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## Character & Level Design



## Announcements

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



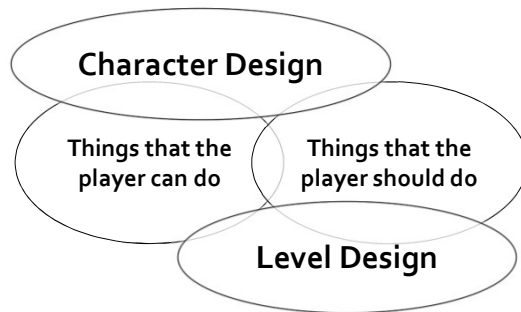
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## Announcements

- 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 15<sup>th</sup>
  - Time: 3:30pm
  - Place: BA4261
- RSVP with Steve at [sengels@cs.utoronto.ca](mailto:sengels@cs.utoronto.ca)

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## Characters vs Levels



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## 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.



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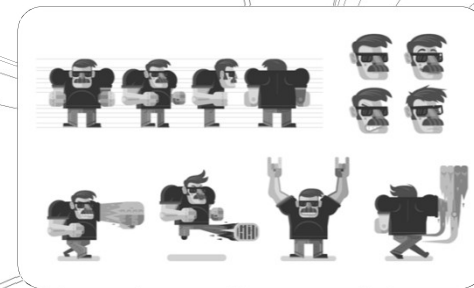
## Main Goal: Communication

- 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.



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## Character Design



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## Designing Characters

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



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## Character Design Discussion



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## 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?



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## 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?



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What makes effective characters?



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## Major goals of characters

Connecting with the player



Conveying information

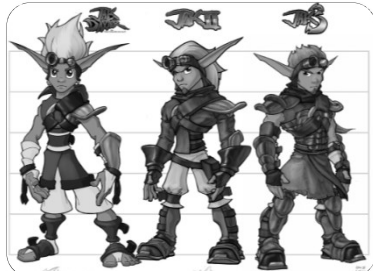


Empowering players



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How does a character's appearance convey information?



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## Sly Cooper



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## Team Fortress 2



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## 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



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## 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.



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## 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 your characters and their design will change over the course of the development process.

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## Example: Portal & GLaDOS



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How do you make players connect with your characters?



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How do you recognize the main character?



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How do you make a player connect with the main character?



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## Factors for Character Design

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



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## 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

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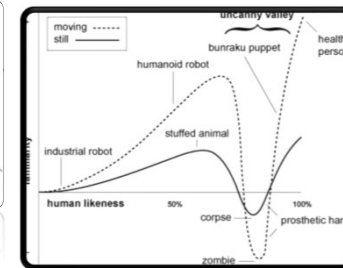
## How important is realism?

\*Courtesy of EA Sports



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## Beware the Uncanny Valley



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## Can a character's actions convey information?



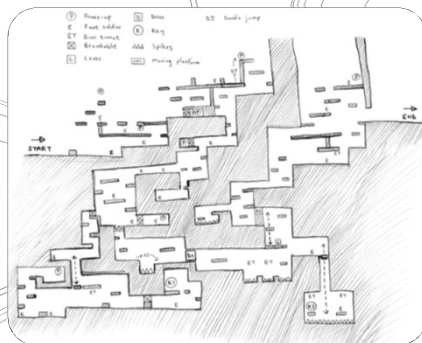
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## Character Takeaway

- 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.

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## Level Design



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## Level Design Principles

- Q: How does one make a good level?



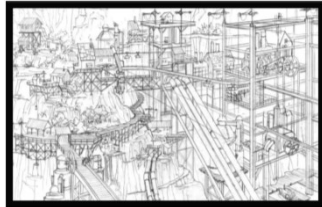
- A: Design. Things. Purposefully.
  - (Also: Keep. Things. Simple.)

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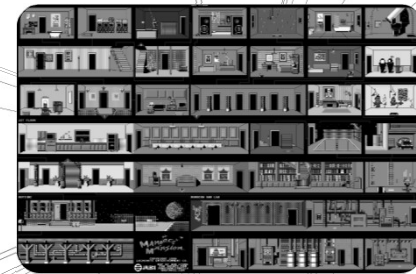
## Purposeful Level Design

- 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



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## Basic Level Types



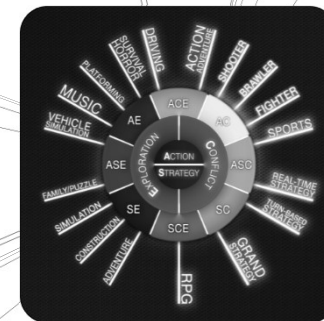
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## Genres x Types x Modifiers

- 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.

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## Game Genres in Level Design



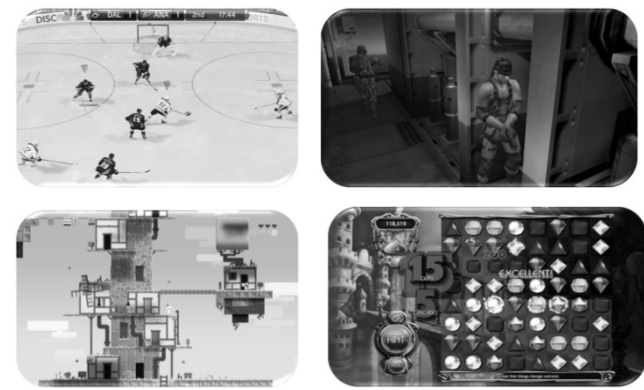
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## Genre Types



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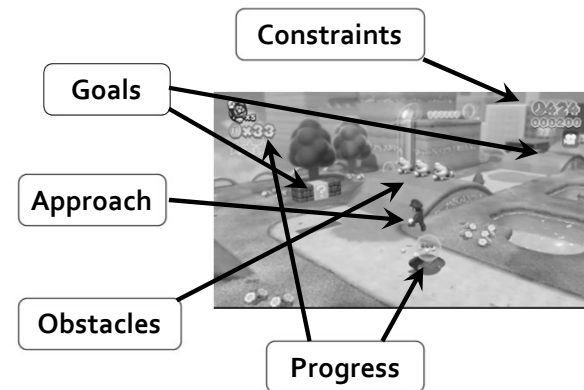
## Designing for a Genre

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

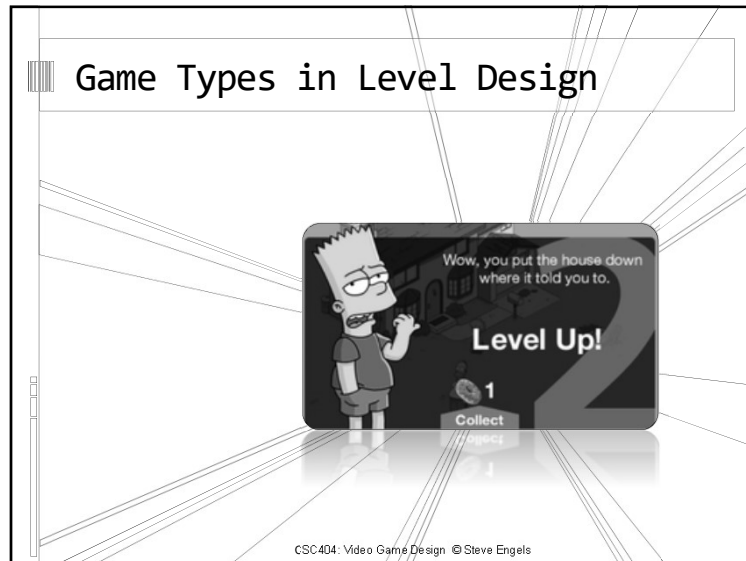


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## Example: Super Mario Galaxy



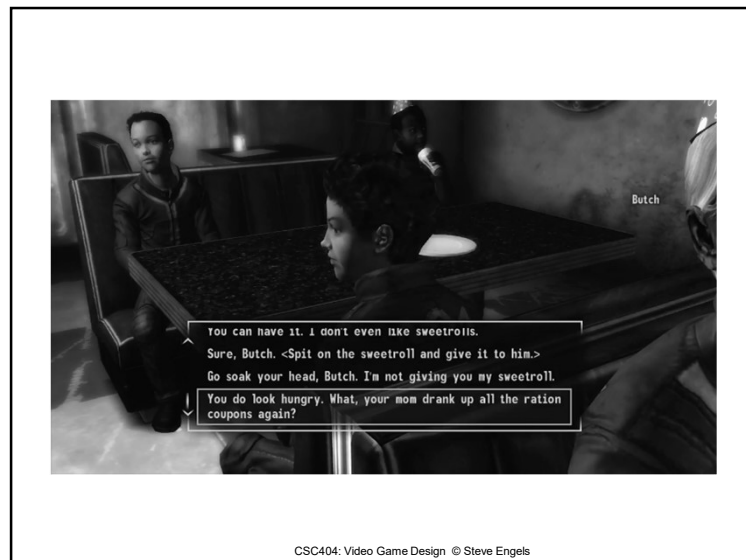
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## Level types across genres

- 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.

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## 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.

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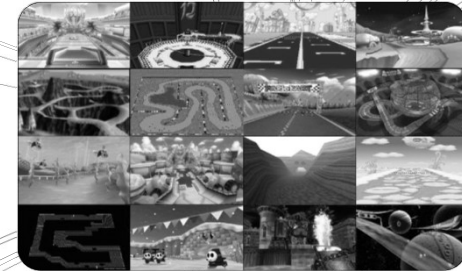
## Level types across genres

- 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.



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## Modifiers in Level Design



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## Game Level Modifiers

### Level genres (purpose)

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

### Modifiers (challenge)

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

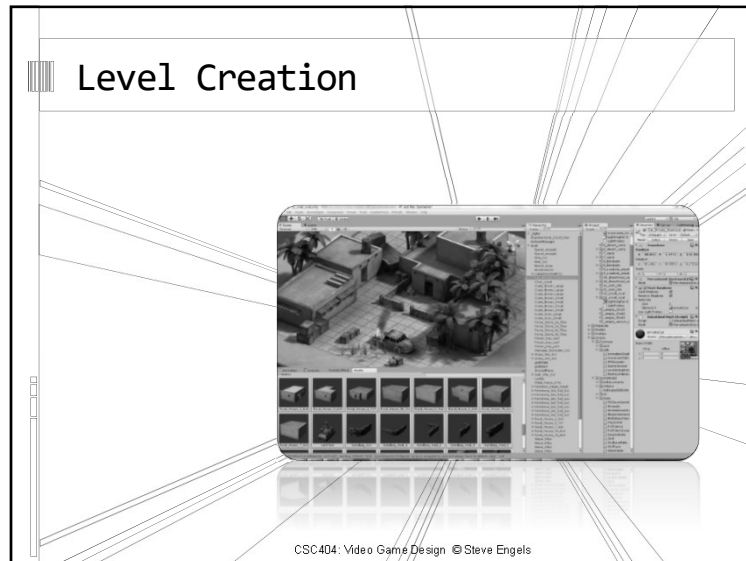
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## Level design tropes

- 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.



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## The Closest Thing to Playing

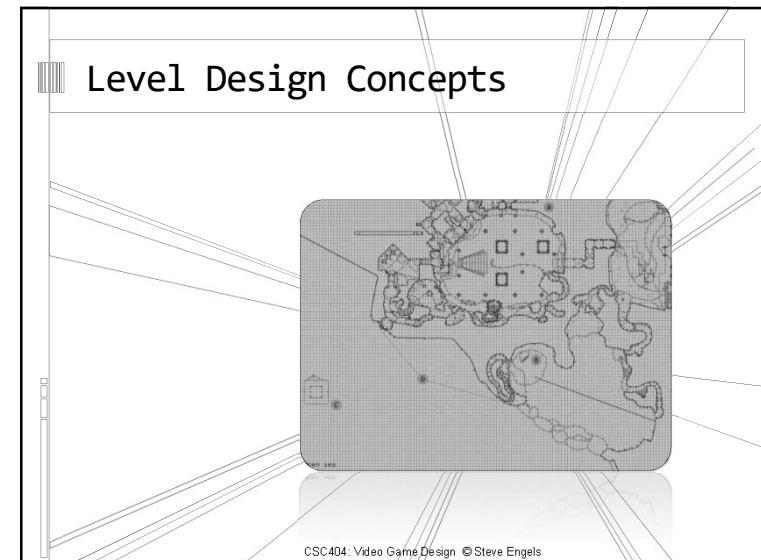
- Designing the level is Step #1.
- Implementing the level is Step #2.
- All the other steps involve analysing, refining and iterating.
  - The good news is, this means playing your game a lot 😊

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## 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.

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## 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?



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## Thoughts for Level Design

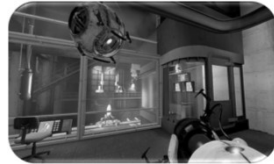
- Key characteristics for all levels:
  - Intuitive: the player should know what to do, even without instruction.
  - Interesting: even the most functional level should have an aesthetic quality.
  - Immersive: should provide a consistent user experience.
  - Incentive: the player needs a reason to care.



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## 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.



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## Case Study: Disneyland



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## Case Study: Disneyland

- Read the presentation by Scott Rogers:

- "Everything I Learned About Game Design I Learned From Disneyland"

- <http://mrbosdesign.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...



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## 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



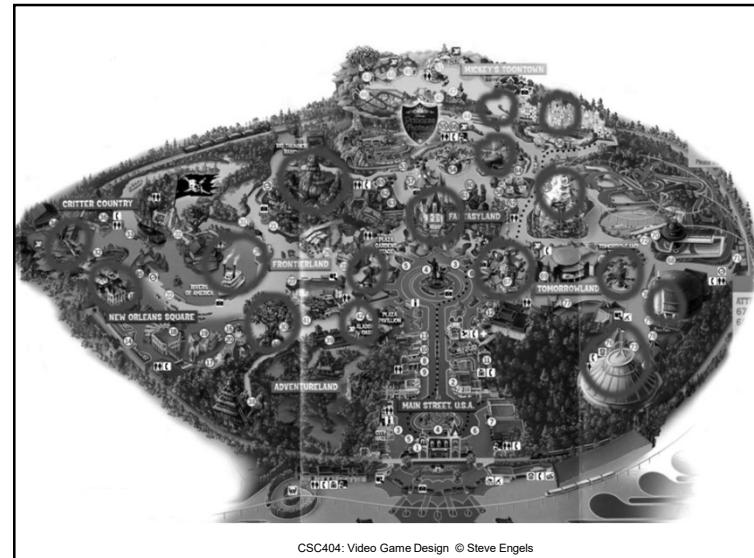
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## Attention-grabbers (weenies)

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



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## 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?



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## 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).



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## 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!



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## Level Design Elements



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## 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?



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## 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.

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## Example #1: Quake



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## Example #2: Devil May Cry



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## Example #3: God of War



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## Level Design Aesthetics



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## 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.



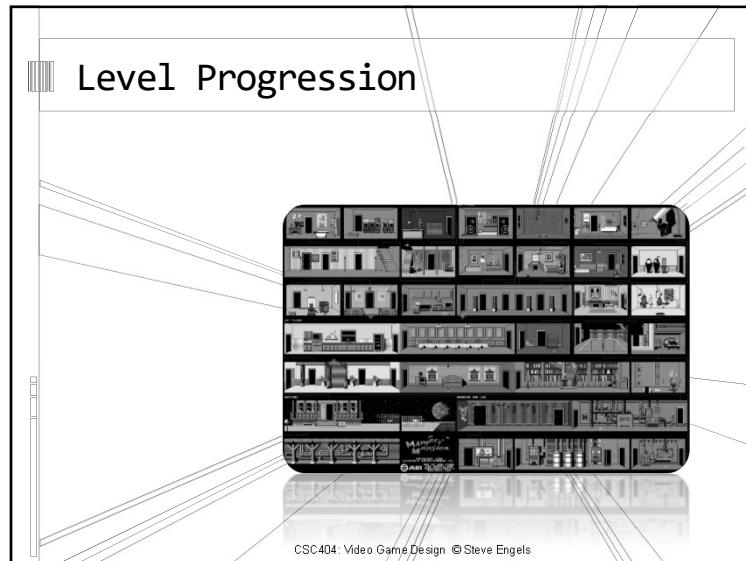
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## Mood boards

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



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## 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.

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## 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?
  - Regeneration/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.

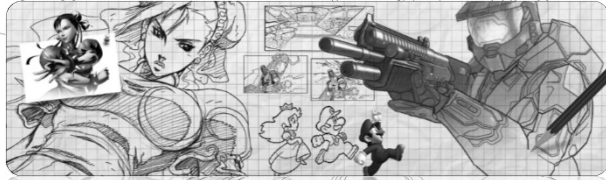
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## Progression within levels

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

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## Other things to consider



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## Shortcuts

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



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## 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!

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