilities of LMPC and Keygrip.

This started a turning point for the movie community. The newness of imbuing fantastical environments with mundane situations and commentary seemed to wear off. Simply said, the joke was getting old. This coincided with id's decision to protect Quake III Arena's network code, and hence the amount of productions slowed to a crawl. The community was forced into survival mode—either reinvent itself or succumb to the harsh realities that the allure of Quake movie production would slowly fade away.

Fortunately, the community chose the former and was given something else to look forward to.

### **Viewpoint: Hollywood + Moore's Law = Machinima**

Machinima can be considered Hollywood meets Moore's Law. Movie audiences' appetites for them are seemingly insatiable as more and more animated films are created every year. Just review the latest summer and holiday movie releases to see that these films have become a driving force in Hollywood. One sticking point, however, is that these films take a considerable amount of effort and time to create.

*Finding Nemo* required a 30-man team at Pixar working nonstop for four years at a budget of \$94 million. Thus, Hollywood is consistently striving to reign in both budgets and production times for their animated films.

Animation studios are always looking for ways to step up the production process. Fortunately, computing power is constantly increasing (Moore's Law), which reduces the time for 3D rendering. With current production techniques, animation frames can take from seconds to minutes to hours to produce. Multiply that number by X amount of frames and you can start to see why films such as *Shrek* take years to complete. The ultimate goal of 3D animation is, of course, real-time animation—animation that is created as you watch it, with no waiting for animation frames to complete. Once this threshold of real-time animation is reached, animation becomes more akin to filmmaking as scenes are recorded as opposed to rendered. This, in turn, changes the creative language by which animation is made. Virtual environments become more akin to film sets, and characters become more like actors (their actions can be "puppeteered," scripted, or driven by programming). All the while, the camera records the action as it takes place.

## Lo and Behold: Machinima

In January 2000, Machinima.com was launched for an unsuspecting Quake movie community. Led by Hugh Hancock of Strange Company, the website was created as a one-stop location for anyone creating Quake movies and the like. What surprised the community of filmmakers was the name of the site. The term Machinima was created by Hugh and Anthony Bailey (of the Quake Done Quick movies) to identify films that were created using the same production process regardless of the game engine technology used. Machinima, a coffee-press contraction of “machine” and “cinema,” was coined by Anthony when he realized that the means by which these films were being produced were similar but not necessarily using the same game engine. Thus, the term “Quake movies” became a bit misleading, and the new name was created. Later, in an email between Anthony and Hugh, Hugh misspelled the new word, and replaced the last “e” with an “i.” They liked the typo (plus it gave a nod to the Japanese animated artform, anime) and the new name was quickly adopted.

Armed with several tutorials, interviews, and articles, Hugh was determined to create a destination for the full community of filmmakers. To accomplish this, he invited the teams behind the Quake movies (and other game engine movies) to make Machinima.com their home on the Web.

With the launch of Machinima.com, Hugh also landed a few exclusive releases on the new site. The first was not only an exclusive on Machinima.com, but also the first Quake III film ever released. Originally created for a Quake III Arena logo contest, *Quad God* by Tritin Films was created entirely in the Quake III Arena engine, recorded to video, and then captured back into the computer for editing (see Figure 1.8). Although this method didn't provide the flexibility that the previous Machinima films had, it was efficient and worked extremely well. *Quad God* became extremely popular and helped to make Machinima.com's debut a strong one.

In January 2000, several new Machinima teams and productions also emerged. The most notable was Fountainhead Entertainment led by Katherine Anna Kang, id Software's former director of business development. She announced the production of Fountainhead's Machinima series, *The Sidrial*, using its own internal Machinima tools. Fountainhead had negotiated with id Software to use the Quake III Arena engine for its Machinima work.

As the year 2000 progressed, Machinima.com grew. With the site embracing Machinima works of all kinds, new works and programs surfaced, such as RealTime Movie Studio and Unreal Movie Studio. These Machinima utilities were designed for the newly released Unreal Tournament game engine (Quake III Arena competitor). Additional works



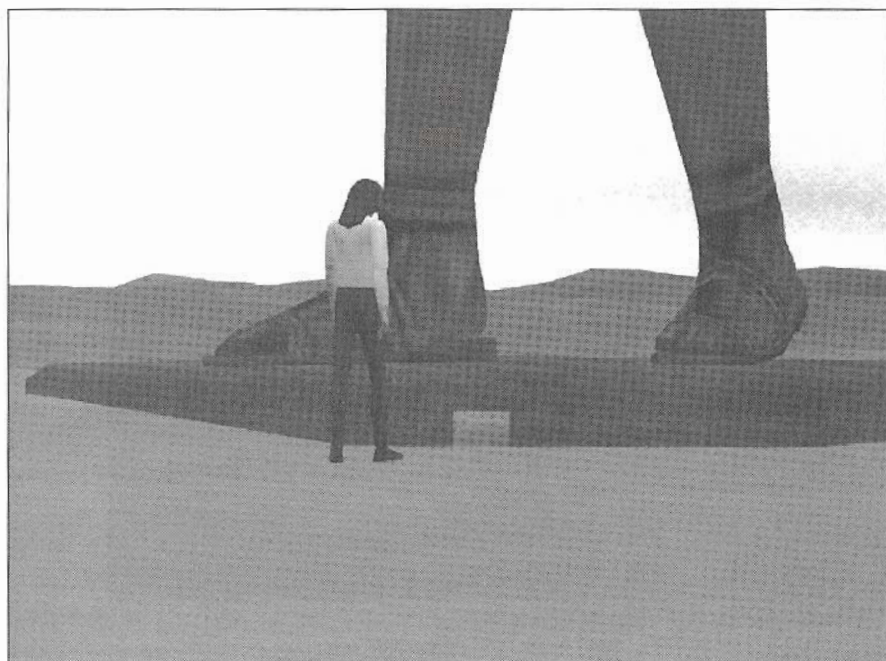
**Figure 1.8**  
Tritin Films's *Quad God* (2000).

using *Half-Life* and the game *Rune* also appeared, to further indicate that films were being produced across all kinds of game platforms.

## Machinima Breaks Through

As Machinima.com became popular, others became aware of Machinima. The first sign of this popularity came when the renowned film critic Roger Ebert wrote a column for Yahoo! Internet Life ("Ghost in the Machinima," June 2000) that presented Machinima as a new art form. Strange Company's latest film, *Ozymandias* (see Figure 1.9), which was based on the Percy Bysshe Shelley poem of the same name and developed with a prototype of Strange Company's proprietary Machinima tool, Lithtech Film Producer, received a nod from Ebert in his column. He called Machinima "extraordinary." This was the first indication that Machinima was beginning to expand outside of its game community roots.

Later in the year, the ILL Clan (myself included) released its most ambitious effort to date, the *Quake II*-based *Hardly Workin'*, a follow-up to our Classic *Quake*-based *Apartment Huntin'*. Using entirely new assets, we had determined that any serious Machinima production would need to include its own characters and environments. This was necessary so that any production using the games' internal assets could be considered for commercial use and would require the approval of the game development studio. We then created our film using all new assets, relying upon my background in broadcast



**Figure 1.9**  
Strange Company's Lithtech-based *Ozymandias* (2000).

design and animation to guide us through the production process. While the production took much more time than any of us had anticipated, we surfaced with a *Quake II* Machinima film unlike any other to date (see Figure 1.10).

## Growing Pains

Machinima really started to take off in 2001. Early in the year, Fountainhead Entertainment released the trailer for *The Sidrial*, the *Quake III* Arena-based Machinima series (see Figure 1.11). Machinima films also won some awards in traditional festivals. For example, the ILL Clan claimed both Best Experimental and Best of SHO awards at the Showtime Networks's Alternative Media Festival with its *Hardly Workin'* Machinima film.

Even more important was the good press that Machinima was receiving. Articles began to appear, with captions such as "Films Made with Games." Magazines such as *Time Out NY*, *Entertainment Weekly*, and *Film and Video Magazine* ran articles about Machinima. The *Film and Video Magazine* article was of particular interest because it broke the story that Steven Spielberg used Machinima (with the game *Unreal Tournament*) to pre-visualize camera paths for his special effects shots for his film *A.I.* Machinima had made its way not only into Hollywood, but also into the hands of one of the most prolific film directors of our time.

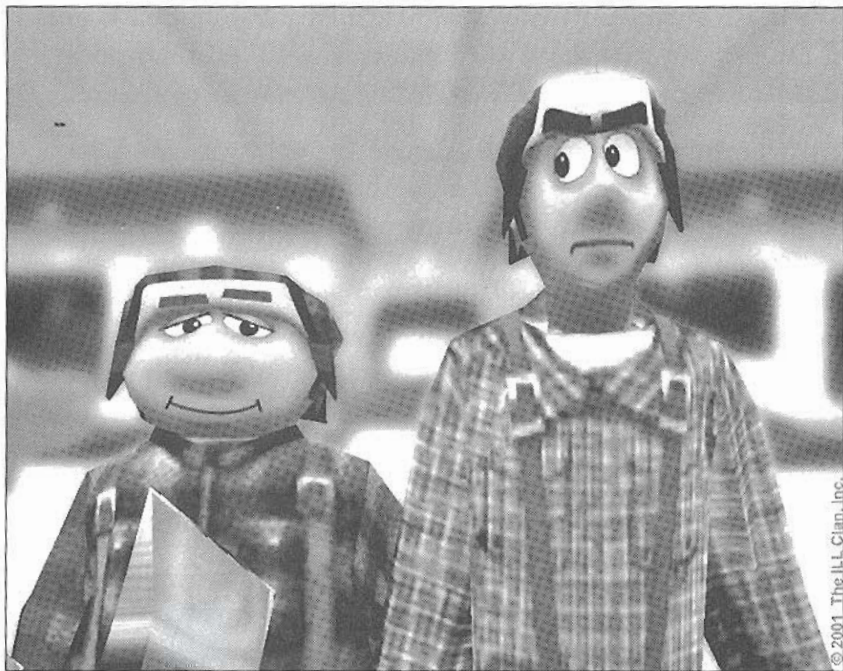


Figure 1.10  
The ILL Clan's Quake II-based *Hardly Workin'* (2000).

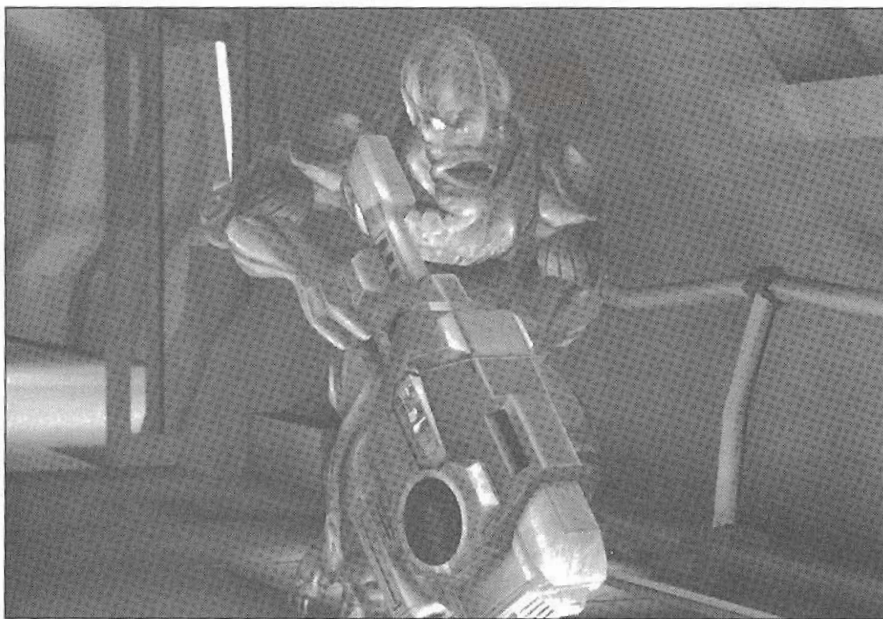


Figure 1.11  
Fountainhead Entertainment's *The Sidrial* (2000).

Game developers also began to take more interest in Machinima. In July, Epic Games (Unreal and Unreal Tournament) announced that its next game, Unreal Tournament 2003, would include Matinee, a tool specifically created for Machinima production.

As with most things that mature, Machinima also experienced growing pains. The community started to see fewer films released. Many of the filmmaking teams, such as Fountainhead, Strange Company, and the ILL Clan, started to shift their attention to making higher-quality films, which of course take longer to make. The frequency of Machinima film releases also diminished because the novelty of creating films within the games themselves was wearing thin. Films having only game characters running around to rant about the game play were losing their appeal. Machinima teams started putting more effort into their productions, usually by creating all new custom maps and models. Although this took more time, the quality of films started to improve. Machinima teams started to approach their work as a professional endeavor instead of just a hobby. And with Epic Games and Steven Spielberg getting involved, the bar was significantly raised.

### ***Real-Time 3D: What Happened to VRML and What's Up with Web3D?***

While Machinima is part of the natural evolution of real-time 3D technology and human creativity, it certainly isn't the first attempt by developers to try to fuse the two together. Old 3D veterans will remember the VRML movement back in the mid-90s. VRML (Virtual Reality Modeling Language) was an initiative to establish a 3D language standard that would effectively become the HTML for Web-based 3D. This was an optimistic endeavor that many saw as being the "next wave" of the Web. However, the adoption of 3D on the Web wasn't embraced as quickly as its 2D brethren, HTML. This was because browser plugins for VRML were required and 3D visualization had very few applications outside of games. The other problem was that 3D visuals required lots of computational resources. Most PCs during the days of VRML did not have any sort of 3D acceleration, nor did the VRML plugins take advantage of the ones that existed.

Undaunted, several VRML pioneers created various projects to showcase its abilities. With narrative works like FLOOPS, Bliss.com, and business applications that used 3D as a simple way to present complicated data, VRML seemed poised to work its way into the way we interface with the Web. However, it never found its calling and, worse yet, never found true adoption the way HTML did. Even after the less-successful VRML 2.0 (a newer initiative thwarted by political in-fighting between larger corporations), the VRML pioneers were still determined enough to proceed with one more approach.

#### ***Starting Over: Web3D***

Web3D was the clean slate that the VRML developers wanted. While VRML gave developers a foundation to stand upon, Web3D allowed them to embrace the good things with VRML and revise



the not-so-good stuff. Web3D kept a clear and concise modeling language in place and also finally embraced hardware acceleration. These were smart revisions done to correct VRML's previous course. However, Web3D is still searching for its purpose and audience—one of which could be Machinima development.

### **Web3D Machinima?**

Machinima hasn't been as quick to develop using Web3D, mostly because the authoring of Machinima content is still searching for its audience. Still, Web3D has the potential to be a Machinima development platform provided the tools associated with Web3D start competing with those found in the various game SDKs (Software Development Kits).

## **Stepping It Up a Notch**

In March 2002, several representatives of the lead Machinima teams, including Anthony Bailey (*Quake Done Quick*), Hugh Hancock (Strange Company and Machinima.com), Katherine Anna Kang and Matthew Ross (Fountainhead Entertainment), and Paul Marino (the ILL Clan—yeah, that's me), met at the Game Developers Conference in California to start a new organization to serve as the unified voice of Machinima. During this meeting, the Academy of Machinima Arts and Sciences was born (Machinima.org) and with it the Machinima Film Festival.

With an aggressive timeline in place, the Machinima Film Festival had its call for entries in July 2002 and took place the following month as an unofficial adjunct to *QuakeCon*. Produced by Fountainhead Entertainment and sponsored by NVIDIA, the Academy's inaugural festival provided the first showcase of Machinima films, technology, and presentations. The presentations consisted of the unveiling of a new level of Machinima tools including the highly anticipated Matinee by Epic Games for *Unreal Tournament 2004* and Fountainhead's own secret weapon, Machinimation—the Machinima studio software Fountainhead had created for *The Sidrial*. The festival also was host to the first annual Machinima Awards. Several industry notables were present for the event, such as John Carmack, Tommy Pallotta, and Mark Rein, providing more credibility to Machinima and the Academy's cause. The festival, of course, also succeeded in other ways. New Machinima works were screened at the festival and the coverage of the event appeared on CNN, the *Dallas Observer*, and the *New York Times*. Films such as Dead on Que's art-house fare *Fake Science*, Mike Beery's comical *Smart Gun*, and Jake Hughes/Tom Hall's full-length feature *Anachronox: The Movie* (based on the game of the same name) walked away with Best Visual Design, Best Direction, and Best Picture, respectively (see Figure 1.12). id Software's contributions to Machinima came full circle as it received the Academy's Honorary Award, with John Carmack accepting.

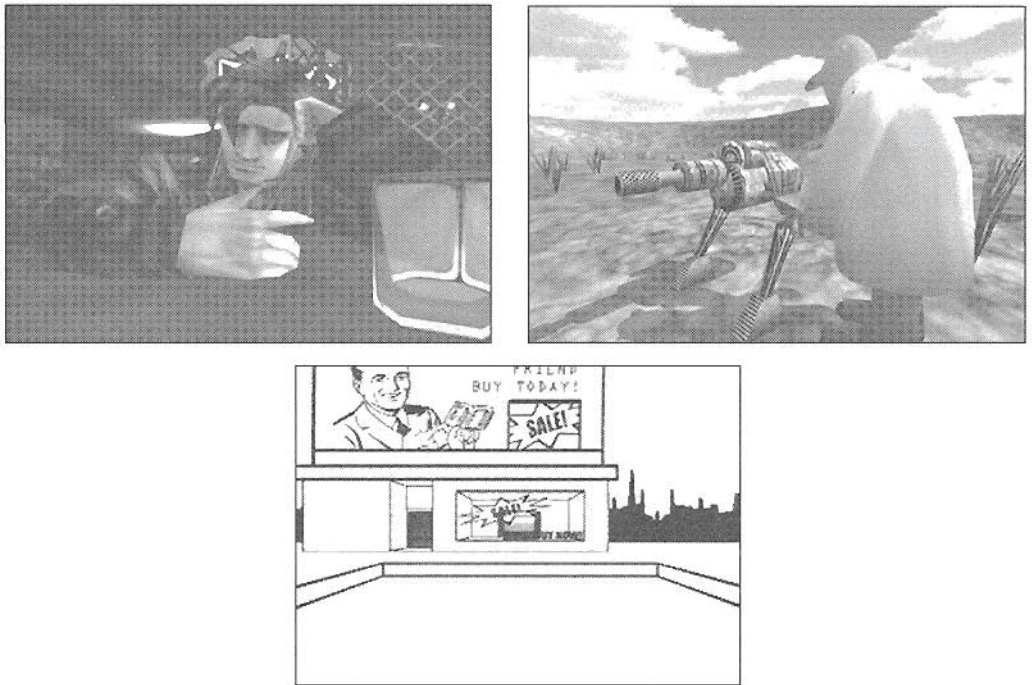


Figure 1.12

Machinima Film Festival 2002 winners: *Fake Science* (Dead on Que), *Smart Gun* (Mike Beery), and *Anachronox: The Movie* (Jake Hughes/Tom Hall).

## A Machinima Renaissance

Machinima hit the ground running in 2003 as the very first Machinima music video to air on MTV worked its way into rotation. The video *In the Waiting Line*, by the British band Zero 7, was a Machinima coproduction between Ghost Robot and Fountainhead Entertainment. Using Fountainhead's Machinimation software, director Tommy Pallotta worked with Fountainhead to produce the music video from concept to completion in only two months. This is something that was virtually unheard of for an animated music video. Machinimation was also offered to the general public for the very first time as a benefit to new Academy members. An innovative program in its own right, Machinimation also incorporated support for Quake III Machinima. (You'll get to experience Machinimation for yourself starting with Chapter 2 when we put a special version of the software to work to create our own Machinima productions.)

In March of 2003, The ILL Clan continued to pioneer their own path of improvisation and Machinima, performing live Machinima at the Florida Film Festival. Their short, *Common Sense Cooking with Carl the Cook* was created in front of the live festival audience,

where they solicited suggestions from the crowd to work into the film's story line. In addition to this trailblazing event, Discovery Channel tagged along and documented the process for a piece that aired later in the month.

As 2003 rolled on, a new set of Machinima filmmakers began to surface. Fueled by the graphically rich technology of newer games such as Halo, Battlefield 1942, and Dark Age of Camelot, these filmmakers relied not only on community tools but also on the availability of consumer-grade video technology. This technology started to make it possible to capture game video directly to camcorders. The ease by which people could capture video was partnered with accessible video editing software. Programs such as Adobe Premiere, Windows Movie Maker, iMovie, and Final Cut Pro gave the new Machinima filmmakers powerful tools to create their epics.

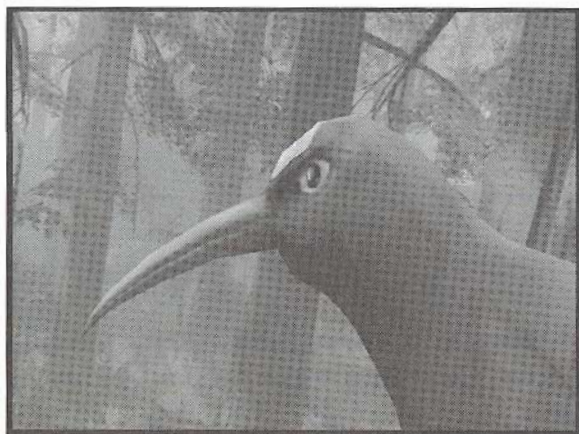
One Machinima team that found itself scoring legions of devoted fans was Red vs. Blue (see Figure 1.13). Based on the game Halo, the RvB team, lead by Burnie Burns, crafted a number of smartly written episodes focused on two opposing Halo teams, each protecting their common objective—the box canyon named Blood Gulch—a throwback to the earlier films that made fun of the game itself—only with hilarious writing and great characters. The series proved so popular that it not only transcended the typical gamer, it also claimed fans outside the gaming world. Later on in the year, the team's second season of episodes went on to be premiered at New York's Lincoln Center and toured with musical giants Bare Naked Ladies.

## Highlights and New Watermarks

Rounding out 2003, Machinima saw its most ambitious effort yet in Fountainhead Entertainment's *Anna* (see Figure 1.14). *Anna* was entirely created using Fountainhead's Machinimation and id Software's Quake III Arena engine. It represented a Machinima



Figure 1.13  
Machinima stars: *The Blood Gulch Chronicles* (Red vs. Blue, 2003).



**Figure 1.14**  
Fountainhead Entertainment's stunning *Anna* (2003).

work that no longer looked like the game engine that lied beneath but a fully realized 3D animation piece. *Anna* is a haunting tale that revolves around the circle of life. Its release illustrated that Machinima was no longer just a promising concept. Taking full use of the robust Quake III Arena engine, *Anna* showed depth of field, soft shadows, and weather effects—all components of the real-time engine.

The release of new development tools greatly ushered in new approaches to digital filmmaking. New Machinima works from around the world were being created, including pieces from Australia, Germany, the United Kingdom, and Canada. In addition to the diverse set of countries, Machinima works across genres were being created. Everything from comedies and dramas to music videos and documentaries were now surfacing.

## ***The Evolution of an Audience***

While Machinima represents a shift in the creation of visually-based narratives, there is another shift taking that place that is much more subtle—the evolution of the audience.

One observation that I've made throughout the Quake movie and Machinima formation years is that the audience for electronic entertainment is evolving as quickly as the technology itself. With the proliferation of video games, 3D acceleration, and animated films, today's audience is clearly not the same people who watched the Lumiere Brothers' train film and ducked away as the train "came toward them." You can also gauge how audiences have evolved just by watching a film from the '40s or '50s. Look at how deliberately the lines are delivered and how campy the entire film may seem. This comes from the audience's perceptions of how a film should "be" as determined by their exposure to current filmmaking.

We can see how our viewing habits have changed even by looking at today's music videos. If you look back to the first music videos of the mid-80s, you will notice how slow paced they are in comparison to today's standards. Music videos today are quickly-paced, sometimes containing hundreds of edits within a minute of film. While this may seem like quite a bit, today's audiences are accustomed to the rapid-fire delivery of visuals, comfortable with digesting a large amount of information over a much shorter interval of time.

I also relate the visual information explosion to the comfort level that young people now have with using video games as communication devices. Today's generation of video game players are pushing the communication features of games to their limits. The audience of Lumiere Brothers' on-coming train would have no idea why Mario was bouncing his head underside a block in order to obtain gold coins. As the audience is exposed more and more to the eventual convergence of 3D game technology and 3D animation, Machinima as a medium will become more pervasive for audiences and filmmakers alike.

Bottom line: The audiences of today aren't the same as those from even 10 years ago. The animated characters of the past are being usurped by the video game characters of today. The young audience of today will be the mainstream audience of tomorrow, content with video game/animated characters as sources of information. And with this, Machinima is poised to be a common method of storytelling because it will be digested by an audience who is automatically comfortable with its visual appeal and production methods.

## A Timeline of Machinima Events/Films

(compiled by Ben Grussi)

1996

October 26 *Diary of a Camper* is released (the first Quake movie).

1997

November 16 Keygrip 1.0 for Quake is released.

December 9 Quake II is released.

December 23 DOOM engine source code is released.

1998

January 17 *Eschaton: Darkening Twilight* is released.

March 17 DementED 2 is released.

May 17 The ILL Clan's *Apartment Huntin'* is released.

July 25 *Scourge Done Slick* is released.

August 1 Keygrip 2.0 is released (Q2 Support).

August 2 *Devil's Covenant* is released.

September 6 The Unreal Movie Team releases its first film, *Reality Dream*.

## 1999

- January 8 *Father Frags Best* is released.
- February 5 *Eschaton: Nightfall* is released.
- April 10 StrangeUtil 1.0 is released.
- August 20 The ILL Clan's Apartment Huntin' is featured on Wired's Animation Express.
- September 8 Lithtech Film Producer partnership announced between Strange Company/Walking Wounded and Monolith Productions.
- November 4 December issue of *Spin Magazine* runs article on Quake movies in general, mostly focused on *Quad God*.

## 2000

- January 2 *Quad God* is released.
- January 5 Machinima.com opens.
- January 18 *Ozymandias* is released.
- February 25 *Rick Jones 2: Master Detective* is released.
- March 5 Unreal Movie Studio, also known as UMS, is released.
- March 12 OpenDemo Project opens.
- June 6 Roger Ebert article "Ghost in the Machinima" appears.
- August 27 The ILL Clan's *Hardly Workin'* is released.

## 2001

- February 12 ILL Clan wins award in Showtime Networks's alt.sho.com Showcase for Best Experimental Short of 2000 and Best Of Show!
- February 28 First Rune short film, *The Goblin Killer* (V2.0), released by Dead On Que
- March 31 Real-Time Movie Studio 1.0, also known as RTMS, is released for Unreal Tournament.
- July 6 *Entertainment Weekly* covers ILL Clan and Strange Company.
- July 20 Story breaks that Steven Spielberg has used Unreal Tournament for effects work on *A.I.*
- July 20 Epic releases details about its new Machinima tool for upcoming unreal engine games, called Matinee.

## 2002

- January 18 *Sidrial* total conversion is released for Quake 3 Arena (a sample from the Quake 3 Arena powered feature film).
- February 5 John Carmack makes a plan update (personal log update) where he says to expect that game technology will be used to animate films in the near future (first direct Machinima reference).
- March 22 The Academy of Machinima Arts and Sciences is formed.
- May 23 Game designers (Epic) makes a official mention of the existence of the Machinima community.
- June 24 The first Machinima Film Festival is held and Machinima awards are presented.

## 2003

- January 13 Machinima music video "Rebel Vs. Thug" is released by Ken "3DFilmmaker" Thain.
- February 5 Fountainhead Entertainment/Ghost Robot produce Machinima music Video for U.K. group, Zero 7, based on their song "In the Waiting Line"; video enters rotation on MTV.
- March 12 Machinima panel discussion at the San Francisco Museum of Modern Art.
- March 14 ILL Clan performs live Machinima performance called *Common Sense Cooking With Cook Carl* at the Florida Film Festival; performance is covered by the Discovery Channel.
- April 4 Red vs. Blue Episodes Zero and 1 of *The Blood Gulch Chronicles* are released.
- June 7 Epic and NVIDA formally announce the \$100,000 Make it Unreal Competition, with Machinima category as a centerpiece.
- July 24 Machinima presented at Lincoln Center as part of the Game Engine program.
- July 27 Epic Games releases a free version of its Unreal Engine for use with education and/or noncommercial projects.
- October 25 The 2nd Annual Machinima Film Festival takes place at the American Museum of the Moving Image in NYC.
- October 25 Fountainhead Entertainment's *Anna* debuts at the Machinima Film Festival
- November 12 The ILL Clan and RvB are commissioned to create Machinima vignettes for SpikeTV's first Video Game Awards.

## 2004

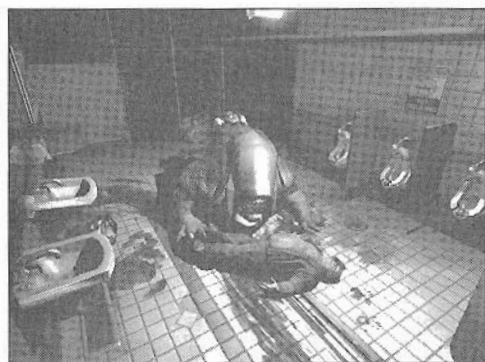
- January 03 Red vs. Blue Premieres season two of the *Blood Gulch Chronicles* at Lincoln Center in NYC.
- January 15 Bang the Machine: Computer Gaming Art exhibit at the Yuerba Buena Center in San Francisco—curated by Stanford Professor Henry Lowood and grad student Galen Davis—includes Machinima reel as portion of exhibit.
- March 11 Fountainhead Entertainment completes *Game Over* in Machinimation, a game/Machinima software tie-in with UPN's CG-animated series *Game Over*.
- March 13 The ILL Clan co-hosts the Florida Film Festival's Awards Gala with their Machinima characters, Larry and Lenny Lumberjack.
- March 17 Strange Company commissioned to create Machinima broadcast piece named *Rogue Farm* with world renowned sci-fi author Charles Stross.
- April 9 Red Vs. Blue is featured on the front page of the Wall Street Journal

## Onward

Machinima's evolution illustrates how innovative approaches transformed one medium into another and helped marry multiple visions to create a greater one. As you work through this book and learn about Machinima development and production techniques,

keep some of its history in mind and be thankful that you are getting involved with Machinima at a time when many opportunities are just starting to appear. (When was the last time you had the opportunity to get in on the ground floor of a new and innovative entertainment medium?) By the time you finish using this book, your work will represent not only the strides that Machinima has made over the years, but also the promise of a new storytelling medium.

The latest Machinima films show us not only what can be created but also what is to come. The strong writing by the RvB team, the fantastic direction and visuals created by Fountainhead, and the live performances by the ILL Clan are all indicators of how Machinima is growing. Combine this with the visual qualities of the latest game technologies of DOOM 3 and Half-Life 2 (see Figure 1.15) and it's easy to become excited by the possibilities.



**Figure 1.15**

Next-generation Machinima: id Software's DOOM 3 and Valve Software's Half-Life 2.

## Coming Up Next

Over the next few chapters, we'll begin to explore the Machinima creation process itself by working with Fountainhead's flagship product, Machinimation. This program is one of the easiest Machinima applications to get started with and it is very powerful, regardless of its ease of use. After we create our first Machinima film using Machinimation, we'll move on to some advanced Machinima creation techniques using Unreal Tournament 2004 and its internal Machinima tool, Matinee. From there, we'll move on to explore other aspects of Machinima development, including the specifics of video capture, editing, and distribution. We'll also explore set and character design techniques and tips. As you advance through this book, you will see how the material and the tutorials graduate in complexity. By the end, you should have a good grasp of Machinima production as it stands today, and I'll certainly get you prepared for the future as best I can.