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

Don’t forget to fill this out!
http://tinyurl.com/404InfoForm
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.
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 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...

- Famous game design quote:
  - “Games are never finished, just released”
- Nobody wants to make a bad game.
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.
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

Knocking things over

Games pictured here: World of Goo

Games pictured here: Boom Blox: Bash Party
Rolling things along

Games pictured here: Katamari Damacy

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: Temple Run, Flappy Bird, Fruit Ninja, Tetris

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.

Creating a good game
A set of game features

A set of game features
Creating a good game

Deadly feature creep

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)

Rocket League Trailer
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

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.

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

- Lesson #6: If the player is doing well, tell them. CONSTANTLY.
- Constant feedback is essential:
  - Reinforcing behaviour
  - Indicating progress
  - Providing stimulation
- Feedback needs to be visual, auditory, sensory, olfactory...whatever you can manage.

Example: Prince of Persia

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

Challenge in Games

Exercise #2: Feedback & Rewards

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

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.

Example: Portal (clip 1)
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/destroyable
  - 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.
- Stimulation 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
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.

Other things to consider

- Time
  - Lesson #8:
    - 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.

Psychology Principles

- Classical conditioning (Pavlov)
  - Pairing two stimuli together, one of which generates a particular response.
  - Result: Both stimuli generate the given response.

Prototype early, and always have something working.
Psychology Examples

- Operant conditioning (Skinner)
  - Pair certain actions with either reinforcement (positive or negative) or punishment (positive or negative).
  - Key for understanding elements of game addiction.

Psychology Examples

- Capilano Suspension Bridge Study
  - Illustrates "misattribution of arousal".
  - Subjects were interviewed on the Capilano bridge, or on a different bridge that was much more sturdy.
  - Results show that participants attributed state of arousal to interviewer, not their location.
  - Principle can be extended to active games as well.

Psychology Examples

- Cognitive Dissonance
  - People alter their belief system to fit with their actions or other conflicting beliefs.
  - Festinger and Carlsmith: Subjects were instructed to perform a task, where some were paid and some weren’t.
    - Unpaid subjects attributed their actions to their intrinsic motives.

Psychology Examples

- Social Psychology
  - Halo Effect
    - General evaluations of a person lead us to assume things about their other characteristics.
  - Social Identity Theory
    - Players will want to form groups and indentify similar players in multiplayer situations.
  - Conformity Bias
    - People tend to go along with the group, even when the group is wrong.
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