A history of Video Games

Computer Literacy 1 Lecture 9
09/10/08

Topics

- The Early Years (1952 - 1970)
- The Golden Age (1971 - 1983)
- The Modern Age (1984 - 1994)
1952 in The Early Years

- 1952 A.S. Douglas writes a version of “Tic-Tac-Toe” (“Noughts and Crosses”) as part of his doctoral thesis in Cambridge
- “Noughts and Crosses” was written for the EDSAC emulator (Electronic Delay Storage Automatic Computer) which Memory contained 512 words of 17 bits
  - EDSAC was constructed by Maurice Maurice V. Wilkes and his team at the University of Cambridge in 1949

EDSAC
Noughts and Crosses

Download Noughts and Crosses here:
http://www.dcs.warwick.ac.uk/~edsac/

Still Early Years

- 1958 William Higinbotham, an employee at the U.S. Government's Brookhaven National Laboratory, creates a very simple form of tennis using an oscilloscope as interface
  - Sometimes referred to as the original “Pong” but it’s not
  - Higinbotham never patented his game and only used it for one occasion which was an open day at his lab
Early Years 1962

- At MIT Steve Russel creates “Spacewar!” while working on his graduate degree
  - A number of his co-students is involved in its development
  - Subsequently it gets modified and new feature appear (e.g. a star field, gravity effects)
  - Has significant impact and is seen by a thousands of students one of whom is Nolan Bushnell

Early Years 1966 - 1970

- 1966 Ralph Baer explores ways to use TV as display device for computer games
- 1969 Ralph Baer files a video game patent for creating a Television Gaming Apparatus and Method
- 1970 Magnavox signs deal with Baer to develop the Odyssey (first ever gaming console)
**Odyssey**

**1970**

- Same year Ralph Baer signs with Magnavox
  - Nolan Bushnell starts developing “Computer Space” based on “Spacewar!”
    - “Computer Space” will become first game people are paying for to play
    - Beginning of the Golden Age
      - the age of Arcade Games
Video games were abstract concepts and experiments before Ralph Baer and Nolan Bushnell brought video games into people's homes and into arcades.

During this era, video games begin to make their mark on society and culture, hence the Golden Age.
Golden Age - The Beginning

- 1971 Bushnell sells “Computer Space” to Nutting Associates
  - Due to the game’s complexity it intimidates people and makes no money
  - First arcade video game is a financial failure

Golden Age - The Beginning

- 1972: At the same time Bushnell fails, Baer and Magnavox manage to sell 100,000 units of the Odyssey for a $100 (home entertainment)
- For an Odyssey emulator and games please see http://www.pong-story.com/odyemu.htm
1972 Atari

- 1972: Bushnell leaves Nutting and forms Atari
- Al Alcorn joins him as his first engineer and they develop “Pong” (still as an Arcade game not for home use)
- “Pong” is unlike “Computer Space” very simple and not intimidating the user
- Magnavox sues Atari for “Pong” because of its similarities to their “video tennis” on Odyssey
- Magnavox wins and Atari has to pay a licensing fee for “Pong”
The Golden Years

- Also in 1972: Will Crowther codes “Adventure” (“Colossal Caves”) in Fortran
  - It becomes the template for all text-based adventure games (e.g. “Zork” series)
    - “Adventure” online: http://sundae.triumf.ca/pub2/cave/node001.html

1976

- Atari introduces home version of Pong
- Atari also introduces a sit-down first person driving experience to arcade goers → “Night Driver”
- First appearance of Steve Jobs and Steve Wozniak
  - They work both for Atari and create game “Breakout”
  http://www.silvergames.com/game/break-it/
1977: Atari releases the **VCS** (video computer system) or **2600** which becomes the industry standard for the next years and also provides the largest software for any console during the golden age of computer games (home entertainment)

1978: Taito (Japan) introduces “**Space Invaders**” into the arcades

- Leading to 2 firsts:
  - It implements the first use of animated characters in video games
  - And it is the first game that provides a high score
Still Golden Age

- 1979: Vector graphics can be used to create games from now on
- Following Taito's example more Japanese companies are releasing games on the international market
- And also within the US more and more companies are jumping on the bandwagon

1980-1983

- More and more vector graphic games are created within this time
- 1980: “Pacman” is born and released to the Arcades by Namco
- 1981: “Super Mario” is introduced by Nintendo (also in Arcade games)
- 1981: Namco releases first game that targets female users (“Ms Pacman”)
- 1982: Time magazine acknowledges computer games and devotes its title-page
- 1983: Atari introduces arcade game “Star Wars”
The Video Game Crash

- Some refer to the end of the Golden Age as “The Video Game” crash in North America
  - The market was flooded with bad games and PCs were becoming more and more popular
  - From the present point of view the crash could be more interpreted as a chance for a new game generation
- Anyway, Japan didn’t have any Video Game crash which explains Nintendo’s, Sony’s and SEGA’s leading positions here
- With the crash starts the Modern Age video games and a slow move away from the Arcades

Modern Age (1984 - 1994)

- 1984 Atari creates the first 3D game “I, Robot”
- Nintendo starts to get a grip on the North American market with its NES (Nintendo Entertainment System)
  - They tested the NES first in New York in 1984
  - After this turned out to be a success, Nintendo released the NES in the whole US in 1986
1987

- Graphics improve more and more (e.g. “Moon Patrol”)
- Atari pioneers the gaming market again by introducing the first colour display handheld - Lynx
- Dungeon Master is released
  - Due to its first-person perspective and real-time elements the game seems much more engaging than its predecessors

1989

- SEGA releases its Megadrive (Genesis in US) outside of Japan
  - Sega owns a reputation for good sports games
  - And when Mortal Combat hits 16-bit consoles, Sega doesn’t censor it while Nintendo does
- SimCity, the first of many Sims games, is released on a variety of platforms
- Where Atari failed with Lynx, Nintendo succeeds with its Gameboy
1991-1993

- 1991 Super Nintendo is released
  - Although it comes two years after Sega’s Megadrive it quickly takes over the market
  - It franchises games like “Super Mario World”, “Jurassic Park”, “Final Fantasy” and “Zelda”
  - It’s 32-bit allows much better graphics
- 1993
  - CDs are being used in game consoles
  - Atari releases its last Game-console called Jaguar

1994: Last Year of Modern Age

- Sega managed to release two consoles this year:
  - The 32X which was a failure
    - Not only didn’t it come with a game in the package, there weren’t even any games available for it in the shops
  - The Saturn which is much better then 32X but challenging to program
- Sony enters the market
  - The PlayStation sells quickly since it is easy to be programmed and its because of its 3D capabilities
Further reading:

- Timeline

Links to old games:

- Pong:
  - [http://www.xnet.se/javaTest/jPong/jPong.html](http://www.xnet.se/javaTest/jPong/jPong.html)
- Space Invaders:
- Ms Pacman
  - [http://www.pacmangame.info/ms_pacman.html](http://www.pacmangame.info/ms_pacman.html)
- Lemmings
  - [http://www.funnygames.nl/spel/lemmings_spel.html](http://www.funnygames.nl/spel/lemmings_spel.html)
Outline for next week

- Games today
- Inside game programming
- Animation
- Games in Education