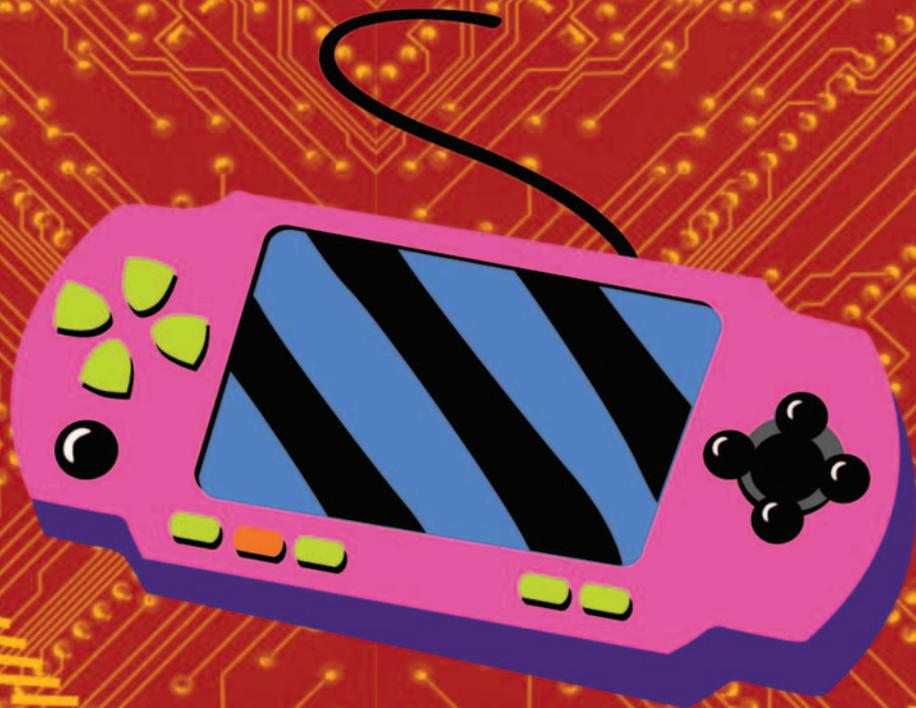


TECHNOLOGY 360



Video Games

BY KEVIN HILE

Video Games

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LIBRARY OF CONGRESS CATALOGING-IN-PUBLICATION DATA

Hile, Kevin.

Video games / by Kevin Hile.

p. cm. -- (Technology 360)

Includes bibliographical references and index.

ISBN 978-1-4205-0170-4 (hardcover)

1. Video games--Social aspects. 2. Video games--History. I. Title.

GV1469.34.S52H55 2009

794.8--dc22

2009006250

Lucent Books
27500 Drake Rd
Farmington Hills MI 48331

ISBN-13: 978-1-4205-0170-4

ISBN-10: 1-4205-0170-4



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“As we go forward, I hope we’re going to continue to use technology to make really big differences in how people live and work.”—Sergey Brin, co-founder of Google.

The past few decades have seen some amazing advances in technology. Many of these changes have had a direct and measureable impact on the way people live, work, and play. Communication tools, such as cell phones, satellites, and the Internet, allow people to keep in constant contact across longer distances and from the most remote places. In fields related to medicine, existing technologies—digital imaging devices, robotics and lasers, for example—are being used to redefine surgical procedures and diagnostic techniques. As technology has become more complex, however, so have the related ethical, legal, and safety issues.

Psychologist B.F. Skinner once noted that “the real problem is not whether machines think but whether men do.” Recent advances in technology have, in many cases, drastically changed the way people view the world around them. They can have a conversation with someone across the globe at lightning speed, access a huge universe of information with the click of a key, or become an avatar in a virtual world of their own making. While advances like these have been viewed as a great boon in some quarters, they

have also opened the door to questions about whether or not the speed of technological advancement has come at an unspoken price. A closer examination of the evolution and use of these devices provides a deeper understanding of the social, cultural, and ethical implications that they may hold for our future.

Technology 360 not only explores how evolving technologies work, but also examines the short- and long-term impact of their use on society as a whole. Each volume in Technology 360 focuses on a particular invention, device or family of similar devices, exploring how the device was developed; how it works; its impact on society; and possible future uses. Volumes also contain a timeline specific to each topic, a glossary of technical terms used in the text, and a subject index. Sidebars, photos and detailed illustrations, tables, charts, and graphs help further illuminate the text.

Titles in this series emphasize inventions and devices familiar to most readers, such as robotics, digital cameras, iPods, and video games. Not only will users get an easy-to-understand, “nuts and bolts” overview of these inventions, they will also learn just how much these devices have evolved. For example, in 1973 a Motorola cell phone weighed about 2 pounds (.907kg) and cost \$4000.00—today, cell phones weigh only a few ounces and are inexpensive enough for every member of the family to have one. Lasers—long a staple of the industrial world—have become highly effective surgical tools, capable of reshaping the cornea of the eye and cleaning clogged arteries. Early video games were played on large machines in arcades; now, many families play games on sophisticated home systems that allow for multiple players and cross-location networking.

IMPORTANT DATES

1952

A.S. Douglas invents the first computer game. It is a Tic-Tac-Toe game pitting the player against the computer.



1958

The first video game, *Tennis for Two*, which used an oscilloscope to display the tennis ball and net, is created.

1962

The first video game for a regular computer monitor, *Spacewar*, is developed.

1967

Ralph H. Baer creates the first video game system: the Odyssey.

1972

Nolan Bushnell founds Atari, the first big video game company. *Pong* debuts as an arcade game.

1979

Mattel Electronics debuts Intellivision, a home system that combined gaming with computing capabilities.

1982

The Commodore 64 debuts. It is a combination of video game player and home computer.

1950

1960

1970

1980

1977

The Atari 2600 system is released and becomes the first popular 8-bit processor game console.



1980

Pac-Man debuts.

1983-1985

The video arcade business declines in popularity. *Super Mario Brothers* debuts in 1985 and is credited for revitalizing the video game industry.

in the Development of Video Games

>1989

The most successful handheld game console to date, Nintendo's Game Boy, is released.



2003

Linden Labs creates the online life simulation game *Second Life*, an online MMORPG.

1995

The PlayStation from Sony is released.

>2006

Nintendo releases the Wii system, with its unique Wiimote that senses the hand motions of players.



>1993-1994

Congressional hearings on violent video games results in the establishment of The Entertainment Software Rating Board (ESRB), to ensure that video games are labeled with age appropriateness levels and content descriptions.

2007

The Xbox is enhanced as the Xbox 360 Elite video game system. It includes a cable port and 120 gigabytes of hard drive memory.

1990

2000

2010

>1992

Mortal Kombat debuts, spurring on a debate about violence in video games.

>1993

Doom is released by id Software. It becomes the most successful first-person shooter game of the 1990s. *Myst* is released and becomes the most popular puzzle game of its type.

>2000

The Sims debuts on CD-ROM and is later released online.



Bringing Games to Life and Life to Our Games

People have always played games. The ancient Chinese, for example, played a game called mehen (meaning “snake”) that combined a board game with moves of pieces shaped like lions, dogs, and balls on a large field. The Egyptians loved the game senet—a board game resembling cribbage in some ways. Over the centuries, games have slowly changed, with many popular ones, such as chess and checkers, still being played today. There are card games; board games; word games, like crossword puzzles; and math games, like Sudoku.

With the onset of the technological revolution in electronics in the 1970s and 1980s, and the rise of computers, games changed in a fundamental way. No longer were people moving pieces on a board by hand or writing out answers on a piece of paper. Instead they began playing games using a computer monitor. They began experiencing games in a virtual—rather than physical—world.

This advance seemed innocent enough at first. While the technology was still new, the primitive and limited capabilities of early video games were more of a novelty than a cultural phenomenon. The first people to play video games were engineers and other highly educated technophiles, people enthusiastic about technology who not only understood



how to play computerized games but who could also write the programming for them. Later crude games like *Pong*, *Asteroids*, and *Donkey Kong* had limited graphics capabilities. Many players lost interest in them by the early 1980s.

Technology progressed, however, and video games became more and more realistic. Today video and the ability to control characters' actions on the screen have become so convincingly true-to-life that the experience is almost like living in another world. Whether using a home system, such as the Nintendo Wii or PlayStation 3, or playing online, players are now submerged in a virtual reality where they can assume another character's identity, seek outlandish adventures in another world, make friends, communicate with

Games have been played throughout history. Ancient Egyptians, for example, played the game of senet, a board game resembling cribbage.

other players, and even conduct real business transactions or attend business seminars.

Video games have come a long way, and they have become more than just an entertaining pastime; in 2008 they were a \$35-billion industry worldwide. They have become part of our culture and an influential part of our lives. Many people have embraced the video game revolution as a benefit to society, making a case for how it has increased social networking, but others worry that it encourages violence, laziness, and social isolation.

The future holds many possibilities for video games, including branching out beyond gaming and evolving into a kind of second reality where people can socialize, conduct business, and even go to school. How we use them will be up to us.

Transformation of the Arcade

Like many other technological inventions, the sophisticated video games of the twenty-first century can be traced back to much more primitive, simple roots. The forerunner of today's popular video games was the pinball machine. Although not the refined, computerized pinball machines we see today, the first modern pinball machines appeared in the 1930s. They evolved from a nineteenth-century game called bagatelle that was similar to Skee-Ball. This was modified into a game called Baffle Ball—invented by David Gottlieb in 1931. Baffle Ball was more similar to pinball games and included the bumpers and flippers with which anyone who has played pinball is familiar. Gottlieb, as well as a growing number of competitors, made money by placing pinball machines in penny arcades. They then collected the change that players inserted into the games, giving the arcade owners a cut of the money.

It might surprise people today that, in the first half of the twentieth century, pinball machines were illegal. This was because slot machine manufacturers decided to take advantage of pinball's popularity. They combined the features of slots and pinball into new games that combined skill and luck. Because gambling was illegal in some states like New York, it was banned for many decades. To get around this issue,