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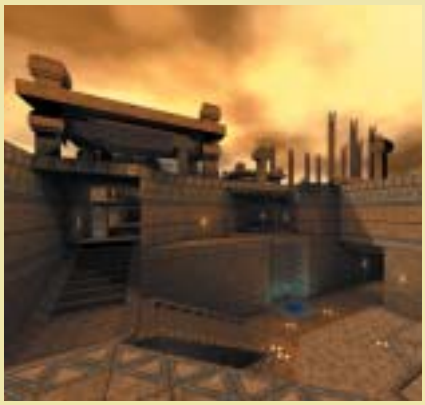


MAPPING THE FUTURE

FOR THEIR VIOLENT ONLINE GAMES, MAP-AND-LEVEL BUILDERS CREATE INCREDIBLE ENVIRONMENTS. ARE THEY CREATING ARCHITECTURE AS WELL?

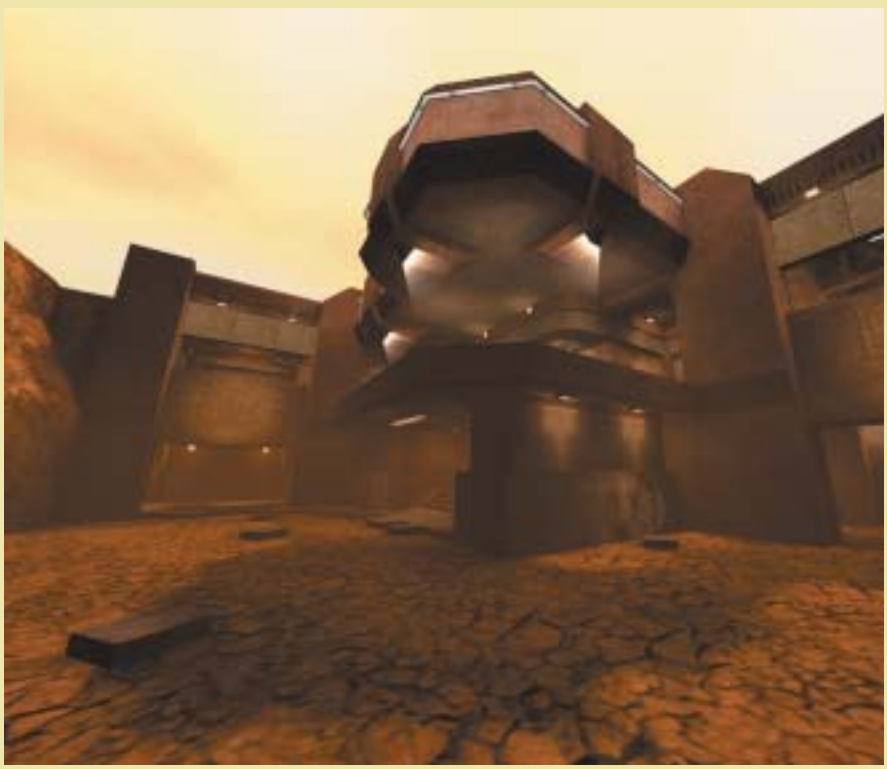
BY HARRY ALLEN

IMAGES COMPILED BY HEX

Like many first-time visitors to Richard Meier's Getty Center in Los Angeles, Jeff Zaring was literally "slackjaw-stunned by how cool it was, and how impossible it must have been to design" the gleaming, 110-acre campus, set on a hill in the Santa Monica Mountains overlooking Los Angeles and the Pacific Ocean.

But while most go to the Getty to gaze at the Goyas and to take in the seemingly continent-wide panoramic views, Zaring went with a somewhat more warlike objective. After cribbing "an architectural detail, a set of curves, or a skylight," the 40-year-old hoped to inject a little Meier into his own unique renderings. There, those exquisite features would be unceremoniously blasted with rocket launchers, battered by plasma guns, and splattered with bouncing, bloody chunks of human flesh.

Computerized chunks, though. Zaring, you see, is a *map-and-level builder*. Map-and-level building is the art by which computer gamers create their own customized, 3-D architectural spaces—called *maps*, or *levels*—for use inside *first-person shooter* (FPS) PC games. An FPS is played as though looking through the eyes of the game character one controls, with weapon at the ready near the bottom of the screen. In the dominant "deathmatch" style of play, characters chase each other, attempting to score points by killing their opponents. Once slain, they then "respawn," or are reborn, to kill or be killed again. With games like id Software's *Quake III Arena* (Q3A)—perhaps the most widely and diversely mapped game—a player's opponents can be the computerized *bots*, or avatars, supplied and controlled by the game itself, or actual humans, residing anywhere in the world, playing through the Internet.



To accommodate all of this carnage, map-and-level builders, or *mappers*, use free software applications called *level editors,* downloaded from the Internet—GtkRadiant, by id Software, is the most popular one for *Quake*. They then design and build, from scratch, all of the structures in and around which gameplay takes place. Through the Web, they may borrow decorative elements—for example, surface textures—from makers within the mapping world. When done, they then post their works on mapping community forums and websites, or on their personal sites, for users to freely take, try out, critique, or play as they see fit. (A site called ..::LvL, found at www.planetquake.com/lvl, is the definitive archive site for Q3A maps, hosting more than 1,700 different, fully downloadable maps by some 880 creators.) "Gaming is a very popular cultural activity, it is peer-reviewed, and it is big business," says Edward J. Keller, an assistant professor at Columbia University's school of architecture and developer of a video game called *Ornament*. "Architects very infrequently can expect the kind of 'user' engagement that a level designer gets."

GOTHIC FORTRESSES AND SPACE DERRICKS

The results of level building can be almost unlimited in variety and originality. Mappers from across the globe—the United States, the United Kingdom, Germany, Italy, the Netherlands, Denmark, South Africa, and elsewhere—bearing *noms* like Geit, Bal, pjw, and Unitool (Zaring's moniker)—

fashion Gothic fortresses, floating, interplanetary derricks, metallic stadiums, or sandstone temples.

Many mappers have replicated, or are directly influenced by, real-world architecture. QkennyQ's *Chartres* (below, right) reproduces the famed French sanctuary, while 187-J4CK4L's *Fallingwater* mimics Frank Lloyd Wright's masterwork. The Getty Center "looks like a Quake 3 map," says Zaring, with its "giant, oversized architecture, really big scale, and all these wide open spaces"; qualities, not by accident, Zaring's own maps (*Peccary of Destiny*, *The Abandoned Crate*—page 61) also possess. Some, like Zaring, also admit to having briefly fancied careers in the profession as youth.

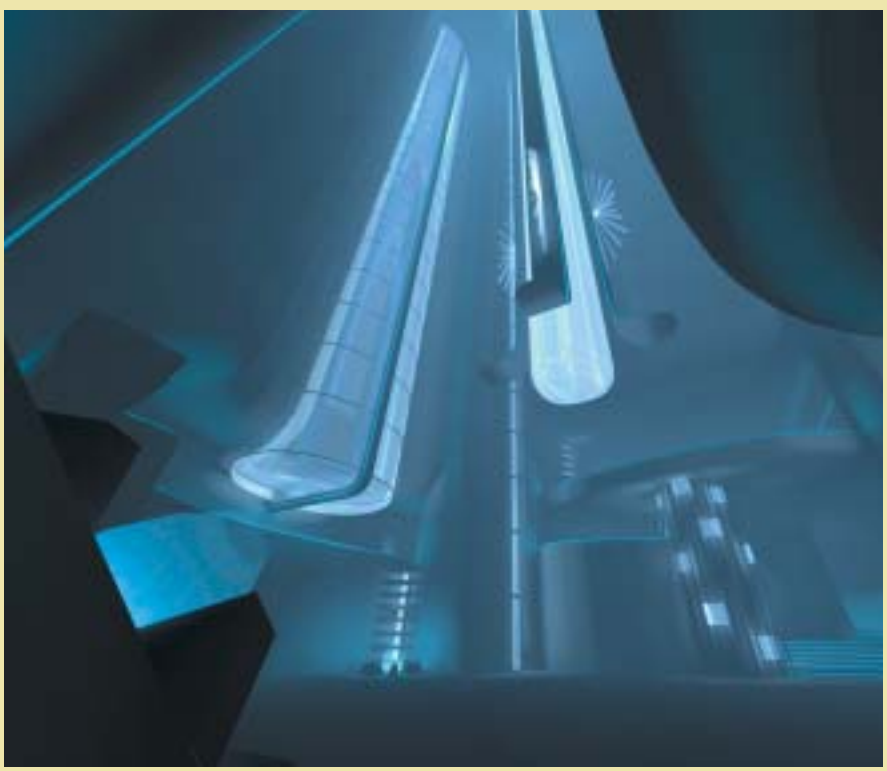
French mapper Nicolas "Nunuk" Bouvier—whose idiosyncratic, often confounding maps (*Platypus*, *Flying Plutonians*, *Kleskonian Hights*) led one fan to call him the "Frank O. Gehry of the Quake world"—is the son of retired Eiffage Construction executive Richard Bouvier. Eiffage built both the recently completed Millau Viaduct in southern France, the world's tallest bridge, and the Eiffel Tower. (Indeed, the mapper grew up with pieces of the famed ironwork lying around the house, brought home by dad during the landmark's numerous restorations.) For this reason, perhaps, while in awe of his peers, Bouvier cites not other mappers but Santiago Calatrava as the builder to beat. "That guy is doing amazing work, imagining skeletal forms with bones that he's, like, throwing into the air. These are forms that I would like to do in a map."

But despite this awareness of and fascination with the built environment,

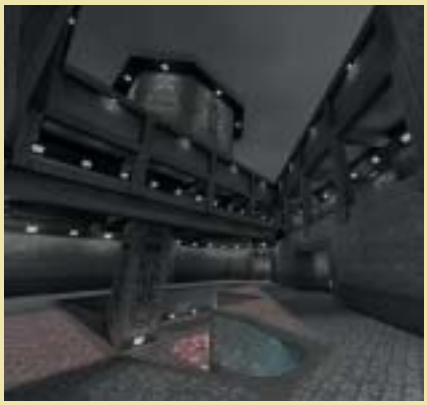
A survey of online "maps" for first-person shooter games reveals a range of stylistic imagery, from classical recreations to outer-space environments to primitivistic ruins. Clockwise from bottom right: *Chartres* by the artist QkennyQ (2003); *Coriolis Storm by Lunaran* (2000); *Anguis in Herba* by dAde (2003); and Shub-Niggurath's *Deimos2* (2004).

the majority of mappers' levels belong to, perhaps, no known school. Theirs is an architecture of the mind, and of fantasy; it's akin to both naïve and visionary art in some ways, but, in fact, is a digital folk architecture—perhaps the world's first.

Even those maps which emulate the visual conventions of, say, medieval, Egyptian, or Meso-American forms typically twist those shapes to fit the objectives and rules of FPS-style, run-and-hunt gameplay. No Catalan cathedral ever had a floor plan like Spanish mapper Antonio "Auhsan" Jaume's *OverWhelming Hostility*, whose ingenious, all-enveloping coils, jumps, and drops have made it one of the most frequently downloaded maps ever. This is because, even with one gamer's terse summation of Q3A as "football with shotguns," there is no real-life counterpart to the essential run-kill-reincarnate stratagem of the FPS deathmatch. The map's is an architecture delineated by the space-time of game violence. "Quake is a shooter game," Bouvier explains. "So it means that the architecture is going to be useful in order to shoot." In Q3A, as in most deathmatch-style games, the objective is "encouraging confrontations and keeping players moving," says Zaring. "You wanna move them, but, hopefully, you wanna move them toward each other." The design of the map plays the decisive role in this outcome. Ironically, then, though played with futuristic ray guns on multigigahertz desktop computers and across high-speed networks, the map and level's true antecedents may be the sightlines of the Roman coliseum, and the weave of the Minotaurian labyrinth.



While maps vary greatly in appearance, their users tend to judge them based on functionality—mainly, their propensity toward encouraging close confrontations. Images from games on this page (clockwise from top left): *The Velvet Yard* by Jockum Skoglund (2004); Unitool's *The Abandoned Crate* (2001), created with "texture artists" Fingers, Mr. Clean, Rorshach, and xatrix; Jax_Gator's *Iron and Stone* (2002); *SecularDM* by the artist known as <secs.> (2003); and the work *eNergEy stAtioN* by Austin - Lil Killa (2003).



FROM ATARI TO QUAKE

The specific role of architecture in computer and video games, in like manner, goes back to now-distant beginnings. In the earliest games, architecture—for example, a castle's creepily depicted subterranean vaults in the text-based *Dungeon & Dragons*, or the standard suburban home in the first graphic computer game, the 1980s-era black-and-white *Mystery House*—provided easily comprehended visual metaphors, useful for both contextualizing different kinds of action and creating certain expectations regarding these actions. Subsequently, architecture provided scale: A crude cluster of buildings, off on a horizon one never reached, insinuated, to early arcade and Atari 2600 driving gamers, how vast the landscape they raced on was.

Later on, 2-D *side-scrollers*, like the martial arts *Street Fighter*, set conflict against a background of slowly moving warehouses or temples. In the so-called "god game," *Sim City*, skyscrapers bloomed or faded, according to metro government ability or ineptitude.

But it was the cunningly rendered "2-1/2-D" worlds of the Mesquite, Texas-based company id in the early 1990s—first, *Wolfenstein 3D*, then the legendary *Doom*—that forced the flat world of games to get some depth. Building on those successes in the late 1990s with *Quake* and *Quake III Arena*, id Software equipped gamers to not only venture forwards, backwards, and sideways, as in *Doom*, but also move up or down, along the z-axis, achieving true 3-D movement. The result was a renaissance in gameplay. But, even more, says Bouvier, by 2001 or 2002 a "sort of golden age for Quake 3 mapping and level editing" had ensued, one where computers, the Internet, and wide interest in the game itself created an optimal moment for it to flourish.

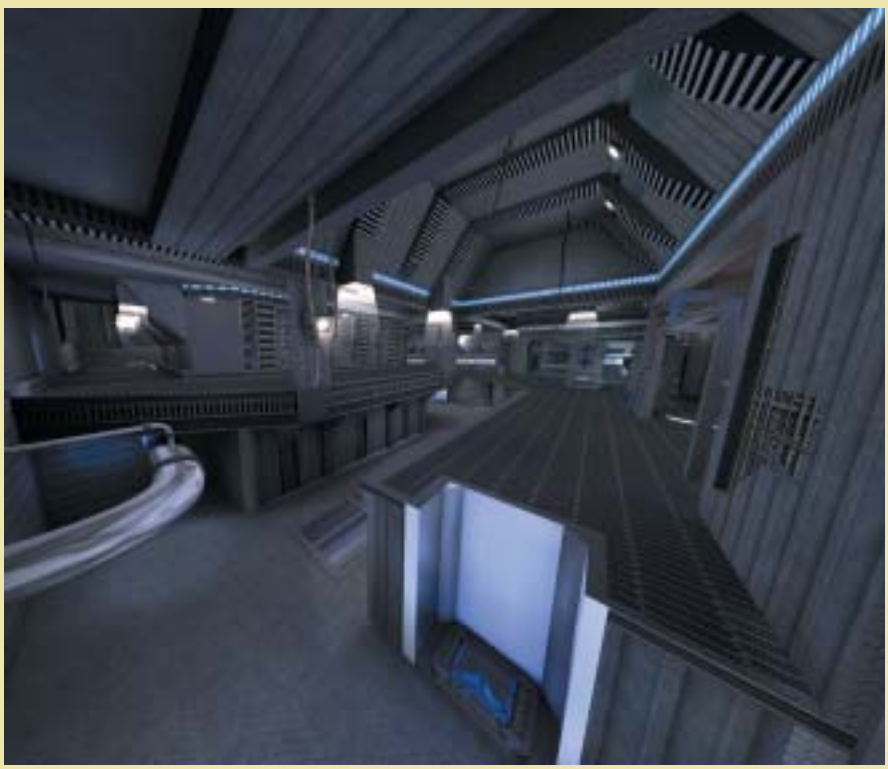
BLOCK AND POLISH

Maps are generally made in four stages, says Richard "Charon" Heath, age 21, whose level-building exploits—*inextremis*, *Stir Fried Rocks Attack*—like all of the mappers already mentioned, have earned him a job in the gaming industry. "The first step is to come up with a plan," he states. "You basically draw out your level, very much like traditional architectural blueprints.

"The second step is to build a very simplistic version of the level in the editor; what we call a *block mesh*. It's very similar in concept to a foundation, but you would have to imagine a foundation that encompasses walls and ceilings as well." In appearance, "it is literally as if everything was flat and made of concrete."

Third, says Heath, "begin detailing the level. This involves adding anything that makes the map visually interesting, such as doorframes and handrails. At this stage, you would basically be texturing the map, and a texture format is similar to wallpaper and paint." For certain games, like Quake, some of this work can be done directly in the level editor. Others (such as Epic Games' *Unreal* series, or Valve's eagerly awaited *Half-Life 2*) require the user to model in 3-D, using a standard 3-D application—Maya, 3DSMax, gmax, Softimage, or Lightwave, among others—and then import the results into the editor.

"After this, you have a fourth stage, which is literally a polish, or clean-up,



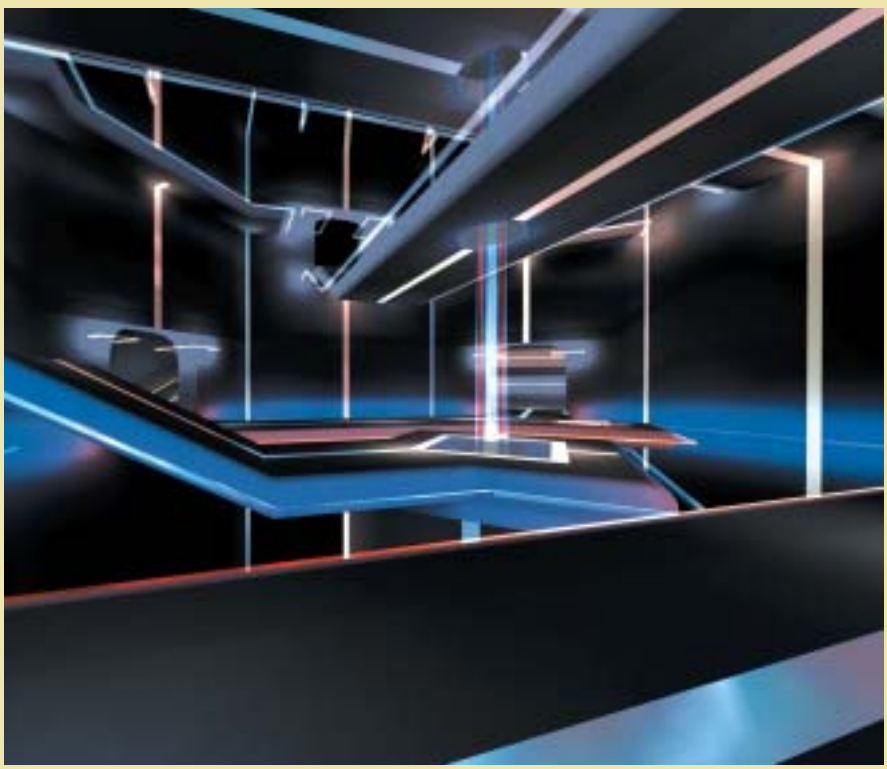
stage, where you add any extra, final details to the level. Here is usually where you would place it on the Web, allow people to critique it, and then take that feedback and polish your level further."

Finally, when everything is finished, according to Heath, "You would 'pack the level up'" into a compressed file "and release it to the 'net community."

The length of time this all takes varies, based on the level's complexity and the mapper's skill. Heath's latest, *5quid*, required an estimated half-year to complete, while his shortest, and arguably his visual masterpiece, *Flea Fights*, was finished in 17 hours.

The speed, then, with which one can model a complex structure, has led some architects to adapt Quake as a previsualization tool. When Bill Gates visited the University of Cambridge in December 2001, he stopped off at his namesake William Gates Building, the new home for the university's computer lab. Had he roamed its halls about a year-and-a-half earlier, though, he'd have needed body armor and a grenade launcher: The actual edifice was laid out, first, as a model in Quake 2. "We'll be happy to show it to you. You can compare them side-by-side if you wish," says Paul Richens, 48, director of the Martin Centre CADLAB, in Cambridge's department of architecture. Richens, who has also rendered as FPS levels one of eighteenth-century printmaker Giovanni Battista Piranesi's famous *carceri*, or prisons, feels that map-and-level builders can teach the building profession a great deal.

"Architects have tried to build computer models of buildings for some years now," says Richens. "But the results tend to be rather sterile, rather



The rendered environments for online games often distort perspective, scale, color, and even the behavior of gravity and light. Images on these pages (clockwise from top left): *Black Town* by XPac (2003); *Guns* by pjw (2004); *Can't Die* by Janos "Dragee" Derzsi (2003); *Cajun Hell* by Stormshadow (2003); and *AEon's Neon Light* by AEon (2003).

boring to look at. If you compare the ordinary architectural walkthrough with games, you begin to learn why: The people who make games find lots and lots of ways to make virtual space interesting, and they do that by putting activity there. If you look, really, gameplay design is all about ways of increasing the kinds of interactions that you have with the space, and the kinds of importance that they have. And finding these modes of gameplay, as we would call them, is something that architects need to learn from game designers."

Yet despite these insights, Richens doesn't seem hopeful the architectural community will take his lead and incorporate gameplay elements into presentations. "A surprising thing that we actually experienced was that architects aren't very happy to have their architecture turned into a game and then handed over to a client to play with, because they lose all control of what is seen and what is not seen. Whereas, normally, architects are very controlling in the way they present proposals: They'll produce still perspectives, or maybe they'll do a very carefully orchestrated walkthrough. But they show the client exactly what they want them to see. They're not at all happy with the idea of showing everything, and allowing the client to explore it by himself without being supervised. But clients really love it."

Which raises the question: Is map-and-level building actually architecture?

The verdict varies somewhat. The University of Lincoln's G. M. Matthews, in his essay, "Invasion of the Body Snatchers: Architecture and Virtual Space," defines architecture as more than "building masterfully." Rather, he says—with words that also, perhaps none better, describe *Quake III Arena* as a game—it is the "art of resistance, play, and evasion."

Adds Richens, "The kind of skills involved in building game levels certainly overlap with what architects do. It's a less complicated activity than architecture, but it certainly overlaps with it."

Of course it's architecture, contends Columbia's Keller. "Any perceived space changes the way that a person or a group of people interact, whether the space is real or virtual. Level design is architecture because it is the design of spaces," he contends.

Zaring, on the other hand, who took so much inspiration from Meier's Getty, finds the comparison "grandiose. Basically, all we're doing is we're just defining a space. There are no load limits to factor in, or any kind of complex engineering. All we're doing is making something pretty. Whereas an architect has to go to school for years and years, and understand how to engineer things in addition to designing things. I think calling yourself an architect might be overstating it a bit."

But Bouvier says the question of whether or not mapping is architecture isn't even really the issue. "It's all about art, and that's why it's a huge form of art, too. That we can express our inner world within such a game is not even about the game, itself. It's all about showing our personality, within a level."

Harry Allen, who writes frequently on popular culture, has received a Graham Foundation grant to study map-and-level building. He is also working on a book on the subject.