Intro to Game Design
Pitching, rolling, swaying: on an uneven deck

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

Instructor: Naomi Clark
nmc5@nyu.edu / naomi@halfrobot.com

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

• Balance and Tuning
• BATTLE BATTLE!
• Final project details
• If there’s time: more about balancing single-player games
Different kinds of balance

HAVING SOME RANDOM RAGEAHOLIC SCREAM DEATH THREATS AT YOU BECAUSE YOU NERFED A CHEAP-ASS STRATEGY

LONGEVITY IN GAMES

Balance is the Key to Life
Different kinds of balance

We talk about a lot of things as “balancing”

- **Economy balance**—how fast are resources moving through the system? How quickly will the game move towards total *disequilibrium* where one player’s won or lost? (feedback mechanics, economy loops)
- **Difficulty balance**—getting the kind of flow that you want (not necessarily always “classic flow!”)
- **Strategic balance**—is there one “dominant strategy?” Is one weapon so good that people *have* to pick it since the others are all “bad choices?” Is one character overpowered and way too easy to win with?
- **Tuning**—adjusting numbers to get the feel just right. Tuning is to balancing as a putter is to a nine-iron or a tiny hammer to a sledgehammer
- **Game Feel**—tuning to get the feeling of real-time verbs “just right”
- **Balanced communities of players**—are the players “in the same league?” This is why leagues *exist*: to create better matchups between opponents
Balancing vs. Tuning

Game Balance
making sure it’s not broken / out of whack

- Too hard? Too easy? Overpowered?
- One strategy dominates? (”zerg rush”)
- Broader strokes

Game Tuning
making it feel and perform just right

- Does this particular part work the way we want it to, serve its purpose?
- Is the timing & sensation spot-on?
- Detailed adjustment
<table>
<thead>
<tr>
<th>Discipline</th>
<th>Balance / Broad</th>
<th>Tuning / Detailed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Writing</td>
<td>Character development, plot outline, themes</td>
<td>Wording, sentence length, reading pace</td>
</tr>
<tr>
<td>Economy Design</td>
<td>Resources, drains and faucets, major choices</td>
<td>Costs, profit margins, efficiencies, tradeoffs</td>
</tr>
<tr>
<td>Level Design</td>
<td>Layout of space, difficulty of goals, obstacles, rewards</td>
<td>Lighting, attention, sign-posting</td>
</tr>
<tr>
<td>System Design</td>
<td>Difficulty of win/loss or objectives, dominant strategies</td>
<td>Edge cases, emergent effects, interesting dynamics</td>
</tr>
<tr>
<td>Interaction Design</td>
<td>Verbs, controls, feedback, execution complexity</td>
<td>Fine adjustment of Game Feel</td>
</tr>
</tbody>
</table>
Different kinds of balance

We talk about a lot of things as “balancing”

• **Economy balance**—how fast are resources moving through the system? How quickly will the game move towards total *disequilibrium* where one player’s won or lost? (feedback mechanics, economy loops)

• **Difficulty balance**—getting the kind of flow that you want (not necessarily always “classic flow!”)

• **Strategic balance**—is there one “dominant strategy?” Is one weapon so good that people *have* to pick it since the others are all “bad choices?” Is one character overpowered and way too easy to win with?

• **Tuning**—adjusting numbers to get the feel just right. Tuning is to balancing as a putter is to a nine-iron or a tiny hammer to a sledgehammer

• **Game Feel**—tuning to get the feeling of real-time verbs “just right”

• **Balanced communities of players**—are the players “in the same league?” This is why leagues *exist*: to create better matchups between opponents
Card Game Designers vs. Card Game Developers

So many elements to balance!!

**Designers:** coming up with new concepts for cards, trying to make it interesting, keep the game fresh

**Developers:** playing the HELL out of decks made with a new card, making little balance changes to see if the card is actually viable
1. SETUP
• Place your HP die on the HP space with the indicated number facing up.
• Take the number of tokens shown at top right for your character.

2. BATTLE
• You and your opponent simultaneously roll a six-sided “battle die.”
• If the number you rolled shows a change to the number on your character card, change your battle die to the new number.
• Next, both players have the option to spend 1 or more tokens to use a token power—if they have one. The player with more HP decides first. If HP are tied, the character name that is alphabetically first decides first.
• The higher final die roll wins. The losing player loses 1 HP. Use the HP die to keep track of your HP. On a tie, no damage is caused to either.
• If multiple dice are rolled, only the player who rolled the highest number (on one die—don’t add dice together!) can cause damage.
• When your HP goes below 1, you lose.
• All special character rules take precedence over the above rules.

3. BALANCE
• After each battle, tally on the bottom for your win or loss.
• You may change 1-2 numbers or rules about the character to rebalance.
• Play 1 more battle to play your changes, then try a new character.
Strategic Balance Round 1 – BattleBattle QUALIFYING ROUND

1. SETUP
   • Place your HP die on the HP space with the indicated number facing up.
   • Take the number of tokens shown at top right for your character.

2. BATTLE
   • You and your opponent simultaneously roll a six-sided “battle die.”
   • If the number you rolled shows a change to the number on your character card, change your battle die to the new number.
   • Next, both players have the option to spend 1 or more tokens to use a token power—if they have one. The player with more HP decides first. If HP are tied, the character name that is alphabetically first decides first.
   • The higher final die roll wins. The losing player loses 1 HP. Use the HP die to keep track of your HP. On a tie, no damage is caused to either.
   • If multiple dice are rolled, only the player who rolled the highest number (on one die—don’t add dice together!) can cause damage.
   • When your HP goes below 1, you lose.
   • All special character rules take precedence over the above rules.

3. BALANCE
   • After each battle, tally on the bottom for your win or loss.
   • You may change 1-2 numbers or rules about the character to rebalance.
   • Play 1 more battle to play your changes, then try a new character.

Introduce your non-Vanilla character to each other. Each of you should pick one non-Vanilla character to test.

Battle each non-Vanilla vs. Vanilla 2-3 times. Mark wins and losses on the non-Vanilla character. Write down 1-2 design changes for your character after playing!
Why would we use the vanilla character to balance against?

Why’d you make the design changes you did?

What are guidelines or criteria we can use when balancing, introducing new rules changes?

What makes a good rebalance?

- Power level (obviously)
- Is the character fun to play?
- Did new rules make sense or a mess? *Elegant procedure*?
- Dramatic Flavor: what does the character feel like?
BattleBattle!! MATCHUP

1. No more Vanilla. Non-Vanilla vs. Non-Vanilla, three times. Use at least one with 2 or more wins+losses.

2. Mark wins & losses on each character. Write down 1-2 design changes after playing with a character a couple times!

1. SETUP
   - Place your HP die on the HP space with the indicated number facing up.
   - Take the number of tokens shown at top right for your character.

2. BATTLE
   - You and your opponent simultaneously roll a six-sided “battle die.”
   - If the number you rolled shows a change to the number on your character card, change your battle die to the new number.
   - Next, both players have the option to spend 1 or more tokens to use a token power—if they have one. The player with more HP decides first. If HP are tied, the character name that is alphabetically first decides first.
   - The higher final die roll wins. The losing player loses 1 HP. Use the HP die to keep track of your HP. On a tie, no damage is caused to either.
   - If multiple dice are rolled, only the player who rolled the highest number (on one die—don’t add dice together!) can cause damage.
   - When your HP goes below 1, you lose.
   - All special character rules take precedence over the above rules.

3. BALANCE
   - After each battle, tally on the bottom for your win or loss.
   - You may change 1-2 numbers or rules about the character to rebalance.
   - Play 1 more battle to play your changes, then try a new character.
Strategic Balance Round 3 – BattleBattle NEO GENESIS!!

1. **SETUP**
   - Place your HP die on the HP space with the indicated number facing up.
   - Take the number of tokens shown at top right for your character.

2. **BATTLE**
   - You and your opponent simultaneously roll a six-sided “battle die.”
   - If the number you rolled shows a change to the number on your character card, change your battle die to the new number.
   - Next, both players have the option to spend 1 or more tokens to use a token power—if they have one. The player with more HP decides first. If HP are tied, the character name that is alphabetically first decides first.
   - The higher final die roll wins. The losing player loses 1 HP. Use the HP die to keep track of your HP. On a tie, no damage is caused to either.
   - If multiple dice are rolled, only the player who rolled the highest number (on one die—don’t add dice together!) can cause damage.
   - When your HP goes below 1, you lose.
   - All special character rules take precedence over the above rules.

3. **BALANCE**
   - After each battle, tally on the bottom for your win or loss.
   - You may change 1-2 numbers or rules about the character to rebalance.
   - Play 1 more battle to play your changes, then try a new character.

**FINAL BattleBattle: DESIGN!!**

1. Design an original character
2. Balance it w/ a partner vs. Vanilla, taking turns. Battle + rebalance your character vs. Vanilla **at least** twice.
3. Your goal is to make a balanced character, not an over-powerful one!
Intro to Game Design

Strategic Balance Round 4 – BattleBattle SHOWDOWN!!

1. SETUP
   - Place your HP die on the HP space with the indicated number facing up.
   - Take the number of tokens shown at top right for your character.

2. BATTLE
   - You and your opponent simultaneously roll a six-sided “battle die.”
   - If the number you rolled shows a change to the number on your character card, change your battle die to the new number.
   - Next, both players have the option to spend 1 or more tokens to use a token power—if they have one. The player with more HP decides first. If HP are tied, the character name that is alphabetically first decides first.
   - The higher final die roll wins. The losing player loses 1 HP. Use the HP die to keep track of your HP. On a tie, no damage is caused to either.
   - If multiple dice are rolled, only the player who rolled the highest number (on one die—don’t add dice together) can cause damage.
   - When your HP goes below 1, you lose.
   - All special character rules take precedence over the above rules.

3. BALANCE
   - After each battle, tally on the bottom for your win or loss.
   - You may change 1-2 numbers or rules about the character to rebalance.
   - Play 1 more battle to play your changes, then try a new character.

FINAL BattleBattle: SHOWDOWN!!

- Your char fights exactly 6 matches.
- At least one vs. Vanilla
- At least two must be vs. a tweaked non-Vanilla (e.g. “Master Dalek”)
- At least two must be vs. other players’ original characters
- After each match record the winner’s HP on both sheets
Add up the HP on the back of your original character’s sheet

Who has the lowest total?

What does this represent? Why would it determine the winner of this tournament?
Your final project: make any game you want

- **Due Wednesday, December 23**—or you may turn it in as early as Wednesday the 16th if you need to leave early for the holidays. I’ll be here.

- **Make whatever you want**—but if it’s a digital game, you **must** get approval from me and have experience with the platform. 90% of digital final projects fall on their faces about halfway to their goal, and get a bad grade.

- **Choose your own groups**—you may ask anyone to group with you. You may turn anyone down who asks you. Be OK with both of those! And be kind. You may work alone if you wish!

- **Prototype due December 7.** We’ll be playtesting every game
- **Second Prototype due December 14.**
What is... Flow?

The experience of “being in the zone”
Resistance

Classic idea of flow
(from the 70s, before videogames)
Resistance

Flow with tempo & pacing
Resistance

Breaking the rules once you know the rules
What is... Flow?

Let’s listen to the creator explain it
Csikszentmihalyi’s Flow Theory

Key elements of a flow state include…

1. **Complete involvement** in what we’re doing—*focused and concentrated*

2. **Ecstasy**—being *outside of everyday reality*

3. **Inner clarity**—knowing *what needs to be done & how well we’re doing*

4. **Knowing it’s doable**—our *skills are adequate, we have personal control or agency*

5. **Serenity**—a loss of self-consciousness, we’re less awkward & self-aware

6. **Timelessness**—experience of time is altered, hours pass by in minutes

7. **Intrinsic motivation**—it’s something you’re doing for its own sake, not because you have to or because you’re working for compensation, etc.
Csikszentmihalyi’s Flow Graph
Csikszentmihalyi’s Flow Graph

**WATCHING TV:** No skill required. No challenge. Not even any effort!
WHEN A GAME IS TOO EASY: If there’s no skill required at all, it’s a rote activity like a chore. When rote activities are required for reward: **GRINDING**
When a Game is Too Easy: If there’s no skill required at all, it’s a rote activity like a chore. When rote activities are required for reward: **Grinding.**

If there’s some skill required, repeating something the player’s already mastered (like jumping across platforms in later levels of a platformer) can be relaxing, like just skipping along and seeing movement.
MASTERY & CONTROL: How do players get a feeling of control? From having very effective heuristics—the right strategy & methods to be sure to succeed.

Note that total control isn’t good for flow, though! This is why a strongly dominant strategy is bad. There’s no challenge and stimulation left if there’s just “one best way to win”—a dominant strategy.
When a game is too hard: Worry = a frustrating hassle. The feeling like you can’t actually learn & succeed—that it’s better to give up. Loss of intrinsic drive.

High anxiety isn’t always bad if it’s towards the “arousal” side—this is where learning happens under pressure. Lots of challenge, but the potential for skills to grow.
High anxiety isn’t always bad if it’s towards the “arousal” side—this is where learning happens under pressure. Lots of challenge, but the potential for skills to grow.

Players under pressure and anxiety can rise to the challenge and move this way, towards arousal and flow!

**WHEN A GAME IS TOO HARD:** Worry = a frustrating hassle. The feeling like you can’t actually learn & succeed—that it’s better to give up. Loss of intrinsic drive!
WHEN A GAME IS TOO HARD: Worry = a frustrating hassle. The feeling like you can’t actually learn & succeed—that it’s better to give up. Loss of intrinsic drive!

High anxiety isn’t always bad if it’s towards the “arousal” side—this is where learning happens under pressure. Lots of challenge, but the potential for skills to grow.

Players under pressure and anxiety can rise to the challenge and move this way, towards arousal and flow!