Ludology

Ludology: Psychology of fun

- The fundamental purpose of games is to make a "fun" experience ☺
- So what makes them "fun", exactly?

Case Study #1: Angry Birds

Case Study #2: Pokémon Go

Rules to a good game

- So how do we determine what goes into a good game?
  - Focus groups?
  - Case studies?
  - Expert analysis?
  - Empirical research?
  - Blind luck?

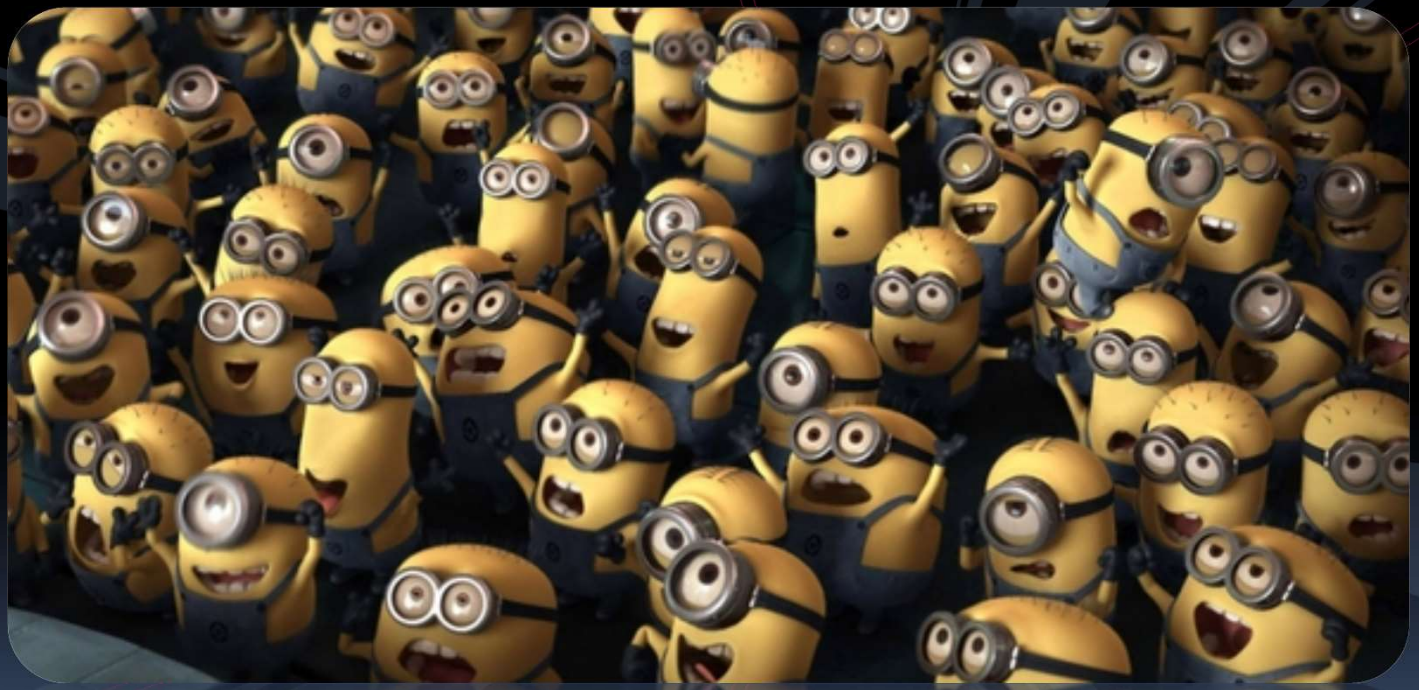
From analysis to design

- The main question to answer is:

> How do you make a fun game?

- For this course, we provide this advice:
  - Consider your audience
  - Determine what kind of experience you want to create
  - Construct that experience, layer by layer.

Step 1: Consider Your Audience



Thinking like a producer

- How does one begin to make a "fun" game?
- Start by asking questions….
  - *What is your audience?*
  - *What kind of game are creating?*
  - *What kind of experience are you creating?*
  - *What resources are available?*
  - *What budget is available?*

- The answers to these will determine what kind of fun can be built into your game.

The role of producers

- Producers are responsible for understanding what will make this game distinctly fun.
  - Need to understand the game's subject matter.
  - Need to know the gamers.
- Also responsible for managing the team.
  - Communicating the goals and priorities of the game.
  - Organizing the tasks and team members.

How do producers succeed?

- Not everybody is meant to be a producer.
  - Need to have a vision (which understands and incorporates the way people think).
  - Need to communicate that vision, while also incorporating the ideas of others on the team.

Lesson #1…

Nobody wants to make a bad game.

(↑ go to shaqfu.com)

- Famous game design quote:
  - "Games are never finished, just released"

<u>Games pictured here:</u> ET: The Extre-Terrestrial, Charlie's Angels, Sonic the Hedgehog (2006), Pac-Man (Atari 2600)

Producers vs Marketing

- Producer side
  - Considers interests of target demographic to make game.
- Marketing side
  - Determines target audience of existing game.
    - Focus groups
    - Playtesting
  - Promotes to this audience
    - Appeal to loyal fans
    - Appeal to new audiences

Step 2: Pick an Experience

Lesson #2

Most games have the potential to be fun.

- There are general rules (like the ones provided here) that help people make sure that the game doesn't fail for avoidable reasons.
  - That's why critiques are good, to identify these mistakes.

Games pictured here: *Crush the Castle, Angry Birds*

The game design process

- Steps for making a fun game:
  1. Start with a good mechanic
     - make one good level
     - make tutorial
     - make extensions
  2. Establish a solid UI
     - controls
     - communication/rules
     - progress & feedback
  3. Make it challenging
     - know your audience
     - optimal flow
     - balance
     - playtesting
  4. Polish the look and feel
     - immersion/consistency
     - stimulation
     - music/sound

Game mechanics

- Game mechanics refer to the fundamental elements of your game that you use to engage your player.
- Gameplay usually refers to the experience that you want your player to have, and employs game mechanics in order to achieve those goals.
- What are examples of fun game mechanics?

Building things up

Games pictured here: *World of Goo*

Knocking things over

Games pictured here: *Boom Blox: Bash Party*

Rolling things along

Games pictured here: *Katamari Damancy*

Concept before context

- Always start with the game mechanic that is fun to do, and build your game around that.
- This is what makes it difficult to build games around existing IP.
  - Unless interacting with the IP itself is the fun part of the game!

Games pictured here: *Simpsons Tapped Out*

Exercise #1: Mechanics

A word of caution

- It's important to make your game unique at this stage, and avoid being derivative.
- Avoid the temptation to look too hard at existing games to find inspiration for yours.

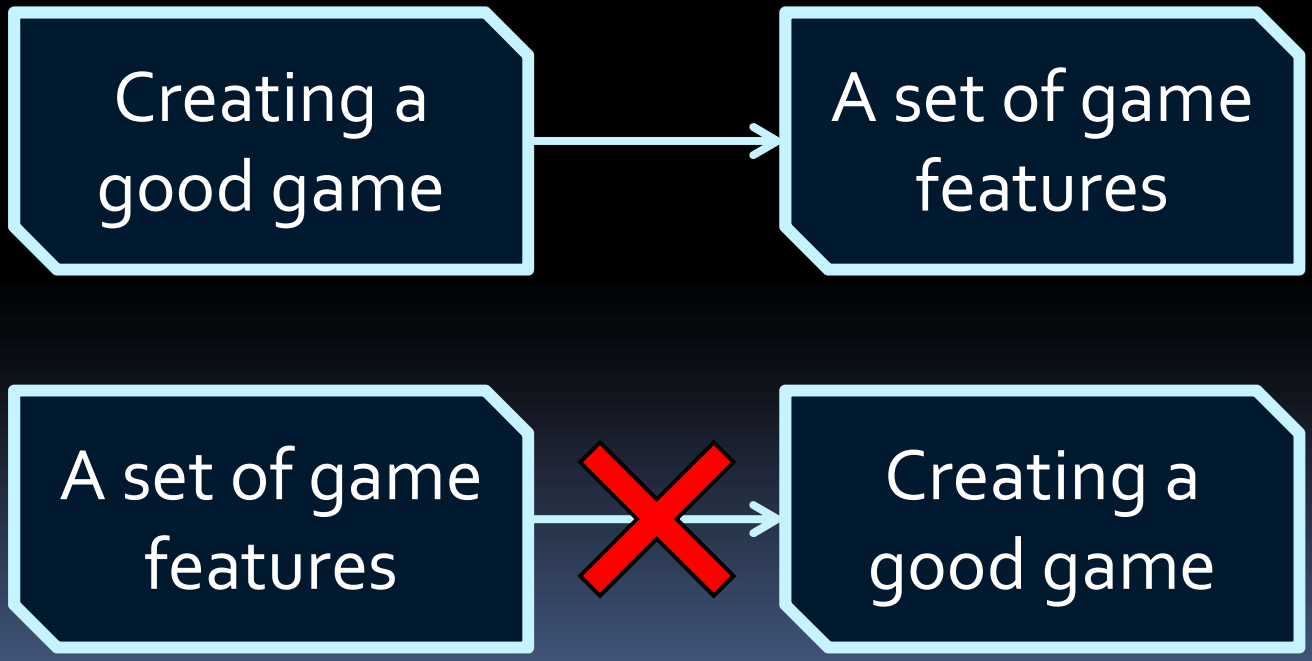
How do we know what works?

- Rapid prototyping:
  1. Agree on a new and innovative idea.
  2. Make it quickly.
  3. Playtest this game.
  4. Iterate:
     - If game isn't working as hoped, return to Step 1.
       - Note: Don't look back!!
     - If the prototype looks promising, only keep what works and take out the rest.
     - Add features with each iteration.

- Do One Thing Well.

Lesson #3

A game is more than a set of features.



Rocket League Trailer

Games pictured here: *Prince of Persia 2: Warrior Within, Duke Nukem Forever, Bomberman Ascenscion, Shadow the Hedgehog*

Step 3: Construct the Game

The layers of a game

- Games have layers, where each new layer builds on the layer before.
- Make sure you consider the order of these layers when scaffolding your experience.

User interfaces for games

- Lesson #4:

UX > UI

- Creating an effective user experience means establishing key game elements:
  - Controls
  - Communication / Rules
  - Progress & Feedback
- Find things your players hate, and get rid of them!

Controls

- Lesson #5:

If the players wants to do something, let them do it.

- Things to consider when setting controls:
  - Responsiveness
    - Sensitivity
    - Speed
    - Simplicity
  - Power
    - Accuracy
    - Orthogonality

Games pictured here: Warcraft 3

Example: Assassin's Creed

Remember the hardware

- Controls need to reflect gameplay.
  - Gave rise to specialized devices:
    - Wiimote, Kinect, Rock Band instruments, etc.
  - Actions should map naturally to game domain.

Games pictured here: *Wii U Tennis, Donkey Konga, Cooking Mama*

Communication

- Games are software products.
  - Certain basic information must be conveyed.
- Key items to communicate:
  - Controls
  - Actions
  - Objectives
  - Motivation
  - Rewards

Games pictured here: *Heavy Rain*

Communication in Games

- Techniques:
  - Controls → Tutorial levels, game manuals
  - Actions → Dialog boxes, highlighted objects
  - Objectives → Floating direction arrows, maps
  - Motivation → Storyline & cutscenes
  - Rewards → Points, powerups, cutscenes, etc.
- Feedback can be through text, audio, sound & musical cues, or the level itself.
  - The more cues, the better.

Example: Prince of Persia

Progress & Feedback

- Lesson #6:

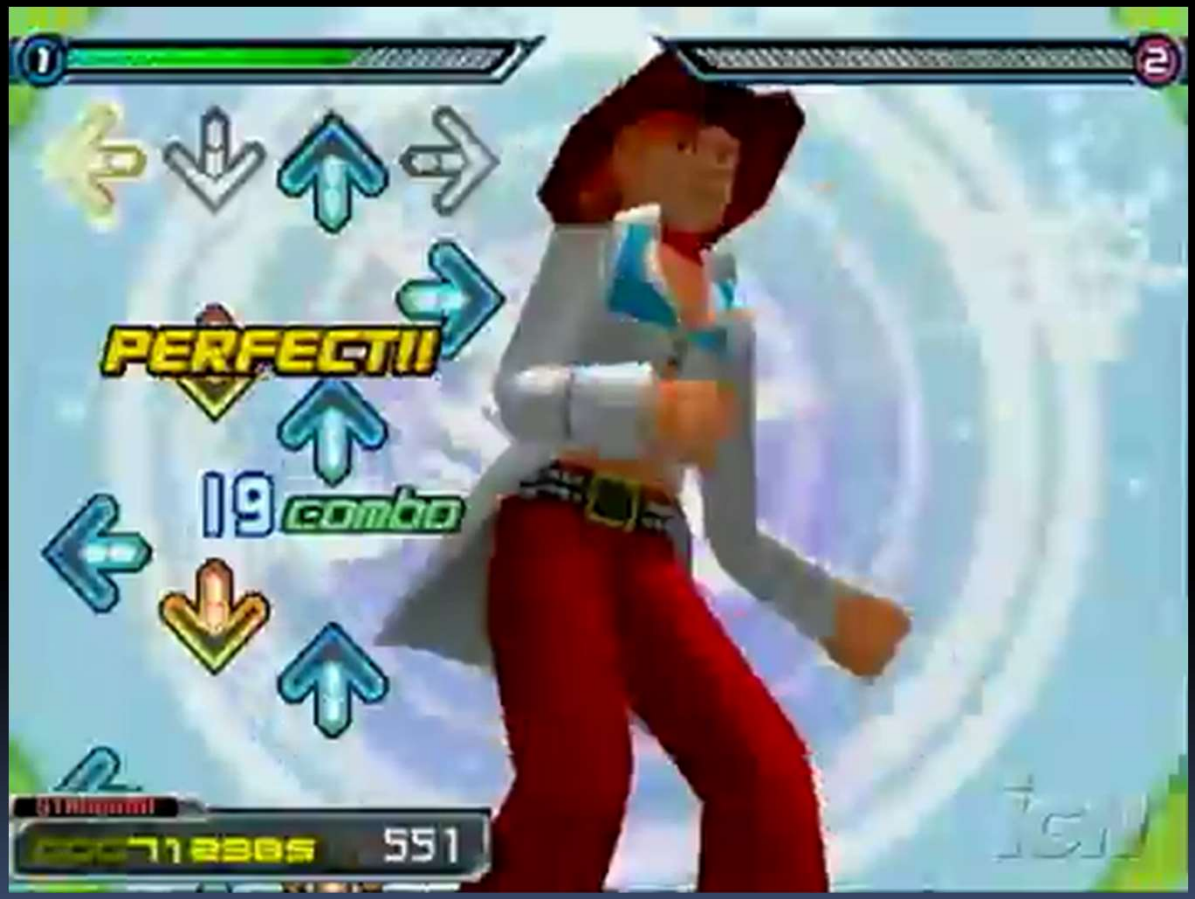
If the player is doing well, tell them. CONSTANTLY.

- Constant feedback is essential:
  - Reinforcing behaviour
  - Indicating progress
  - Providing stimulation

} Example: Boss battles

- Feedback needs to be visual, auditory, sensory, olefactory…whatever you can manage.

Example: Dance Dance Revolution



Rewards

- Rewards reinforce behavior and add gameplay.
  - Challenge + Rewards = Addiction.
- As with the other game elements, rewards can take many forms:

- Sensory content
  - "Dings"
  - Musical fanfare
  - Cutscenes & animations
  - Advancing storyline
- Items
  - Loot/money
  - Weapons, items & upgrades
  - Unlockables & codes
- Positive reinforcement
  - Points/score
  - Achievements
  - Leveling up
  - Intrinsic motivation
  - Beating bosses
  - Social rewards

Exercise #2: Feedback & Rewards

Games pictured here: Final Fantasy X, Sonic the Hedgehog (original), Candy Crush Saga

Challenge in Games

Adding Challenge

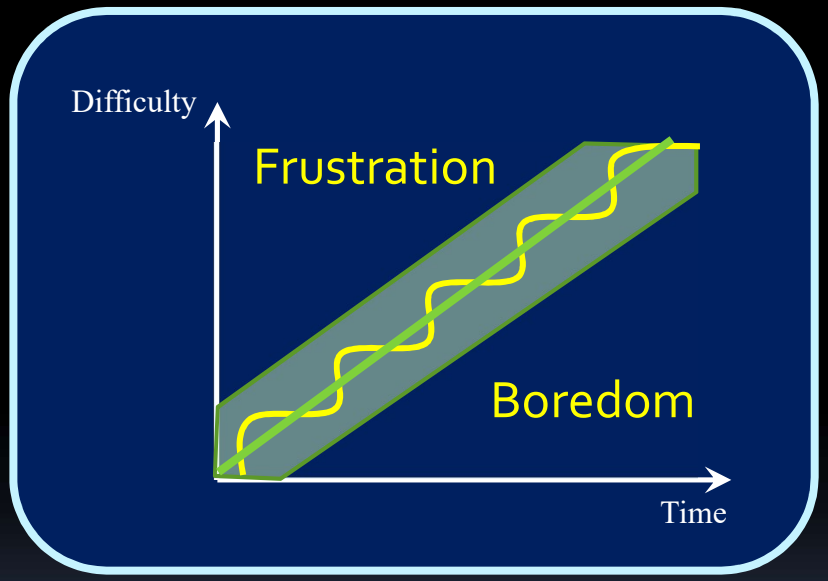
- The challenge of games is what turns them from simply interactive to addictive.
  - Video game addicts exhibit many of the same signs as people with gambling addiction.
  - Combination of challenge and rewards
    - B.F. Skinner's experiments on operant conditioning with variable schedules.

Extensions to basic mechanic

- Tutorial levels
  - Once you perfect a basic level, keep simplifying it until you can't anymore.
    - Most ideas start at Level 5
- Extensions
  - Further levels are created when you consider other applications of the basic mechanic.
  - Example: Boom Blox
    - Point blocks, hazard blocks, powerup blocks, etc.

Achieving optimal challenge

- Several different types of challenge elements.
  - Example: enemies and bosses.
- "Optimal Flow"
  - Technique for increasing difficulty level
  - Helps player acquire and enjoy new skills
- Difficulty elements
  - Reflex skills
  - Enemies vs bosses
  - Adaptive AI
  - Video game clichés
    - Jumper levels, protecting the weak, locked room, stealth, timed levels, etc.



Challenge in different forms

- Need to introduce the challenge elements in different ways, depending on audience and domain of game.
- Examples:
  - Strategy games
    - Problem-solving
    - Using environment
    - Cooperation
  - Resource management games
    - Ammunition/items
    - Health
    - Money
    - Time

Games pictured here:
Machinarium, Civilization

Example: Warcraft 3

- General Gameplay

Example: Warcraft 3

- Tower Defense

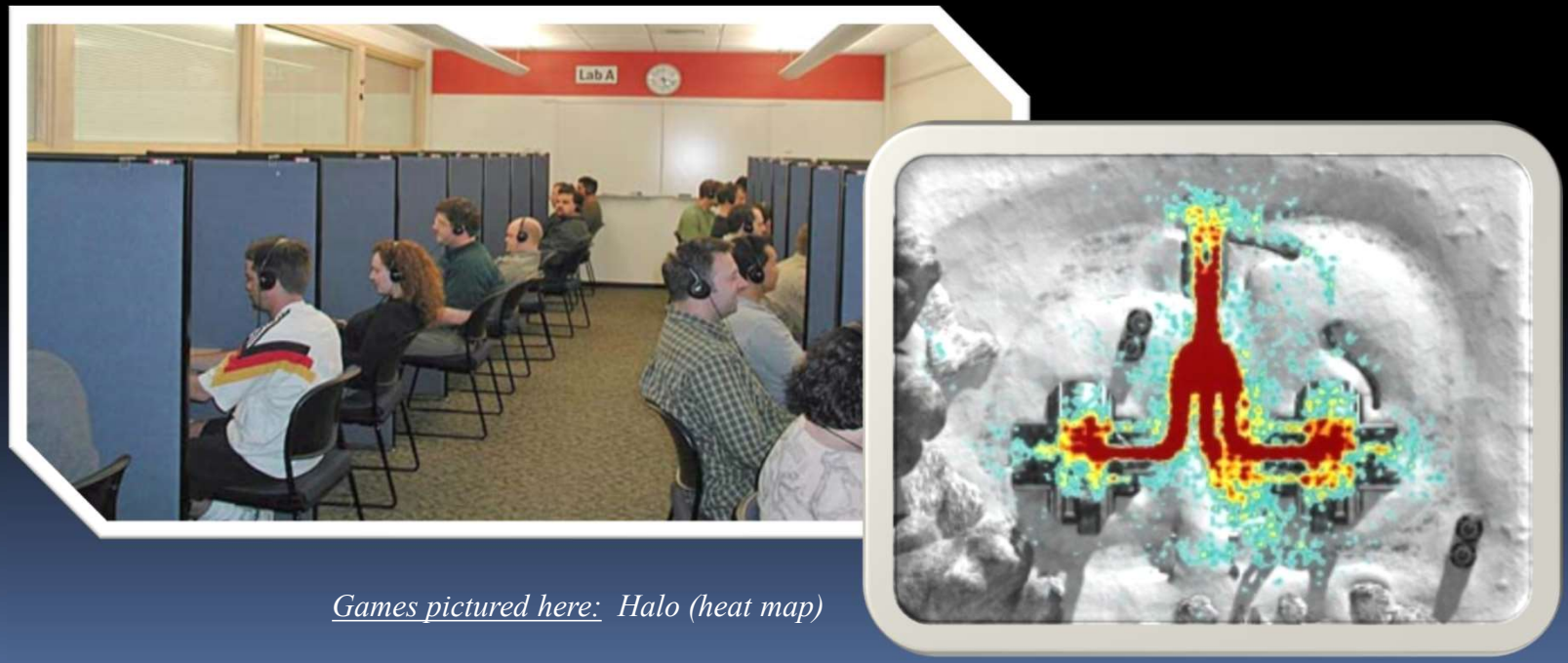
Striking a Balance

- Balance is necessary when multiple options (like strategies and characters) are available.
  - Need to make sure that no characters have unfair advantages.
  - Also ensure that each player type can win multiple ways with multiple characters.

Games pictured here: *Super Smash Brothers (sort of)*

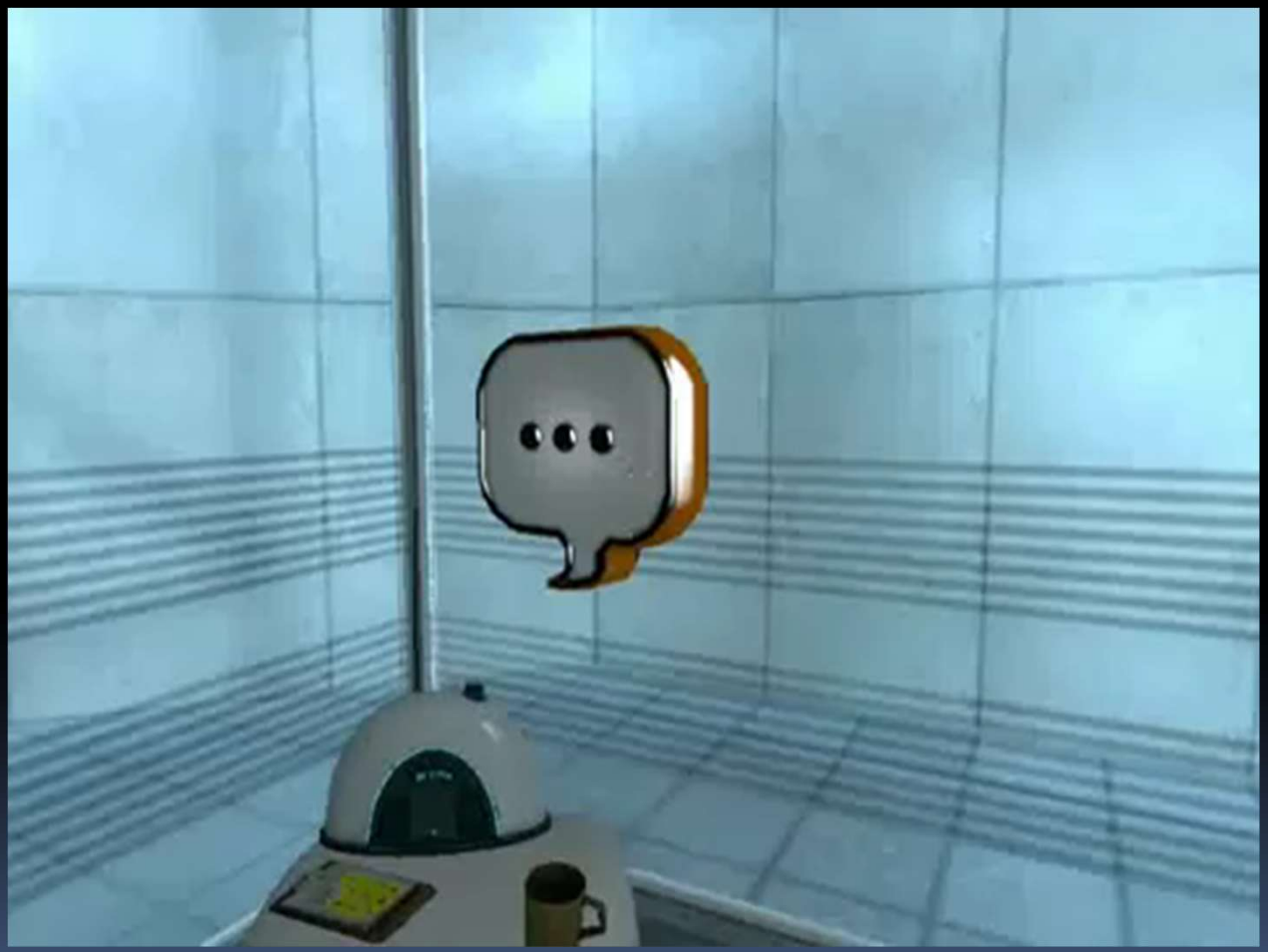
Playtesting (QA)

- Lesson #7: **Playtest. Playtest. PLAYTEST.**
- Playtesters can spot potential issues that developers aren't able to anticipate.

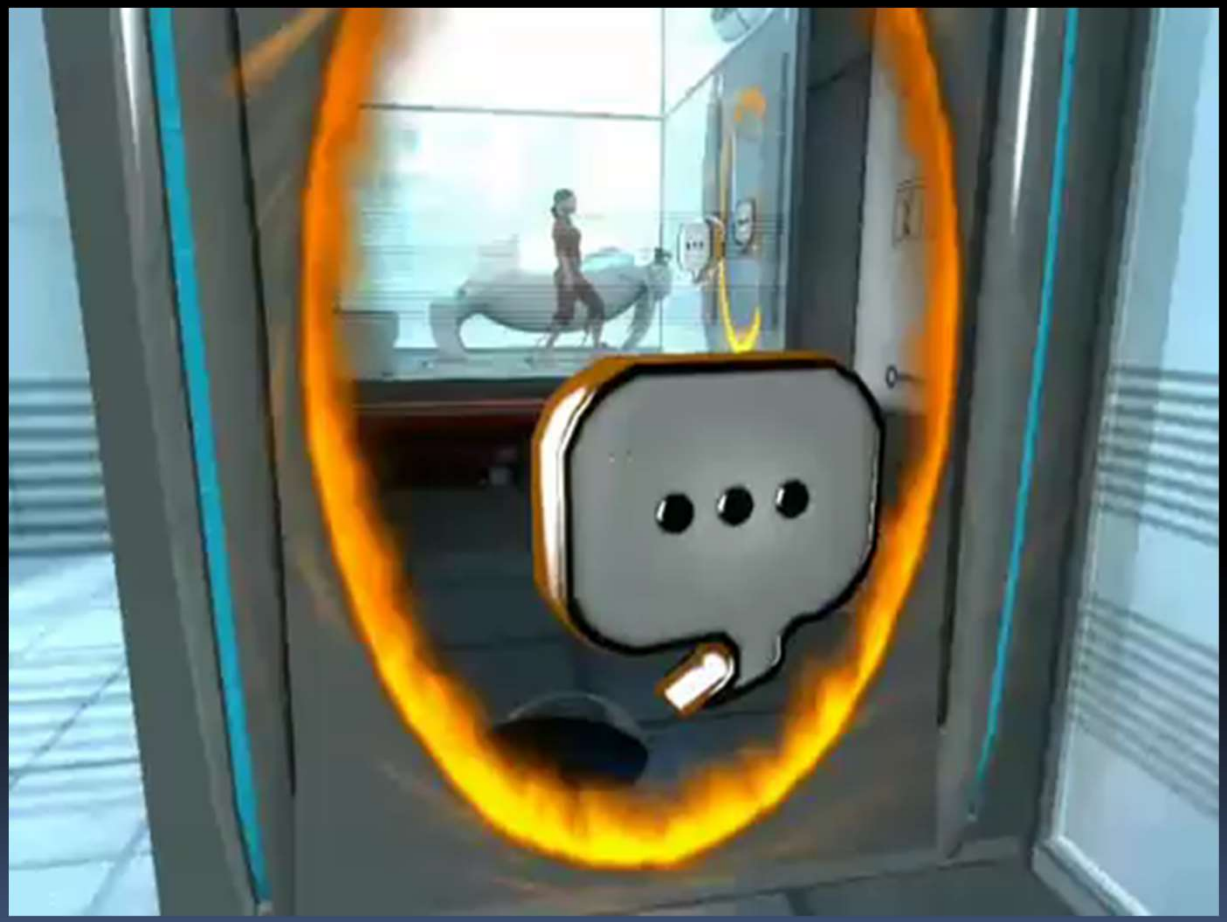


Games pictured here: *Halo (heat map)*

Example: Portal (clip 1)

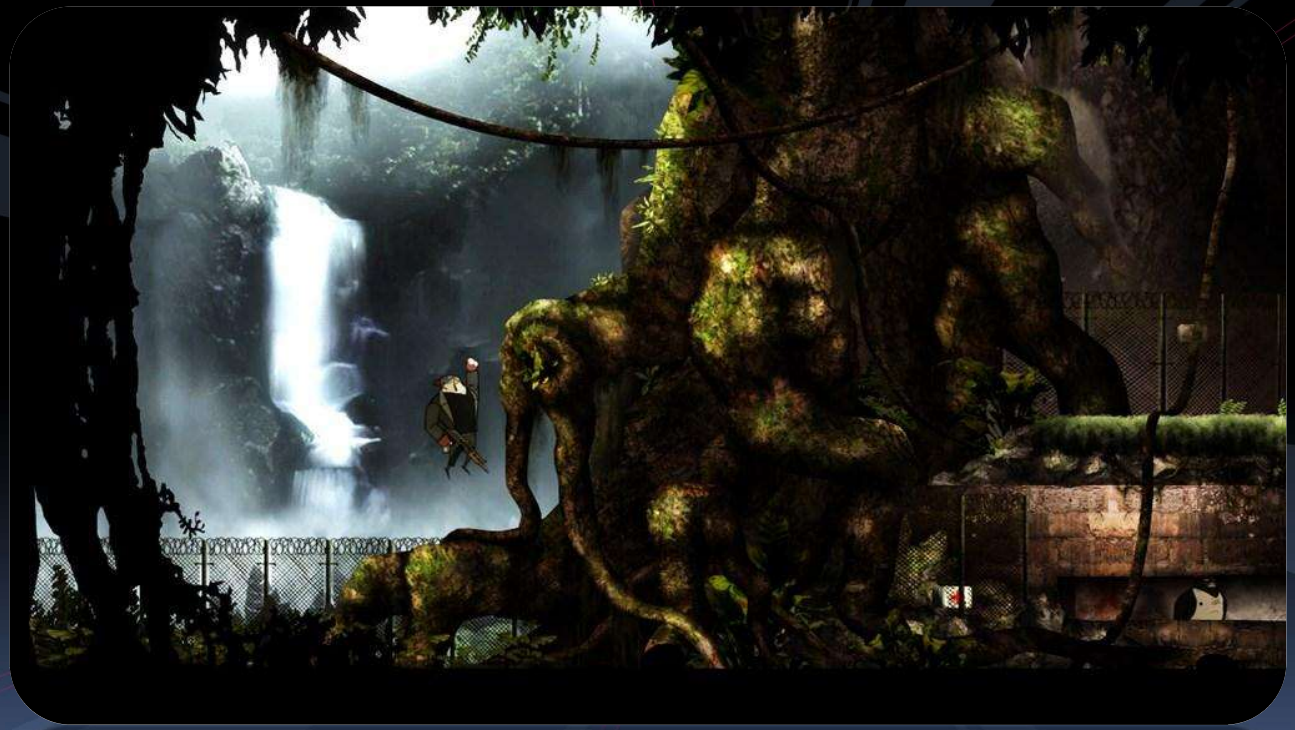


Example: Portal (clip 2)



Example: Portal (clip 3)

Polishing Look and Feel



Immersion

- Immersion is a key goal of your game.
  - Enhanced by cohesion and consistency.
  - Disrupted by distractions and glitches.

Some notes on immersion

- Immersion ≠ Realism
  - Need aspects of both realism and "unrealism"
  - "Unrealism" allows players to interact with a consistent, imagined world.
- Achieving immersion:
  - Well-designed environment
    - Visual cues
    - Physics
    - Interactive/destructible
  - Consistency!
  - Freedom
  - Customization
    - e.g. Sims

Stimulation

- Stimulation is the most obvious game component for most people.
  - However, people often misunderstand "stimulation" to mean the selling features of most action movies.
- Stimulations is a more general term, connected to the senses:
  - Visual & auditory
    - Graphics
    - Sound effects
    - Responsive environment
    - Non-trivial death
      - Visual markers, rituals

Games pictured here: *Dance Dance Revolution*

Street Fighter IV

The importance of music

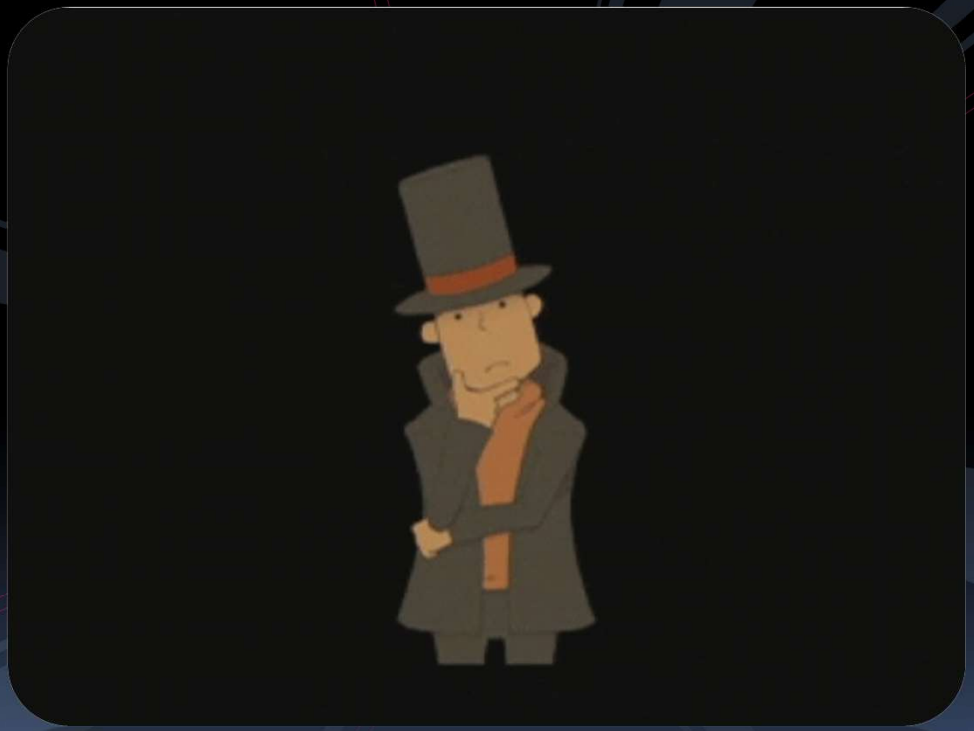
Pictured here: *Video Games Live*

Stimulation

- Other aspects of stimulation:
  - Physiological arousal
    - Adrenaline
      - Capilano bridge study.
    - Physical activity
      - DDR, Kinect games.
    - Humour
      - Makes games "stickier".
    - Emotional response
      - Fear, social stimuli.

Games pictured here: *DDR, Shadow of the Colossus*

Other things to consider



Time

- Lesson #8:

Prototype early, and always have something working.

- All of these factors can be enhanced to the fullest, given unlimited time.
  - Therefore, time is an element that has to be considered and allocated to a game, just like any other.
  - Beware feature creep!
- We'll get into time and project management for games later in the course.

What Can Make A Bad Game

- Bad controls
  - Bad interface
  - Cryptic user menus
- Bad planning
  - Bad directions for user
  - Poor respawning
  - Stupid cameras
- Poor gameplay
  - Repetitive tasks
  - No challenge / unbalanced players
  - Poor AI
  - Unethical games
- Not meeting expectations
  - Deviating from past versions
  - Not meeting user expectations
    - Mismatch with demos/trailers
    - Too much hype
  - Untapped potential
  - No target audience
- Severe penalties
  - Weak characters
  - Severe death
- Game assets
  - Annoying graphics and sound
  - Unrealistic environment/ characters (e.g. bad physics)
  - Irrelevant content

Case Study #3: Grand Theft Auto

Case Study #4: Reward Points