The First First-Person Shooter

If you think id Software created first-person 3D gaming, think again: In the early 1970s, a group of engineers created a game known at various points as The Maze Game, Maze Wars, or simply Maze. It was a networked, first-person shooter with 3D graphics, and this is its story_ BY ALEX HANDY

To discover the birthplace of the first-person shooter, you must journey to a secretive spot in Mountain View, California. A few miles from the spot where two Steve's created the first fruity computer, you'll find a research facility nestled under the feathered wing of an Air Force base. Behind black wrought iron fences stand numerous eyesores, buildings created in a time when bright aqua paneling was the norm, and exposed steel frames were considered hip. Further along are the metallic outlines of cones, tubes, and long drums. When viewed from outside, these contraptions offer no hint as to their purpose, but upon closer inspection, the strange machinery can be identified as the façades of constantly humming fans.

Dreaming of Imlac

This is the NASA Ames research facility, and the first first-person shooter was created here. In 1969, Steve Colley and Howard Palmer joined the NASA Ames Student Space Biology program. Naturally, the scientists at NASA tasked these bright-eyed kids with the myriad chores required to keep computers up and running. As a result, the pair spent much of their time playing with what passed for a desktop computer in 1970, the Imlac PDS-1.

At the time, the PDS-1 was the only usable graphical computer on the market. Essentially a PDP-8 with a monitor and some other modifications, the PDS-1 was quite popular in the scientific and drafting communities thanks to its killer app, a WYSIWIG typesetting tool that allowed users to get a general idea of what their documents would look like before they were printed. This was revolutionary in 1970, when many computers still had individual bit toggle switches on their front panels.

All of this graphical horsepower was great for creating engineering blueprints for the space shuttle and the Mars rover, but with a herd of teenaged interns standing around, it wasn't long before the Imlac software library at NASA Ames was overflowing with games.

Colley and Palmer were two of the more senior kids at AMES, and more often than not, tended to do real work. But by 1973, the gaming gauntlet had been thrown by the younger whippersnappers. Colley and Palmer felt that they could create a game that was significantly better than the *Pong* variants their compatriots had made.

While brainstorming, they decided that they could draw a maze with simple 90 and 45 degree angled lines, and thus create a program that would allow them to explore said maze in three dimensions. Once that was up and running, the pair added the ability to put a second person in this maze, thanks to the Imlac's networking capabilities.

As time passed, the pair got bored with simply wandering around a maze together. Since they were teenage boys, arming their onscreen avatars was the natural next step. By 1974, the original NASA Ames Maze program had adaptive bots, multiplayer support for up to eight players, and the ability to adapt to choppy network connections.

> "By 1974, the original NASA Ames Maze program had adaptive bots, multiplayer support for up to eight players, and the ability to adapt to choppy network connections."

One of those spreading geeks was named Greg Thompson. When he left Palo Alto for his freshman year at MIT, he took with him a milk crate filled with paper tape. One of those spools contained the source code to what, by then, had become *MazeWar*.

The PDS-1 wasn't exactly a popular computer, even in its later years. But, as luck would have it, MIT had a dynamic modeling group on campus that used a network of these machines. With a Digital PDP-10 hooked in as the brains of the network, it was the perfect environment for *MazeWar* to gather a following.

It wasn't long before Thompson teamed up with David Lebling, the resident Imlac guy at the dynamic modeling group. (A few years later, Lebling helped found Infocom.) With a little modification, the pair got *MazeWar* up and running on this primitive network. From 1974 on, the dynamic modeling group played host to midnight *MazeWar* soirees, thus creating the world's first LAN parties.

It Spreads

The game quickly gained a following among the scientists and interns at NASA Ames, and as these geeks spread around the world, so did word of their amazing videogame.

The Feds Step In

The DMG eventually came under fire from its director, Al Vezza, who was worried that this DARPA-funded project group would invoke the ire of their government caretakers if a representative were to

Parsing the Geekspeak

Throughout the years, MazeWar has been associated with a number of obsolete technologies and computers; here is a guide to a few of them_

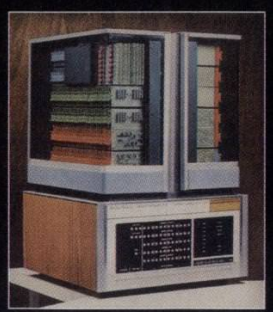
ARPANET

In 1962, Dr. J. C. R. Licklider was hired by the Advanced Research Projects Agency (ARPA) to research better methods of utilizing the minimal computing power available to the U.S. at the time. Licklider quickly realized that the massive computers housed in American universities would need to talk to each other, and it took six years to create this network. In 1968, ARPANET went online, linking UCLA, UCSB, and the University of Utah, among others. By the mid '70s, there were more users than developers, and by the mid '80s, newsgroup and e-mail support solidified. ARPANET became the Internet, and the rest is history.
en.wikipedia.org/wiki/ARPANET

Imlac PDS-1

This revolutionary computer was created by the Imlac Corporation of Needham, Massachusetts. It was originally introduced in 1968, and featured a number of innovative design choices, chief among these was the integrated vector graphics display. It also featured a light pen, which could be used to highlight text on the screen, facilitating the first usable page-layout programs.
blinkenlights.com/classiccmp/imlac

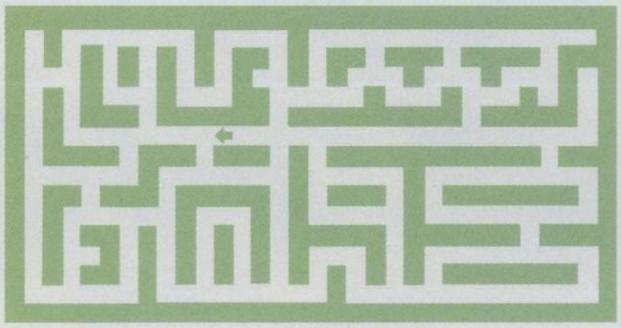
PDP-8



Originally introduced in the mid '60s, the PDP-8 was Digital Equipment Corporation's entry into the then non-existent personal computer market. (*Space War*, the first videogame, was created for the original PDP-1.) The PDP-8 went

see students using the equipment to play games all night. Even so, Vezza is said to have partaken in these deathmatches from time to time, proving that the allure of the game was too great for even the most diehard workaholics to escape.

When *MazeWar*'s network packets were slimmed down to work across the primitive Internet of the 1970s, MIT and Stanford got into some very heated battles. This is evidenced by the *MazeWar* main page, where it claims that the game was banned by DARPA from the ArpaNet because "half of all the packets in a given month were MazeWar packets flying between Stanford and MIT."



The MIT *MazeWar* lab became famous in geek circles. Refugees from all over the country would stop in and play the game, then return to their place of origin filled with stories of sneaky kills, the backwards technique, and the triumphant feeling of besting a room full of EE majors.

PARCED

One such refugee was named Jim Guyton, and in 1976 he began working at the famous Xerox PARC labs. At the time, Xerox had developed the graphical user interface, the laser printer, and most importantly for *MazeWar*, 3Mbps Ethernet. With networking capabilities as advanced as this, Guyton immediately felt that PARC was the perfect place to recreate *MazeWar*. He got hold of the Imlac source code, and over the course of the next few years, managed to get it up and running on their internal network of Xerox Altos. It was here that MazeWar solidified into its most commonly seen form, with a floating eyeball representing the player.

Since then, *MazeWar* has continued to morph. When Infocom was formed to make games for personal computers, one of the first projects they considered was a commercial version of the game. Later, the Macintosh got its own *MazeWar*, as did Solaris and the venerable PC. The original was even used in a court case during the '90s to prove that the first-person shooter was not a patentable product, since it was obviously prior art.

To most people, *MazeWar* is completely unknown, relegated to the footnotes of gaming history in much the same way the Leadbelly is listed as an appendix note in the history of rock n' roll. But if you ever happen to be sniffing network traffic across an Internet backbone late at night on some summer evening, you may just come across a ghost packet, the tattered remnants of some long forgotten game of MazeWar still bouncing around UDP purgatory searching desperately for a host with which to connect. ■

through numerous revisions, and some of the machines were large enough to fill a room while others were small enough to fit beside a desk.
technology.niagarac.on.ca/people/mcsele/pdp8.htm

PDP-10

The predecessor to the PDP-11, the most famous of DEC"s PDP line, the PDP-10 was a workhorse designed to act as the big iron of its day. In the early '70s, ARPANET was populated with many PDP-10s, and many computer labs around the country ran TOPS-10, the Time-sharing Operating System, which relegated users to scheduled use times. This helped create the image of the hacker staying up all night using their PC: Running TOPS meant that the professors got their processes run during the day, and the geeks without tenure had to wait until 3AM to get access to the system.
columbia.edu/acis/history/pdp10.html

PDP-10

XEROX ALTO

In 1979, a new Xerox Alto computer sold for $32,000. It was the first commercial computer to feature the WIMP concept (Windows Icons Mouse Pointer). It ran the Star Desktop system, which was remarkably similar to the Macintosh operating system released years later.
histoire.info.online.fr/alto.html

XEROX PARC

The Xerox Palo Alto Research Center is the famous birthplace of many modern computing essentials. While much of the research and development was first proposed and created outside of the center, PARC was where it was refined and made into a viable commercial product. Steve Jobs first saw an operating GUI at PARC, which inspired him to launch the Lisa and Macintosh projects at Apple.

Xerox Alto