

CS378

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GAME DESIGN

WHAT IS GAME DESIGN?

- ▶ Use of interaction and aesthetic principles to create a compelling interactive experience
- ▶ Interdisciplinary area of study and practice
 - ▶ HCI
 - ▶ Design
 - ▶ Art
 - ▶ Business/Economics
- ▶ Few “pure” design positions in game development
 - ▶ Scripting often required
 - ▶ Understanding system limitations helps
 - ▶ Nobody likes the “idea” guy :)

THINKING ABOUT GAME DESIGN

- ▶ Game design is a nebulous, ill-defined space
 - ▶ “Game” is a broad term
 - ▶ “Design” is a broad term
- ▶ Game design varies wildly depending on intended audience, monetization strategies, budget etc

ARE THESE GAMES?



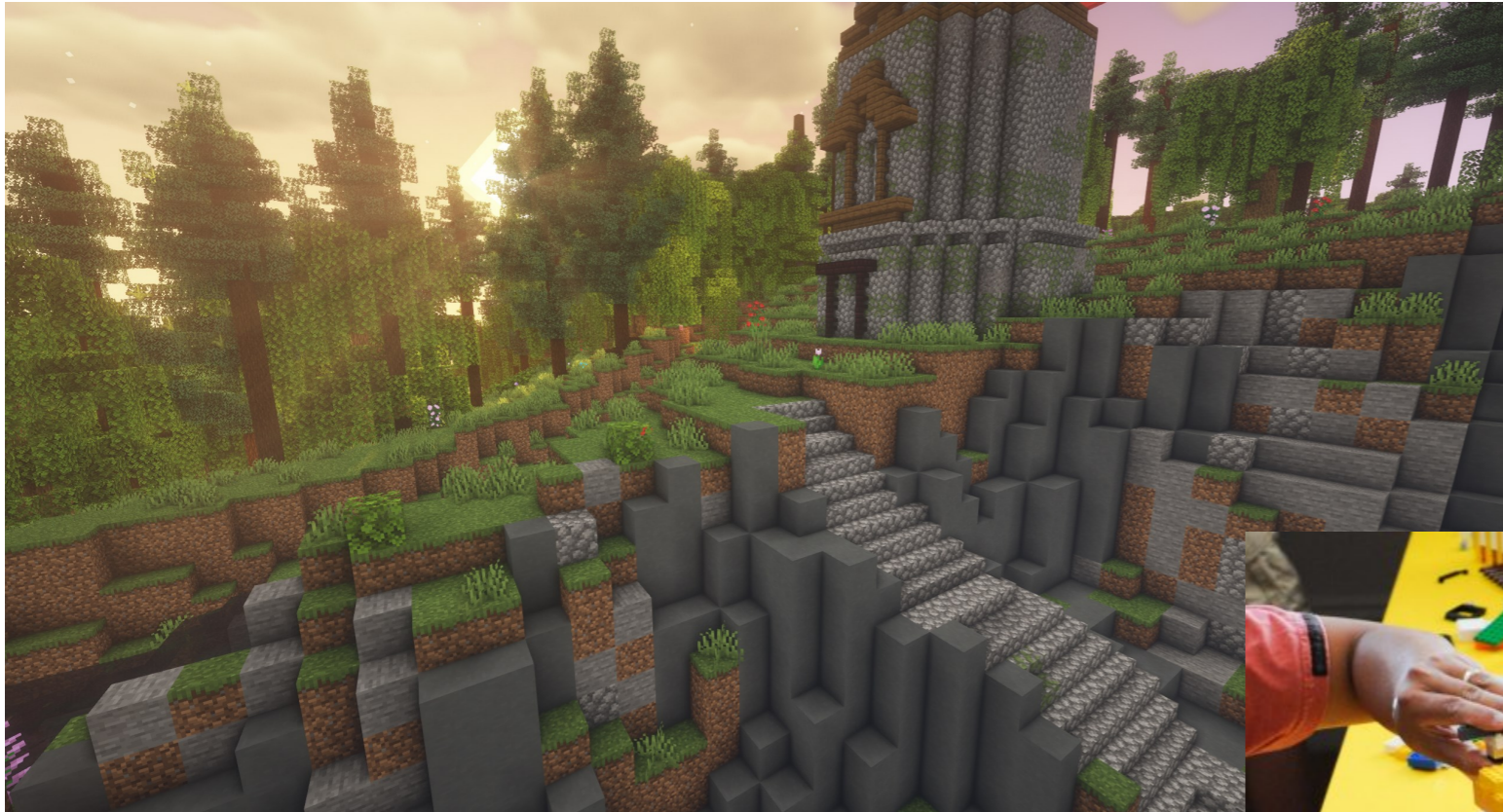
ARE THESE GAMES?



ARE THESE GAMES?



ARE THESE GAMES?



ARE THESE GAMES?



WHAT DO THESE GAMES HAVE IN COMMON?



MDA FRAMEWORK

- ▶ Mechanics-Dynamics-Aesthetics (MDA) framework created to:
 - ▶ Encapsulate all forms of gaming
 - ▶ Analyze design aspects in context of game's intentions
 - ▶ Provide a common language for design discussions

MDA DESIGN CONSIDERATIONS

- ▶ Mechanics

- ▶ In-game actions
- ▶ Control mappings
- ▶ Responsiveness

- ▶ Dynamics

- ▶ Intended experience
- ▶ Emergent strategies
- ▶ Engagement

- ▶ Aesthetics

- ▶ Look and feel
- ▶ Emotive experience
- ▶ Player expectations

MECHANICS

- ▶ Particular components of a game
 - ▶ Data representation of systems
 - ▶ Algorithmic representation of play
- ▶ Define the rules of play and response to player input
 - ▶ Controls
 - ▶ Win-lose conditions
 - ▶ Intermediate systems

MECHANICAL CONSIDERATIONS

- ▶ In-game actions
 - ▶ What does the player actually do?
 - ▶ What is the novelty?
 - ▶ What is the player expectation?
- ▶ Control mappings
 - ▶ Are the player actions ergonomic?
 - ▶ Do the controls follow conventions of genre?
 - ▶ Are controls remappable? (the answer should be yes!)
- ▶ Responsiveness
 - ▶ How do the controls respond?
 - ▶ How do the interactions feel?

CASE STUDY: DEVIL MAY CRY 3



<https://www.youtube.com/watch?v=L8mf-NV2fgw&t=64s>

<https://www.youtube.com/watch?v=xdOPZFu-GU0&t=63s>

DYNAMICS

- ▶ Run-time behavior of mechanics based on player input
 - ▶ Holistic system encapsulating mechanics
 - ▶ Creates novelty within play
- ▶ Interactions and experience of given play through
 - ▶ Scope of player choices
 - ▶ Breadth of player strategies

DYNAMICAL CONSIDERATIONS

- ▶ Intended experience
 - ▶ How should the player interact with the world?
 - ▶ How do its systems create interest?
 - ▶ What is the scaling in terms of difficulty?
- ▶ Emergent strategies
 - ▶ How does player choice change game outcome?
 - ▶ What are the timings and flow?
- ▶ Engagement
 - ▶ What engages the player?
 - ▶ How does player attention ebb and flow?
 - ▶ What is player expectation in terms of play cycle?

CASE STUDY: STAR CRAFT 2



<https://www.youtube.com/watch?v=7nAgHxykgLw>

<https://www.youtube.com/watch?v=Kbwk2vwXNyU>

AESTHETICS

- ▶ Intended emotional response to the game
 - ▶ Visuals/Audio
 - ▶ Overall “feel” during play
- ▶ Sets tone of game
- ▶ Creates “fun” in game
 - ▶ Exploration
 - ▶ Narrative
 - ▶ Challenge
 - ▶ Fellowship
 - ▶ etc...

AESTHETIC CONSIDERATIONS

- ▶ Look and feel
 - ▶ What is the framework for the emotional response?
 - ▶ How does this change over the course of the game?
- ▶ Emotive experience
 - ▶ What emotional spectrum makes the game's "fun"?
 - ▶ What is the range of expected player emotion?
 - ▶ How does the game create emotional investment?
- ▶ Player expectations
 - ▶ How does the game meet expectations?
 - ▶ How does the game break expectations?

CASE STUDY: ICO



<https://www.youtube.com/watch?v=kSRllwXDBB4>

CASE STUDY: SPEC OPS: THE LINE



<https://www.youtube.com/watch?v=-b7TaLjdXMc&t=6s>

GAMES AS DESIGN

- ▶ Games are inherently a designed experience
- ▶ Good design is generally invisible
- ▶ There is no such thing as “wrong” user interactions
 - ▶ Empathy for players promotes better design
- ▶ Every interaction should contribute to the overall experience
- ▶ Games should be made with a purpose
 - ▶ Why are you making a game?
 - ▶ Why should someone play your game?
- ▶ Consider game design decisions holistically and critically
 - ▶ Play-testing and user studies invaluable in feedback loop

REFERENCES

- ▶ MDA Framework <<http://www.cs.northwestern.edu/~hunicke/pubs/MDA.pdf>>
- ▶ Hideo Kojima's GDC 2009 Keynote <<https://www.youtube.com/watch?v=7Pq1Jyr6ffU>>
- ▶ <<http://www.polygon.com/2012/11/14/3590430/dont-be-a-hero-the-full-story-behind-spec-ops-the-line>>