Game Design

Describing Games

Sources:
RIT Faculty: Bayliss, Jacobs, Schwartz, Vick
References: Adams, Fullerton, Huizinga, Salen & Zimmerman,
and wherever Bayliss & Jacobs lifted the images 😊
**Game Analysis**

- What is analysis?
- Identifying formal elements
- Describing those elements
- Critique and Experience
- Back to the beginning...

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**Play & Fun**

- Fun: not work (DIS)
- Play: “nonessential, recreational human activities” (Adams)
Magic Circle (from Adams)

• From Huizinga (Homo Ludens, popular in game industry)
  – “theoretical concept related to the act of pretending that occurs when we choose to play a game”
  – A ‘place’ where we play and abide by rules
  – What would normally be fantasy in real world becomes real
• Akin to immersion?

Game

• What is it?
• Everyone seems to know, but is it easy to define?
• Examples:
  – Jigsaw puzzle
  – Tetris
  – Your job
Game Definitions (Rules of Play)

- A game is a system in which players engage in an artificial conflict, defined by rules, that results in a quantifiable outcome.
- This definition structurally resembles that of Avedon and Sutton-Smith, but contains concepts from many of the other authors as well. Here are the definition’s primary ideas:
  - **System**: We introduced the concept of a system in chapter 5. Systems are fundamental to our approach to games.
  - **Players**: A game is something that one or more participants actively play. Players interact with the system of a game in order to experience the play of the game.
  - **Artificial**: Games maintain a boundary from so-called “real life” in both time and space. Although games obviously occur within the real world, artificiality is one of their defining features.
  - **Conflict**: All games embody a contest of powers. The contest can take many forms, from cooperation to competition, from solo conflict with a game system to multiplayer social conflict. Conflict is central to games.
  - **Rules**: We concur with the authors that rules are a crucial part of games. Rules provide the structure out of which play emerges, by delimiting what the player can and cannot do.
  - **Quantifiable outcome**: Games have a quantifiable goal or outcome. At the conclusion of a game, a player has either won or lost or received some kind of numerical score. A quantifiable outcome is what usually distinguishes a game from less formal play activities.

- Game design is the process by which a game designer creates a game, to be encountered by a player, from which meaningful play emerges.
Game Definitions (shorter)

• A suite of meaningful choices. (Vick)
• Others?
• OK...so, what is the player experience?

Gameplay

• The navigation of a suite of choices where each decision leads to an action that has a discernable outcome. (Vick)
• Challenges and actions the game offers the player. (Adams)
• The experience that a game provides to the player(s). (DIS)
• Still need a way to think about analysis...
Game as a System (Vick)

• Formal system:
  – Objects: parts, elements, variables; physical or abstract, Attributes: properties defining interaction
  – Internal relationships: object to object
  – Environment: the context of the SYSTEM that gives it meaning
• Game as a system:
  – Objects: characters, PC, HUD, game items, rules, etc.
  – Attributes: properties of characters, predicates within rules
  – Internal relationships: game events, AI rules, item relationships, Item-Object relationships
  – Environment: game world (NOT A 3D space), play environment (3D Space!), context of rules
• Now, look at components of system more closely...

Formal Elements of Games

• Players
• Objectives
• Procedures
• Rules
• Resources
• Conflict
• Boundaries
• Outcome
Players

- Number
- Age
- Roles

Players: Interaction

- Player vs. Game
- Players vs. Game
- Player vs. Player
- Unilateral Competition
- Multilateral Competition
- Cooperative Play
- Team Competition
Objectives

- Capture
- Chase
- Race
- Alignment
- Rescue/Escape
- Forbidden Act
- Construction
- Exploration
- Solution
- Outwit
Objectives: Chase

Objectives: Race
Objectives: Alignment

Objectives: Rescue/Escape
Objectives: Forbidden Act

Objectives: Construction
Objectives: Explore

Objectives: Puzzle / Solution
Objectives: Outwit

Procedures
- Starting Action
- Progression of Action
- Special Action
- Resolving Action
Rules

• Too Many or Too Few?
• Which Define Objects and Concepts?
• Which Restrict Actions?
• Which Determine Effects?
• Simplified Rule Sets?
• House Rules?

Resources

• Currency
• Stocks
• Loans
• Life Cards
• Profession Cards
• House Cards
• Spouse and Kids
• Specialized Terrain
• Actions
Resources: Armor, Weapons, Lives, ...

Resources: Time
Conflict

Obstacles
• Odds of the hands

Opponents
• Those other dogs

Dilemmas
• Know when to hold ‘em, know when to fold ‘em

Boundaries

• Physical
• Rule-Based
• Emotional
Outcomes

• High Score
• Flag Capture
• First Across the finish line
• Tied to objectives
• See also VICTORY CONDITIONS

Game Mechanics

• Core mechanic (Vick):
  – action player has to repeat to succeed
  – essential piece of play activity
  – allows player to make meaningful choices
• Core mechanics (Adams):
  – Data and algorithms that precisely define the games rules and internal operations.
  – Hidden from player, but experienced via gameplay
• Rules + Procedures (Bayliss)
• Algorithmic description of what the player does/can do (DíS)
• https://en.wikipedia.org/wiki/Game_mechanics?
Mechanics Add Dynamics

- Combinations of rules can lead to special system dynamics within a game system
- Example:
  - A dead player comes back to life at a spawn point in a multiplayer game.
  - This is a rule.
  - Spawn camping is an example dynamic that arises from this rule.

Some Game Mechanics

- **Space**
  - Discrete/continuous
  - # dimensions
  - Bounded areas connected?
- **Objects, attributes, and states**
  - Secrets
- **Actions**

- **Skill**
  - Physical
  - Mental
  - Social
- **Chance**
  - Rolling the dice
  - Estimating chance is a skill
Genres

• Game Genre:
  – Collection of a set of game mechanics that together make for engaging play (Vick)
  – Thematic grouping of games based on gameplay (DIS)
• Art and consumption—do we need game genres?

Example Genres

• FPS, RPG, RTS, ... name some other genres
• What elements do they have in common?
• Any “mixed genres?” are they all mixed somehow?
Gameplay vs. Game Mechanics

• What the player can do vs. what the player experiences (DIS)

Emergent Gameplay

• Is a “fish just a fish?” (messages/meanings in media)
• Players extend/exploit/create rules
• Possibly unanticipated by designer
• Hints of social gaming...
Game Balance

- Often asked about game theory and AI
- Mathematical balance
- Solved games?
- How to ensure “fun” and flow and fairness?

Leftover Stuff

- So you want to be a game designer? https://www.youtube.com/watch?reload=9&v=zQvWMdWhFCc
- Game development resources: http://gamedev.net
- Everything related to games: Gamasutra
- Game careers: http://gamecareerguide.com/ (many other links, too)