A history of Video Games

Computer Literacy1 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
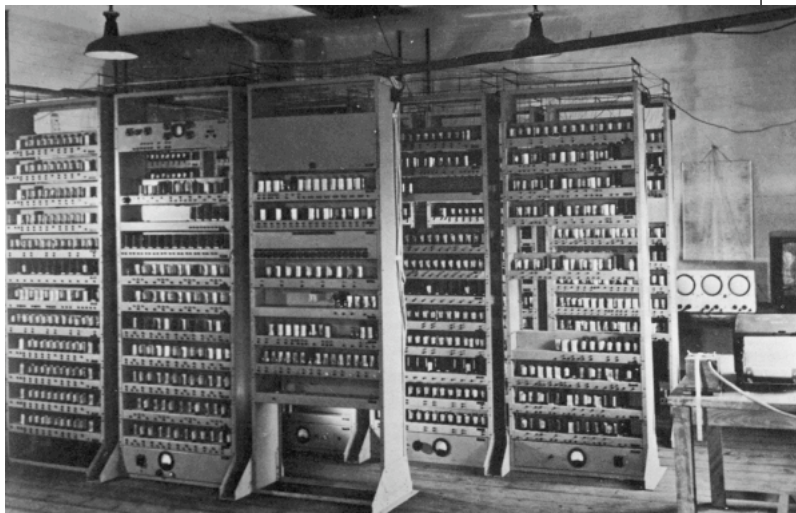
Noughts and Crosses
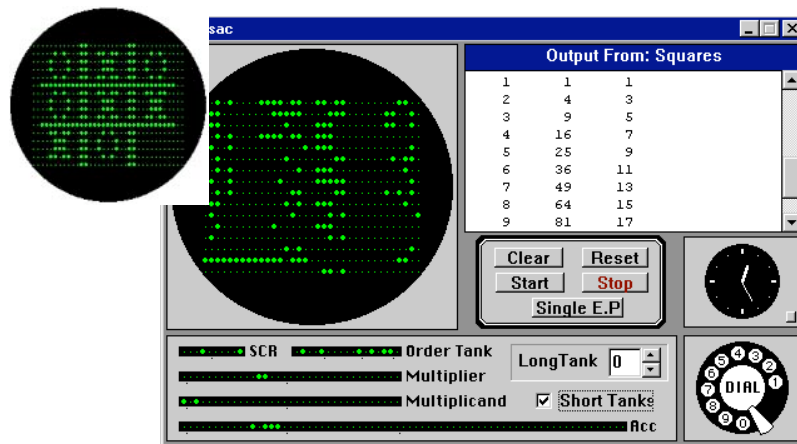
Download Noughts and Crosses here:
http://www.dcs.warwick.ac.uk/%7Eedsac/

Still Early Years

- 1958 William Higinbotham, an employee at the 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
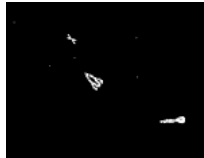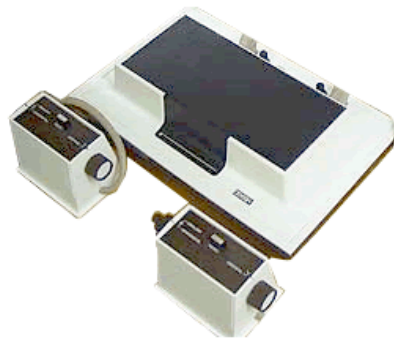

Early Years 1966 - 1970

- 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

Computer Space

The Golden Age 1971 - 1983

- 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 a 100.000 units of the Odyssey for a $100 (home entertainment)
- For an Odyssey emulator and games please see

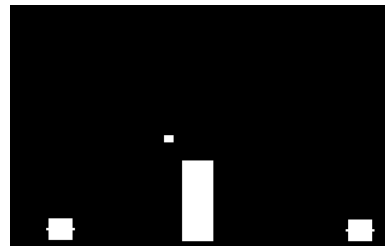http://www.pong-story.com/odyemu.htm

Odyssey advertisement
and game "Vollyeball"

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
    - "Zork" downloads http://www.infocom-if.org/downloads/downloads.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/

Still Golden Age

- 1977: Atari releases the **VCS** (**v**ideo **c**omputer **s**ystem) 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

Atari VCS/2600

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
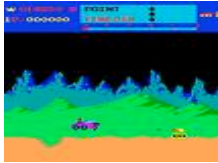
Modern Age (1984 - 1994)

- 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

I, ROBOT
BY ISAAC ASIMOV
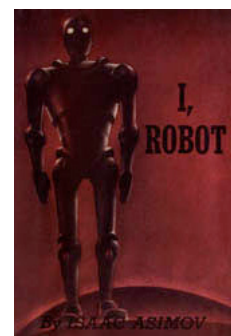
1987

- 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", "Jurasic 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
  - http://www.xtimeline.com/timeline/The-History-of-Video-Games

Links to old games:

- Pong:
  - http://www.xnet.se/javaTest/jPong/jPong.html
- Space Invaders:
  - http://www.arcadevillage.com/olgquarter/si/index.htm
- Ms Pacman
  - http://www.pacmangame.info/ms_pacman.html
- Lemmings
  - http://www.funnygames.nl/spel/lemmings_spel.html

Outline for next week

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