

# **MDA: Mechanics, Dynamics, Aesthetics**

Elianna Ku & Celine Tang

# What is MDA?

- A formal approach that makes the design process a lot easier for game development, game criticism and technical game research, as a collective

MDA lets us better understand game dynamics...

**M:** Mechanics

- Helps us develop techniques for iterative design
- Control undesired outcomes and tune for desired behavior

**D:** Dynamics

- Allows us to reason explicitly about particular design goals

**A:** Aesthetics

- Anticipate how changes will impact each aspect of the framework and the resulting designs/implementations

# Mechanics

Mechanics describes the **particular components of the game**, at the level of data representation and algorithms

- Mechanics are the **various actions, behaviors and control mechanisms**

Adjusting the mechanics of a game helps us **fine-tune the game's overall dynamics**

- **Card Games:** shuffling, trick-taking, betting (bluffing dynamics)
- **Shooters:** weapons, ammunition, spawn points (camping and sniping dynamics)
- **Golf:** balls, clubs, sand traps, water hazards (broken and drowned clubs dynamics)

# Examples of Mechanics

## Monopoly (possible mechanics)

- **a constant rate tax**
  - Forces people spend quickly
- **doubling all payouts on monopolies**
  - Players are quickly differentiated
- **randomly distributing all properties under a certain value threshold**

These are all examples of mechanics that create dynamics that spice up the game

# Dynamics

Dynamics describes the runtime behavior of mechanics, acting on player inputs and each other dynamics inputs over time

Dynamics create **Aesthetic** experiences:

- **Challenge aesthetic**: time pressure and opponent play
- **Fellowship aesthetic**: sharing information, teaming up, party quests
- **Expression aesthetic (self-expression)**: personalized/character creation
- **Dramatic tension aesthetic**: rising tension, release, denouement/epilogue

# Examples of Dynamics

## Monopoly

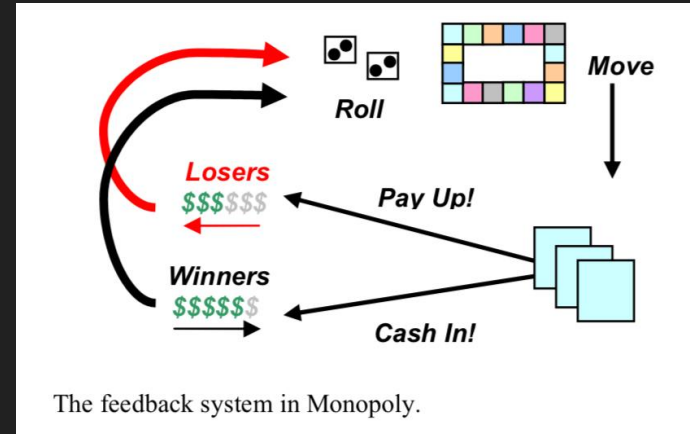
- **Wealthy v. Poor** (dramatic opponent play and rising tension dynamic)
  - Leads become extremely wealthy and can penalize the poor

**However, dramatic tension and others aesthetics are lost overtime**

- Players become less invested in the game
- Dramatic tension (aesthetic) gets lost

### Develop Feedback system where...

Helps game designers determine how particular states or changes affect the overall state of gameplay



# Aesthetics

Aesthetics describes the emotional responses when the player interacts with the game

## A list of words to describe video games and to define gameplay models...

1. Sensation Game as sense-pleasure
2. Fantasy Game as make-believe
3. Narrative Game as drama
4. Challenge Game as obstacle course
5. Fellowship Game as social framework
6. Discovery Game as uncharted territory
7. Expression Game as self-discovery

# Examples Of Aesthetics

**Charades:** Fellowship, Expression, Challenge

**Quake:** Challenge, Sensation, Competition, Fantasy

**The Sims:** Discovery, Fantasy, Expression, Narrative

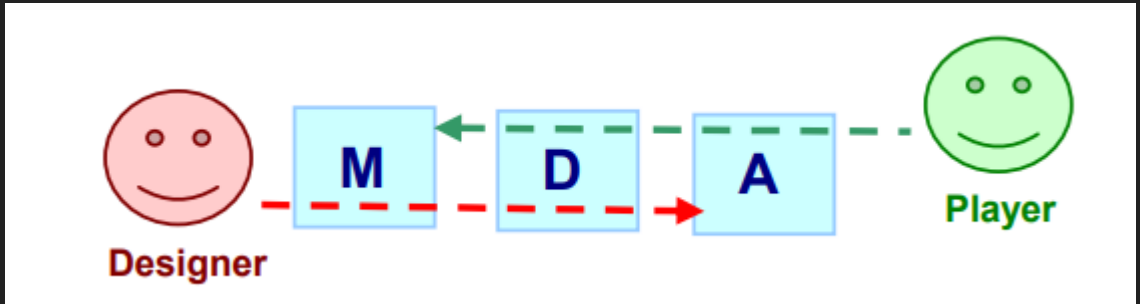
**Final Fantasy:** Fantasy, Narrative, Expression, Discovery, Challenge, Submission



# MDA as Lens

- From the designer's perspective, the mechanics give rise to dynamic system behavior, which in turn leads to particular aesthetic experiences
- From the player's perspective, aesthetics set the tone, which is born out in observable dynamics and eventually, operable mechanics

We should consider both designer and player perspectives.



# How to utilize MDA/The process of using MDA

## 1st pass

### Mechanics

objectives, pathing and actions/reactions

### Dynamics

engage the audience, simple character interactions

### Aesthetic

exploration and discovery

## 2nd pass

### Mechanics

less static pathing, more personalities/personalized tasks and objectives

### Dynamics

can track and interact with more characters

### Aesthetic

a theme or narrative, more original and personal design

## 3rd pass

### Mechanics

more variety of enemy units, mobility, vision

### Dynamics

purchase stronger weapons, improved skill sets

### Aesthetic

specific narrative, theme, dynamic goals

## Relevant Examples: What games use MDA?

### Almost all video games uses MDA

- League of legends (Bounty system)
- Final Fantasy xiv (daily roulettes)
- Stardew valley (Storyline, battle system, progression system)
- Monster Hunter: World (Gear upgrades)

## Critical Assessment/Reflections on MDA

- This paper discusses “fine-tuning” the game’s overall dynamics with the example of Monopoly: to implement mechanics that would help players who are behind and punish players for doing good
  - Prolong the game for no good reason
  - When the gap gets big, people usually end the game, so there is no point of making it even longer than it usually is. (avg time: 20- 180 minutes)

## Insights to apply in game design process

- The MDA method is applicable in all kinds of game design. It is very straightforward and opens up all sorts of possibilities.
- As game designers, we need to consider what a player considers “fun” and design from their perspective

## Useful Tips & Takeaways

- It's okay to start small. As you become more familiar and inspired by your small idea, you can work towards something bigger.
- Be creative and imaginative. Nothing is off-limits!

Thank you!