Intro to Game Design
Interactivity and Choice

Fall 2015
Mondays & Wednesdays 9:30 AM-12:15 PM

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Teaching Assistant: Angela Lee
al4317@nyu.edu
Today’s Class

• Reading Quiz!
• Skills of a game designer
• The anatomy of choices: discernible, integrated... and experimental?
• Analyzing and reassembling rules
• How to write rules
• Modify a Game—jumping in, working in groups
What does a game designer do?
What does a game designer do?

Some answers...

“Comes up with the rules of the game.”

“Writes documents that are instructions for everyone else to follow... KIND OF.”

“Do your best to imagine or listen to the player’s experience.”

“Keeps the vision of the project... But knows when it has to change, too.”

“You know all those numbers in games? How much something costs, the delay in firing, how many HP... Game design.”

“A little bit of everything.”

“Tune, play, scream in frustration, repeat: iteration.”

“Has to be an expert at killing your darlings.”

“Leads and communicates to the team.”
What does a game designer do?

“You know how you collect $200 when you pass GO? I’m the one who has to decide that it’s $200, and not $250 or $100.”
### What does a game designer do?

**Intro to Game Design**

NYU Game Center / Fall 2015

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#### Game Design Spreadsheet

<table>
<thead>
<tr>
<th>Character</th>
<th>Class</th>
<th>Base Stat</th>
<th>Type</th>
<th>Weapon</th>
<th>Stats</th>
<th>Special Stats</th>
<th>XP</th>
<th>Total XP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Zombie</td>
<td>Light</td>
<td>Barbarian</td>
<td>Basic</td>
<td>Knife</td>
<td>1D6+1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Zombie</td>
<td>Heavy</td>
<td>Barbarian</td>
<td>Basic</td>
<td>Sword</td>
<td>1D8+2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Human</td>
<td>Light</td>
<td>Barbarian</td>
<td>Basic</td>
<td>Spear</td>
<td>1D6+1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Human</td>
<td>Heavy</td>
<td>Barbarian</td>
<td>Basic</td>
<td>Battleaxe</td>
<td>1D8+2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Giant</td>
<td>Heavy</td>
<td>Barbarian</td>
<td>Basic</td>
<td>Club</td>
<td>1D10</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Notes:**
- Each monster, which you can see here, has 10 Health. One shot and the monster is dead. They hurt nothing when they are in the ground and they pop up randomly. They run around in a random forward direction. If you run into the player, they have this causing a large amount of damage. 

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**Player Character Stats**

<table>
<thead>
<tr>
<th>Stat</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name</td>
<td>Tom</td>
</tr>
<tr>
<td>Class</td>
<td>Archer</td>
</tr>
<tr>
<td>Level</td>
<td>5</td>
</tr>
<tr>
<td>Health</td>
<td>100</td>
</tr>
</tbody>
</table>

**Future Notes**

- **Player Character**
- **Power Info**
- **Health**
- **Future Stats**

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**Gameplay Stats**

<table>
<thead>
<tr>
<th>Stat</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Damage Type</td>
<td>Damage Amount</td>
</tr>
<tr>
<td>Axe</td>
<td>1D6+2</td>
</tr>
<tr>
<td>Sword</td>
<td>1D8+2</td>
</tr>
<tr>
<td>Bow</td>
<td>1D6</td>
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</table>

**Character Attributes**

<table>
<thead>
<tr>
<th>Stat</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health</td>
<td>10</td>
</tr>
<tr>
<td>Damage</td>
<td>5</td>
</tr>
</tbody>
</table>

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**Wield**

<table>
<thead>
<tr>
<th>Stat</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Magic</td>
<td>1D8+4</td>
</tr>
<tr>
<td>Physical</td>
<td>1D6+2</td>
</tr>
</tbody>
</table>

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**Game Type**

<table>
<thead>
<tr>
<th>Stat</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Basement Battle</td>
<td>1D8+2</td>
</tr>
<tr>
<td>Dungeon Battle</td>
<td>1D6+4</td>
</tr>
</tbody>
</table>

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**Monster Types**

<table>
<thead>
<tr>
<th>Stat</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Human</td>
<td>1D8+2</td>
</tr>
<tr>
<td>Giant</td>
<td>1D12+4</td>
</tr>
</tbody>
</table>

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**Character Skills**

<table>
<thead>
<tr>
<th>Stat</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dodge</td>
<td>1D6</td>
</tr>
<tr>
<td>Stealth</td>
<td>1D8+2</td>
</tr>
</tbody>
</table>

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**Character Equipment**

<table>
<thead>
<tr>
<th>Stat</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spear</td>
<td>1D6+2</td>
</tr>
<tr>
<td>Battleaxe</td>
<td>1D8+2</td>
</tr>
</tbody>
</table>

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**Character Abilities**

<table>
<thead>
<tr>
<th>Stat</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flight</td>
<td>1D8+2</td>
</tr>
<tr>
<td>Swim</td>
<td>1D6+4</td>
</tr>
</tbody>
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**RULES:** How does the game work? What can the player do?

**BALANCE:** How fast, how long, how effective, how difficult?

**FEEL:** Is the sensation of motion & control satisfying?

**DRAMA:** Does all of the above work well with character designs, themes of the story, the arc of narrative?

**VALUES & EMOTION:** What do the structures of the game express, reward, create reactions to?
Being a Game Designer

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Does Tetris have values?
Being a Game Designer

Does Tetris have values?

“Maintain order & fit everything into place, or be overwhelmed!”
What skills does a game designer need?
# Being a Game Designer

## What skills does a game designer need?

1. Animation  
2. Anthropology  
3. Architecture  
4. Brainstorming  
5. Business  
6. Cinematography  
7. Communication  
8. Creative Writing  
9. Economics  
10. Engineering  
11. History  
12. Management  
13. Mathematics  
14. Music  
15. Psychology  
16. Sound Design  
17. Technical Writing  
18. Visual Arts  
19. Puppetry  
20. Negotiation  
21. UI Design  
22. Statistics  
23. Philosophy  
24. Narrative  
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Listening
What skills does a game designer need?

1. **Listening**
   - to your team (collaborators, co-creators, partners in crime)
   - to your players (not necessarily always their words!)
   - to your game (know it inside and out, hear its engine purr or clunk)
   - to stakeholders: whoever you’re making the game *for* (maybe a client? but could be in honor of / inspired by someone)
   - to *yourself* (the most difficult kind of listening)
What are games made of?
One Lens: Interactivity

“Bill” speaks to “Bob”:

LISTEN → THINK → SPEAK

Bill and Bob exchange thoughts and ideas.

Another perspective:

LISTEN → THINK → SPEAK

Thinker interacts with a computer or digital device.

Interactivity in games involves listening, thinking, and speaking between players and the game environment or other players.
1. **Cognitive interactivity** or *interpretive participation*
   All kinds of stories, artworks, etc have cognitive interactivity.

Where is meaning created?
2. **Functional interactivity** or *utilitarian participation*
   The way things respond or feel when you touch, click, push, read, listen...
   Most anything you can “act on” has functional interactivity.
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2. **Functional interactivity** or *utilitarian participation*

The way things respond or feel when you touch, click, push, read, listen...
...akin to the tone of a conversation.
3. **Explicit interactivity** or *participation with designed choices and procedures*
This is the closest to the common-sense notion of “games.”
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This is the closest to the common-sense notion of “games.”

Given an objective, you have some options (but usually limited by rules!) as to how to reach it; things change based on your choices.
Functional Interactivity

4. **Beyond-the-object interactivity** or *participation within the culture of the object*

The cultural level again: interacting with others. Creating community. Changing the object; making your own spin-offs, mods, fan works.
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The cultural level again: interacting with others. Creating community. Changing the object; making your own spin-offs, mods, fan works.

Again, you could say most cultural works have this possibility... some more successfully (or with more support from original creators!) than others.
Four types of interactivity

1. **Cognitive interactivity** or *interpretive participation*
2. **Functional interactivity** or *utilitarian participation*
3. **Explicit interactivity** or *participation with designed choices and procedures*
4. **Beyond-the-object interactivity** or *participation within the culture of the object*

...can all be happening at once (and usually are).
Designing explicit interactivity

**Discernable and Integrated**

The interaction (an action and its outcome) is communicated to the player in a perceivable way.

The interaction not only has immediate significance but affects the experience at a later point.

**The fundamental molecule of game design?**
Example: Asteroids
Example: Integrated Choices in RPGs

What makes this choice of weapons discernable?
(And is it discernable to everyone?)
Anatomy of a Choice

1. **What happened before the player was given the choice?**
   - *Asteroids*: The asteroids are moving around the screen. There are a certain number and size.
   - *Chess*: Pieces are already on the board in certain positions, based on earlier moves.

2. **How is the possibility of choice conveyed to the player?**
   - *Asteroids*: The player has controls in front of them to be activated.
   - *Chess*: The player understands how pieces can move, and sees empty squares.

3. **How did the player make the choice?**
   The player uses the controls or moves the pieces that they see in Step 2.

4. **What is the result of the choice? How will it affect future choices?**
   - *Asteroids*: If the player shoots an asteroid, it splits into smaller, faster versions: more danger!
   - *Chess*: Pieces are now in new positions, changing the dynamics of territory and power.

5. **How is the result of the choice conveyed to the player?**
   - *Asteroids*: Sound, animated shot, asteroids breaking up, moving faster.
   - *Chess*: For starters, they see their piece in a new position; then they see how their opponent will respond.
Four potential failure states

A. *The player feels as if the choice is arbitrary.*

B. *The player has no idea what to do next.*
The player may not see their potential for action or choice clearly.

C. *The player loses the game and doesn’t know why.*
The state of the game and potential for loss/death aren’t represented clearly.

D. *The player doesn’t know if their action had an outcome.*
The game doesn’t have immediate feedback to show that something happened as a result of an action.
Anatomy of a Choice

1. What happened before the player was given the choice?
   - C. The player loses the game and doesn’t know why.

2. How is the possibility of choice conveyed to the player?
   - B. The player has no idea what to do next.

3. How did the player make the choice?

4. What is the result of the choice? How will it affect future choices?
   - A. The player feels as if the choice is arbitrary.
   - D. The player doesn’t know if their action had an outcome.

5. How is the result of the choice conveyed to the player?
   - C. The player loses the game and doesn’t know why.
Are failures always failures?

2. How is the possibility of choice conveyed to the player?

B. The player has no idea what to do next.
Are failures always failures?

4. What is the result of the choice? How will it affect future choices?

A. The player feels as if the choice is arbitrary.

Cognitive interactivity or interpretive participation
Are failures always failures?

MASS EFFECT 3 ENDINGS
...well you do have a choice, don't you?
Exercises: Conveying Rules

What are the rules of *Pac-Man*?

Can we cluster them into types?
Each group will get one type of rules.

Create a visual representation of the rules in your type: how would you communicate it without words?
Tips for Working in Groups

• **Meet people properly.** Get everyone’s name and best contact info.

• **Determine common principles.** It’s good to agree on broad strokes early on—what do you like about the game you’re modding? What do you think needs to change? Any great ideas for the direction to take it (something to add, another game to mash up) that everyone likes? *You don’t have to all agree at this part—multiple contradictory ideas can be fruitful!*

• **Make meeting conditions good.** Especially when meeting outside of class.

• **Make sure someone is taking notes.** Rotate unless it’s that person’s favorite job!

• **Let everyone say their piece.** There’s no sense in “saving time” (a few seconds) by cutting off.

• **Check your ego at the door.** The goal is to get ideas out and discuss, not to “win.”

• **Be careful about going off on tangents.** It’s easy to get distracted, but time is limited.

• **Praise each other.** Even the weirdest idea often has something interesting lurking in it.

• **Assign tasks to people.** If there’s stuff that needs to get done, put names on it, share equally.

• **Be open and honest.** Talk with group members about problems, or talk to Naomi or Angela.
Tips for Working in Groups

• **Can’t decide? Try it out.** In prototyping, the best way to resolve a disagreement about what direction to go is to pick the one that’s quickest to assemble and try it out by playing it, then evaluate. This also means it’s good to advocate for simple ideas, or one chunk of an idea!

• **Mitigate conflict when possible.** This is everyone’s job: pay attention to if conflict is breaking out (someone’s upset, has hurt feelings, is getting a little too loud or forceful) and suggest taking a break. Talk to each other, be the one to apologize whenever you can. The goal should be to resolve conflict and keep moving forward, not to win an argument.

• **Phrase alternatives as questions.** “What if we tried A first, then B if A doesn’t work?” rather than “I think we should do A and not B.” **Also useful: “I” statements** as in “I’m not really feeling idea B” rather than “Idea B is just terrible.”

• **This is not your last game.** It’s OK if some of your ideas don’t make it in; the process of design is like pruning a bonsai tree, with lots of clippings on the ground. Those ideas aren’t lost and forgotten: they’re fertilizer for a future game, especially if you write them down.
Tips on Writing Rules

1. Rules are there to explain the game when you’re not there. What kinds of questions may come up? What are potential areas of confusion?

2. Rules dispel ambiguity—no good to have arguments over what a rule means!

3. At the same time, they can’t be so long that they take forever to read and understand: a balance of *completeness* and *conciseness*.

4. Sometimes it’s necessary to define terms in a vocabulary, so players understand basic concepts—but some concepts are “common sense” or well-understood conventions (“high card wins” and “play passes to the left”).

5. The order matters. One potential order:
   - Objective -> Setup -> Gameplay Procedures -> Scoring -> Ending the Game

6. Use second-person imperative (“place your piece on the start square”)

7. Leave out strategy tips (that’s a separate document)
Take notes as I explain how to play.

Now, see if you can write up the rules of Mancala, using only text.