Ludology: The psychology of fun

- The fundamental purpose of games is to make a “fun” experience.
- How do we identify the fun elements in existing games?
- How do we take an idea for a game and make it “fun”?

Objectives For Today

- Learn to identify what makes a game fun for your audience.
  - Also, what can make it less enjoyable for certain players.
- Use game mechanics to create a core game experience.
- Add layers of fun to enhance this core game experience.
Step #1: Finding the Fun

Game Player Cognitive Bias

- To start, we need to address the biggest issue that students in this course struggle with:
  
  Playing video games does not make a person an authority on making them.

- Also known as: “Eating food does not make you a good cook”
  - It barely qualifies you as a food critic.

The value of producers

- Producers are responsible for understanding what will make a game distinctly fun.
  - Understanding the game’s subject matter.
  - Knowing the gamers.
  - Player psychology.

- Let’s start with some basic game analysis exercises....
**Case Study #2: Pokémon Go**

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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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**Understanding “fun” games**

- In this course, we present simple principles and guidelines that will help you identify features and avoid biases.
  - Basic psychology and HCI principles.
- From there, we move to evidence-based and empirical approaches to evaluate game ideas.
  - Focus groups.
  - Case studies.
  - Expert analysis.
  - Empirical research.

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**That being said...**

- Nobody sets out to make a bad game.
- Sometimes bad games happen anyway.
  - "Games are never finished, just released"
Step 2: Creating an Experience

From analysis to design

Now the main question to answer is:

How do you make a fun game?

In most game companies, the approach is:

1. Consider your audience
2. Determine what kind of experience you want to create
3. Construct that experience, layer by layer.
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.

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?
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!

Exercise #1: Mechanics

Games pictured here: Simpsons Tapped Out, Flappy Bird, Temple Run, Fruit Ninja, Tetris
Do One Thing Well

- You want your game to be unique.
  - Most successful games draw from the successes of other games during the ideation process.
  - Success often comes from using what works, but also having some novel elements that stand out.

Testing the best ideas

- Your idea might be fun in theory, but rapid prototyping helps to verify this in practice:
  1. Start with innovative idea.
  2. Make it quickly.
  3. Playtest this game.
  4. Iterate:
     ▪ Identify promising game elements to keep, discard the rest.
     ▪ If game isn't working as hoped, return to Step 1.
     ▪ Note: Don't look back!!
- This is the motivation behind game jams.

The Availability Heuristic

A game is more than a set of features.

Creating a good game \(\xrightarrow{\text{leads to}}\) A set of game features

A set of game features \(\xrightarrow{\text{not}}\) Creating a good game

Example: Rocket League Trailer
**Availability Heuristic in Games**

What do gamers generally consider "fun" (according to Metacritic.com):

- Interesting storyline
- Lots of action and/or violence
- Co-op gameplay
- Lots of playable characters
- Elaborate arsenal
- Sick graphics
- Downloadable content

What do game companies do to make their games "fun"? (Hint: think sequels)

- Usually -- give the players what they ask for:
  - Amazing graphics
  - Familiar characters
  - Popular gameplay styles
  - Stimulating atmosphere
  - Sex and violence
  - Killer soundtrack
  - Cinematics
  - (whatever else made the original game popular)

**Step 3: Constructing the Game**

Many ideas have the potential to be fun.

- There are general guidelines (like the ones we provide) 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: Prince of Persia 2: Warrior Within, Duke Nukem Forever, Bomberman Ascension, Shadow the Hedgehog

Games pictured here: Crush the Castle, Angry Birds

CSC404: Video Game Design © Steve Engels
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

- Remember: 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!

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.

Controls

- “Agency”:
  - If the players want to do something, let them do it.

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

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

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.
Progress & Feedback

Tell the player what they are doing right and wrong, constantly, in multiple ways.

- 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.

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

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

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.

Playtesting (QA)

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

Street Fighter IV

The importance of music

- Other aspects of stimulation:
  - Physiological arousal
    - Adrenaline
      - Capilano bridge study.
    - Physical activity
      - DDR, Kinect games.
    - Humour
      - Makes games "stickier".
  - Emotional response
    - Fear, social stimuli.
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)
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Case Study #3: Grand Theft Auto
Case Study #4: Reward Points