Introduction of video games

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Abstract

Video games play an important role in entertainment industry. This paper is to introduce video games and show the history and development of video games. The end of paper explain serious game.

Keywords

Video games, development, history, platform, serious games

Introduction of video games

A video game is not a movie or a utility office software. Video games contain a great deal of electronic games which involves human interaction with a user interface to generate visual feedback on a video device. Arcade games, handheld games(PSP,3DS devices), mobile games(iPhone, Android, Windows Phone devices)and Smart TV games etc, all of these are video games. Video games are different from audio games. The word video in video game referred to a raster display device, but in the 2000s, it implies any type of display device that can produce two- or three-dimensional images.

The electronic systems used to play video games are known as platforms; examples of these are personal computers and video game consoles. These platforms range from large mainframe computers to small handheld computing devices. Specialized video games such as arcade games, in which the video game components are housed in a large chassis, while common in the 1980s, have gradually declined in use due to the widespread availability of home video game devices (e.g., PlayStation 4 and Xbox One) and video games on desktop and laptop computers and smartphones.

The input device used for games, the game controller, varies across platforms. Common controllers include gamepads, mouses, keyboards, joysticks, the touchscreens of mobile devices and buttons. In addition to video and (in most cases) audio feedback, some games in the 2000s include haptic, vibration or force feedback peripherals.

The video game industry is of increasing commercial importance, with growth driven particularly by the emerging Asian markets andmobile games. As of 2015, video games generated sales of USD 74 billion annually worldwide, and were the third-largest segment in the U.S. entertainment market, behind broadcast and cable TV.

History of video games

Early games used interactive electronic devices with various display formats. The earliest example is from 1947—a "Cathode ray tube Amusement Device" was filed for a patent on 25 January 1947, by Thomas T. Goldsmith Jr. and Estle Ray Mann, and issued on 14 December 1948, as U.S. Patent 2455992.

Inspired by radar display tech, it consisted of an analog device that allowed a user to control a vector-drawn dot on the screen to simulate a missile being fired at targets, which were drawings fixed to the screen.

Other early examples include:
The Nimrod computer at the 1951 Festival of Britain
OXO a tic-tac-toe Computer game by Alexander S. Douglas for the EDSAC in 1952
Tennis for Two, an electronic interactive game engineered by William Higinbotham in 1958
Spacewar!, written by MIT students Martin Graetz, Steve Russell, and Wayne Wiitanen's on a DEC PDP-1 computer in 1961.
Pong, a 1972 game by Atari.
Each game used different means of display: NIMROD used a panel of lights to play the game of Nim,OXO used a graphical display to play tic-tac-toe Tennis for Two used an oscilloscope to display a side view of a tennis court, and Spacewar! used the DEC PDP-1's vector display to have two spaceships battle each other.

Nolan Bushnell at the Game Developers Conference in 2011
In 1971, Computer Space, created by Nolan Bushnell and Ted Dabney, was the first commercially sold, coin-operated video game. It used a black-and-white television for its display, and the computer system was made of 74 series TTL chips.The game was featured in the 1973 science fiction film Soylent Green. Computer Space was followed in 1972 by the Magnavox Odyssey, the first home console. Modeled after a late 1960s prototype console developed by Ralph H. Baer called the "Brown Box", it also used a standard television.These were followed by two versions of Atari's Pong; an arcade version in 1972 and a home version in 1975 that dramatically increased video game popularity.The commercial success of Pong led numerous other companies to develop Pong clones and their own systems, spawning the video game industry.

A flood of Pong clones eventually led to the video game crash of 1977, which came to an end with the mainstream success of Taito's 1978 shooter game Space Invaders, marking the beginning of the golden age of arcade video games and inspiring dozens of manufacturers to enter the market. The game inspired arcade machines to become prevalent in mainstream locations such as shopping malls, traditional storefronts, restaurants, and convenience stores.The game also became the subject of numerous articles and stories on television and in newspapers and magazines, establishing video gaming as a rapidly growing mainstream hobby. Space Invaders was soon licensed for the Atari VCS (later known as Atari 2600), becoming the first "killer app" and quadrupling the console's sales. This helped Atari recover from their earlier losses, and in turn the Atari VCS revived the home video game market during the second generation of consoles, up until the North American video game crash of 1983. The home video game industry was revitalized shortly afterwards by the widespread success of the Nintendo Entertainment System, which marked a shift in the dominance of the video game industry from the United States to Japan during the third generation of consoles.

Development of video games

In a narrow sense, video game is a kind of software which must have a hardware device. For example, Contra's game

platform is the FC.
Some platform:
Console, Handheld, Arcade, Personal Computer.

Video game development and authorship, much like any other form of entertainment, is frequently a cross-disciplinary field. Video game developers, as employees within this industry are commonly referred, primarily include programmers and graphic designers. Over the years this has expanded to include almost every type of skill that one might see prevalent in the creation of any movie or television program, including sound designers, musicians, and other technicians; as well as skills that are specific to video games, such as the game designer. All of these are managed by producers.

In the early days of the industry, it was more common for a single person to manage all of the roles needed to create a video game. As platforms have become more complex and powerful in the type of material they can present, larger teams have been needed to generate all of the art, programming, cinematography, and more. This is not to say that the age of the "one-man shop" is gone, as this is still sometimes found in the casual gaming and handheld markets, where smaller games are prevalent due to technical limitations such as limited RAM or lack of dedicated 3D graphics rendering capabilities on the target platform (e.g., some cellphones and PDAs).

With the growth of the size of development teams in the industry, the problem of cost has increased. Development studios need to be able to pay their staff a competitive wage in order to attract and retain the best talent, while publishers are constantly looking to keep costs down in order to maintain profitability on their investment. Typically, a video game console development team can range in sizes of anywhere from 5 to 50 people, with some teams exceeding 100. In May 2009, one game project was reported to have a development staff of 450.The growth of team size combined with greater pressure to get completed projects into the market to begin recouping production costs has led to a greater occurrence of missed deadlines, rushed games and the release of unfinished products.
Some famous video games:
Super Mario Brothers, The King of Fighters, World of Warcraft, Grand Theft Auto.

Serious game

A serious game is a kind of video game which designed for a primary purpose other than pure entertainment. The "serious" adjective is generally prepended to refer to products used by industries like defense, education, scientific exploration, health care, emergency management, city planning, engineering, and politics.

In recent years, the US government and military have periodically looked towards game developers to create low-cost simulations that are both accurate and engaging. Game developers' experience with gameplay and game design made them prime candidates for developing these types of simulations which cost millions of dollars less than traditional simulations, which often require special hardware or complete facilities to use.

Advantages to this include:

Video and computer game developers are accustomed to developing games quickly and are adept at creating games that simulate—to varying degrees—functional entities such as radar and combat vehicles. Using existing infrastructure, game developers can create games that simulate battles, processes and events at a fraction of the cost of traditional government contractors.
Traditional simulators usually cost millions of dollars not only to develop, but also to deploy, and generally require the procurement of specialized hardware. The costs of media for serious games is very low. Instead of volumes of media or computers for high-end simulators, SGs require nothing more than a DVD or even a single CD-ROM, exactly like traditional computer and video games require. Deploying these to the field requires nothing more than dropping them in the mail or accessing a dedicated web site.
While SGs are meant to train or otherwise educate users, they often hope to be engaging. Game developers are experienced at making games fun and engaging as their livelihood depends on it. In the course of simulating events and processes, developers automatically inject entertainment and playability in their applications.

Reference

Shaomin, Hu (2008). *Conspectus of Game Programming.* Tsinghua University Press,Beijing.

Rabin, Steve (2005) [2005-06-14]. *Introduction to Game Development*. Massachusetts: Charles River Media. ISBN 1-58450-377-7.

Marvin Yagoda (2008). "1972 Nutting Associates Computer Space". Archived from the original on 28 December 2008.

Orlando, Greg (15 May 2007). "Console Portraits: A 40-Year Pictorial History of Gaming". Wired News. Retrieved 2007-10-24.

Miller, Michael (1 April 2005). "A History of Home Video Game Consoles". InformIT. Archived from the original on 12 October 2007. Retrieved 2007-10-25.

Kent, Steven L. (2001). *The Ultimate History of Video Games: From Pong to Pokémon*. Three Rivers Press. p. 500. ISBN 0-7615-3643-4.

"The Definitive Space Invaders". *Retro Gamer* (Imagine Publishing) (41): 24–33. September 2007. Retrieved 2011-04-20.

Ernest Adam (2009-07-09). “Sorting Out the Genre Muddle”. Gamasutra. Retrieved 2009-05-23.