inside
electronic
Game design

Read about the history of electronic game design—and where it's going in the future!

Exclusive interviews with 24 leading game designers!

Learn how to launch a profitable career in game design!

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Electronic gaming slid through the early and mid-1970s in this fashion. Hardwired video game units and stand-alone devices (using LED and then LCD screens) flooded the market, but the design component was too primitive to require specialized expertise.

Most who got to design games did their work "unplugged." They designed board games, including military simulations and fantasy role-playing games for companies like Simulations Publications (SPI), Avalon Hill Game Company, and Game Designers Workshop. And in their off-hours, they haunted the arcades, playing *Pong* and dreaming of better days.

The "Nice Try" Programmables

To the untrained eye, video game technology inched ahead at a glacial pace during the first half of the seventies. Behind the scenes, developments unfolded with the suddenness of a midwinter blizzard. Development of more powerful microprocessors and more efficient memory storage units gave pioneering electronic gamemakers the tools they needed.

Everyone in the industry could see that hardwired games were a dead end. A cartridge system boasted more flexibility at a lower retail price. Consumers might be willing to buy one *Pong* machine, but they would never buy a new machine every time they wanted a different game. The beauty of a cartridge system is that consumers buy the hardware once, instead of purchasing it anew for each game. Though the Odyssey's programmability was a wonderful feature, the unit itself didn't have the graphics or data-crunching power to do much with it. In this one respect did single console games like *Pong* have an advantage. But hardware engineers believed they knew the answer: Put the operating system and other permanent code into the console and put only the specific instructions for the game in the plug-in cartridge.

RCA's programmable console reached market first, around 1975, but it made no dent. Black-and-white graphics and a collection of games little better than *Pong* kept the RCA Studio from developing a following.

Fairchild's Channel F, which made its debut in 1976, had improved color graphics and smaller controllers, but their games were also not very good. The company wasn't very experienced

with this sort of entertainment, so Channel F, too, couldn't penetrate the market to any great extent.

The Bally Professional Arcade debuted in mid-1977. It could have changed electronic game design history, but it didn't. Its high price ($299 retail) and daunting promotional rhetoric prevented mass market sales. Many saw it as a junior computer, not a high-voltage video game machine, and the public wasn't yet ready for that leap.

This machine, conceived by the same company that earlier disdained video coin-ops, was utterly different than the ones that ultimately succeeded with the public: the Atari Video Computer System (VCS) and Magnavox's Odyssey^2. The VCS, the most popular machine, was a black box like the Nintendo Entertainment System or Sega Genesis—with the innards of its console off-limits to the user—but the Bally system let the average person actually program his or her own video game designs. Its console incorporated a calculator-style keyboard, 8K of memory, and ports for up to four controllers. These were a story in themselves, combining joystick and paddle functions in one compact unit.

Bally's pride and joy was a cartridge that taught owners how to program in BASIC, a "plain English" coding system popular in the late 1970s and 1980s. Programs could be stored on tape cassettes and transferred to the Pro Arcade.

The system's documentation and advertising spoke confidently of how Professional Arcade owners would advance from playing prepared software to creating their own. It was no idle dream. User groups formed around the unit generated many programs, including games, until Bally stopped supporting its stillborn progeny. (Astrovision bought the project and relaunched it in 1981, but without success.)

The Bally Professional Arcade had four resident software titles: a calculator, a drawing program, and two games. *Gunfight* made excellent use of the unit's controllers. The one- or two-player side-perspective shoot-out armed buckaroos with six shots each. The gamer moved the gunfighter in a limited area with the stick, aimed with the paddle, and fired by pressing a button.

Checkmate, the other game, was a one- to four-player kinetic strategy contest with the same play-mechanic as Atari's later *Surround*. The player guides a constantly elongating line so that the head didn't intersect any other line, on-screen obstacle, or the playfield boundary.

These games set the style for the system's software library: streamlined, action-oriented play-mechanics; a dash of strategy; and colorful but simple graphics with no playfield background detail. In short, these games were fun to play without being so complex that smart Bally Professional Arcade users couldn't imagine programming something as good or better.

The Stage Is Lit

Virtually all of the systems described so far must be classified as partial successes. They fired the public's imagination and whet consumers' appetites for this type of experience. In that sense, they were the necessary precursor to the world of interactive electronic entertainment as it is today.

Of all the aspects of interactive electronic entertainment discussed so far, only coin-ops translated the glamorous, cutting-edge image into a sizable on-going market. The pay-for-play machines became an integral part of amusement centers in the 1970s, but nothing comparable happened in the home sphere. A few electronic toys, like the various home *Pong* units and Mattel's *Electronic Football* sold well, but no attempt to entertain with computer technology achieved market penetration comparable to videocassette recorders in the 1980s, let alone stereo and television.

Yet, like a Broadway play just before the curtain rises, everything was in readiness. The technology had become more powerful, interactive electronic entertainment had acquired a favorable image, and manufacturing efficiencies had lowered retail prices. Game-lovers could feel, with some confidence, that it was only a question of time until reality caught up with their dreams.

Chapter 2
The Golden Age
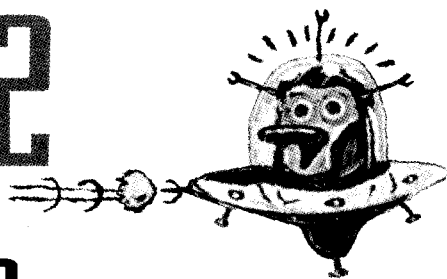
Some historians contend that innovations such as the steam engine occur when it's "steam engine time." When society is ready for something, it happens. That's why, say proponents, seemingly revolutionary inventions like radio are often discovered virtually simultaneously by several individuals.

For instance, if the Wright Brothers hadn't invented the airplane, someone else would have. The technology was available, and society had potential uses for an airplane. Given those factors, the airplane was inevitable, and the only question was who would have the honor of actually making the breakthrough.

If the theory is valid, "electronic gaming's time" arrived in 1978, ushering in a Golden Age of Video Gaming that lasted until 1984. Rapid changes and a generation of new products made electronic gaming an identifiable hobby and opened the door for careers in electronic game design.

The Road Not Taken

The Atari 2600 and the Magnavox Odyssey[2] rocked home entertainment in 1978. Their instant retail success launched video gaming's "golden age" and did much to shape the game design environment for years to come.

Could the Bally Professional Arcade, or even the Fairchild Channel F, have cracked through eventually? It's not likely, considering their deficiencies. Yet it could have happened. And had

one of those stillborn platforms overcome its handicaps, it would have profoundly affected the role of the game designer, since dramatically altering hardware capabilities radically changes the design job. What a difference that might have made to electronic entertainment in general, and game designing in particular.

Provocative "what if?" scenarios about the Channel F are scarce because Channel F was just too primitive. Had it somehow succeeded against all reason, Channel F's shortcomings might have blunted the first video game boom and set the technological timetable back a half decade or so.

The Bally Arcade is another, more tantalizing question. Better marketing and merchandising, plus a lower price, could have turned this gaming computer into a hit.

If the Bally Arcade had caught the public's interest, the US game business might be more like its British counterpart. In the United Kingdom, small computers filled the niche occupied by cartridge consoles in the United States. Instead of closed boxes like the Atari 2600, young Britons bought fully programmable computers. While America's youth perfected *Pac-Man* strategies, British youngsters dabbled in programming their tiny machines. That's partly why there are more game software programmers per capita in the United Kingdom than in the United States.

Bally actively encouraged customers to try coding their own stuff. Widespread popularity for the Professional Arcade could have rewritten the subsequent course of game design history. It might have ushered in an era of do-it-yourself video game design. The shareware boom of the late 1980s could have started a decade earlier.

When Cartridges Were King

Neither the Professional Arcade nor Channel F set enough pulses racing, and just as these hardwired devices started to fade, North American Philips (NAP) and Atari introduced their programmables. The architecture of these cartridge systems, as well as all subsequent cartridge players, shaped the design function.

The Odyssey[2] and the Atari VCS, soon renamed the Atari 2600, were generally similar but radically different in their particulars. The Odyssey[2] had a flat, or monoplanar, keyboard and a chip set that favored plain backgrounds and intricate foreground images.

Become a Game Designer!
Learn the Secrets of the Trade from Professionals

Learn how to take a raw concept for a terrific game and turn it into a design specifications document even seasoned professionals will respect. This book covers every step! Starting with a history of electronic game design, *Inside Electronic Game Design* guides you through everything you need to know to crack the game design industry.

Find out what goes on behind the scenes in the exciting world of interactive electronic entertainment! Here at last is a complete overview of how the game business works, what the game designer's role is, and how you can become a serious player. From dream to disk, this book covers everything you need to know to start a career in game design! Learn how to:

- Explore careers in the game design industry
- Create a red-hot proposal
- Develop the preliminary design
- Network like an insider
- And much more!

EXCLUSIVE
Interviews with over
24
leading game designers
EXCLUSIVE

Including a sample game proposal and lists of contacts and schools for designers, this book and your imagination are all you need to plunge into the fast-paced world of game design.

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