When David Glenn earned a bachelor of architecture degree at Virginia Polytechnic Institute in 1993, he had every reason to expect a conventional design career. Although jobs were scarce at the bitter end of the recession, he found work preparing renderings for big corporate projects.

Three years later, Glenn, 29, designs shadowy dungeons stalked by mercenaries, domed palaces lined with elaborate frescoes and parquet floors, and cathedrals built over the ruins of ancient monasteries. He toils in the realm of mad kings and rampaging sorcerers. No, he does not work for Robert A.M. Stern.

Glenn designs background scenes and buildings for Diablo II, the upcoming sequel to the best-selling computer game produced by Blizzard Entertainment. He stands in the vanguard of a growing trend: Thousands of young architects are abandoning traditional design careers to ply their skills in the more remunerative and freewheeling fields of computer games and film special effects. "I could never have predicted this path," Glenn says. "But it allows me to actualize what I enjoy about architecture without having to be a monkey in some big corporate machinery. Of course, you interact with virtual architecture in a different way. But I still consider it architecture."

As three-dimensional computer modeling establishes itself as a mainstay of architecture curriculums, students find themselves eminently employable in other fields. For Glenn, the transition was seamless. As a renderer with Michael Sechman and Associates, in Orinda, California, he used AutoCAD programs, 3D Studio MAX by Kinetix, and Photoshop by Adobe to depict train stations, airports, and high-rises. In 1997, Maxis hired Sechman’s firm to work on Simcity 3000, the latest in a line of popular simulations of virtual cities. All of a sudden, Glenn found himself designing entire metropolises, richly detailed with stadiums, municipal parks, and elevated highways. In January 1998, Glenn jumped to Blizzard, where he now conjures mesoamerican pyramids and Egyptian desert outposts for Diablo II. "As games become more sophisticated, the design considerations have grown more important," he says. "Games have become like movie productions. You can get by without set designers, but you’re a lot better off with them. Can games continue to thrive without architects? Not likely."
What does the exodus portend for the profession? It suggests, at least in part, that architecture is alienating its interns--who earn an average of $39,200--about 25 percent less than architects who work on computer games. The number of architects taking the Architectural Registration Exam has dropped by nearly 75 percent since 1990. The field can hardly afford further attrition.

On the other hand, the virtual world amounts to a vast new frontier in which to work. "We're always trying to narrow the definition of architecture," says Dana Cuff, acting chair of architecture and urban design at the University of mainstream," says Brandon Smith, spokesperson for Cavedog Entertainment, a game manufacturer based in Bothell, Washington. "We're looking for legitimacy, and architects can help."

"Games designed by illustrators now feel hollow and incomplete," adds Ron Gilbert, Cavedog's creative director. "You walk through a virtual world and you realize the door isn't the right size, windows are the wrong height, and the circulation isn't arranged like a real building. All those subtle things make us subconsciously uncomfortable in a building. That sense of realism is crucial to pulling peo-

California, Los Angeles, "We might be better off broadening. It's encouraging that many fields—from theme parks to computer games—are turning to architecture for the best-trained digital designers."

Moving into the mainstream
It would never have occurred to game manufacturers to recruit architects back when games consisted of crude figures jerking their way across flat, two-dimensional scenes. As new software programs such as Adobe's Photoshop and Discrete Logic's Lightscape introduced the light and texture of detailed 3D environments, architects were suddenly in demand. "We want to move into the

ple into that world. Consumers won't buy games that don't feel right. We need that sophistication to be competitive."

"It's no longer acceptable to simply have a corridor leading to another corridor," adds David Dunn, an architect working on a futuristic game called Oni for Bungie Software. "Players want to see open spaces and intricate circulation patterns. If you have a design background, you're trained to think in those terms."

Architects will also play a growing role as the game industry grows up and expands out of its kid ghetto. Last year, games were the fastest-growing segment of the entertainment industry, with 181 million units sold, or roughly two games for every U.S. household. Surprisingl,
nine out of 10 purchasers were 18 or older, according to the Interactive Digital Software Association. "We're right on the cusp of respectability," Gilbert concurs. "Entertaining yourself on the computer is becoming more acceptable, and not just for kids. Some alien-zapping 12-year-old doesn't care if the surroundings are architecturally correct, but it matters to our growing older audience. They want a more realistic experience."

For that reason, game manufacturers are willing to pay generously for a convincing sense of place. Glenn, for example, now earns three times as much money as he did in his last architectural job, which ended less than two years ago. Architecture graduates who concoct special effects for movie production can make $100,000 or more within a year or so. Plus, entertainment companies typically offer stock options, bonuses, and profit sharing—benefits often unknown among even the plushest design firms.

Graduates who would otherwise endure years of stultifying junior-level scut work are drawn to the virtual world's swashbuckling, free-for-all meritocracy. "I have all the fun of working in an experimental design field," says Julia Reuewee, a lead designer at CyberSites, a New York Internet firm that hired seven architects as it more than doubled in size over the last four months. "I have everything I liked about school: studio space with pinups and reviews. But I don't have to deal with contractors and clients."

Creature features

The same holds true for architects working in the closely related field of movie animation and special effects. As many as ten years ago, architecture students started learning animation programs in order to simulate the experience of walking through elaborate unbuilt spaces. When Tim McLaughlin graduated from Texas A&M's four-year program in environmental design, for example, he left with an animation reel instead of the traditional portfolio. "My work looked more appropriate for the entertainment industry than architecture," he says. "I thought I was stepping into the architectural future," McLaughlin says, "but I ended up outside architecture altogether." Within months, McLaughlin was working at George Lucas' Industrial Light & Magic in Marin County, California.

Over the past five years, McLaughlin has concocted hundreds of animated creatures for five feature films, including this year's Star Wars prequel, The Phantom Menace. His job is to meld the color and texture of the creatures' skin and clothes with their underlying skeletal structure so they move with a cohesive and convincing gait. "It's not unlike the skin of a building with systems inside it," he says. "There's the outside appearance versus the inner mechanics."

The demand for architects can only grow as the graphical sense of place explored by computer games is used to organize information on CD-ROMs and Internet sites. CyberSites, for example, produced a CD-ROM, called SPQR, that invites users to walk through ancient Rome. From the Forum to the Temple of Saturn, today's ruins stand as if newly completed. The firm also built a Web version of ancient Rome (www.ancientrome.com) that has attracted 100,000 registered users. "It's like a living, breathing city of 100,000," says cofounder Edwin Muir. "Some are sleeping, but at any given time, 300 of them are in our town square." Muir has also replicated Athens, Babylon, and colonial New York, among others.

Of course, virtual architecture is by definition flickering and ephemeral. Muir's buildings fade with a mouse click. Heady as their pell-mell careers may be, today's young cyberarchitects—or most of them, anyway—still aspire to build something real. "You can't ever give that up," says Muir. "Maybe what we're doing now will pay for it. We'll build real architecture after the big IPO."