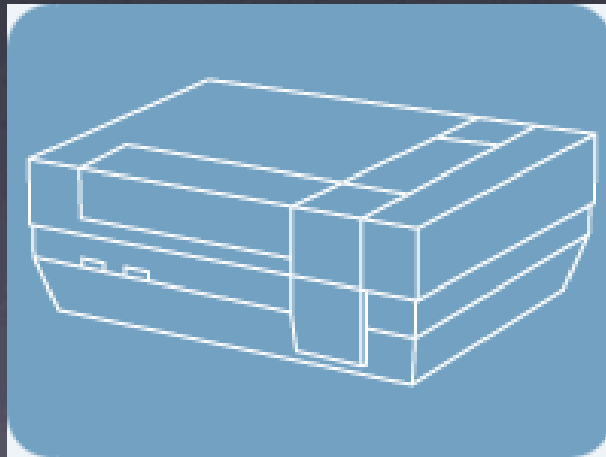


98-026

Nintendo

Bob Rost

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About this Class

- The Instructor
- The Website
- Grading (pass / fail)
Do the assignments on
time to pass.
- Assignments



The Nintendo Entertainment System

- 1.79 MHz Processor
- PPU Graphics Processor
- Helped to restart the video game industry



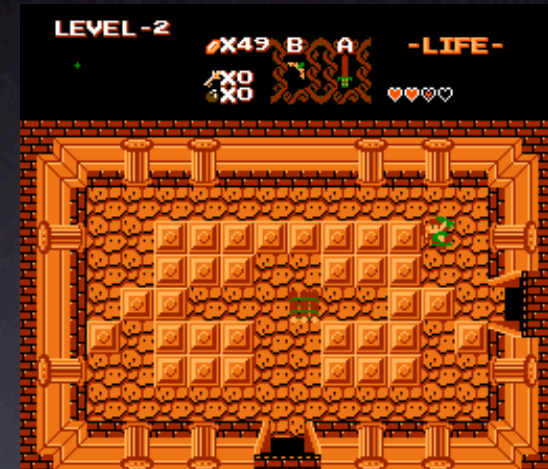
Making Games

- Emulators
- Programming
- Artwork
- Sound
- Level Design
- Hardware



Why Make NES Games?

- “ZeldaC Outlands” ROM Hack.
- This game sucks.



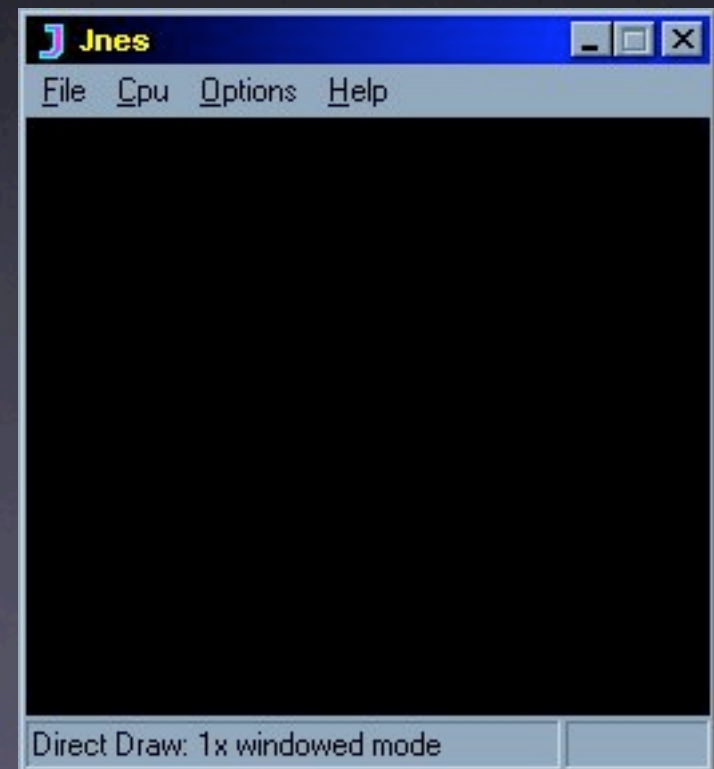
Sack of Flour, Heart of Gold

- Independent Study, 2001-2002
- Created by a team of 5 (programmer, engineer, artist, musician, level designer)
- Will be used as an example throughout this semester



Emulators

- Simulate NES hardware on your computer
- No material cost
- No hardware failure problems



Programming

- 6502 assembly
- nbasic
- nesasm

Artwork

- Very important in games that don't suck
- Have artists do it!

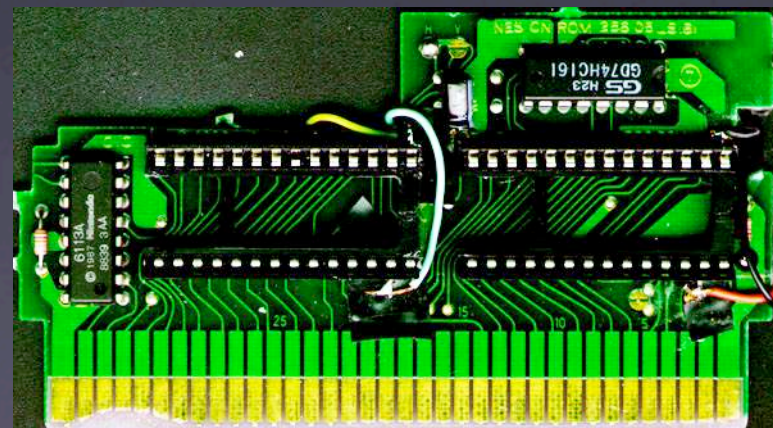


Level Design

- SOF had Plains, Hills, Forest, Space, Egypt
- Levels created in a custom level design tool
- Created first by our level designer
- Visually enhanced by our artist

Hardware

- The final step
- Soldering and Engineering
- Burning ROMs



NES Development Future

- This class. Obviously.
- nesdev.parodius.com

ROMs and Emulators

- ROMs are the cartridges stored on a disk.
- PRG and CHR chips.
- Emulators pretend to be a Nintendo, to play the ROMs.

From Nintendo

Nintendo used to say that emulators are illegal because they can only be used to play illegal games. Now they just strongly imply that.

What are Nintendo ROMS?

A Nintendo ROM ("Read Only Memory") is the type of chip used in Nintendo's video game cartridge which contains the game software. However, this term is commonly used on many gaming sites on the Internet and refers to game data that was copied *from an authentic Nintendo video game cartridge*.

From Nintendo

What is a Nintendo Video Game Emulator?

A Nintendo emulator is a software program that is designed to allow game play on a platform that it was not created for. A Nintendo emulator software allows for Nintendo console based or arcade games to be played on personal computers. *The video games are obtained by downloading illegally copied software*, i.e. Nintendo ROMs, from Internet distributors. Nintendo ROMs then work with the Nintendo emulator to enable game play on the computer.

From Nintendo

The introduction of video game emulators represents the greatest threat to date to the intellectual property rights of video game developers.

Such emulators have the potential to significantly damage a worldwide entertainment software industry which generates over \$15 billion annually, and tens of thousands of jobs.

The emulator promotes the play of illegal ROMs , NOT authentic games.

Nintendo Emulators promote piracy.... It's that simple and not open to debate.

In Spite of all that...

This class will make heavy use of emulators and ROMs.

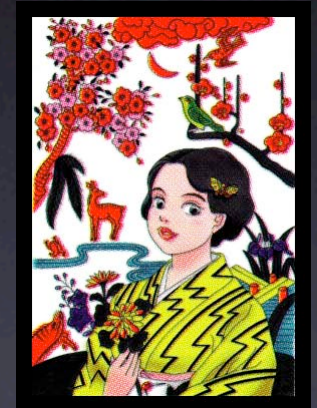
Assignment 1

- Due *before* next Wednesday!
- Earlier is better.
- Make a ROM that displays your name.
- In-class demonstration.

History of Nintendo

<http://www.nintendo.com/corp/history.html>

- 1889 - Fusajiro Yamauchi, great-grandfather of the current president, started manufacturing Hanafuda Japanese playing cards.
- 1902 - Yamauchi began manufacturing the first standard playing cards in Japan
- 1933 - Yamauchi Nintendo & Co established
- 1951 - Changed the company name from Marufuku Co. Ltd. to Nintendo Playing Card Co. Ltd.
- 1963 - Changed name to Nintendo Co. Ltd. and started manufacturing games in addition to playing cards



History of Nintendo

- 1970 - Started selling the Beam Gun series. Introduced electronic technology into the Japanese toy industry for the first time.
- 1973 - Developed laser clay shooting to succeed bowling as a major pastime.



History of Nintendo

- 1978 - Created and started selling coin-op video games using microcomputers.
- 1980 - Created Nintendo of America Inc, a wholly owned subsidiary in New York. Started Selling “GAME & WATCH” product line.
- 1981 - Began distribution of the “Donkey Kong” coin-op arcade game. It became the hottest selling individual coin-op machine in the business.



History of Nintendo

- 1983 - Started selling the Famicom (“Family Computer”) in Japan
- 1985 - Started selling the US version of the Famicom, the Nintendo Entertainment System (NES)
- 1991 - Started selling 16-bit Super NES and “Super Mario World” in the US.



History of Nintendo

- 2001 - Sack of Flour, Heart of Gold released on the Internet by some really cool guys.
- 2004 - The first university class on NES development is offered at Carnegie Mellon. The instructor is rumored to be a really cool guy.



GAME OVER