



DM2116

Principles of Game Design

Lecture 01

Introduction to Game Design





Brief History of Games

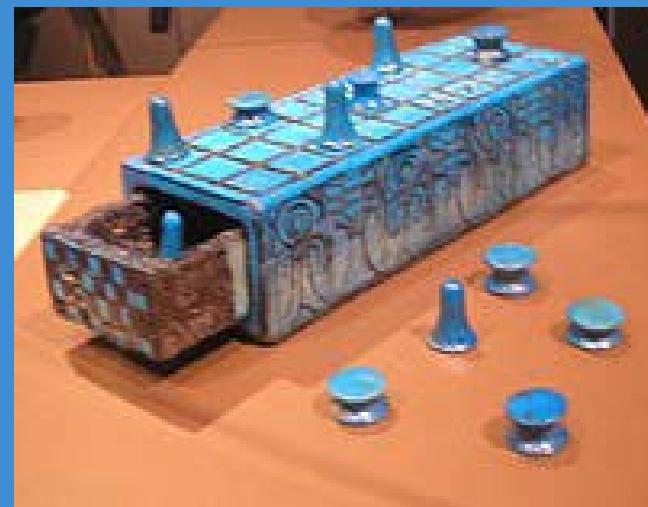
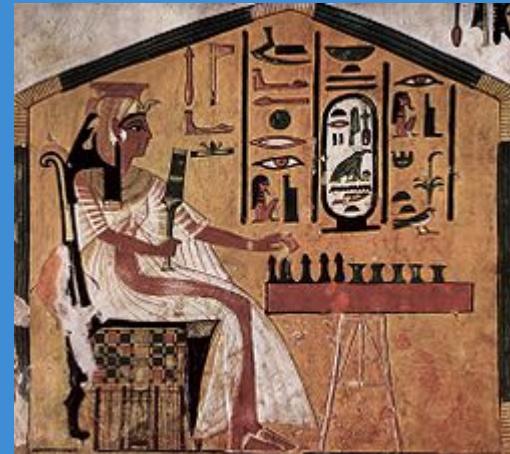
- Games exists for thousands of years
- Different form of games
 - Card game
 - Board game
 - Console game
 - Etc...





Senet

- Oldest known board game
 - 3500 BC
 - Predynastic & ancient Egypt
 - Full name *zn.t n.t h̄nb*
 - *Meaning game of passing*





Mesoamerican Ball Game

- 1400 BC
- *Shoot ball into hoop*
- *Rules:*
 - *Bounce only once*
 - *No hands allowed*





What about Digital Games?





Evolution of Digital Games

- One of earliest known game
 - Spacewar!
 - 1962





Galaxy Game (Sep 1971)

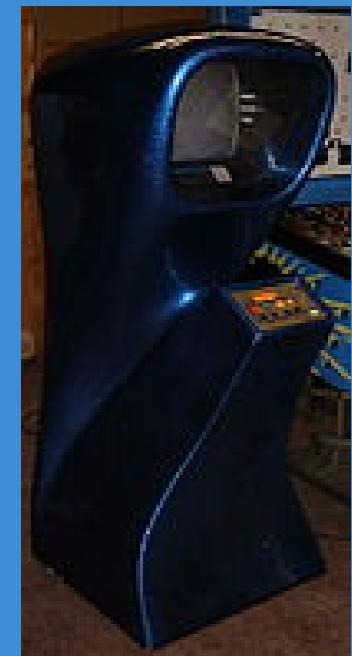
- Earliest known digital game
 - Galaxy Game
 - First Coin Operated Video Game





Computer Space (Nov 1971)

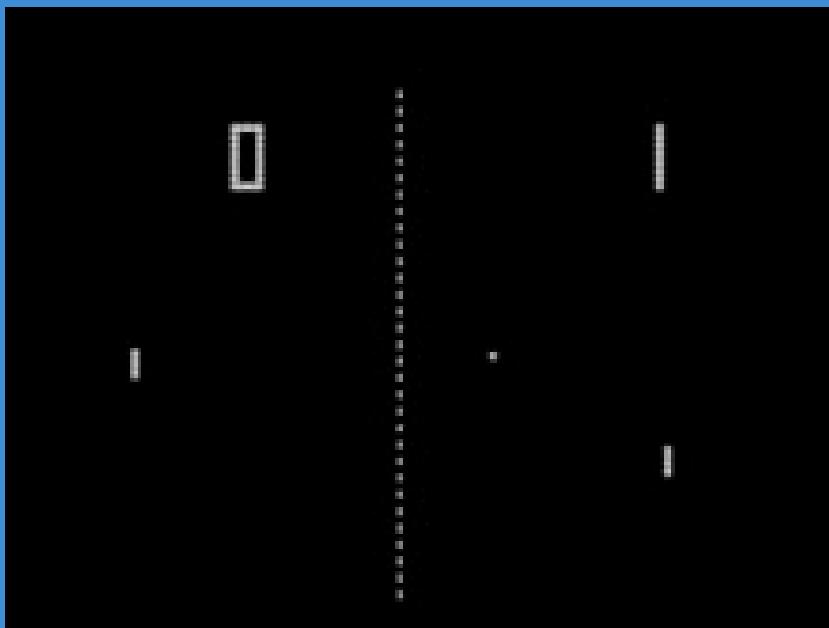
- First offered Commercial sale game
- First mass production game
 - Nutting Associates
 - Created by Nolan Bushnell and Ted Dabney,
 - Founders of ATARI





Pong (1972)

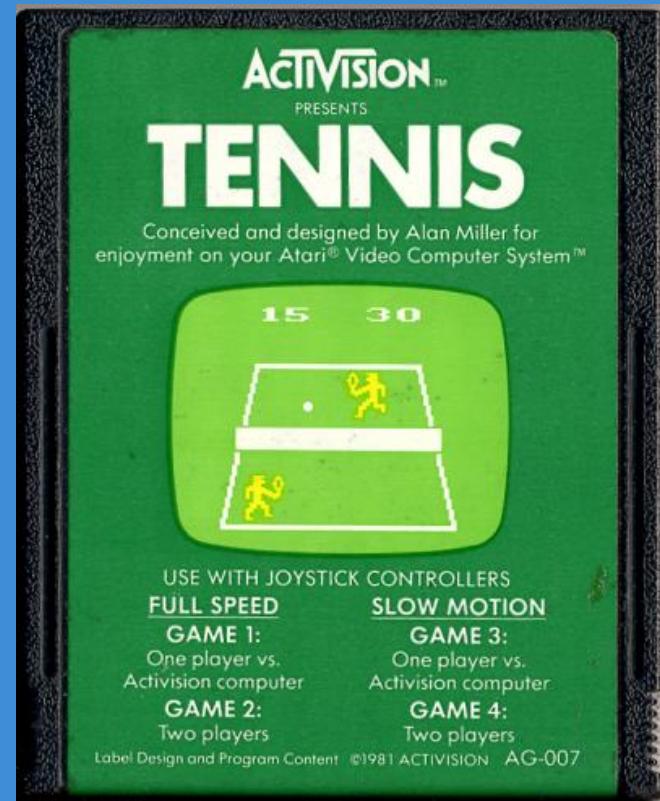
- Designed Allan Alcorn
 - From Atari





Golden age 1978-1986

- COLOR Arcane Games
- e.g Tennis 1981
- Video game crash 1983





1990s

- 16 bit consoles enter market





1990s & 2000s

- 32 bit Era





Evolution of Video Games

- Demand for better graphics
- Virtual Tennis 3 (2007)





Evolution of Video Games

- Demand for better graphics
- Virtual Tennis 4 (2010)





Evolution of Video Games

- Demand for Realism
- TitanFall (2014)





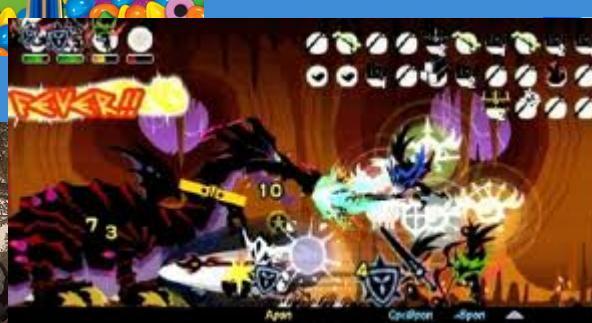
Evolution of Video Games

- Demand for Mobile Social Media





What is A Game?





Are these Games?

- Sims 3
 - Electronic Arts





Are these Games?

- Brain age
 - Nintendo

The image shows the cover art for the Nintendo DS game "Brain Age: Train Your Brain in Minutes a Day!" on the left and a screenshot of the "Time Lapse" minigame from the game on the right.

Brain Age Cover Art:

- Title:** BRAIN AGE™
- Slogan:** Train Your Brain in Minutes a Day!
- Minigames shown:** Sudoku (Included!), Memory, Math, and Clock.
- Rating:** E (Everyone)
- Text at bottom:** IS YOUR BRAIN YOUNG OR OLD?

Time Lapse Minigame Screenshot:

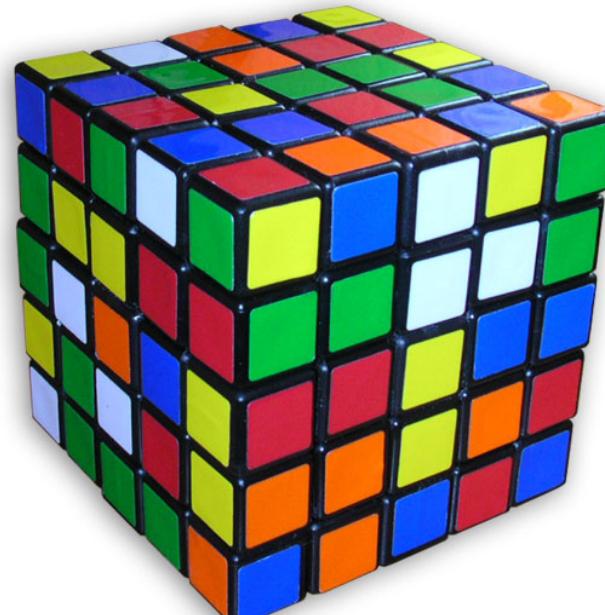
- Top Buttons:** Back (red), More (green).
- Text:** How much time has passed?
- Visuals:** Two analog clocks showing different times, with arrows indicating the passage of time between them.
- Input:** A digital clock on the right where the player can enter the time difference.
- Labels:** L (Left), R (Right) for the touch screen.
- Bottom Text:** Write the hours and minutes.





What about this?

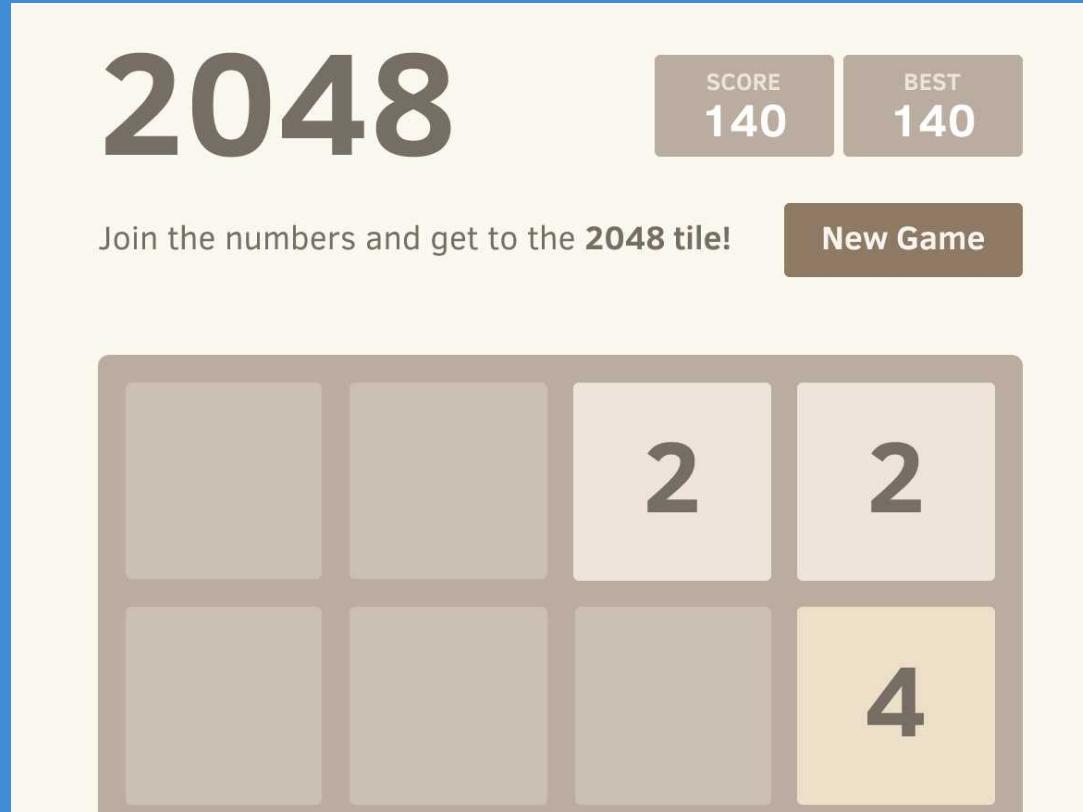
- Professor Cube





What about this?

- 2048





Eric Zimmerman

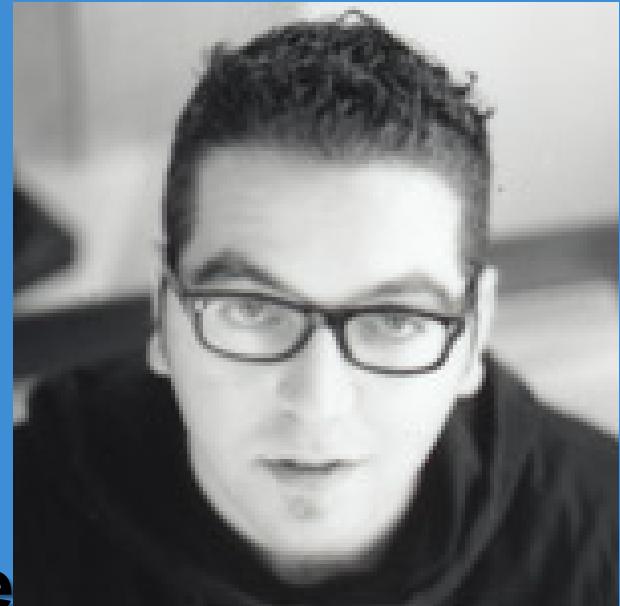
- Designer of Diner Dash
- Writer of many game design books
- “A system in which players engage in an artificial conflict, defined by rules, that results in a quantifiable outcome”





Eric Zimmerman

- **The Game**
 - is a system
 - has player(s)
 - has artificial conflict
 - is defined by rules
 - has a quantifiable outcome





Chris Crawford

- **The Game**
 - makes money
 - is interactive
 - is goal-oriented
 - has competitors
 - some form of attack





Is Soccer a Game?

- Different form of Attack





What is Game Design?

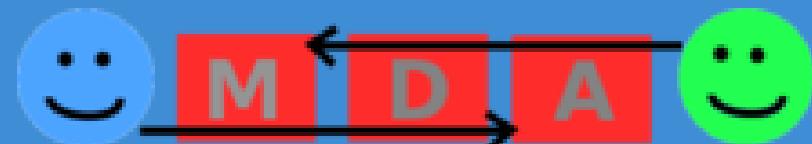
- A process of describing how a game plays through its
 - Contents
 - Rules of play
 - Interactivity





What is Game Design?

- All Game Design Fall into an **MDA** framework
 - **Mechanics**
 - contents & workings
 - **Dynamics**
 - rules & interactivity
 - **Aesthetics**
 - beauty & fun





Game Design == Art ?





Game Design == Science ?





Game Design

- Neither
- Consist of both artistic & functional elements





Importance of Game Design

- The foundation where games are built upon.
- Invokes the atmosphere & mood.
- Creates & decides the rules of play.
- Defines the interactions during play.
- Determines the type & degree of fun.





Game Designer

- are **NOT** programmers
 - Do not need to be an expert in programming
 - Create game concept & convey the game ideas
 - Design the rules of interaction
 - Up to the programmers to write the codes





Game Designer

- are **NOT** artists
 - Do not need to have artistic talent
 - Set the environment and in-game features
 - Supply the artist with references
 - Allow the artist freedom to interpret





Game Designer

- are **NOT** audio engineers
 - Do not need to be a musician or songwriter
 - Invoke the mood and atmosphere
 - Indicate music styles and sound effects
 - Up to the audio engineers to recreate





Game Designer

- are **Visionaries**
 - Develop game concept
 - Portray the game story
 - Create the game levels
 - Design the game mechanics





Project Structure

