

Game Design

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XBox Live GamerTag: Alea

- convexity (series)
 - new modes: adding multiplayer
- features
- abilities, training, introducing abilities
- critical gaming
- save
- dev qa
- coverage/replay
- approachable
- doors & keys
- consuming items
- substitutability
- dead ends
- do, don't show (exposition)
- goals vs. checkpoints (compelling goals)
- gameplay vs. story
- token chains
- resources
- stats, points, bonuses/powerups
- rock paper scissors
- 8 kinds of fun
- stuff
 - goals
 - character design
 - expression

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Game Design

- The art/craft/science of making a game.
- Primarily the job of *lead designers*
 - overall vision
 - coveted job
 - much like a movie director
 - less concerned with execution
 - more concerned with fun and aesthetics
- But design will be the product of many folk

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Aspects of Game Design

- Genre
- Scope
- Themes
- Atmosphere
- Narrative
- Dynamics
- Mechanics

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What makes a good game?

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Formal Models for Game Design

- Academics and industry designers
- Attempting to identify design principles and processes
- Classifying aspects of games and “fun”

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Natural Funativity

(Noah Falstein)

- An “evolutionary” approach to understanding why humans play games
 - Physical Fun
 - Interactions with the physical world
 - Social Fun
 - Interactions with people/story-telling
 - Mental Fun
 - Problem solving/constructing mental models of the world

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MDA

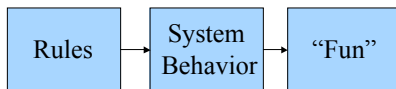
(Hunicke, LeBlanc, Zubek)

- An attempt to break down the design process.
- Taught as part of a workshop at the Game Developers’ Conference (GDC) for a few years.
- Tries to tie together the “grand design vision” aims with the low-level components

Shamelessly lifted from the GDC 2004 Game Design Workshop © Hunicke et al.
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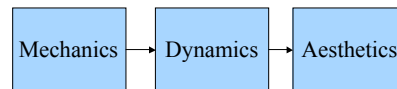
A Formal Model of “Game Consumption”



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The MDA Framework



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MDA: Definitions

- Mechanics: The *rules and concepts* that formally specify the game-as-system.
- Dynamics: The *running behavior* of the game-as-system.
- Aesthetics: The *desirable emotional responses* evoked by the game dynamics.

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MDA: Mechanics

- Mechanics: The *rules and concepts* that formally specify the game-as-system.
 - taking tricks in a card game
 - turned-based, randomized combat in an RPG
 - a set of jumping/climbing actions
 - trading/bartering of goods
 - guns with differing range, ammunition, fire rate
 - resource “mining”
 - respawning enemies

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MDA: Dynamics

- Dynamics: The *running behavior* of the game-as-system.
 - assault-replenish: use equipment/find equipment
 - feedback: actions lead to reputation
 - competition: working against other players
 - constructive: incrementally building some structure
 - explore/ascend/fall: searching for a way to reach some goal

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MDA: Aesthetics

- Aesthetics: The *desirable emotional responses* evoked by the game dynamics.
 - king of the castle
 - accumulation of personal power
 - building an empire
 - sense of persecution
 - great discovery
 - untouchable shadow on the wall

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8 Kinds of Fun

(Marc LeBlanc)

- Sensation – The raw pleasure a gamer gets from the look and feel or **visceral experience** of a game.
- Fantasy – The **make-believe aspects** of a game that resonate with the gamer and hereby make the game more enjoyable.
- Narrative – The unfolding **story of events**, either scripted or as a result of game dynamics, which lead to a satisfying climax.

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8 Kinds of Fun

(Marc LeBlanc)

- Challenge – The joy of **overcoming obstacles** or other players in getting to a goal.
- Fellowship – The natural pleasure of **interacting** with and trading with **other players**, or cooperating with them in getting to some goal.
- Discovery – The enjoyment that comes from encountering **the unexpected** or new.

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8 Kinds of Fun

(Marc LeBlanc)

- Expression – The satisfaction of being able to make a unique, **personality-revealing** mark on the game world or wear a mask and take on a new personality before others.
- Submission – The relaxation that comes from **mindlessly following orders** and not having to worry about anything beyond simple choices or rules.

URL: 8kindsoffun.com

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Some high level tips...

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Who do you design for?

- Famous last words:
 - "I have the coolest idea for a game!"
- DESIGN FOR YOUR AUDIENCE!
- Constantly consider
 - how will players perceive this?
 - will players even notice it?
 - is this important to players?
 - is it entertaining for players?
- Wil Wright: Consider the mental model of the game constructed by the player.

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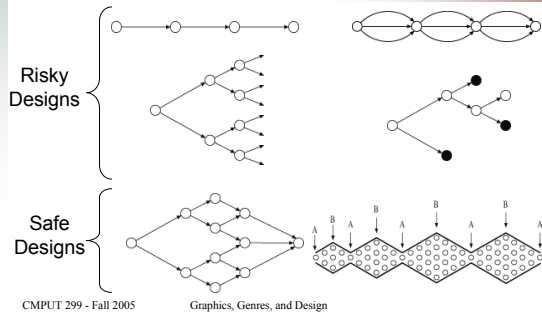
Do... don't show.

- It is usually more fun to do things than to see them.
- Let the player drive action and reveal the world.
- Cut-scenes can be very effective, but can distance the player from the action.
- *Exposition* is dangerous.

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Game Structure: Alternatives



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Goals

- Think carefully about the goals you set.
- Think carefully about the goals the player may set.
- Some goals are simply checkpoints...
 - "I got the floppy disk. Level's over. Yay."
- Some goals will be set by the player and mark real achievements
 - "I finally built the Pyramids!"
- Some goals will be purely personal...
 - "I'm going to do this whole level hopping on one foot."

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Critical Gaming

- Be a *critical gamer*...
- Analyze what you play. Compare.
- Try games when you get the chance.
- Don't get trapped by genre.
- Keep track of who makes what.
- Walk through an arcade guessing release dates and companies.

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Features

- Break down your game into features
 - character/enemy abilities
 - interactive objects in levels
 - subplots
- Remember that every feature must be
 - designed, developed, tested, debugged, and supported!
 - remember: features interact!
- Be ready to scrap features
 - if they don't work
 - if you don't have enough resources
- Stay in control!

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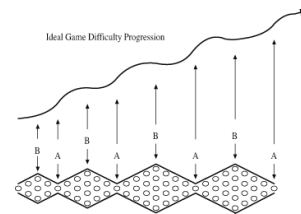
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Expression and Interface

- Virtual worlds grow more and more complex
- Controllers can't
 - (we're running out of fingers and limbs)
- How are you going to let the player express themselves? How can they act on the world?
- Interface is critical to a successful game.
- Complex interfaces like menus come at a price.
- You must accept and understand your constraints!

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Some common design elements...

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Design Elements: Doors and Keys

- Much advancement through games can be characterized as
 - obtain key (magic cloak, plans, crowbar, letter)
 - open door (rift to other universe, remove landslide, disperse groupies)
- Thinking at this abstract level can help identify potential deadends or traps in the game.

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Design Elements: Token chains

- tokens: items or information that mark accomplishments
- obtained by discovery/NPCs (non-player characters)/purchase/achieving goals
- token chains: one token earns another, and so on, until some ultimate goal is achieved
 - e.g., you find the scroll which you give to the old man who gives you the umbrella which shelters the child who tells you about the password to his clubhouse which holds the old rocking horse that belonged to the mayor who will cry when shown it and give you the...

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Design Elements: Stats and that...

- stats
 - give basic capabilities
 - rarely (if ever) change
- resources
 - depleted with use
 - replenished by discovery/time/achieving goals
- powerups
 - single use or limited use items and abilities
 - obtained by discovery/achieving goals/starting level

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Design Elements: Strengths/Weaknesses

- Roshambo: rock, paper, scissors
 - tanks beat infantry but helicopters beat tanks but infantry beat helicopters
 - good for "balancing"
- Categories:
 - ice magic, fire magic, water magic, white magic...
 - forces player to diversify abilities
- Moves:
 - vulnerable/invincible to particular attacks/moves
 - forces player to diversify actions

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Design Elements: Checkpoints and Saves

- Save games: record all game progress so game can be turned off
 - save anywhere
 - savepoints (automatic or voluntary)
 - earned saves
- Checkpoints: record recent achievements allowing a return upon failure (usually horrible death) – does not survive turning off the game!
- Be very, very careful how these are managed and placed. Critical to difficulty control.

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