CS/INFO 4154: Analytics-driven Game Design

Class 29:

Who Pays for Games?
Mon  

- 11/5 Pokémon GO

Wed  

- 11/7 Minecraft?

Fri  

- 11/2 Who Pays for Games?
- 11/9 Newgrounds Release
- 11/12 Newgrounds Release 2
- 11/14 Newgrounds Release 3
- 11/16 Newgrounds Release 4

by 10:10am: Upload Game to CMS

by 2pm: Newgrounds Release Report
Today

- How can analytics help us understand a major shift in video games?
The Good Old Days

you

game company
These Days

you

base game

game company
League of Legends

source: gameskinny.com
iOS % of revenue (2014)

79%
South Park Clip
Advantages of Freemium?
Disadvantages of Freemium?
But wait...
Outline

- Discussion
- Revenue metrics
- Who pays for your games?
- Implications
Outline

• Discussion
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5 minutes: pair discussion

• Is this assertion *true*?

• How could we evaluate this assertion?
  • What *information* would we need?
  • What *metrics* would we need?

• Is freemium *moral*?
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Consult the expert: Emily Greer

- Kongregate CEO
- Co-founded with brother Jim Greer
Kongregate Virtual Currency

EARN FREE KREDS

<table>
<thead>
<tr>
<th>Kred Pricing</th>
<th>Price</th>
<th>Kreds</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$5</td>
<td>50 KREDS</td>
</tr>
<tr>
<td></td>
<td>$10</td>
<td>100 KREDS + 10 BONUS KREDS</td>
</tr>
<tr>
<td></td>
<td>$20</td>
<td>200 KREDS + 25 BONUS KREDS</td>
</tr>
<tr>
<td></td>
<td>$50</td>
<td>500 KREDS + 65 BONUS KREDS</td>
</tr>
</tbody>
</table>

* All prices are displayed in US Dollars. Ultimate Game Cards purchased in countries outside the US will be converted upon checkout.

Terms of sale
Choose another payment method

Emily Greer, “Core Games, Real Numbers”, GDC 2011
Metric 1: % Buyers

percentage of players who pay

Emily Greer, “Core Games, Real Numbers”, GDC 2011
Metric 2: ARPU

average revenue per user

Emily Greer, “Core Games, Real Numbers”, GDC 2011
Metric 3: ARPPU

average revenue per paying user

Emily Greer, “Core Games, Real Numbers”, GDC 2011
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Paying Users

Kongregate depends on the 2%

2.1% of players buy virtual goods on Kongregate.com

75% of our revenue comes from virtual goods

Emily Greer, “Don’t Call them Whales: F2P Spenders and Virtual Value”, GDC 2015
$500 Whales

Player Distribution

- Whales: 90%
- Normal: 10%

Revenue

- Whales: 40%
- Normal: 60%

Emily Greer, “Core Games, Real Numbers”, GDC 2011
$1000 Whales

Player Distribution

- Whales: 2%
- Normal: 98%

Revenue

- Whales: 40%
- Normal: 60%

Emily Greer, “Core Games, Real Numbers”, GDC 2011
The Biggest Whale

$6700

!!!!!!!!!!

Emily Greer, “Core Games, Real Numbers”, GDC 2011
Still the case...

Spenders by Spender Category

- $1-$10: 4%
- $10-$50: 7%
- $50-$100: 25%
- $100-$500: 54%
- $500+: 10%

Revenue by Spender Category

- $1-$10: 1%
- $10-$50: 5%
- $50-$100: 5%
- $100-$500: 17%
- $500+: 72%

Kongregate.com platform stats, 2008-2015

Emily Greer, “Don’t Call them Whales: F2P Spenders and Virtual Value”, GDC 2015
Interesting questions

- Do most long-term players end up spending money?
Most long-term players do spend $$$

Emily Greer, “Don’t Call them Whales: F2P Spenders and Virtual Value”, GDC 2015
Interesting questions

• Do most long-term players end up spending money?
• What ages of people spend the most?
Age and spending habits

Emily Greer, “Don’t Call them Whales: F2P Spenders and Virtual Value”, GDC 2015
Why are these dips here?

Emily Greer, “Don’t Call them Whales: F2P Spenders and Virtual Value”, GDC 2015
Interesting questions

- Do most long-term players end up spending money?
- What ages of people spend the most?
- Does time to first purchase predict overall spending?
A little bit… but actually not that much

Days to first purchase

Emily Greer, “Don’t Call them Whales: F2P Spenders and Virtual Value”, GDC 2015
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### Strategy 1: Don’t limit spending

<table>
<thead>
<tr>
<th>Swords &amp; Potions</th>
<th>Business Tycoon Online</th>
</tr>
</thead>
<tbody>
<tr>
<td>ARPU: $0.50</td>
<td>ARPU: $0.61</td>
</tr>
<tr>
<td>7M players</td>
<td>500K players</td>
</tr>
<tr>
<td>Difficult to spend &gt; $100</td>
<td>Difficult to spend &lt; $100</td>
</tr>
<tr>
<td>Buyers: 2.9%</td>
<td>Buyers: 0.7%</td>
</tr>
<tr>
<td>ARPPU: $17</td>
<td>ARPPU: $96</td>
</tr>
</tbody>
</table>

Emily Greer, “Core Games, Real Numbers”, GDC 2011
Example: *Clicker Heroes*
Your purchases contribute to the continued development of this game. Thank you for your support!

- +12,118N Gold +Cooldowns Refresh
- +14 Hero Souls +1 Ascension
- +3 Random Gilded Heroes

Buy Timelapse 20K
Buy Quick Ascension 50K
Buy 3 Gilded Heroes 30K
Clicker Heroes ARPPU

Clicker Heroes Metrics

Spenders by Spender Category

Revenue by Spender Category

Strategy 2: Core Feedback Loop
## Case Study: RPG vs. Multiplayer

<table>
<thead>
<tr>
<th>Type</th>
<th>% 50+ Plays</th>
<th>% Buyers</th>
<th>ARPPU</th>
<th>ARPU</th>
</tr>
</thead>
<tbody>
<tr>
<td>Multiplayer RPG</td>
<td>2.6%</td>
<td>0.75%</td>
<td>$69</td>
<td>$0.51</td>
</tr>
<tr>
<td>Multiplayer Non-RPG</td>
<td>1.0%</td>
<td>0.45%</td>
<td>$9</td>
<td>$0.05</td>
</tr>
<tr>
<td>Single-player RPG</td>
<td>1.8%</td>
<td>1.29%</td>
<td>$12</td>
<td>$0.10</td>
</tr>
<tr>
<td>Single-Player Non-RPG</td>
<td>0.2%</td>
<td>0.53%</td>
<td>$4</td>
<td>$0.02</td>
</tr>
</tbody>
</table>
### Top 10 games on Kongregate

<table>
<thead>
<tr>
<th>Play Duration</th>
<th>% Buyers</th>
<th>ARPPU</th>
<th>Avg Trx Size</th>
<th>Avg # of Trx</th>
<th>ARPU</th>
<th>% of Players</th>
<th>% of Revenue</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 play</td>
<td>0.03%</td>
<td>$6.98</td>
<td>$5.02</td>
<td>1.39</td>
<td>$0.00</td>
<td>45.5%</td>
<td>0.1%</td>
</tr>
<tr>
<td>2 to 10</td>
<td>0.40%</td>
<td>$11.01</td>
<td>$6.63</td>
<td>1.66</td>
<td>$0.04</td>
<td>40.3%</td>
<td>0.9%</td>
</tr>
<tr>
<td>11 to 50</td>
<td>4.93%</td>
<td>$19.82</td>
<td>$7.92</td>
<td>2.50</td>
<td>$0.98</td>
<td>7.7%</td>
<td>3.9%</td>
</tr>
<tr>
<td>51 to 100</td>
<td>11.14%</td>
<td>$33.14</td>
<td>$8.97</td>
<td>3.70</td>
<td>$3.69</td>
<td>2.3%</td>
<td>4.3%</td>
</tr>
<tr>
<td>101 to 250</td>
<td>17.11%</td>
<td>$63.12</td>
<td>$11.11</td>
<td>5.68</td>
<td>$10.80</td>
<td>2.2%</td>
<td>12.0%</td>
</tr>
<tr>
<td>251 to 500</td>
<td>26.94%</td>
<td>$123.82</td>
<td>$14.09</td>
<td>8.80</td>
<td>$33.38</td>
<td>1.0%</td>
<td>16.9%</td>
</tr>
<tr>
<td>500+</td>
<td>39.39%</td>
<td>$270.58</td>
<td>$19.03</td>
<td>14.22</td>
<td>$106.58</td>
<td>1.1%</td>
<td>62.0%</td>
</tr>
<tr>
<td>Total</td>
<td>1.89%</td>
<td>$102.74</td>
<td>$15.03</td>
<td>6.84</td>
<td>$1.95</td>
<td>100.0%</td>
<td>100.0%</td>
</tr>
</tbody>
</table>

Emily Greer, “Building Games for the Long Term”, GDC 2013
“Player Journey Funnel”

Emily Greer, “Core Games, Real Numbers”, GDC 2011
Getting players to return isn’t so important…

Emily Greer, “Core Games, Real Numbers”, GDC 2011
… but addiction is.

Emily Greer, “Core Games, Real Numbers”, GDC 2011
Strategy 3: Provide New Content
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In summary: true or false?
Summary

- Free-to-play is a big shift
- Shifts payment from the masses to the addicts
- Analytics can be applied to money, also