

Ludology

Ludology: Psychology of fun

- The fundamental purpose of games is to make a “fun” experience 😊
- So what makes them “fun”, exactly?



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Case Study #1: Angry Birds



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Case Study #2: Pokémon Go



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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?



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From analysis to design

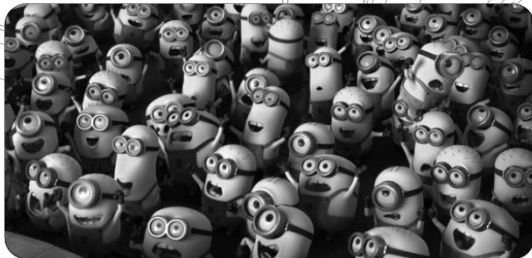
- The main question to answer is:

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.

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Step 1: Consider Your Audience



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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 you 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.



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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.



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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.



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Lesson #1...

Nobody wants to make a bad game.



(↑ go to shaqfu.com)

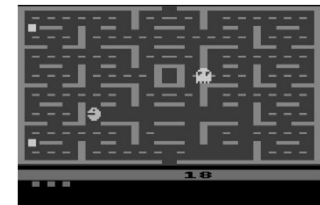


- Famous game design quote:
 - "Games are never finished, just released"

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Games pictured here: ET: The Extra-Terrestrial, Charlie's Angels, Sonic the Hedgehog (2006), Pac-Man (Atari 2600)



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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



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Step 2: Pick an Experience



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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

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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

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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?



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Building things up



Games pictured here: World of Goo

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Knocking things over



Games pictured here: Boom Blox: Bash Party

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Rolling things along



Games pictured here: Katamari Damacy

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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

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Exercise #1: Mechanics



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A word of caution

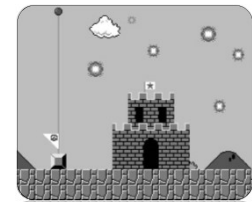
- It's important to make your game unique at this stage, and avoid being derivative.
- Avoid the temptation to look too hard at existing games to find inspiration for yours.



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How do we know what works?

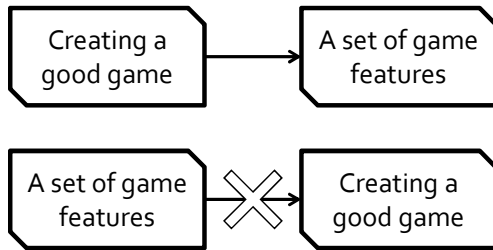
- Rapid prototyping:
 1. Agree on a new and innovative idea.
 2. Make it quickly.
 3. Playtest this game.
 4. Iterate:
 - If game isn't working as hoped, return to Step 1.
 - Note: Don't look back!!
 - If the prototype looks promising, only keep what works and take out the rest.
 - Add features with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



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Lesson #3

A game is more than a set of features.



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Rocket League Trailer



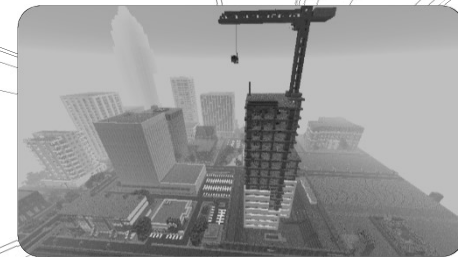
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Games pictured here: Prince of Persia 2: Warrior Within, Duke Nukem Forever, Bomberman Ascension, Shadow the Hedgehog

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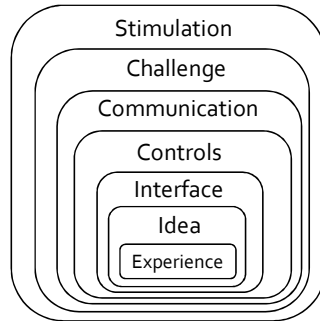
Step 3: Construct the Game



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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.



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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!



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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

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Example: Assassin's Creed



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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

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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

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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.

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Example: Prince of Persia



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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, olfactory...whatever you can manage.

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Example: Dance Dance Revolution



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Rewards



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

- | | | |
|--|---|---|
| <ul style="list-style-type: none"> Sensory content <ul style="list-style-type: none"> "Dings" Musical fanfare Cutscenes & animations Advancing storyline | <ul style="list-style-type: none"> Items <ul style="list-style-type: none"> Loot/money Weapons, items & upgrades Unlockables & codes | <ul style="list-style-type: none"> Positive reinforcement <ul style="list-style-type: none"> Points/score Achievements Leveling up Intrinsic motivation Beating bosses Social rewards |
|--|---|---|

KNOW YOUR MUSHROOMS



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Exercise #2: Feedback & Rewards



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

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Challenge in Games



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Adding Challenge

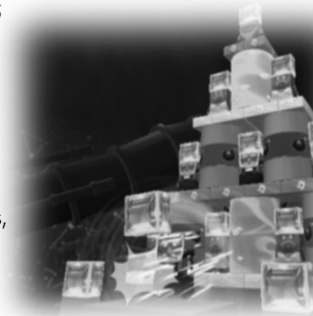
- The challenge of games is what turns them from simply interactive to addictive.
 - Video game addicts exhibit many of the same signs as people with gambling addiction.
 - Combination of challenge and rewards
 - B.F. Skinner's experiments on operant conditioning with variable schedules.



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Extensions to basic mechanic

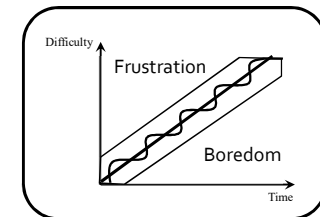
- Tutorial levels
 - Once you perfect a basic level, keep simplifying it until you can't anymore.
 - Most ideas start at Level 5
- Extensions
 - Further levels are created when you consider other applications of the basic mechanic.
 - Example: Boom Blox
 - Point blocks, hazard blocks, powerup blocks,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



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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.



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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*

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Example: Warcraft 3

- General Gameplay



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Example: Warcraft 3

- Tower Defense



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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)

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Playtesting (QA)

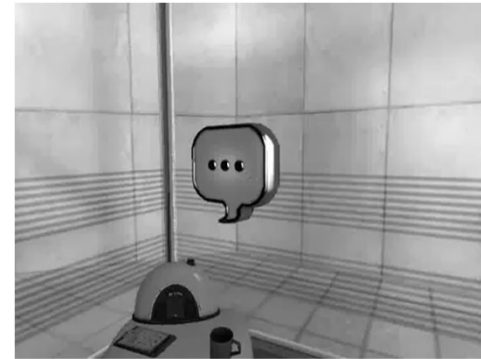
- Lesson #7: **Playtest. Playtest. PLAYTEST.**
- Playtesters can spot potential issues that developers aren't able to anticipate.



Games pictured here. Halo (heat map)

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Example: Portal (clip 1)



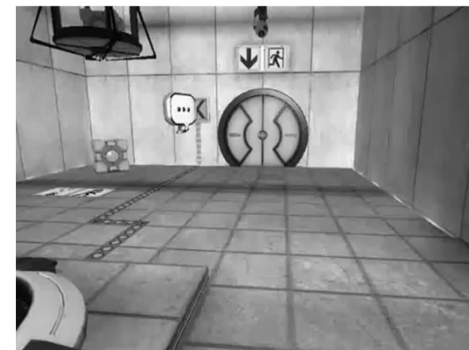
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Example: Portal (clip 2)



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Example: Portal (clip 3)



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Polishing Look and Feel



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Immersion

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



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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



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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.
- Stimulation 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

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Street Fighter IV



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The importance of music



Pictured here: Video Games Live

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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

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Other things to consider



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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.



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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

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Case Study #3: Grand Theft Auto



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Case Study #4: Reward Points



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