Character & Level Design

Announcements

- Talent Tuesdays @ DCSIL
  - https://www.dcsil.ca/talent

Announcements

- Computer science student needed!
  - Faculty from the University of Central Asia in Kyrgyzstan Want to meet with you, to find out what first year is like at U of T.

- Details:
  - Date: Monday, October 15th
  - Time: 3:30pm
  - Place: BA4261

- RSVP with Steve at sengels@cs.utoronto.ca

Characters vs Levels

Character Design

Things that the player can do

Things that the player should do

Level Design
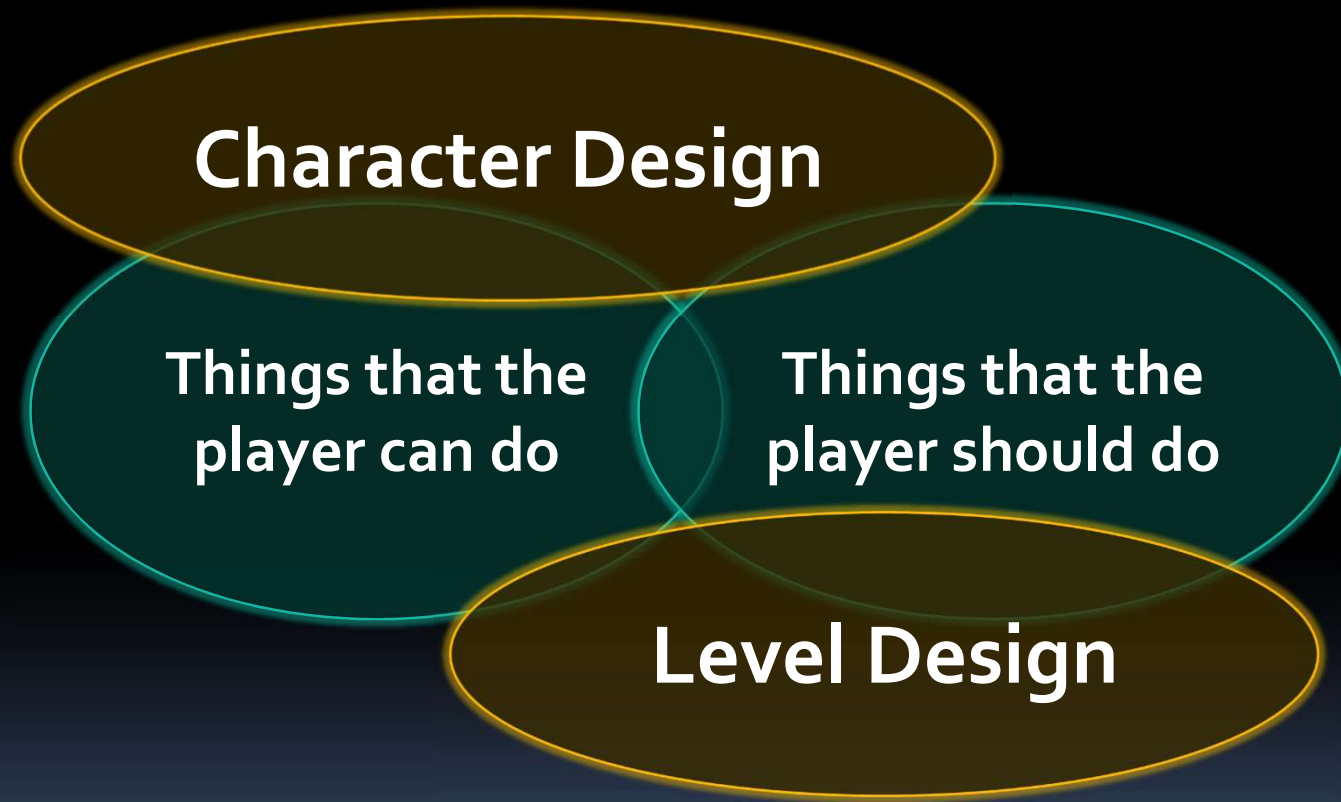
Characters vs Levels

- Characters and levels are the main user interface of your game.
    - Levels present the challenge or problem to solve,
    - Characters present the tools to solve them.

Main Goal: Communication

- As with any user interface, the characters and levels you design should make it clear what the task is to do, and (to some extent) how you're supposed to do it.


```
ront of House, lying down                    Score: 10    Moves: 34

>examine toothbrush
It looks like every other toothbrush you've ever seen.

>use toothbrush
I don't know the word "use".

>brush teeth
(with the toothbrush)
Congratulations on your fine dental hygiene.

>i
You have:
  no tea
  a towel
  a loose pile of junk mail
  a toothbrush
  a flathead screwdriver
  your gown (being worn)
  It looks like your gown contains:
    pocket fluff
    a thing your aunt gave you which you don't know what it is
```

Character Design

Designing Characters

- Character design involves the creation of a game's characters, and elements of those characters that enhance the gameplay experience.

Character Design Discussion

Case Study: Mario

- Sometimes, a character's appearance has historical origins.
    - Why is Mario a plumber?
    - Why does he wear gloves and boots?
    - Why does he have a hat and a large nose?
    - Why does he have a mustache?

Case Study: Lara Croft

- In modern games, character designs convey meaning and utility.
- Questions:
  - What impressions do you get of Lara's character, based on her appearance?
  - What is good and bad about this character?
  - Is Lara a positive role model?
  - How has her character changed over the years?

What makes effective characters?

Major goals of characters

Connecting with the player

Conveying information

Empowering players

How does a character's appearance convey information?
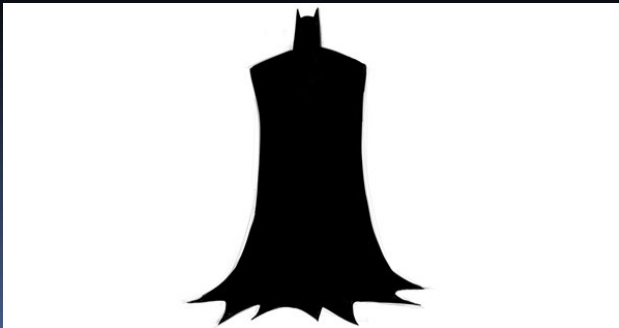
Sly Cooper

Team Fortress 2

The Importance of Intuition

- Characters are interface devices. Therefore, they must be easy to understand and to use.
- A few basic principles to keep in mind:
  - Characters should be recognizable
    - Silhouette & key features.
    - Voice acting

Understanding the Character

- Useful to give characters "personality", to let the player know the possible motives and actions.
  - Despite the benefits of attractive main characters, flaws are also necessary → connection to player.
  - Try to aligning player and character motivations.
    - Aligning character to player's internal motivations
    - Aligning player to character's motivations
  - These motives must then be reflected in the appearance.

Understanding the Character

- Other personality issues
  - Voice acting can be key (e.g. Portal)
    - Or a complete lack of voice acting works too (e.g. Half-Life)
  - Some backstory can help, but is largely unnecessary
    - Key motivations needed.
- Remember two things:
  - Make a plan for your character and your game.
  - Accept that you characters and their design will change over the course of the development process.

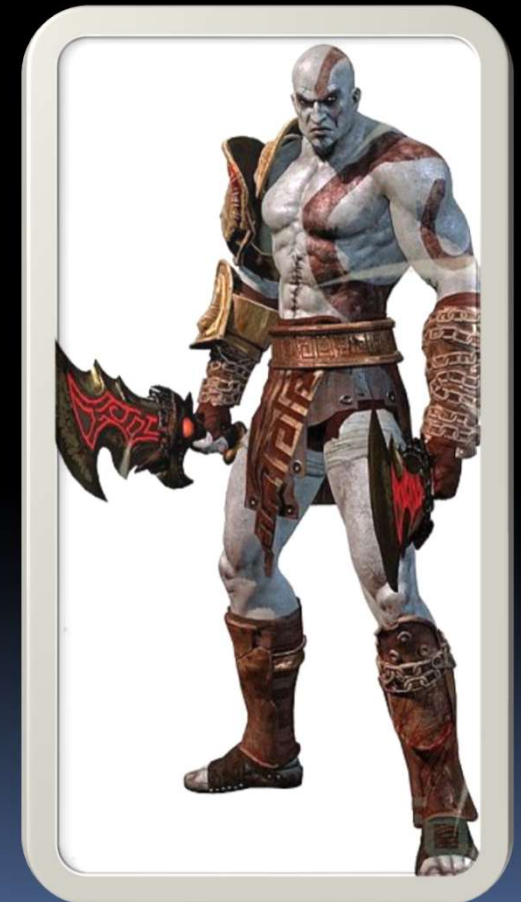# Example: Portal & GLaDOS

How do you make players connect with your characters?

How do you recognize the main character?

How do make a player connect with the main character?

Factors for Character Design

- Many tools are available for creating effective characters:
  - Realism
  - Intuition
  - Distinction
  - Interaction
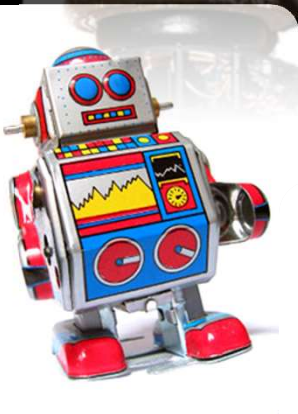
Characters with Character

- Make hero characters "attractive"
  - Attractive people considered more successful, confident, etc.
  - "Average" appearance has wider appeal/connection.
- Player layers
  - Players feel cognitive, visceral, social and fantasy connections to the game through the(ir) character.
  - Role examples:
    - Minion, rescuee, pet, sidekick, ally, guide, mentor
    - Obstacle, enemy, competitor, boss, archenemy
    - Audience, informant/trader, host

How important is realism?

Beware the Uncanny Valley
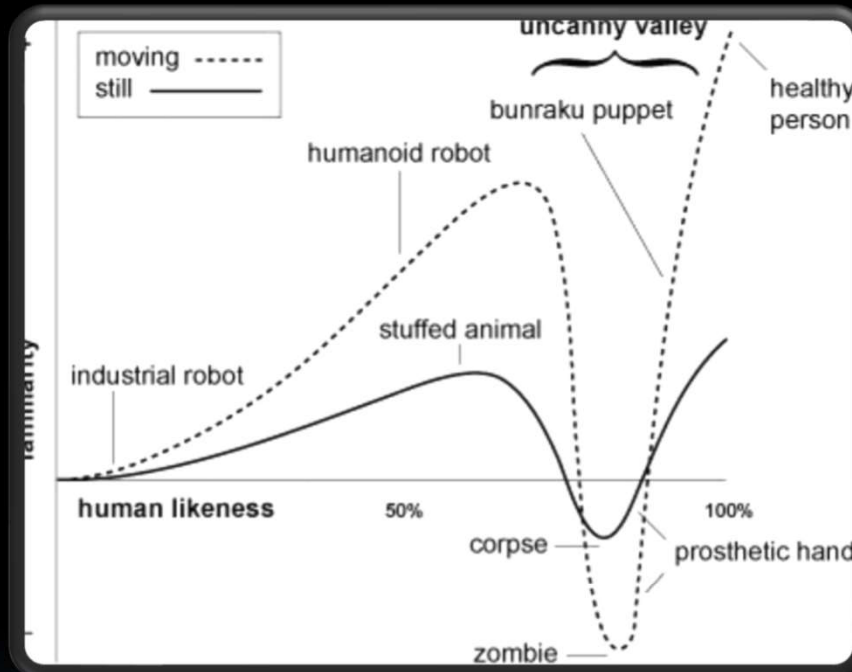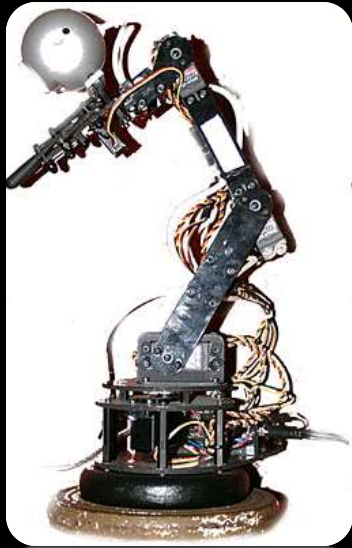
Can a character's actions convey information?

Character Takeaway

- Be purposeful in how you choose or design your characters.
  - Main character: distinctive, detailed, expressive
  - Side characters: communicating their function
- Even when your main character isn't seen, understand the roles of each character and how they interact with others.

Level Design
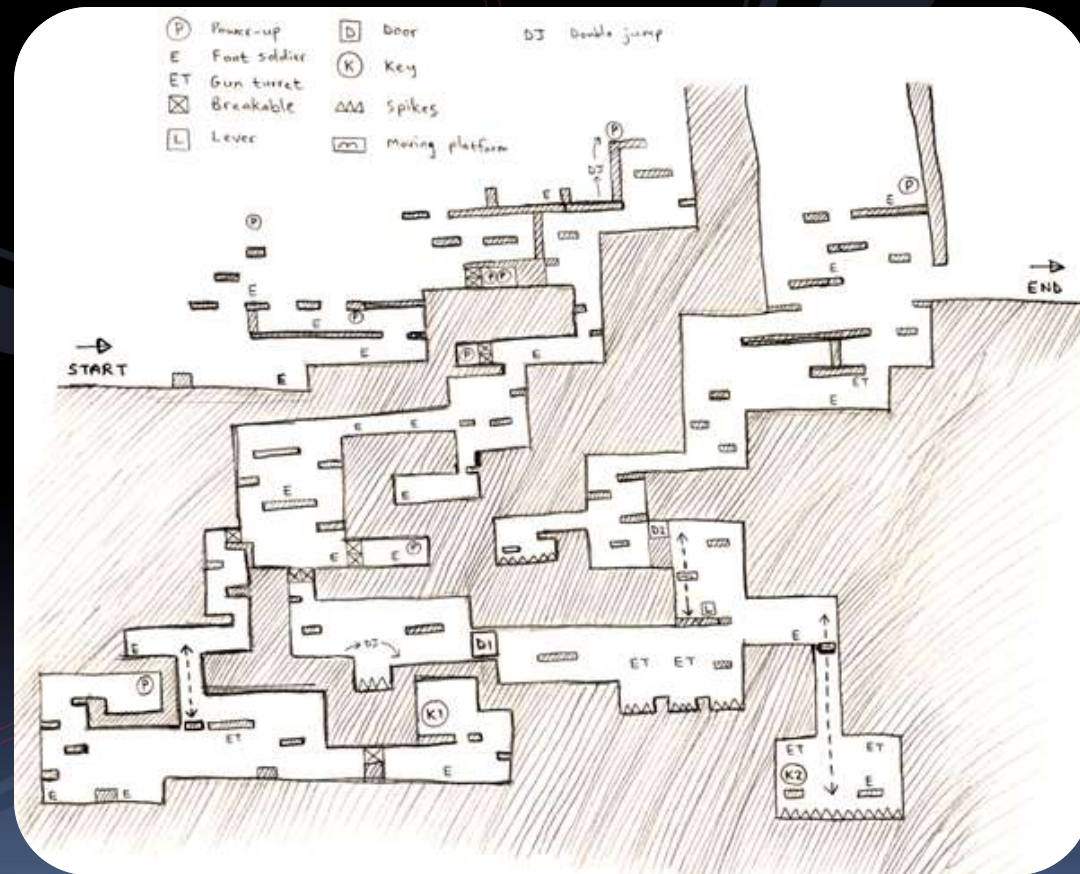
Level Design Principles

- Q: How does one make a good level?

- A: Design. Things. Purposefully.
  - (Also: Keep. Things. Simple.)

Purposeful Level Design

- All levels are meant to serve a purpose (and sometimes more than one).
  - If you no longer have a purpose that needs satisfying, you stop making levels.
- Sample purposes:
  - Teach game skill
  - Tell story
  - Present challenge
  - Exploration
  - All of the above
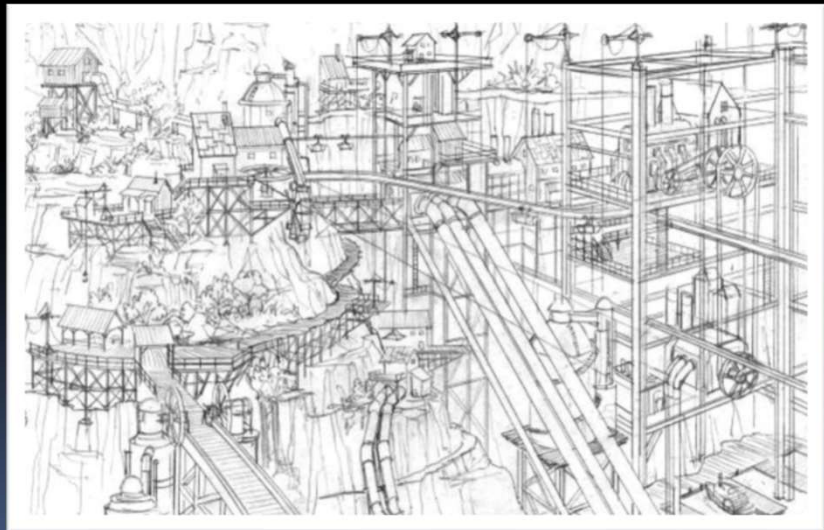
Basic Level Types

Genres x Types x Modifiers

- Each genre follows certain principles and conventions when it comes to level design.
  - e.g. Racing games, sports games, match-3 games.
  - Game tropes within genres (will discuss later)

- Within each genre, there are a range of purposes that need to be satisfied.
  - e.g. Training level, basic skill-testing level, boss level, information level, exploration level, etc.

- Modifiers can change the flavour of each level.

Game Genres in Level Design
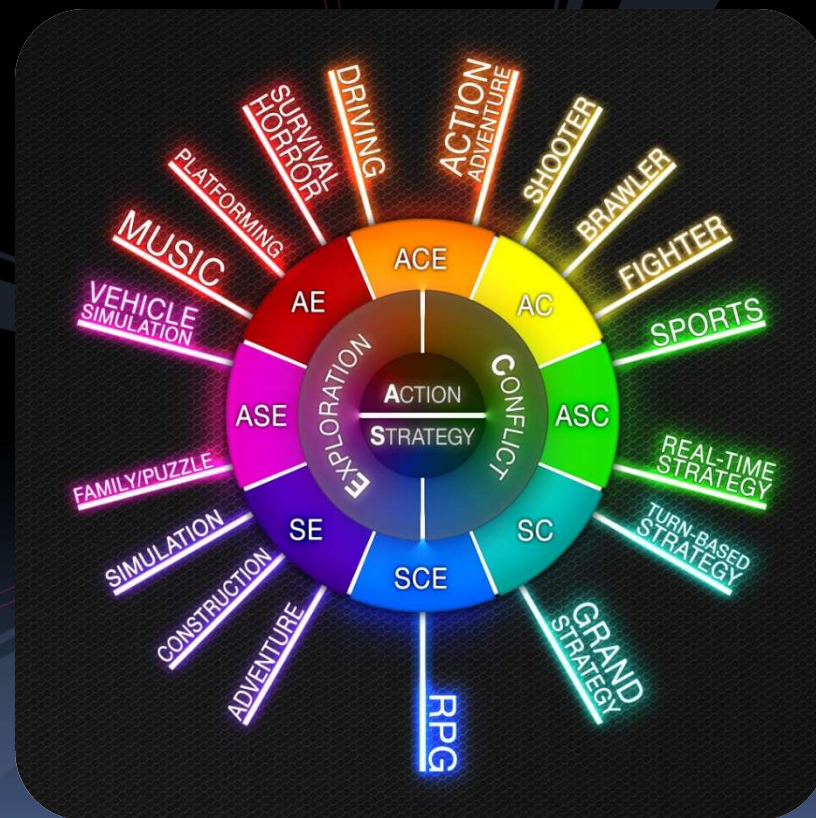
Genre Types

Genre Types

Designing for a Genre

- As with character design, it's all about communication:
  - Goals
  - Approach
  - Obstacles
  - Constraints
  - Progress

Example: Super Mario Galaxy

Constraints

Goals

Approach

Obstacles

Progress
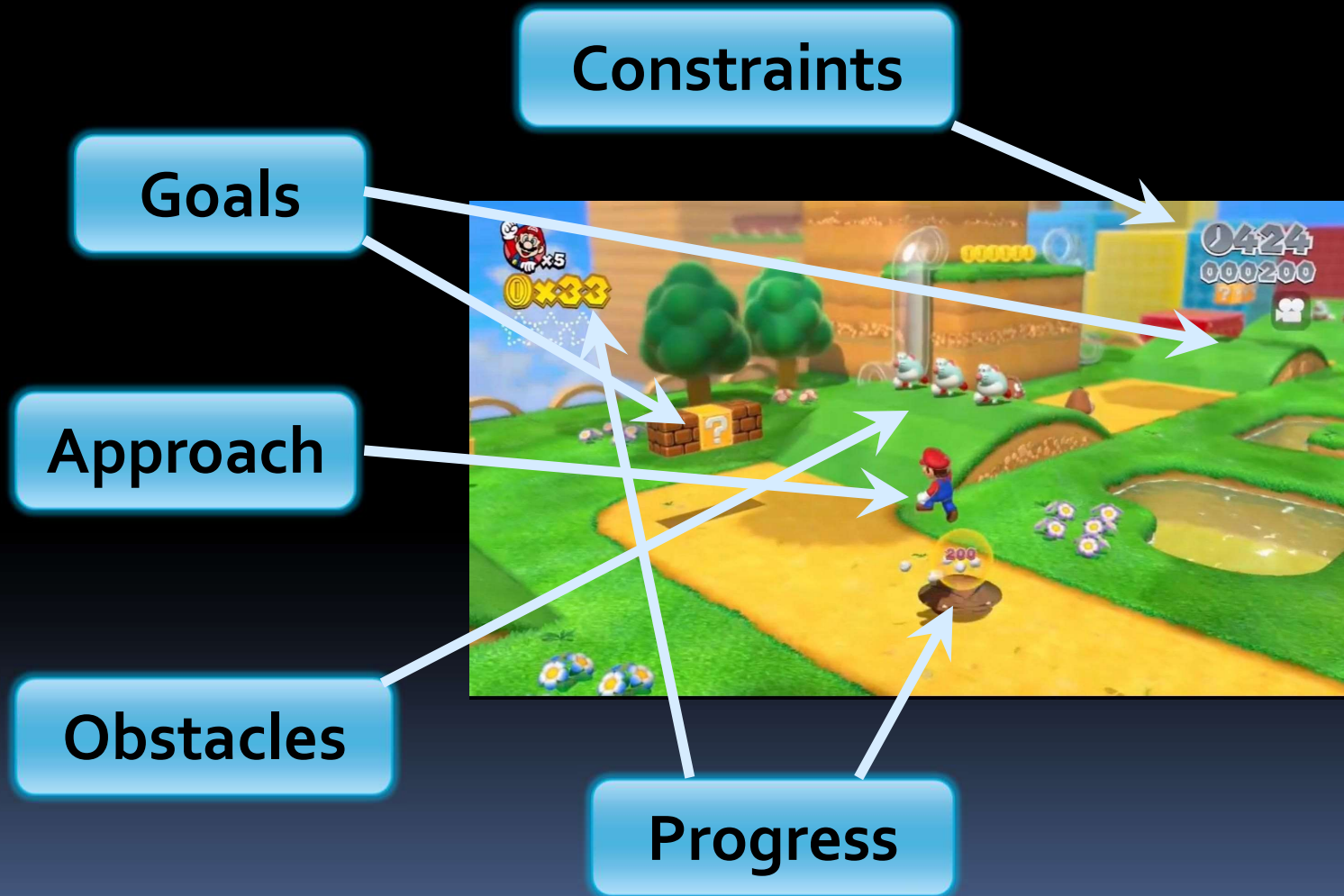
Game Types in Level Design

Level types across genres

- Some level types are universal to all genres.

- Tutorial levels
  - Need to introduce player to the controls of the game, and introduce skills that must be demonstrated before player is allowed to continue.
  - Try to minimize the number of skills to learn, because more mechanics = more stress.
    - Find ways to apply existing mechanics in new ways → easier to learn, and make levels more fun.
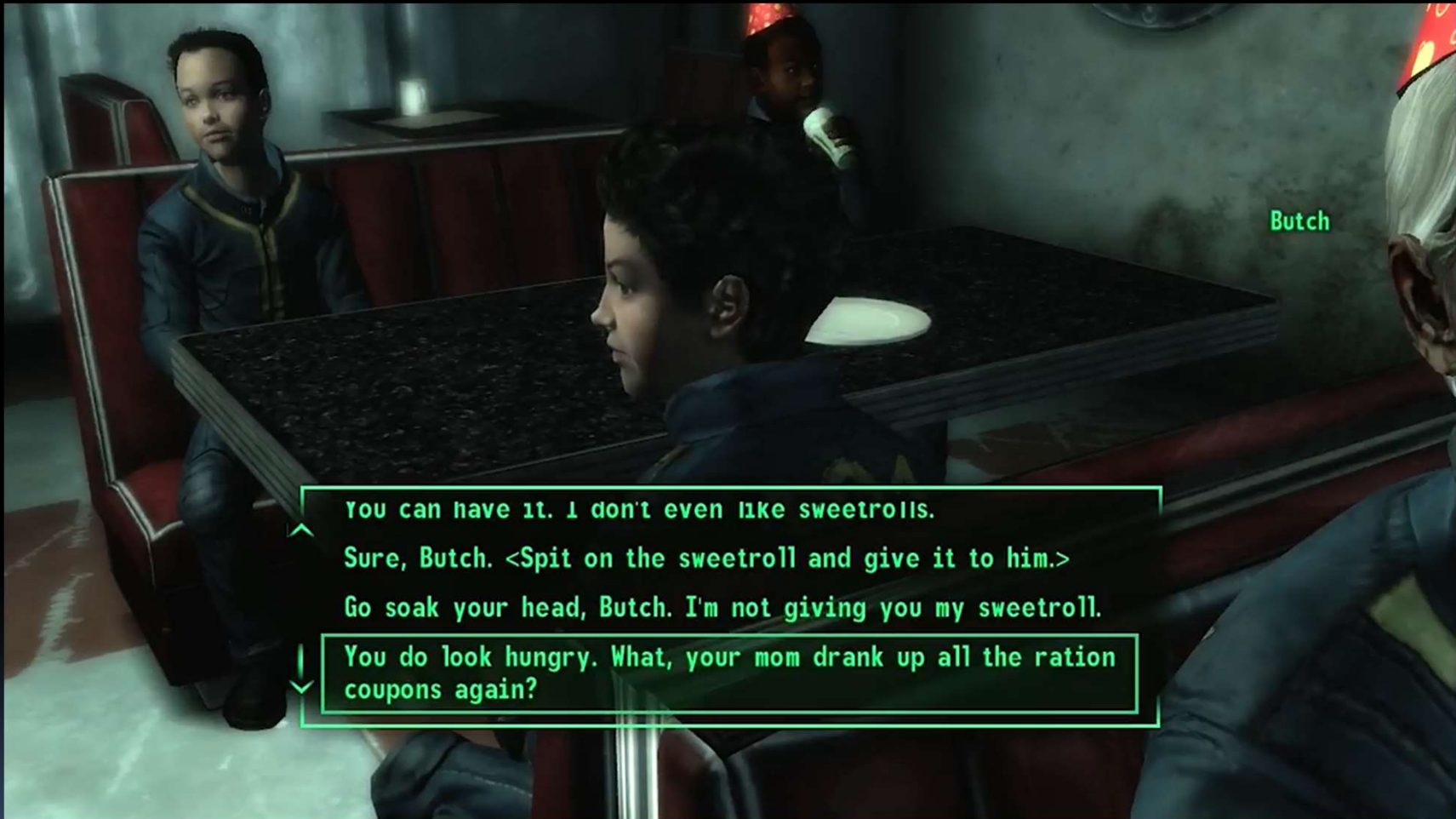
Level types across genres

- ## Challenge level
  - Levels where players demonstrate newly-acquired skill, to varying degrees.

- ## Boss battles
  - Enclosed = signifies stopping point, increases tension, (AI issues)
  - Functional = every object/feature is meaningful.
  - Interesting = denotes culmination of level.

Level types across genres

- **Narrative/Exploration levels**
  - Side quests, navigation or status upgrade levels.
  - Helps to further the story, provide background information, allow player to rest between periods of activity, etc.

Mene
"Choco has ability to seek out treasures and items hidden underground."

Modifiers in Level Design

Game Level Modifiers

Level genres (purpose)

- Escort missions
- Platformers
- Puzzles
- Racing levels
- Reflex games
- Runners
- Shooter/Melee
- Tower defense

Modifiers (challenge)

- 1st person / 3rd person / rails
- Alternate Vision
- Ice/Snow
- Sandbox
- Stealth
- Timed
- Underwater

Level design tropes

- Tropes (aka video game cliches) are useful in how they communicate the purpose of a level.
  - Similar to using familiar character designs.
- Breaking a player's expectations in these cases should be done with caution.
  - Again, like breaking a player's expectations when creating character behaviour that breaks with its design.

Level Creation
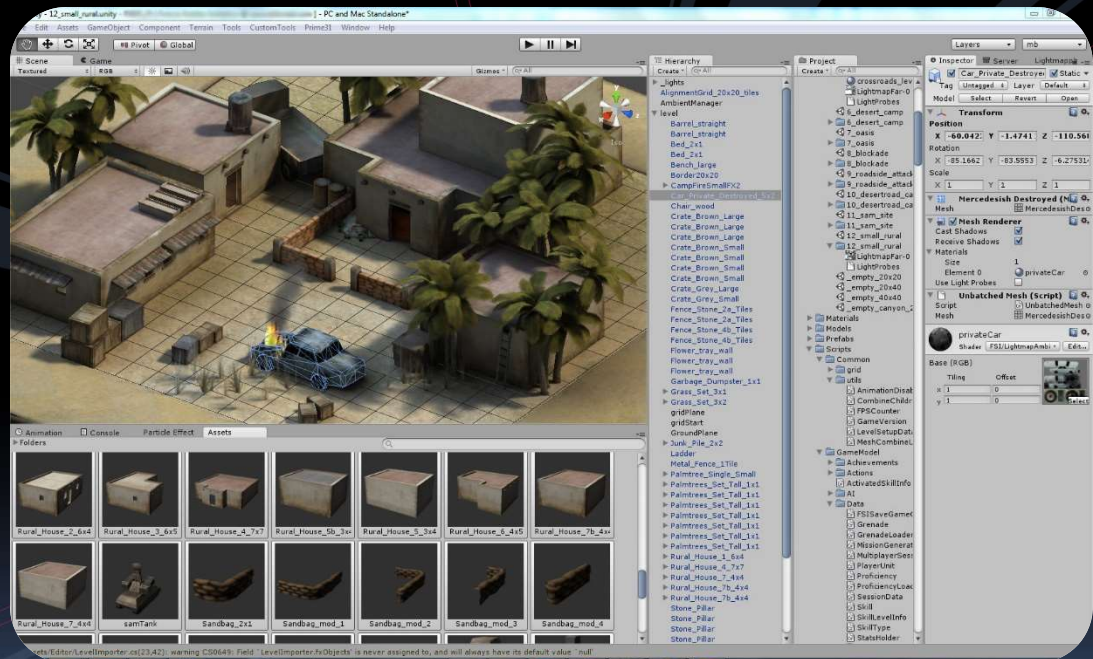
The Closest Thing to Playing

- Designing the level is Step #1.

- Implementing the level is Step #2.

- All the other steps involve analysing, refining and iterating.

  - The good news is, this means playing your game a lot ☺

Iterative Level Design

- **First iteration stage:**
  - Create a huge number of possible level sketches.
- **Second iteration stage:**
  - Decide what levels best fit the experience you're looking to create (including level sequence).
- **Third iteration stage:**
  - Take your collection of levels, and polish them.
    - Look and feel,
    - Balance of accessibility and challenge,
    - Clearly communicated objectives.

Level Design Concepts
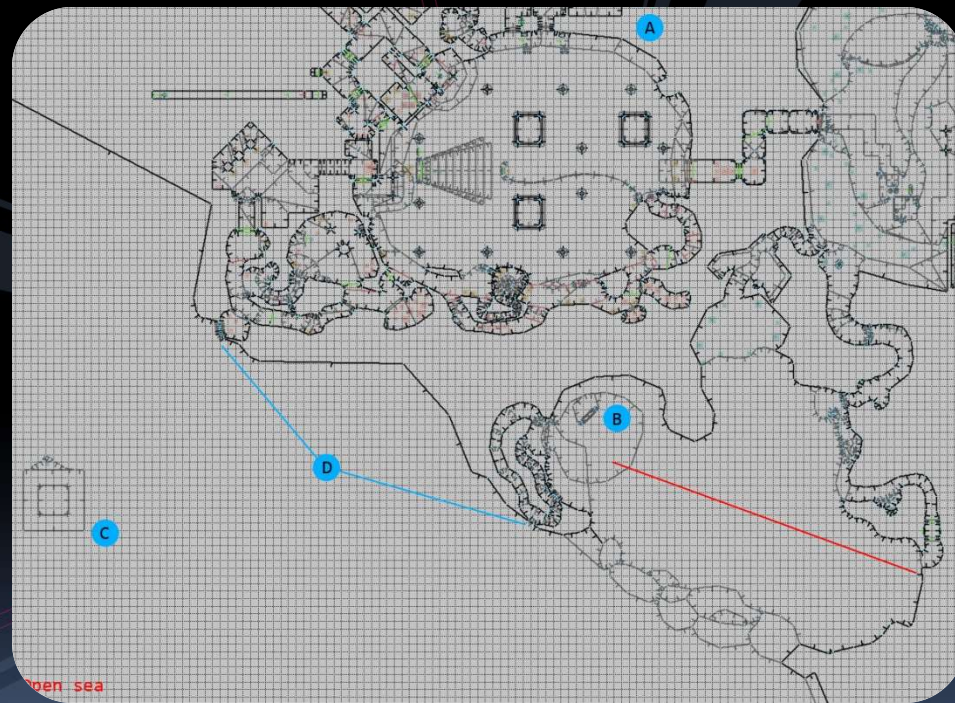
Steps for Level Design

- Good level designers are hard to come by.
  - Difficult to teach intuitive space design.
- Helpful to think about the following:
  - What is the overall level progression?
  - What is the purpose of each level?
  - How can you communicate this purpose to the player?
  - How do you make the art style fit this level?
  - Why should players care?

Thoughts for Level Design

- Key characteristics for all levels:
  - **Intuitive**: the player should know what to do, even without instruction.
  - **Interesting**: even the most functional level should have an aesthetic quality.
  - **Immersive**: should provide a consistent user experience.
  - **Incentive**: the player needs a reason to care.

CSC404: Video Game Design © Steve Engels

Revisiting Communication

- Above all else, levels need to communicate their purpose to the player:
  - Visual indications of the goal of the level, and what the player needs to do to accomplish that goal.
    - Special events can draw the player's attention (e.g. cutscenes, narration) to key elements of the level.
  - No inconsistencies in the appearance or feel of the level.
    - Natural integration of puzzles and challenges in environment.
  - Heads-up display or some other method can also help communicate the player's goals and status
    - The best levels communicate without a HUD.

Case Study: Disneyland

Case Study: Disneyland

- Read the presentation by Scott Rogers:
  - "Everything I Learned About Game Design I Learned From Disneyland"
    - http://mrbossdesign.blogspot.ca/2009/03/everything-i-learned-about-game-design.html
  - Demonstrates more than the three basic elements from the past example, but also how to do them.
  - Here are highlights of some of his key points...

Walt's Approach

- WWWD? (What Would Walt Do?)
  - Figure out the moral arc of the story (i.e. what is it really about, what do you want the player to do)
  - Plot out the stages of this story/experience.
  - Visualize with drawings, models, simulations
    - Start at the top and work down
    - World → Land → Attraction → Experience
    - Game → World → Level → Experience
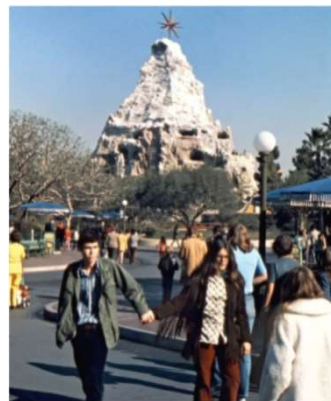
Attention-grabbers (weenies)

- "Weenies" are key landmarks that provide attraction, navigation and motivation.

How Weenies Work

- Weenies draw you in, both geographically and visually.
- Leads people through areas you want them to see and explore.
- How else can you encourage player movement?

Other visual cues

- Light is powerful for drawing in attention.
  - Not just light sources, but also shading, glowing, and other visual effects (think pickup items).

Other visual cues

- Visual elements of the attraction and/or level can enhance the player's expectations and provide diversions on the way to the main goal.
 - Including sneak peeks of what's to come!
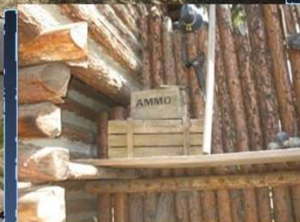
Level Design Elements

Level design architecture

- Like creating buildings, level design requires a lot of planning before anything is built.
- Need to ask the following:
  - What is this level meant to accomplish?
  - How can I communicate that to the player?
    - Ideally, through the level and not verbally.
  - How do the level elements help the player understand and accomplish this goal?
  - Is this design appropriate for the intended audience?
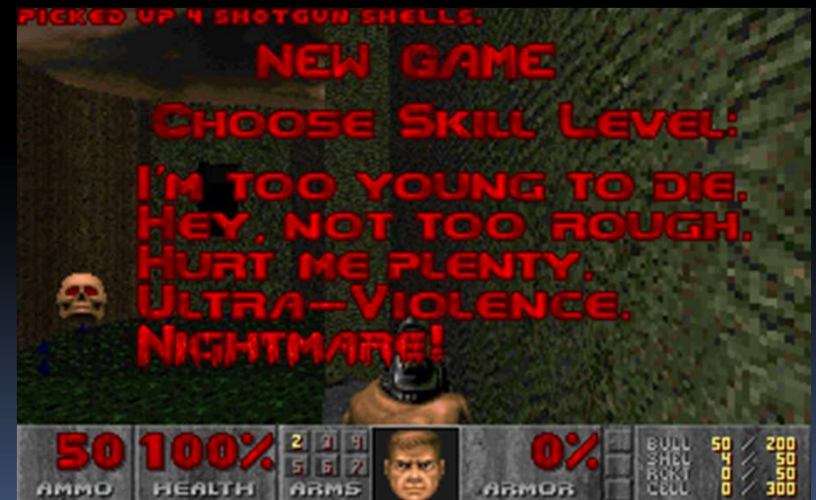
Level design ergonomics

- Promote game level feng shui:
  - Use lighting and higher levels of detail to indicate important elements of each level.
  - Have the layout draw the players attention through the path that the player is meant to take.
    - Key elements should be near the center of view.
    - Use pickups, characters and other objects help to reinforce that path.
  - Moving the camera and/or allowing the player to change the view.
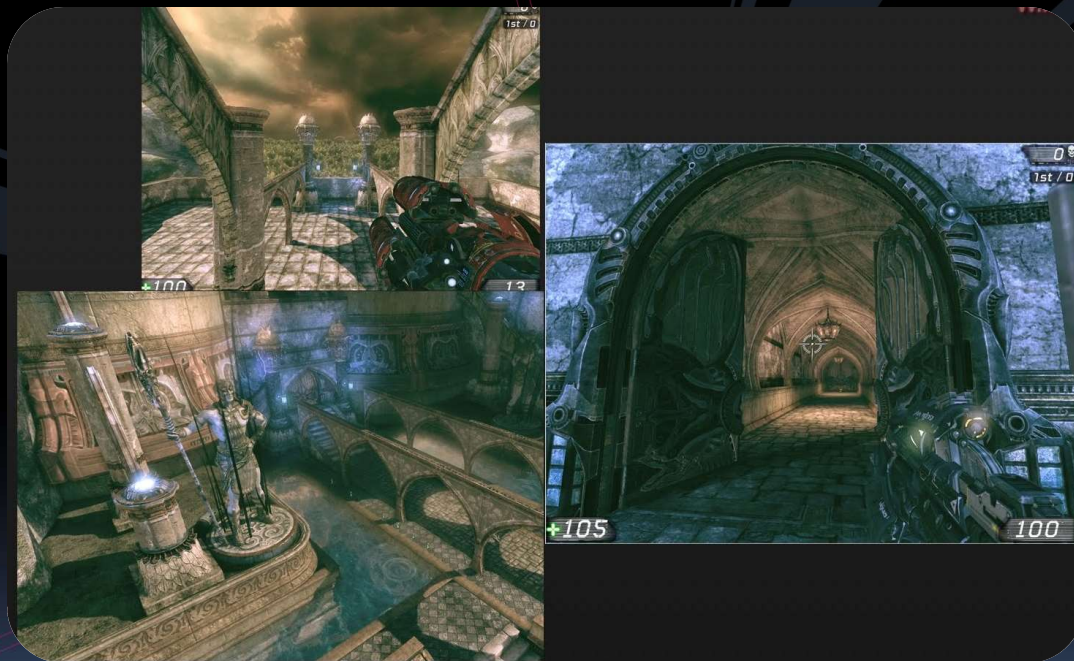
Example #1: Quake

Example #2: Devil May Cry

Example #3: God of War

Level Design Aesthetics

Level design art

- Used to set tone and mood for the scene.
- Texture and object samples usually drawn from real-life settings, and incorporated as elements of the level.
- Artists produce imagery for items, buildings, background and front end (e.g. menu screens)
- Environments have to have a personality as well, similar to characters.

Mood boards

- Sketches and diagrams can help illustrate structure, but mood boards help illustrate the general look & feel of the level.

Level Progression

Level Design Disclaimer

- Some levels aren't meant to have any sort of progression.
  - e.g. Fighters
- For those games, the focus is on the character design and the balance of each character's abilities.
- For all other games, you need to think about the experience you want your levels to create.

Level Progression Plan

- Just as not all games need level design, each game requires different things from its levels.
- Must consider what each level's purpose is:
  - Expanding on story?
  - Teaching skills?
  - Regenation/repair?
  - Game challenge?
- A good starting step is to put together an overall arc for the game, and break this down into individual levels that lead the player along this arc.
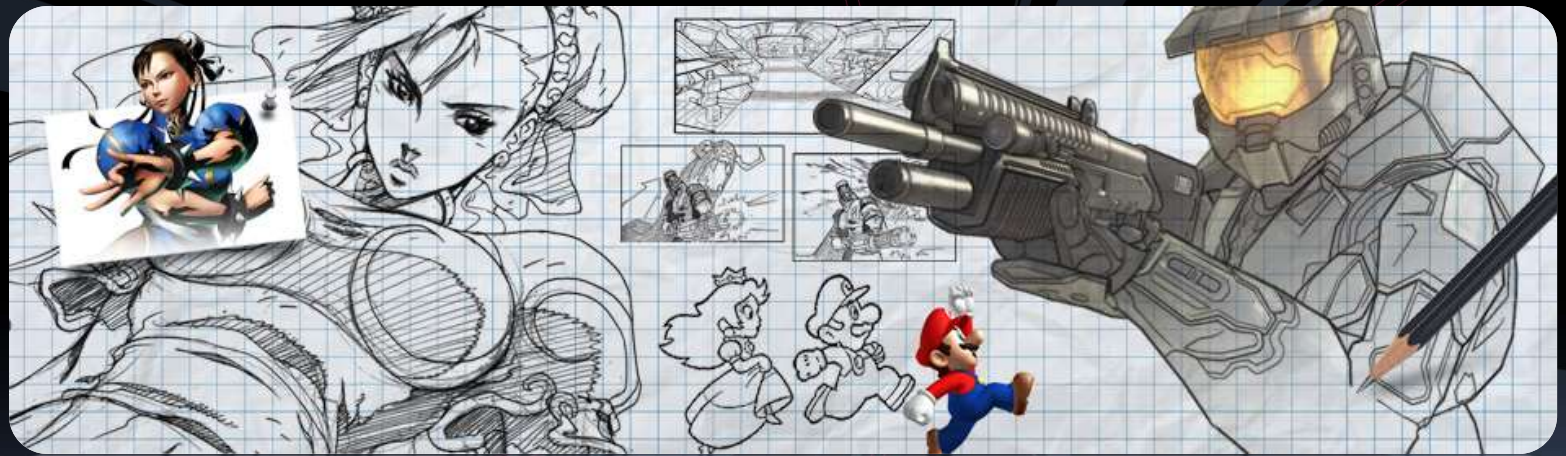
Progression within levels

- <u>Note:</u> Even single-level games have level progression.
  - e.g. Donkey Kong's vertical progression.
- Treat unlockables, new enemies, new obstacles as new levels.

Other things to consider

Shortcuts

- Consider using tools and templates, if you're planning on making multiple levels or multiple assets.

Playtesting & Prototyping

- Even during the level design phase, playtesters can have a huge impact.
  - Paper prototyping can uncover flaws in a level design long before it's implemented in code.
- As early and as often as possible, get your design in front of people, and find out whether they see and feel the things you intended!