Game Design Theory
Part 1: Design and Player Experience

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So how do we make games?

We all have games we like to play
We all have ideas for
  what we like
  what we’d like to play
  what we’d like to make

Where do we go from here?
I want to make a game about XYZ...
Game high concept

1. Core game idea
   ◦ What is the game about?
   ◦ What is the player doing?
   ◦ Why are they doing it?
   ◦ What is the challenge?

(Similar to advice for writers: who is the speaker, what are they saying, why are they saying it, etc.)
Gameplay design

1. Core Game Idea

2. Gameplay Design
   - Mechanics
     - Rules, resources, units, weapons...
   - Gameplay
     - How the game + player behave over time
   - Experience
     - How that makes the player feel
Game design

1. Core Game Idea
2. Gameplay Design
3. Game Design
   ◦ + Art
   ◦ + Story
   ◦ + Tech
Game design

1. Core Game Idea
2. Gameplay Design
3. Game Design
   ◦ + Art
   ◦ + Story
   ◦ + Tech
   ◦ All intertwined of course

CORE GAME IDEA

Gameplay Design
Characters + Story
Visual Design
Technical Design
Product design

1. Core Game Idea
2. Gameplay Design
3. Game Design
4. Product Design
   ◦ Player fit
   ◦ Studio fit
   ◦ Market fit
   ◦ Cost and budget

 Player Fit
Who would play this? What do they want?

 Studio Fit
Can we make it? What will it take?

 Market Fit
Market + platform size? Expected sales?

CORE GAME IDEA

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   - Player fit
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   - Market fit
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Our plan

Today:
- Part 1: Player experience

Then:
- Part 2: Mechanics and game pieces

Future:
- Part 3: Systems and loops

(Visual / Character design not part of this class 😊)
How do we design gameplay?

Start out by thinking analytically

- What are games
- What makes them enjoyable
- How do we play them
- How do they decompose into smaller pieces

And then do a whole lot of building and prototyping :)
How do we design gameplay?

GAMES ≠

(Athena, which sprang out fully formed from the head of Zeus)
I want to make a game about XYZ... Should I figure out what “fun” is first? Need more than that.
I want to make a game about XYZ...

Should I figure out what “fun” is first?

Should I analyze rules and game pieces first?

Together? Maybe...
Main model

We’ll look at game design on three levels
- Mechanics and systems
- Gameplay
- Player experience

See: *Elements of Game Design* chapters 1 and 2
Games

Gameplay is an *experience* created by the *designer* for the *player*
Games

Gameplay is an experience

Player can’t talk to the designer
  ◦ They can only interact with the game itself
Games

Gameplay is an experience
Player can’t talk to the designer
Designer can’t talk to the player
Games

Gameplay is an experience

... mediated by the game artifact

player

designer
Example: Poker

What do players like about it?

Fun
Winning
Socializing
Etc.
Example: Poker

What do players like about it?
What are the basic game elements?

Cards
Money
Rules
Etc.

Fun
Winning
Socializing
Etc.
Example: Poker

What do players like about it?
What are the basic game elements?
What do you do with game elements, to produce this kind of fun?
MDA model

**Mechanics / Dynamics / Aesthetics**  
(Hunicke, LeBlanc, Zubek 2004)

Like color theory for games
- Very broad
- Immediately useful
- Starting point: not end all and be all

You probably read MDA in CS 376. If not, read it now!
- Link in the syllabus
Example: Poker

Translated to MDA

- Mechanics
- Dynamics
- Aesthetics

- Cards
- Money
- Rules
- Etc.

- Betting
- Bluffing
- Reading
- Etc.

- Fun
- Winning
- Socializing
- Etc.
Note on terminology

Practicing designers don’t use this kind of M/D/A terminology
Nobody says “let’s adjust the dynamics so that ...” or “the aesthetics of this game are ...”

Practicing designers talk about the *gameplay*, and how that affects *player experience*
Let’s use *contemporary terminology* instead
Example: Poker

Mechanics ↔ Gameplay ↔ Experience

Gameplay

**Mechanics**
- Game elements, rules, code
- Player’s inputs and outputs

**Gameplay**
- How the game unfolds over time
- Activity / behavior/ patterns of play

**Experience**
- The enjoyable experience
- The feels / the fun
Gameplay ...is not the only thing

Note: this model only talks about things connected to gameplay

Other aspects also influence player’s experience of the game:
- Art style, setting, visuals
- Story, characters, plot
- Etc.

- Mechanics
- Gameplay
- Experience

Characters, plot elements, story arc
Art assets, style, style, theme
...
Designer’s challenge

The designer aims to create this experience...

... but can only design and implement these

- Mechanics
- Rules Etc.
- Reading Etc.

- Gameplay

- Experience

- Fun Winning Socializing Etc.
Designer’s challenge

Second-degree design challenge
- Create entire world and ruleset which creates trajectories through the world which are enjoyable

Compare to literature, movies, etc.
- Create a single trajectory through the world which is enjoyable

A new medium!
Designer’s challenge

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Roadmap

Today
- Experience

Next week
- Gameplay
- Mechanics
Player Experience
Player Experience

Player’s feeling of “fun”
- “This game is awesome!”
- “This game sucks! It’s not fun!”

What does the player mean by “fun”? 
Player Experience

Player’s feeling of “fun”
- “This game is awesome!”
- “This game sucks! It’s not fun!”

But what does “fun” mean?
- It’s an awfully vague word
- Everyone has a different idea of “what’s fun”
- Are there better terms than “fun”?
Example

Pick your favorite game
- What makes this game fun to play?
- Are some elements central and necessary for it to be fun?
- Are there other games that are similar? And how?
- What makes that entire category of games fun?
Types of Experience

Desire for challenge / frustration / “fiero”
Types of Experience

Desire for challenge / frustration / “fiero”
Desire for action / adrenaline rush
Types of Experience

- Desire for challenge / frustration / “fiero”
- Desire for action / adrenaline rush
- Desire for learning / figuring things out
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Types of Experience

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Desire for learning / figuring things out
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Desire for fantasy / be someone else
Desire for story / empathy / catharsis
Desire for fear / disgust / paranoia
Desire for humor / cuteness
Desire to feel joyous
Types of Experience

- Desire for challenge / frustration / “fiero”
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- Desire for humor / cuteness
- Desire to feel joyous
- Desire to create / express yourself
Types of Experience

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Desire for action / adrenaline rush
Desire for learning / figuring things out
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Desire to feel joyous
Desire to create / express yourself
Desire for sensory pleasure
Types of Experience

- Desire for challenge / frustration / "fiero"
- Desire for action / adrenaline rush
- Desire for learning / figuring things out
- Desire to explore unknown worlds
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- Desire for story / empathy / catharsis
- Desire for fear / disgust / paranoia
- Desire for humor / cuteness
- Desire to feel joyous
- Desire to create / express yourself
- Desire for sensory pleasure
- Desire for repetition / past time
It all depends on the player

Different people like different things
  ◦ Eg. maybe I’m really into story driven RPGs...

Different people will react differently to the same gameplay elements
  ◦ Eg. ...but just because I like story doesn’t mean that you’ll like it too

There is no “objectively good” game design –
  just good in context of particular players and their motivations
Player enjoyment theories

Some theories:

1. Bartle MUD player types [link]

2. Self-determination Theory (Deci & Ryan) [link]

[Diagram of Bartle MUD player types]

[Diagram of Self-determination Theory]
Personality modeling: Five Factor

“Gold standard” for psychological personality tests

Statistical analysis finds five independent axes:

- Openness to experience vs cautiousness
- Conscientiousness vs lack of care
- Extraversion vs introversion
- Agreeableness vs detachment
- Neuroticism vs emotional stability

(Note: it’s much better than Meyer-Briggs :) )
Marketing approach: user stories

Consider your typical players and write stories about who they are and why they would like to play your game

- Ideally: by surveying existing players
- More commonly: by imagining players :)

*Somewhat useful, but more as a marketing tool not design tool*

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**John Doe, male, mid-20s**

**Occupation:** assistant manager, retail

**Plays:** Console and PC, evenings after work, ~1-2h nightly

**Favorite games:** Assassin’s Creed, The Witcher, World of Tanks, FIFA

**Why are they favorite:**
Good action, adrenaline rush
Winning is important
Friends at work also play and they compare tactics
Bleeding edge research

Very interesting survey by Nick Yee at Quantic Foundry (QF) that tries to match up:
1. Gamer motivation profiles (what games they like to play)
2. Personality surveys (using the Big 5 Model)

Presented at GDC 16, CHI 16, GDC 2020, etc
Player motivations

Started by collecting 12 different possible motivations from existing literature

Then asked players to rate their preference for each of them

<table>
<thead>
<tr>
<th>Action</th>
<th>Social</th>
<th>Mastery</th>
<th>Achievement</th>
<th>Immersion</th>
<th>Creativity</th>
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</thead>
<tbody>
<tr>
<td>&quot;Boom!&quot;</td>
<td>&quot;Let's Play Together&quot;</td>
<td>&quot;Let Me Think&quot;</td>
<td>&quot;I Want More&quot;</td>
<td>&quot;Once Upon a Time&quot;</td>
<td>&quot;What If?&quot;</td>
</tr>
<tr>
<td>Destruction</td>
<td>Competition</td>
<td>Challenge</td>
<td>Completion</td>
<td>Fantasy</td>
<td>Design</td>
</tr>
<tr>
<td>Excitement</td>
<td>Community</td>
<td>Strategy</td>
<td>Power</td>
<td>Story</td>
<td>Discovery</td>
</tr>
</tbody>
</table>

Motivation clustering

Very large survey, N = 140,000
Produced clear clustering of gamer preferences
  - But why?

After that, he went on to match them up against personality types...
Motivation clustering

Found that three of the FFM axes correlate *weakly* with gaming profiles:

- Conscientiousness
- Openness
- Extraversion

No results for:
- Agreeableness
- Emotional Stability
How do games compare?

Counter-Strike fulfills desires for
  ◦ Challenge, strategy, competition, destruction

Final Fantasy fulfills desires for
  ◦ Challenge, story, discovery, challenge, fantasy

The Sims fulfills desires for
  ◦ Story, design, fantasy, strategy, destruction

Every game pursues multiple player desires *and therefore multiple player types*
Other results

Source: https://quanticfoundry.com/2016/02/10/gamer-generation/
Other results

Source: https://quanticfoundry.com/2016/02/10/gamer-generation/
(However: got to remember potential for biases: audience self-selection, etc. Still need more studies on this.)

Source: [https://quanticfoundry.com/2016/12/15/primary-motivations/](https://quanticfoundry.com/2016/12/15/primary-motivations/)
Experience Summary

Let’s not talk about “fun” in general
Different players have different motivations

Let’s be as precise as possible when talking about the player’s experience
  ◦ Know who you’re making the game for
  ◦ Know what you want the player to experience
  ◦ Layer multiple types of experiences together
Start thinking about your own project...

What kind of a game do you want to make?
What will players find interesting about it?

You don’t have to have any answers yet...
Start thinking about your team

We’ll want ideally 3-person teams
You have a week or two to self-organize and come up with team + project proposals
  ◦ So the sooner the better :)
Start thinking about scope

We’ll want ideally 3-person teams

You have a week or two to self-organize and come up with team + project proposals
  ◦ So the sooner the better :)

Consider that your game needs to provide a 3-5 minute “chunk” of experience
  ◦ How do you fit your vision into 5 minutes?
  ◦ Don’t plan for an epic
Today’s summary

Game Design
- Intro
- Player Experience

Quick final project update

Next time we continue with game design: mechanics and uncertainty
Qs?