

Game Design

2

Analysis of Games

Thinking about Games

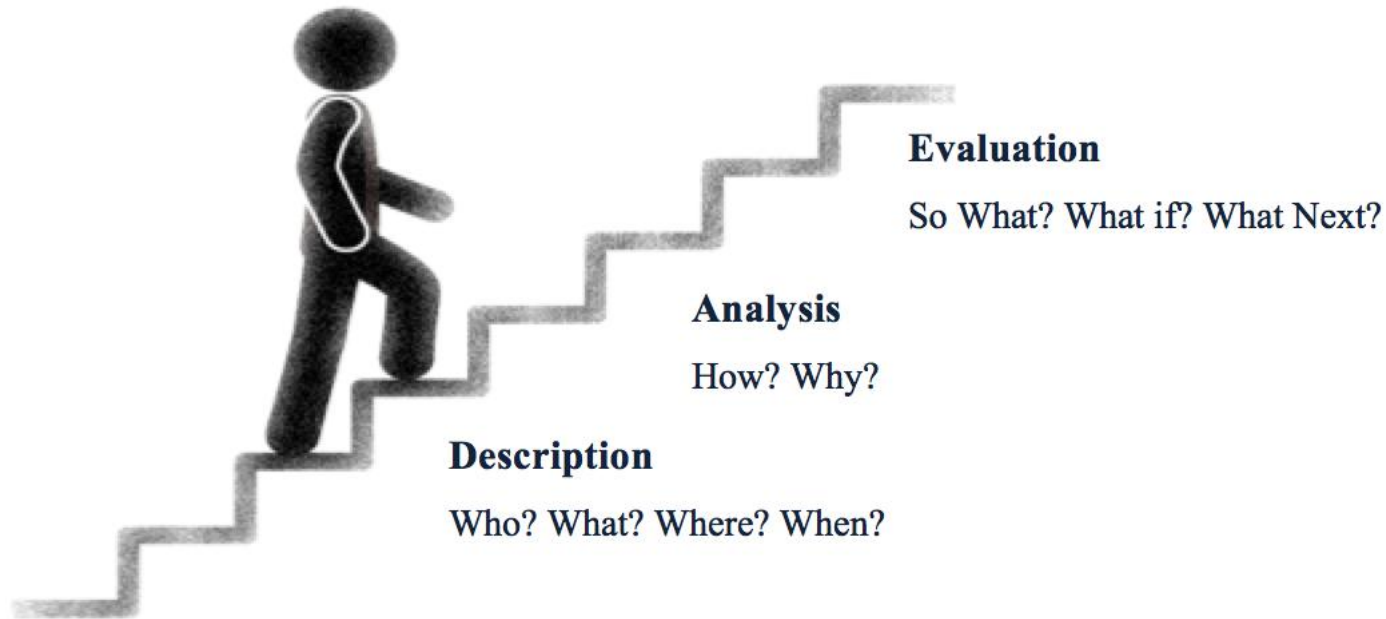
- Conceptualizing, applying, analyzing, synthesizing, and evaluating information to reach an answer or conclusion



Critical Analysis of Games

- Not just a game review, but a **critique**
 - A thorough and unbiased look at the game
 - Based on arguments and evidence
 - Not a good/bad decision but find aspects worth studying
- Look at game parts and how they interact
 - how does each part relate to the play experience
- Both for complete games or works in progress

Critical Analysis of Games



Critical Analysis of Games

- How is the player challenged?
 - What tools are available to overcome challenges?
- What is the inter-player interaction?
- Is the game balanced and fair?
- Is the game replayable?
- What is the intended audience?
- Above all,
 - What is the core gameplay?

Critical Analysis of Games

- Deconstruct the game
 - Find breakpoints
 - Limit the tools you use
 - Compare and contrast different choices/ difficulty levels/ skill paths, etc.
 - Attempt to get outside the game boundaries



Critical Analysis of Games

- Describe the formal elements
- Describe the manner in which the formal elements interact.
- Understand why those particular elements were chosen. What would happen if the designer had chosen differently?

Critical Analysis of Games



Critical Analysis of Games



Game Literacy

- What is game literacy?
- What does it mean to be able to “read” in games?
 - Able to play a game?
 - Play a game from start to finish?
 - Maybe it’s one or the other, depending on the game?

Game Literacy

- At the lowest point
 - the ability to play a game, even if as a newbie
- By that metric, have we achieved universal game literacy?

- Well, no!

Basic Game Literacy

- Understand your input devices
- Navigate simulated 2D/3D space
- Understand iconography
- Understand jargon
- Etc.

Basic Game Literacy



Advanced Game Literacy

- Analyze, interpret and go beyond the surface level



Advanced Game Literacy

- From a designer standpoint
 - Games with more depth
 - A well-developed substance beneath the surface level increases the quality of the surface elements (e.g. Bioshock, Dark Souls, Red Dead Redemption, Mass Effect)
 - Does **not** require more work, but better discipline

Classification of Games

- Multiple classification criteria
 - Number of players and player interaction
 - Medium of play and distribution platform
 - Game genres
 - Etc.

Games by Player Number and Interaction

- Single player (Witcher, Desperados, Solitaire)
- Multiplayer
 - MMORPG (WoW)
 - MOBA (Dota, LoL)
 - Shooter (CS:GO)
 - Simulated tabletop (Chess)
 - Etc.

Games by Medium and Distribution Platform

- PC games
- Console games
- Mobile games
- VR games

- These categories will often overlap

Game Genres

- Give designers and publishers a common language for describing styles of play
- Tend to restrict the creative process and lead designers toward tried and true gameplay solutions
- Most of the time, games are part of multiple genres simultaneously
- There is no single taxonomy!

SHOOTER



FIGHTING



STEALTH



CITY SIM



PLATFORMER



OPEN WORLD



HORROR



RPG



ROUGELIKE



ADVENTURE



LIFE SIM



PUZZLE



SPORT



STRATEGY



MUSICAL



FLIGHT SIM



SPACE SIM



RACING



TRAIN SIM



SUBM. SIM



Game Genres

- Action
- Strategy
- Role-Playing
- Sports
- Racing/Driving
- Adventure
- Simulation/Building
- Flight and Other Simulations
- Educational
- Children
- Casual
- Experimental

Action games

- Emphasize reaction time and hand–eye coordination
 - Real time
 - time constraints for performing physical tasks



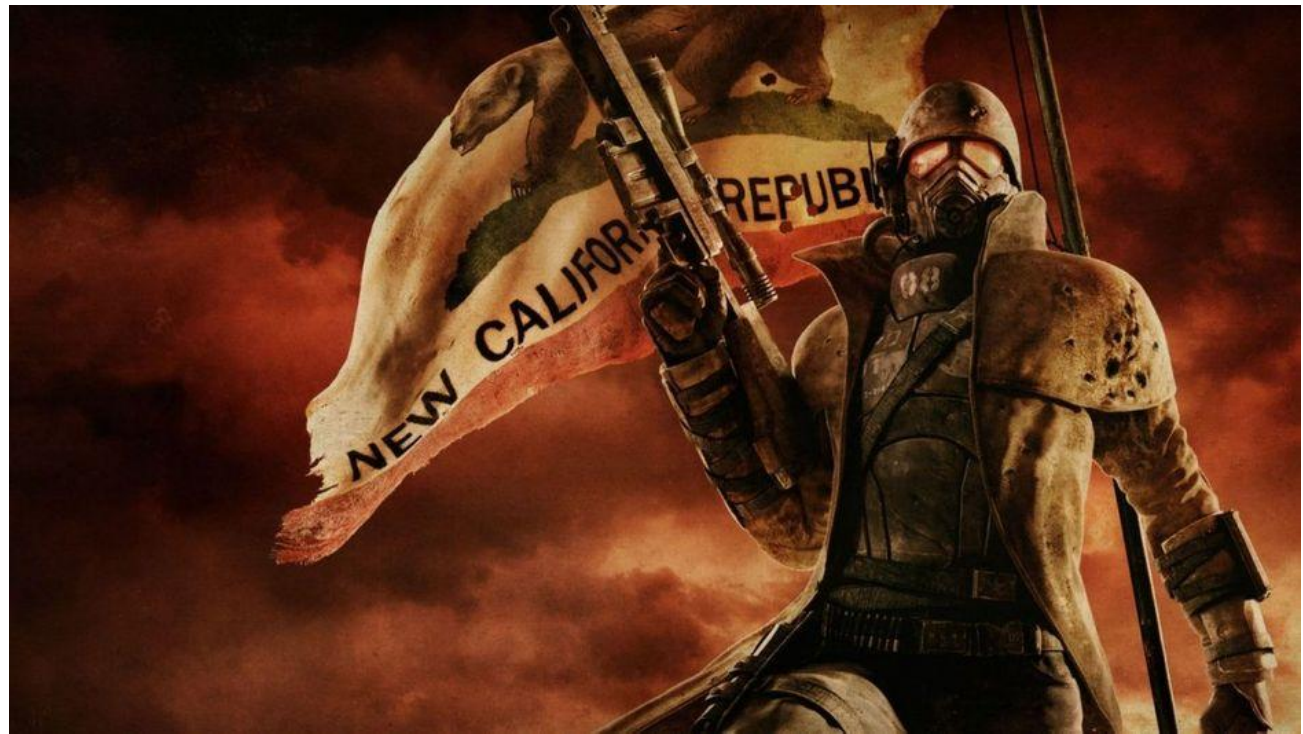
Strategy Games

- Focus on tactics and planning as well as the management of units and resources
 - Conquest
 - Exploration
 - Trade
- Action strategy games (Total War Series)



Role Playing Games (RPGs)

- Focus on creating and growing characters
 - Rich story lines
 - Quests, character progression, gear and inventory management, skill and resource acquisition
 - Rely on character ability in order to overcome challenges



Sports Games

- Simulations of sports
 - Mimic rules and competition settings of their real world counterparts
 - Can be marketing tools



Racing/Driving Games

- Arcade (Mario Kart)
- Racing simulators (Forza Horizon series)



Simulation/Building Games

- Focus on resource management and building
 - Usually mimic real world systems
 - Focus on the economy and trade systems
 - Players need to balance development and resource generation



Simulation Games

- Action games based on real-life activities
 - Pilot airplanes, drive tanks, etc.
 - Action games that require the player to master realistic control schemas



Simulation Games



Adventure Games

- Emphasize exploration, puzzle solving
 - Rely on player knowledge and ability as opposed to character ability

“the state of mind of a kid when he enters a cave alone must be realized in the game. Going in, he must feel the cold air around him. He must discover a branch off to one side and decide whether to explore it or not. Sometimes he loses his way” – Shigeru Miyamoto



Educational Games

- Combine learning with fun activities
 - Entertain and educate
 - Usually targeted at children, but some focus on adults



Children's Games

- Designed for children below 12 years old
 - Usually designed to entertain

Casual Games

- Meant to be enjoyed by everyone
 - Will avoid twitch or complex gameplay, violence, controversial topics
 - Aim to draw the largest possible audience
 - Started with web games (usually Flash based); now usually on mobile platforms

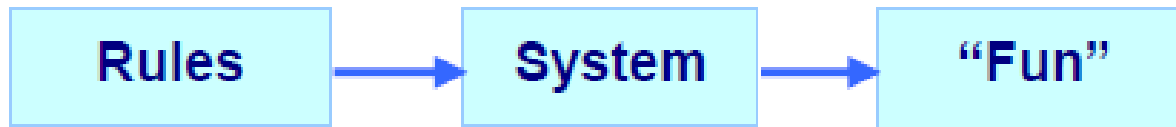
Mechanics, Dynamics, and Aesthetics

- The MDA Framework [3]
 - a formal approach to understanding games
 - game design and development,
 - game criticism, and
 - technical game research



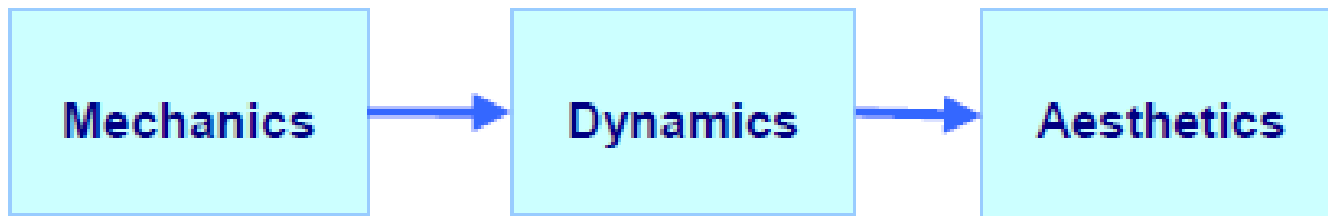
MDA

- Games are consumed unpredictably (as opposed to other media)
- Gaming needs to be formalized to be analyzed
 - Broken down into components



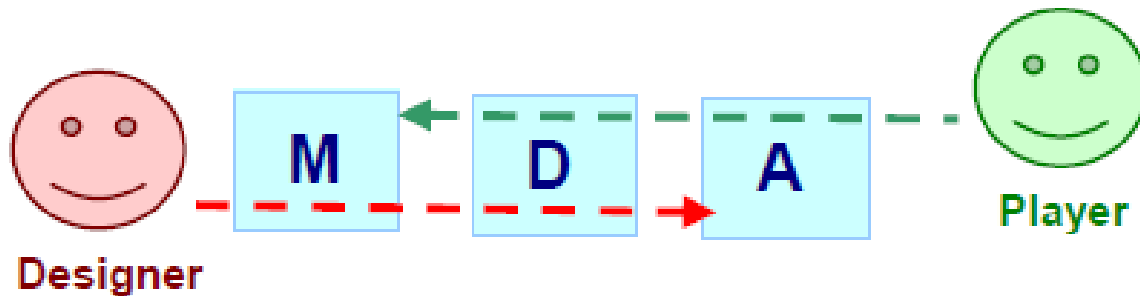
MDA

- Game components have design counterparts
 - Mechanics: formal elements
 - Dynamics: behavior of the formal elements and impact on players
 - Aesthetics: the (emotional) response of the player



MDA

- Each component is a “view” of the game
 - Differing perspectives
 - designers and
 - players



Aesthetics

- Why is a game “fun”?
 - What kind of fun is it?
 - How do we define fun gameplay?
- We need to make use of gaming literacy
 - Some taxonomy (or taxonomies) to define aesthetics

Aesthetics

- Games might be:
 - Sensation
 - Fantasy
 - Narrative
 - Challenge
 - Fellowship
 - Discovery
 - Expression
 - Submission or pastime

Aesthetics

- “Using out aesthetic vocabulary like a compass, we can define models for gameplay. These models help us describe gameplay dynamics and mechanics.” [3]
 - E.g. competitive games:
 - players are emotionally invested into defeating one another



Aesthetics

- Codenames:
 - Challenge
 - Competition
 - Fellowship
 - Expression



Aesthetics

- CS:GO:
 - Competition
 - Challenge
 - Fellowship
 - Sensation



THE
WITCHER
WILD HUNT

COMPLETE EDITION

Aesthetics

- The Witcher 3:
 - Discovery
 - Fantasy
 - Narrative
 - Challenge
 - Expression

Dynamics

- Create aesthetic experiences
 - Challenge created by opponent play, time constraint
 - Expression: building, crafting, influencing the game world
 - Fellowship: encouraging the sharing of information and pooling of effort
 - Etc.

Dynamics

LEAGUE OF
LEGENDS[®]

Dynamics

- Creep spawn rate determines player average income
 - Income determines average player strength
 - Player strength determines game length

Dynamics

- Feedback systems
 - Stronger players get more money, and become stronger
 - Strong players penalize weaker players
 - The rich become richer, the poor become poorer
 - As the gap increases, dramatic tension is lost

DEFEAT

Dynamics

- Is there any way to fix this spiraling feedback system?

Mechanics

- Actions, controls and behavior available to the player
- Together with other formal elements (levels, rules, etc.), they shape Gameplay Dynamics

Mechanics

- In LoL, mechanics include
 - Player abilities
 - Creeps
 - Lanes
 - Towers
 - Gold
 - XP
 - Minimap
 - Etc.



- Free
- 50
- 500
- 75
- 300
- 1100
- 1100

RECOMMENDED ALL ITEMS ITEM SETS

Search for Items, Stats, or Keywords...

MYTHIC

?	?	?	?	?
3200	3200	3200	3200	3200

LEGENDARY

2400	2500	2600	2600	2650	2900	2900	3000	3000	3000	3200

EPIC

850	850	900	1050	1050	1100	1100	1100	1350	1600	

STARTER & BASIC

350	350	450	350	435	850	1250

P Close CTRL + S Search

SELL UNDO

BUILDS INTO

1100

435 350 435

Lost Chapter MANA REGEN
1100

- + 25 Ability Power
- + 300 Mana
- Grants an additional +10% ability haste.
- Upon leveling, restores 20% of your maximum mana over 3 seconds.

PURCHASE

Game HUD showing character portrait, abilities, and stats.

HP: 100% MP: 100%

500



Mechanics

- Adjusting game mechanics allow designers to tune Dynamics
 - Bounty system
 - XP catch-up
 - Shorter resets near base
 - Timed events (baron or dragon spawn)



Tuning

- Iterate and refine values of penalties and rewards
- Aesthetic goals help define the design goals
- Dynamic Models can also be used to predict possible future problems

Tuning

- Truly...
- Games are never done

Bibliography

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2. Fullerton, T., Game Design Workshop: A Playcentric Approach to Creating Innovative Games, CRC Press, 2014
3. Hunicke et al. MDA: A formal approach to game design and game research.
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