Class 38:

Final Logistics and Summary
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<thead>
<tr>
<th>Mon</th>
<th>Wed</th>
<th>Fri</th>
<th>Sat</th>
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<td>11/27</td>
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<td>11/29 Kongregate Release 1</td>
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<td>12/1 Kongregate Release 2</td>
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<td>12/9</td>
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Final Peer Evaluations due @ 11:59pm

Final Report due @ NOON
Kongregate Release 11/29-12/1

- Requirements
  - 15 levels
  - Address feedback from Newgrounds
- A/B test not required (but you can if you want)
- CMS deadline = Friday, 12/1 at 10:10am
- May release in class 11/29 if you are ready
- Must release by end of class Friday, 12/1
- Highly recommended: upload test game
Kongregate Release

• BOTH Wednesday and Friday are playtesting days
  • (Attendance will be taken)

• If releasing on Friday, then think of Wednesday as a mandatory in-class workday
Final Report

- Due Saturday, December 9\textsuperscript{th}, at \textbf{NOON}
  - (end of the final exam period)
- We will \textit{not} meet during the final exam period
  - No way to remove this from StudentCenter
Final Report: Part 1/2

• Provide convincing, well-justified analysis that is thoroughly grounded in the data.
  • Must show heatmaps or provide other data

• **Q1:** Did engagement improve *overall* from Friends to Newgrounds to Kongregate?
  • Show two separate burndown charts for:
    • *time played* (1 chart with all three releases)
    • *levels completed* (1 chart with all three releases)
    • Can choose the best A/B test condition, or show all conditions

• Did engagement improve *overall* across all three releases?
  • No fence sitting. Yes or no. Explain with data.
Q2: Analyze one design problem across three releases:

What was the most persistent, challenging problem you worked on for both Newgrounds and Kongregate?

- There was such a problem.
- If you think there was no such problem, see above.

Present data from Friends showing the problem.

- What did you learn from Friends about this problem?
- What did you change to address this problem for Newgrounds?

Did it work? Present data from Newgrounds showing yes or no.

- What did you learn from Newgrounds about this problem?
- What did you change to address this problem for Kongregate?

Did it work? Show data from Kongregate showing yes or no.

- What did you learn from Kongregate about this problem?

If you had more time, how would you address this problem?
Final Peer Evaluations

- Instructions will be on website
- Due Monday, December 11\textsuperscript{th}, at 11:59pm
Course Evaluations

- You should have received an email about this
- Please fill it out!
- I really value your feedback
  - Example: throwaway prototype cycle
Lack of effort to resolve issues may result in lower Kongregate grade.
Kongregate

- Founded 2006
- Owned by:
  - Gamestop 2010-2017
  - Modern Times Group 2017-
- 117,308 games
- In 2010:
  - 10 million players / month
  - 23 million hours

Jim and Emily Greer
Kongregate Monthly Contest

OCTOBER 2017 CONTEST WINNERS
Each month, developers win cash prizes for having the highest-rated new games! Click here for official rules.

Aground
by terra0nova

One of the last human survivors, you find yourself stranded on an u...

★ ★ ★ ★ ★

Contest Prize: $1,750
Kongregate Monthly Contest

- Prizes for top 15 games of month
- Range from $250 to $1750
- Some conditions:
  - must implement Kongregate Statistics API
HOT NEW GAMES  (see all)

Thermo
PUZZLE  PLATFORM
A unique water-based puzzle platformer where you must use...

BOX!
PUZZLE  BOX  BLOCK
Build, break, and twist your way to victory in this mind-...

That's How We Roll
ACTION  CUTE  GRAVITY
That's How We Roll is a fast-paced adventure-platformer g...
This is really awesome. The concept is really good, and thanks for the peeking. The only thing is that only one cube limit your possibilities. Could you make portal doors that lead to other cubes? It could expand the level capacity by a lot. Anyway 5/5

Thanks for the compliment and suggestion! Initially we did consider cross-cube portals, but given how many players were confused as it was with just a single cube, we decided we were not yet ready to design puzzles of that caliber. Hopefully we can develop a sequel or future update with such levels!
Activity: Choose Kongregate Tags
Summary

1. Game Mechanics
2. Prototyping
3. Learnability
4. Engagement
5. Balance
6. Polish
7. Playtesting
8. Telemetry
9. Data Analysis
10. Visualization
11. Applications
Summary: Game Mechanics

- Games have:
  - rules
  - actions
  - interactions
  - conflict
  - decisions
Summary: Prototyping

- Generating, sharing, and testing *multiple ideas* leads to better outcomes
- Great way to prototype is with *paper*

Clicks per million impressions

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<th>Share One</th>
<th>Share Best</th>
<th>Share Multiple</th>
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<tbody>
<tr>
<td>Clicks</td>
<td>800</td>
<td>600</td>
<td>1200</td>
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Dow et al. CHI 2011
Summary: Learnability

- Learnability is often the *central design challenge*
  - Developers often overestimate players’ skills
- “Nobody reads and nobody listens”
- Learnability is enabled by:
  - *tutorials* that present information in context
  - an intuitive *user interface*
  - a *level progression* that grows in complexity
  - *learning pathways* that prioritize training of key skills
Summary: Engagement

- Players are driven by *incentives* and *mastery*
- Incentives can affect players differently

Andersen et al. FDG 2011
Summary: Engagement

- Players are driven by *incentives* and *mastery*
- Incentives can affect players differently
- Moderate difficulty seems important
Summary: Engagement

- Players are driven by *incentives* and *mastery*
- Incentives can affect players differently
- Moderate difficulty seems important, but…
- … when in doubt, *make the game easier*

Lomas et al. CHI 2013
Spiel et al. CHI 2017
Summary: Balance

- Key properties of the game’s decision space:
  - Are the starting conditions of the game fair?
  - Does it matter what the player does?
  - Is an action too powerful?
  - Is the outcome known long before the game’s end?
  - Is some strategy useless?

StarCraft 2 Balance
Summary: Polish

- Presentation matters!

- Hard to define exactly

- **Technique**: look at games and analyze polish

- Disney animation techniques help
  - stretch and squash, easing, staging, exaggeration
Summary: Playtesting

- Bias is pervasive
- To overcome, use multiple techniques:
  - Direct observation
  - Think-alouds
  - Question & answer
  - Surveys
- Must read emotions

Dell et al. CHI 2012

Ambinder GDC 2011
Summary: Telemetry & Analysis

- Visualization techniques
  - *Burndown charts* can show problems with retention
  - *Heatmaps* can show where problems are occurring
  - *Sankey & state transition diagrams* can show how various groups of players are affected by a problem

- *SQL* is used for storying and querying data

- *Null-hypothesis statistical testing* helps resolve whether differences in A/B tests are due to chance
Summary: Applications

- Analytics can be used to understand:
  - *Who pays* for free-to-play games
  - How alternate reality games encourage people to *move*
  - How games can solve *scientific questions*
  - How games can help students *learn*
Why should you take this class?

real-world impact, *this semester*
Real-world impact, *this semester*