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PUZZLE REPORT

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APRIL

2020

APP TEARDOWNS



HAY DAY POP BY SUPERCCELL

Hay Day Pop has averaged \$553 in daily revenue and 1,105 daily downloads since soft-launching on March 16, 2020.

APP TEARDOWN

Supercell's soft-launch match-3 app includes a mission season pass that also increases daily bonuses.

App Details

Daily Gift

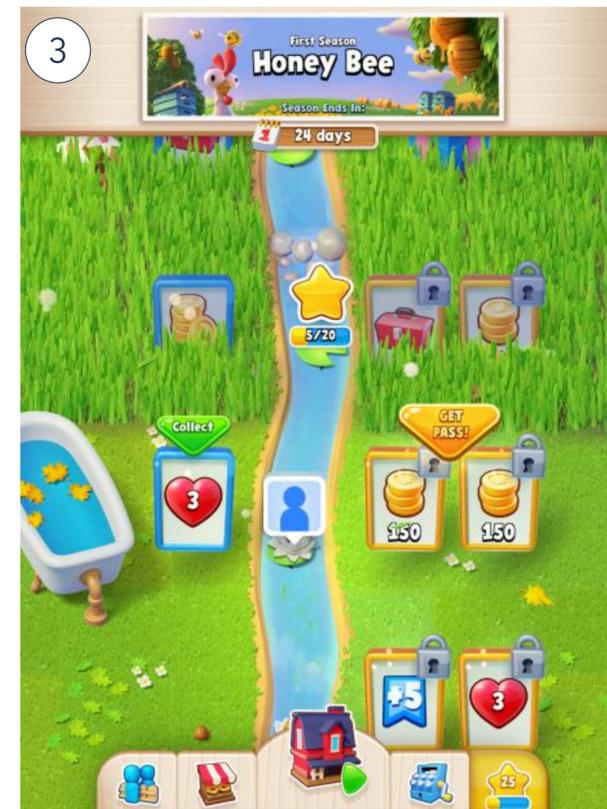
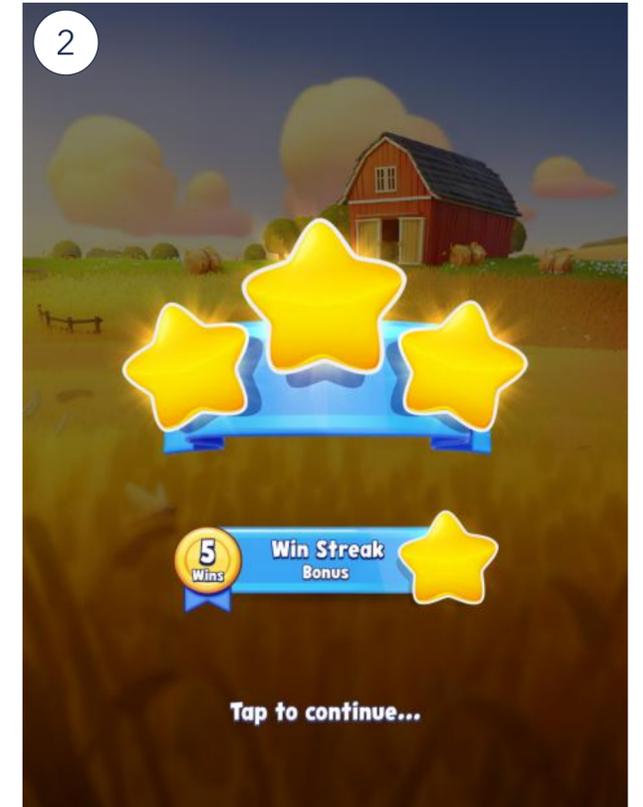
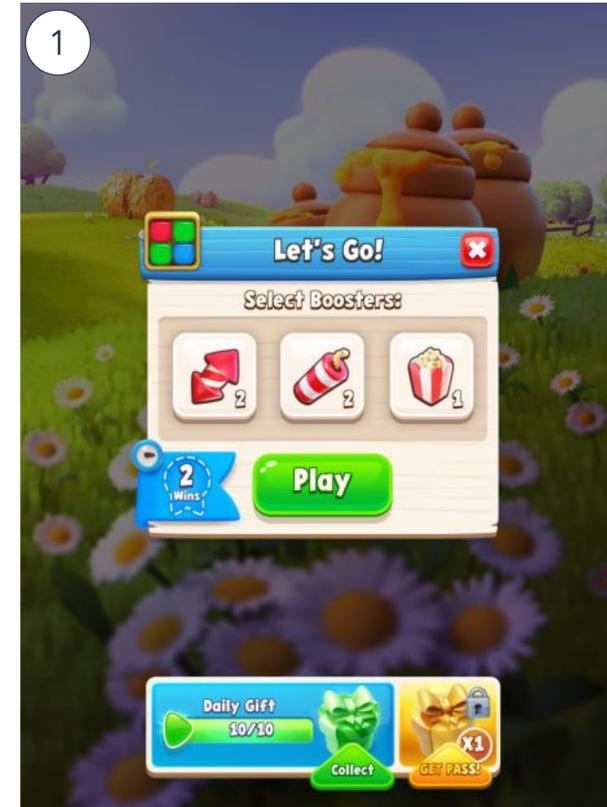
- Completing 10 levels in a day awards a daily bonus (1).
- Season pass holders receive an additional bonus.

Puzzle Pass

- Levels award stars, with more awarded for win streaks and first-try wins (2).
- Stars complete mission levels on a river-style map (3).
- A \$14.99 season pass unlocks a second tier of rewards and includes puzzle skips and unlimited win streak boosts (4).

A distinctive mission visualization adds immersion to appeal to escapist players like Escapist Emily.

Check out the [Puzzle Personas Report](#) for more information on player motivations.



APP TEARDOWN (CONT'D)

Players build and expand a farm that combines custom design and *Sims*-like mechanics.

Play Area

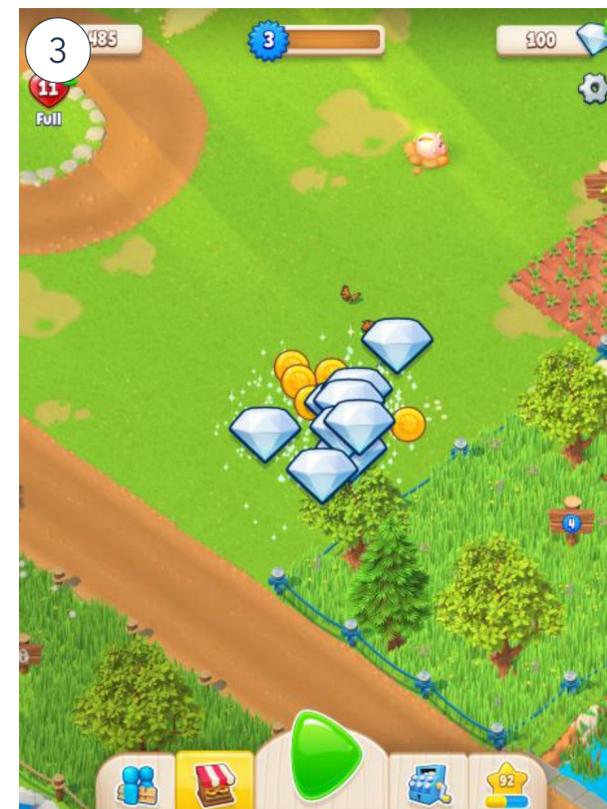
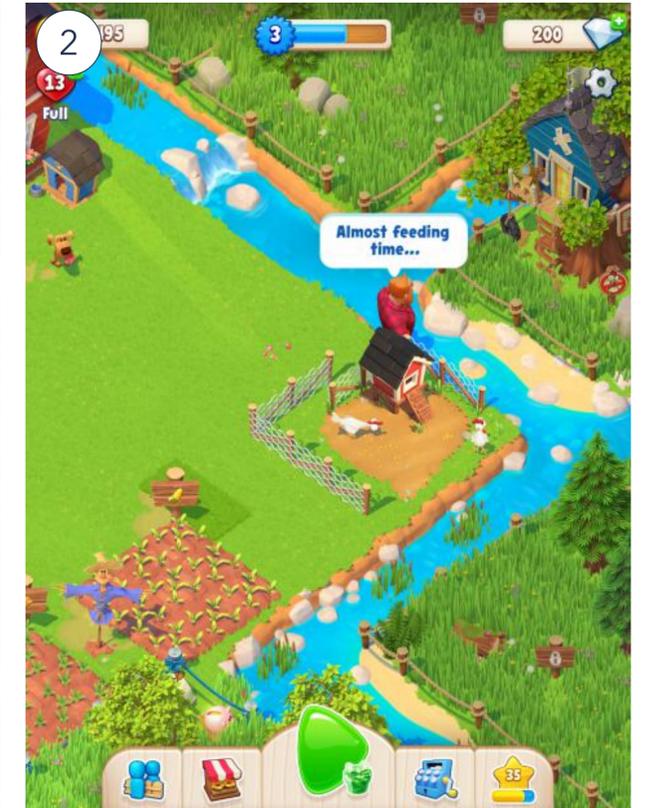
- Players name and build a farm.
- Chopping down trees, mining rocks, and uncovering piggy banks award coins (1 and [video](#)).
- Players use coins to build structures and fill a meter (2).
- Filling the meter levels up the farm, unlocking more land and new structures (3).
- Some structures add timed rewards (4).

In the original *Hay Day*, players had to pay to clear land.

Functional custom design elements add depth and make players' choices matter.

Launch Information

- **Soft Launch:** 3/16/20
- **Countries:** Australia, Finland, and New Zealand
- Go [here](#) to see more features.

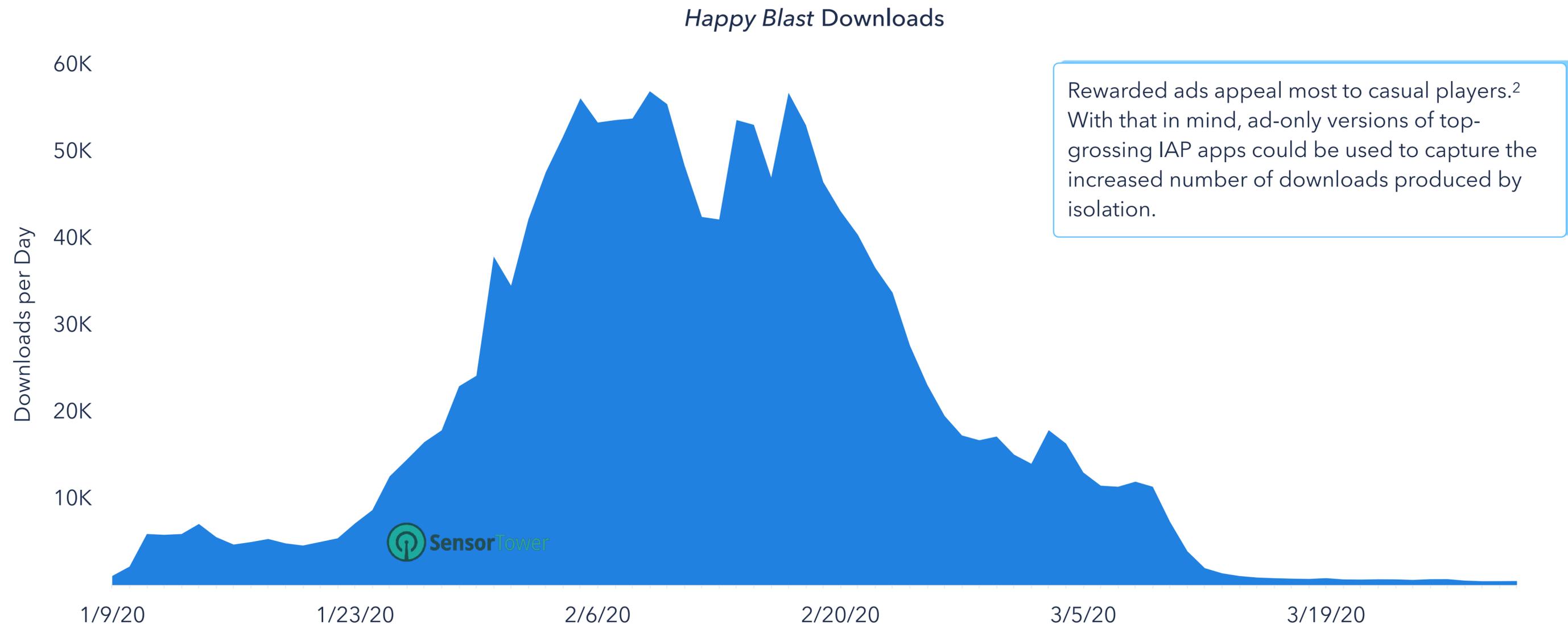


PUZZLE > GAMES

HAPPY BLAST (开心点点消) BY XUCHANG YOU

DOWNLOAD ANALYSIS

Due to COVID-19 isolation, China's average weekly mobile game downloads increased by 80% in February 2020 compared to 2019.¹ *Happy Blast* was one of the most downloaded puzzle apps during this period—with 1.6M downloads in three months. The app generates revenue exclusively from rewarded advertisements.



¹ [The Impact of Coronavirus on the Mobile Economy](#)

² [The IAP vs Ad Revenue Debate Isn't as Black and White as You Might Think](#), "Ads vs IAPs in numbers"

APP TEARDOWN

Happy Blast uses rewarded ads instead of IAPs and offers two types of match-3 gameplay: a timed mode and a mode with limited moves.

Basics

- Players clear pieces by selecting three or more pieces of the same color.
- Level goals include clearing certain types of pieces or acquiring points (1).
- Levels award 0-3 stars based on performance (2).
- Players must score two stars or higher to pass a level.
- Each failed level costs one life to replay.
- Lives are awarded every five minutes or for watching an ad (3).
- Boosts are used during levels to clear pieces.
 - Rockets clear entire rows or columns.
 - Bombs clear all adjacent pieces.
 - Rubik's cubes clear all pieces of a given color.
- Hazards must be cleared by making adjacent matches or using boosts.

Game Modes

- Two modes are available: Step Puzzle and Time Countdown.
- Step Puzzle allows a limited number of moves for each level.
 - If players run out of moves, they can spend 100 gold or watch an ad to get 5 extra moves (4).
- Time Countdown imposes a time limit on each level.
 - If time expires, players can spend 100 gold or watch an ad for an additional 15 seconds.

A survey of 2,000 mobile users found that 71% of respondents preferred rewarded ads to IAPs in F2P apps.³

Rewarded ads can drive IAPs, too—another study showed that users who engage with rewarded ads are 4.5 times more likely to buy an IAP and spend more than 4 times as much when they do.⁴



³ [Trend: Users Prefer Rewarded Video Ads Over App Purchases](#)

⁴ [Study: Rewarded ads 4.5x more likely to lead to in-app purchases](#)

APP TEARDOWN (CONT'D)

Daily wheel spins award coins, boosts, and cash. Additional cash prizes are awarded for clearing five or more pieces at once or for beating all levels.

Bonuses

- Five prize wheel spins are available per day (1).
 - Players must watch an ad before spinning.
 - Wheel spins award coins, boosts, or cash prizes.
- Additional boosts are awarded for watching ads or spending coins (2).

Cash Prizes

- The app offers two cash prizes.
- Clearing five or more pieces at once allows players to watch an ad for cash rewards.
 - Players must accumulate RMB 30 before they can cash out (3).
 - Initial prizes are worth about RMB 1, but subsequent wins steadily decrease in value to less than RMB 0.1.
 - Ads get longer as players' total cash increases.
- Players who complete all levels get RMB 1,000 (4).
 - There is no indication that there is a completable or even finite number of levels.

Launch Information

- **Launch:** 1/9/20

While direct monetary rewards are not permitted in the United States, real-world rewards and cross-promotions—like those in *Winning Slots*' [Prize Shop](#) and *RAID: Shadow Legends*' [Amazon Prime Crossover Promotion](#)—can create a similar effect.



REVENUE DRIVER



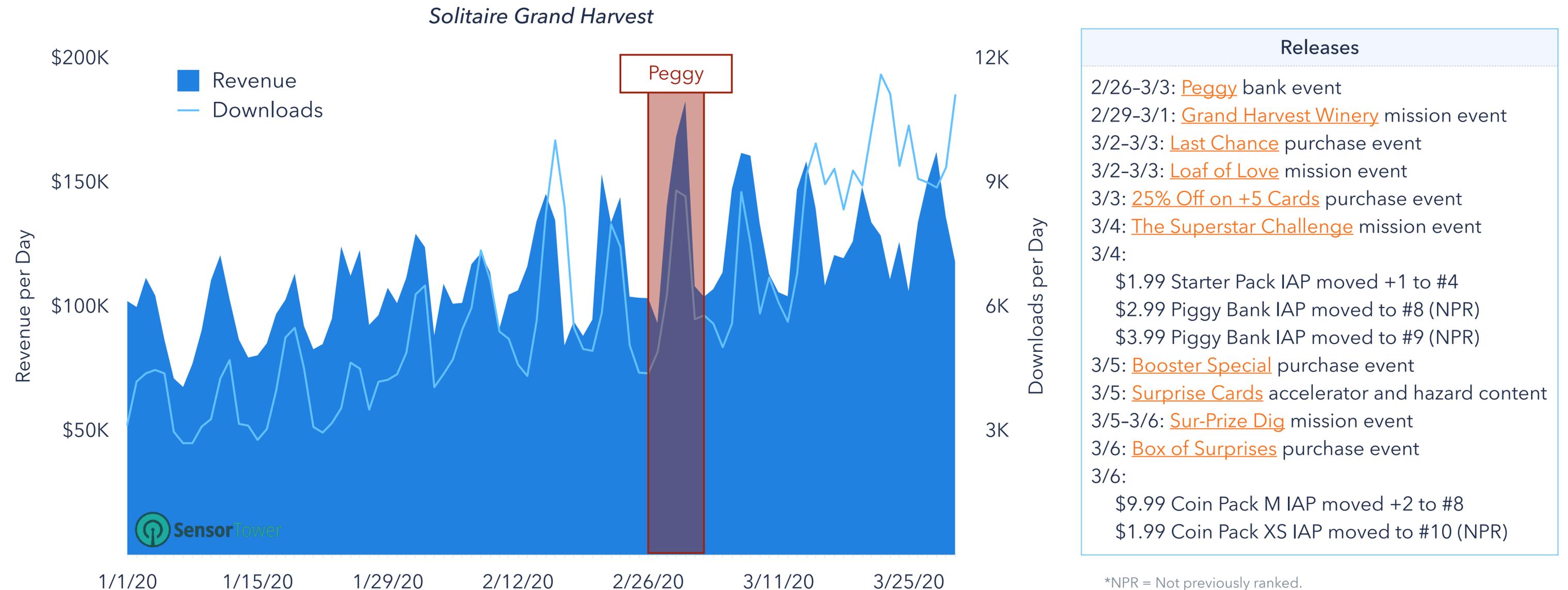
PUZZLE > EVENTS > BANKS

PIGGY BANK EVENT

Peggy in *Solitaire Grand Harvest*

REVENUE ANALYSIS

After the release of Peggy in *Solitaire Grand Harvest*, revenue was +41% and downloads were -13% WoW. Two piggy bank price points were the 8th and 9th most purchased IAPs during this period.



Graph data is iOS U.S. only. WoW = Week over week.

FEATURE TEARDOWN

A piggy bank saves bonus credits from both wins and losses that players can redeem with a purchase.

Details

- A piggy bank saves bonus credits from every level won or lost (1, 2, and video).
- The number of credits saved from each level appears to be randomized based on the number of credits earned.
- Players have one week to claim bonus credits with an IAP (3).
 - According to player comments on the event's Facebook post, IAP prices range from \$2.99 to \$13.99, possibly correlated to XP levels.⁵
- A purchase event reminds players to claim their bonus credits before the event ends (4).

Additional Information

- See the [Peggy](#) Library for more images and videos.



⁵ [Solitaire Grand Harvest Peggy Facebook post](#)

MECHANIC GUIDE



BANKS

This guide highlights IAP rankings, trends, innovative mechanics, and insights for bank features and events.

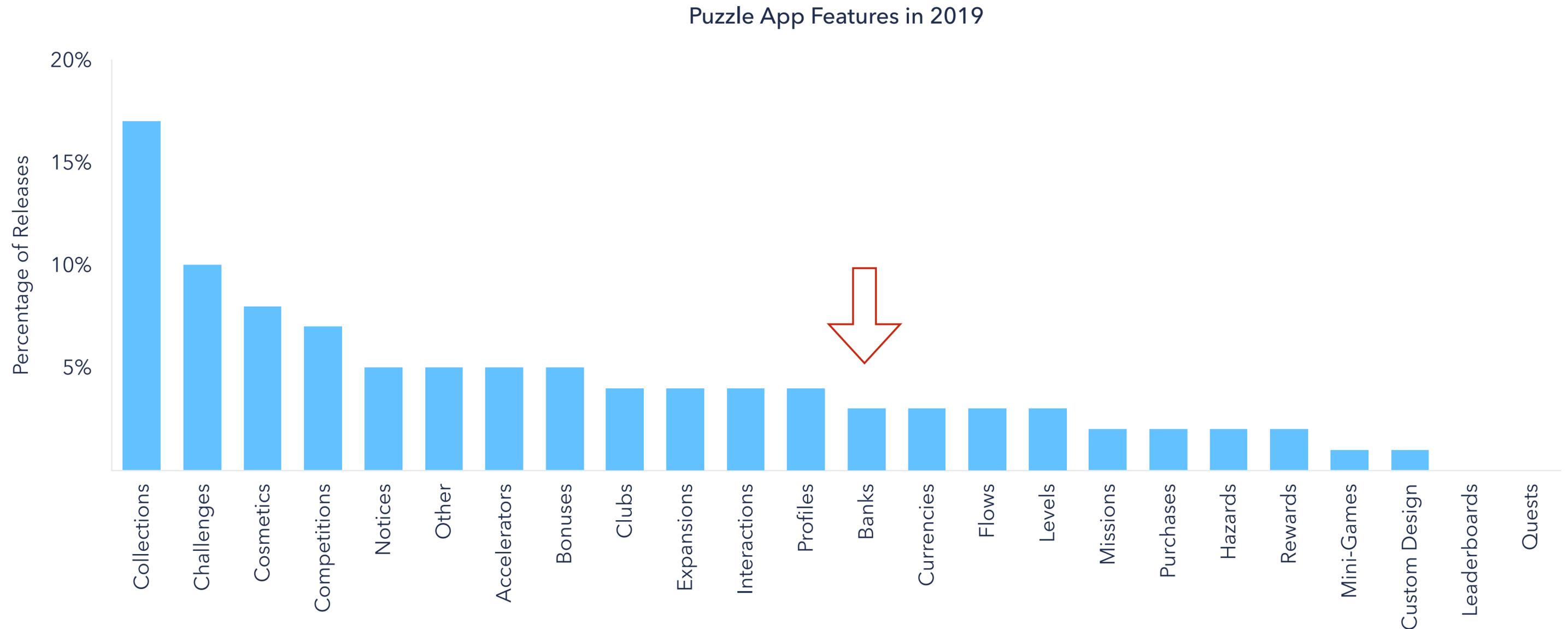
BANK IAP RANKINGS

During the first three months of 2020, 14 casino and puzzle apps had bank IAPs in their top 10 purchases. Playrix apps *Fishdom* and *Gardenscapes* accounted for the highest-ranking bank IAPs. See the Appendix for casino bank IAPs rankings.

App	Genre	Name	Top-Ranked Bank IAPs (January-March 2020)
<i>Fishdom</i>	Puzzle	Fishy Bank & Update	<ul style="list-style-type: none"> • \$2.99 Diamond Fishy Bank reached #2
<i>Gardenscapes</i>	Puzzle	Gold Reserve	<ul style="list-style-type: none"> • \$9.99 Piggy Bank with Coins reached #3 • \$2.99 Gold Reserve reached #4 • \$7.99 Piggy Bank with Coins reached #10
<i>Matchington Mansion</i>	Puzzle	Piggy Bank	<ul style="list-style-type: none"> • \$9.99 Coin Piggy reached #3 • \$4.99 Piggy Bank reached #8
<i>Candy Crush Jelly Saga</i>	Puzzle	Piggy Bank	<ul style="list-style-type: none"> • \$2.99 Piggy Bank Pack reached #4
<i>Home Design Makeover!</i>	Puzzle	Piggy Bank	<ul style="list-style-type: none"> • \$2.99 Piggy Bank! reached #4
<i>Homescapes</i>	Puzzle	Gold Reserve	<ul style="list-style-type: none"> • \$5.99 Gold Reserve reached #5 • \$2.99 Gold Reserve reached #8
<i>Farm Heroes Saga</i>	Puzzle	Piggy Bank & Update	<ul style="list-style-type: none"> • \$2.99 Piggy Bank Big R reached #6
<i>Solitaire Grand Harvest</i>	Puzzle	Peggy	<ul style="list-style-type: none"> • \$2.99 Piggy Bank 3 reached #8 • \$3.99 Piggy Bank 4 reached #9
<i>Candy Crush Saga</i>	Puzzle	Piggy Bank & Update	<ul style="list-style-type: none"> • \$2.99 Piggy Bank reached #10

TRENDS: BANK EVENTS AND FEATURES

In 2019, banks made up 5% of released features and less than 1% of events among puzzle apps (event data not shown). Among tracked puzzle apps, 10 out of 25 offer bank features.



Tracked apps: Angry Birds 2, Best Fiends, Bubble Witch 3 Saga, Candy Crush Jelly Saga, Candy Crush Saga, Candy Crush Soda Saga, Cookie Jam, Disney Emoji Blitz, Farm Heroes Saga, Fishdom, Gardenscapes, Gummy Drop, Home Design Makeover!, Homescapes, June's Journey, Lily's Garden, Lost Island Blast Adventure, Matchington Mansion, Panda Pop, Pet Rescue Saga, Solitaire Grand Harvest, Solitaire TriPeaks, Toon Blast, Toy Blast, and Wizard of Oz Magic Match

BANK INNOVATIONS: DEPOSITS

Innovative deposit systems push players beyond their normal play styles by basing deposits on collections, purchases, or other mechanics. Some RPG apps even allow players to choose how much to deposit in order to accrue interest over time.

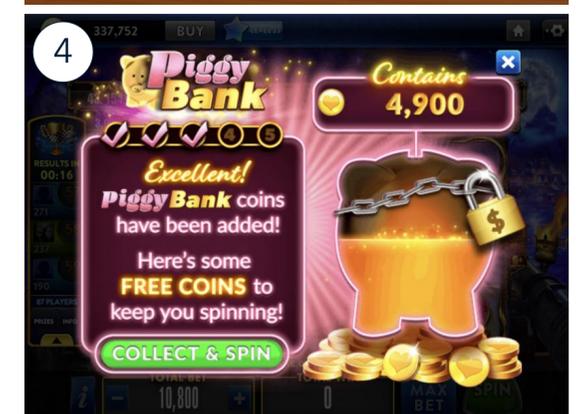
App	Genre	Event/Feature	Description
<i>Guns of Glory</i> and <i>Final Fantasy XV: A New Empire</i>	RPG	Bank and Treasury	<ul style="list-style-type: none"> Players can invest coins for different time periods to collect interest (1). Longer durations award higher interest rates.
<i>Solitaire Grand Harvest</i>	Puzzle	Peggy	<ul style="list-style-type: none"> Coins are added to the piggy bank for both wins and losses (2).
<i>Bingo Journey</i>	Casino	Golden Pig	<ul style="list-style-type: none"> Players earn golden pig coins with each purchase. Collecting five golden pig coins allows players to claim the piggy bank for free with a bonus based on their average purchase amount (3).
<i>Matchington Mansion</i>	Puzzle	Piggy Bank	<ul style="list-style-type: none"> Piggy banks accrue 10x the number of coins earned by players (4).



BANK INNOVATIONS: PREREQUISITES

Requiring players to complete collections, challenges, or purchases in order to access banks adds a sense of accomplishment and exclusivity.

App	Genre	Event/Feature	Description
<i>Piggy GO - Clash of Coin</i>	Puzzle	GO Bonus	<ul style="list-style-type: none"> The piggy bank saves up VIP rewards for non-VIP players (1). Purchasing a VIP pass unlocks all accumulated rewards.
<i>Heart of Vegas</i>	Casino	Piggy Bank	<ul style="list-style-type: none"> Players must spin four times to begin adding coins to the piggy bank. Spins fill a meter that awards prizes at milestones (2). The meter must be completely filled before players can break the piggy bank.
<i>Ellen's Road to Riches Slots</i>	Casino	Piggy Bank Subscription	<ul style="list-style-type: none"> A \$4.99 monthly subscription saves 25% of spend in a piggy bank that can be collected for free every 6 hours (3).
<i>Heart of Vegas</i>	Casino	Piggy Bank	<ul style="list-style-type: none"> Spins with coin rewards fill the bank. Banks must contain five coin rewards to open (4). Opening the bank requires a coin purchase above a certain value.
<i>Quick Hit Slots</i>	Casino	Exclusive Treasury	<ul style="list-style-type: none"> Players must complete 700 spins in one day to access the bank.
<i>Bricks n Balls</i>	Puzzle	Ruby Bank	<ul style="list-style-type: none"> Piggy bank requirements scale with players' levels and the number of piggy banks purchased.
<i>Poker Heat: Texas Holdem Poker</i>	Casino	Piggy Bank	<ul style="list-style-type: none"> Deposits require play at a certain tier.



BANK INNOVATIONS: ADDITIONAL VALUES

Providing optional actions that players can take to improve bank rewards improves intrinsic motivation and creates greater feelings of control.

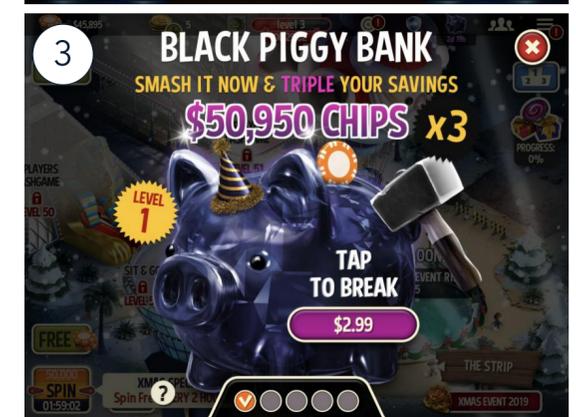
App	Genre	Event/Feature	Description
Home Design Makeover!	Puzzle	Piggy Bank	<ul style="list-style-type: none"> Players earn additional piggy bank gems for finishing levels with extra moves remaining (1).
Pharaoh's Way	Casino	Credit Box	<ul style="list-style-type: none"> Spins add coins to a credit box. The credit box adds coins to all purchases, with more coins for larger purchases (2).
Slotomania	Casino	Piggy Piñata	<ul style="list-style-type: none"> A secondary piñata piggy bank fills every time players level up. Breaking the piggy bank also breaks the piñata (3).
Word Crossy	Puzzle	Piggy Bank	<ul style="list-style-type: none"> Two purchase tiers add multipliers to the bank (4).
Farm Heroes Saga	Puzzle	Piggy Bank	<ul style="list-style-type: none"> Breaking the piggy bank increases its level and upgrades its appearance.
WSOP	Casino	Piggy Bank	<ul style="list-style-type: none"> New banks include a free initial deposit.



BANK INNOVATIONS: SPECIAL OFFERS

Limited-time purchase offers combine additional incentives and a sense of urgency to push players to convert—especially toward the end of events.

App	Genre	Event/Feature	Description
Cash Frenzy	Casino	Money Bank	<ul style="list-style-type: none"> • Players earn a bundle of boosts, items, and currency with each bank purchase. • Multiple sale offers include extra items and additional bonus value. • A challenge event requires players to purchase banks to fill a prize meter (1).
Ultimate Slots: Casino Slots	Casino	Piggy Bank	<ul style="list-style-type: none"> • A dialogue shows players the equivalent value of piggy bank contents if purchased from the store.
House of Fun	Casino	Piggy Bank	<ul style="list-style-type: none"> • A timed accelerator doubles the number of coins saved for 24 hours. • A special offer increases piggy bank savings by 20%. • Another adds +50% turns and doubles the start of the next piggy bank (2).
Governor of Poker 3	Casino	Piggy Bank	<ul style="list-style-type: none"> • A limited-time offer triples chips awarded for breaking the piggy bank (3).
Bingo Blitz	Casino	Bingo Bank	<ul style="list-style-type: none"> • Frequent offers add bonus items for breaking piggy banks (4).



BANKS INSIGHTS

Drive engagement with banks by adding leveling progressions and letting players earn their way to a greater value than they could normally buy from the store.

Research Insights

- **Give players a sense of ownership to increase the apparent value of banks.** The endowment effect causes people to place greater value on things they feel they own or have created.⁶ Tying deposits to player actions creates a sense that coins in the bank are *already theirs*. Amplify this effect by showing bank deposits during win screens, as seen in *Home Design Makeover!*, among others (1).
- **Offer progressions that allow players to gain real value with effort.** One study showed that consumers were more likely to participate in a loyalty program if they felt that they could gain an advantage through increased effort.⁷ Moreover, this same study found that loyalty programs which appeared to require more effort had greater appeal. Enhance the real and apparent impact of players' efforts with leveling progressions that increase the rewards per dollar spent while steadily growing the size and cost of each level. For another layer of motivation, offer event-exclusive rewards for completing the progression. **Custom design events** in *Fishdom* and *Homescapes* with permanent, progression-based cosmetic rewards averaged +16% revenue 2Wo2W (2).
- **Ensure that bank values can reasonably beat those offered by the store.** Banks promise to provide unique value in return for players' efforts. Design price points that allow most players to get additional value from using the bank as opposed to purchasing directly from the store. Once players fill the bank enough to beat the store, consider showing them the normal cost of bank's contents, like the price tag in *Ultimate Slots: Casino Slots* (3).

⁶ [Anomalies: The Endowment Effect, Loss Aversion, and Status Quo Bias](#)

⁷ [The Idiosyncratic Fit Heuristic: Effort Advantage as a Determinant of Consumer Response to Loyalty Programs](#), p. 463-464



LEVEL DESIGN



NEW LEVEL DESIGNS I

Duolingo – *Angry Birds 2*

- Players use Duo, *Duolingo's* owl mascot, to launch eggs at structures (1 and [video](#)).
- An in-app pop-up lets players click to download *Duolingo*.

Baker Bob – *Best Fiends*

- This alternate version of Bob is unlocked by completing the Minutia's Top Baker event.
- Baker Bob adds a permanent +50 attack boost (2).

Leprechaun Gene – *Best Fiends*

- This alternate version of Gene is unlocked by completing the Lucky Leprechaun Hunt event.
- Leprechaun Gene adds a permanent +50 attack boost (3).

Wilbur – *Best Fiends*

- This new fiend can be purchased for 200 gold bars.
- Wilbur destroys nine blocks in a plus shape (4).

Hidden Wand Spell – *Bubble Witch 3 Saga*

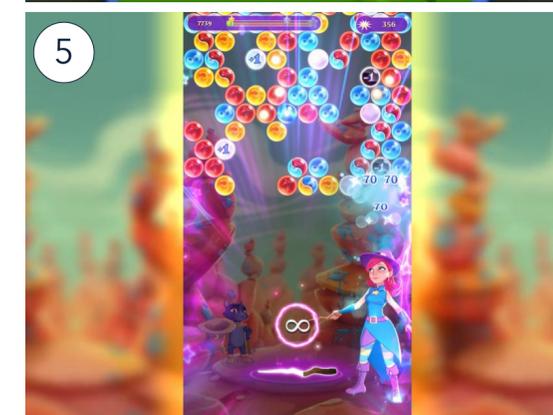
- Some bubbles contain hidden wands.
- Uncovering a wand allows players to shoot unlimited Arcane Bubbles for several seconds (5 and [video](#)).
- Arcane Bubbles destroy all adjacent pieces.

Lolly Pieces – *Candy Crush Soda Saga*

- Players collect lollipop pieces by making adjacent matches.
- Collecting all three lollipop pieces creates a lollipop that destroys all pieces on the board (6 and [video](#)).

Phoenix Gems – *Disney Emoji Blitz*

- Gems are only available in survival mode.
- Players collect gems by hitting them with boosts.
- Gems disappear if they are not collected in a certain number of turns.
- Gems that disappear decrease a health meter (7).
- The level ends when the health meter is depleted ([video](#)).



NEW LEVEL DESIGNS II

Jafar's Smoke – Disney Emoji Blitz

- Smoke obscures parts of the board for a limited time ([1](#) and [video](#)).

Frogs – Fishdom

- Players wake up sleeping frogs by making adjacent matches or triggering boosts.
- Awakened frogs convert all pieces of one color to the color of the frog's piece.

Lava Jars – Fishdom

- Lava jars contain timers that decrease by one each move.
- Players clear lava jars by making adjacent matches or triggering boosts.
- If a jar's timer reaches zero, the lava spreads.
- Lava can only be cleared by triggering boosts.

Jam Jars – Homescapes

- Players fill jam jars by making adjacent matches.
- Jars take on the color of the matches that fill them.
- Players clear filled jars by triggering boosts or making adjacent matches of the same color.

Stone Wall – Matchington Mansion

- Walls can only be cracked by boosts.
- Cracked walls can be cleared by boosts or adjacent matches ([2](#) and [video](#)).

Surprise Cards – Solitaire Grand Harvest

- Mystery cards reveal boosts or hazards ([3](#) and [video](#)).

Carnival Booth – Toon Blast

- Carnival booths contain four ducks.
- Each adjacent match clears one duck ([4](#) and [video](#)).
- Cleared ducks reappear following any move that does not result in an adjacent match.
- Clearing all four ducks clears the booth.



MARKET WATCH



NOTABLE RELEASES I

App	Library	Description
<i>Angry Birds 2</i>	The Cherry Blossom Adventure mission event	<ul style="list-style-type: none"> • Players use only the character Stella to complete a series of seven challenges (1). • Stella can be woken up for 4 hours every 12 hours. • Challenges award Tower of Fortune tickets and rainbow feathers at milestones. • Completing all seven challenges awards a double feather boost for 600 minutes.
Breakout App		
<i>Angry Birds Casual</i> by Rovio	Angry Birds Casual puzzle app	<ul style="list-style-type: none"> • <i>Angry Birds Casual</i> soft-launched on 3/2/20 in Finland, Poland, Sweden, the UK, and the USA. • This app offers a more casual, easier version of <i>Angry Birds</i> gameplay. • Players launch birds to break blocks. • Breaking blocks fills a meter. • Filling the meter awards a boosted ability for one move.
<i>Bubble Witch 3 Saga</i>	Special Fairy Bubbles accelerator content	<ul style="list-style-type: none"> • Popping six or more bubbles creates a fairy bubble (2 and video). • Fairy bubbles pop a large number of extra bubbles.
<i>Disney Emoji Blitz</i>	Item Card Collection Update collection feature	<ul style="list-style-type: none"> • Players now earn emojis for completing item card collections (3 and video).
<i>Gardenscapes</i>	Multistage Levels other content	<ul style="list-style-type: none"> • Players must complete a series of stages to clear the level (4 and video).

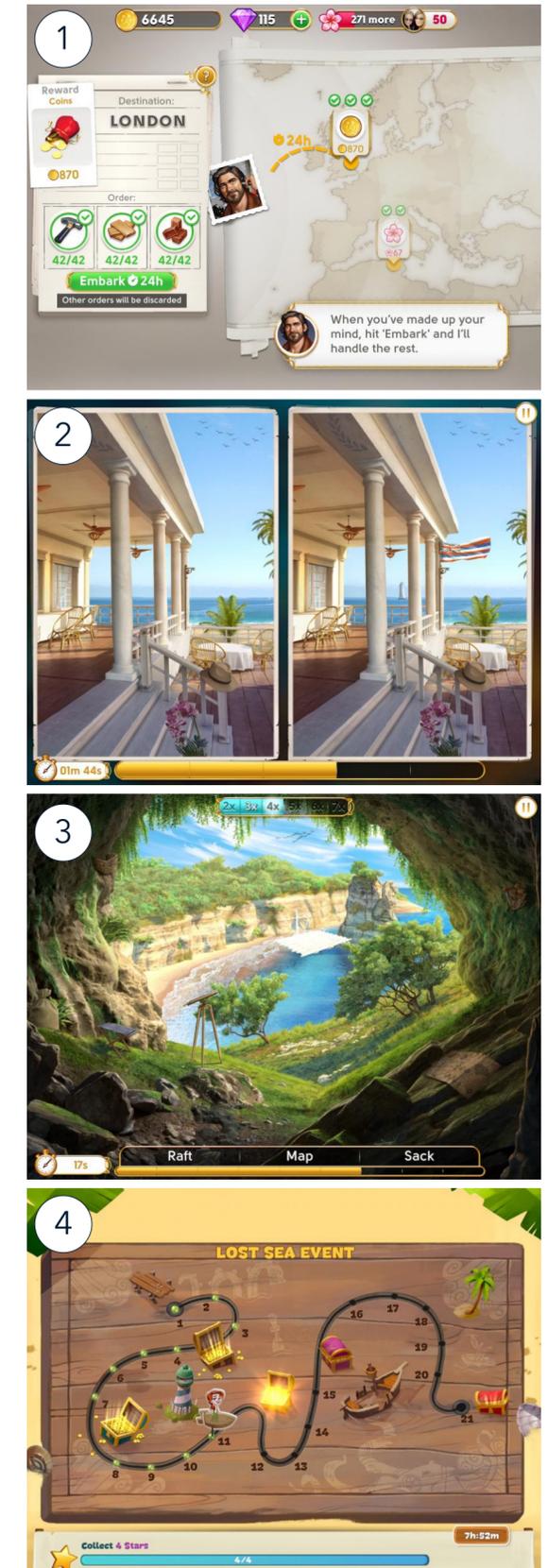


NOTABLE RELEASES II

App	Library	Description
June's Journey	Jack's Deliveries mini-game event	<ul style="list-style-type: none"> Completed levels award materials. Players can deliver construction materials to cities on a map for rewards (1). <ul style="list-style-type: none"> Cities offer different rewards and have different delivery times and material requirements. Players can spend premium currency to make deliveries immediately (video).
	Spot the Difference club event	<ul style="list-style-type: none"> In this competition event, players spot differences between two images to earn points for their clubs (2 and video). Club members earn additional energy for playing simultaneously. Clubs are ranked on leaderboards for prizes.
	Time Rush club event	<ul style="list-style-type: none"> In this competition event, players find items within images to earn points for their clubs (3 and video). Club members earn additional energy for playing simultaneously. Clubs are ranked on leaderboards for prizes.
Lost Island Blast Adventure	Lost Sea Event quest event	<ul style="list-style-type: none"> Players complete challenges to progress on a prize map (4 and video).

Quickly review all features and events

Filter the [Library Tool](#) by month and year to see all new releases.



APPENDIX



BANK IAP RANKINGS (CASINO)

App	Genre	Name	Top-Ranked Bank IAPs (January-March 2020)
<i>Slotomania</i>	Casino	Piggy Bank and Piggy Piñata	<ul style="list-style-type: none"> • \$19.99 Break Piggy Bank reached #5 • \$5.99 Break Piggy Bank reached #6
<i>Jackpot Magic Slots</i>	Casino	Piggy Bank	<ul style="list-style-type: none"> • \$49.99 Piggybank reached #6 • \$19.99 Piggybank reached #10
<i>Governor of Poker 3</i>	Casino	Piggy Bank	<ul style="list-style-type: none"> • \$2.99 Break Your Piggy Bank reached #8
<i>Poker Heat: Texas Holdem Poker</i>	Casino	Piggy Bank	<ul style="list-style-type: none"> • \$5.99 Piggy Pack reached #9
<i>Cashman Casino</i>	Casino	Piggy Bank	<ul style="list-style-type: none"> • \$5.99 Cashman Piggy Bank reached #10

L&G PUZZLE PERSONAS

Using the motivational buckets developed by Liquid & Grit, five distinct puzzle personas emerge: **Gamer Gary**, **Escapist Emily**, **Trainer Tracy**, **Challenger Chris**, and **Casual Carol**.

Table: Player personas by demographics, monetization, engagement, and motivational buckets.

Input	Gamer Gary	Escapist Emily	Trainer Tracy	Challenger Chris	Casual Carol
Demographics					
Size (N)	24%	15%	22%	18%	21%
Female (%)	53%	68%	73%	59%	66%
Age (mean)	35	36	42	40	34
Monetization					
Propensity to spend across all platforms	15.0	7.0	4.8	7.0	4.3
Propensity to spend on F2P games	1.8	1.1	0.7	0.6	0.7
Engagement					
Weekly play hours	6.6	7.4	7.6	7.8	6.7
Puzzle motivation	3.1	2.9	2.6	2.7	2.4
Motivational Buckets					
Engrossment	0.7	-0.3	-0.2	-0.2	-0.2
Escape	0.0	0.6	-0.3	-0.1	-0.1
Utility	-0.2	-0.3	0.7	0.0	-0.3
Challenge	-0.2	-0.1	0.1	0.7	-0.3
Boredom	-0.3	0.0	-0.2	-0.3	0.9

PUZZLE PRODUCT COUNCIL

To boost our insights, Liquid & Grit gathers recommendations and intelligence from industry-leading product experts.

Helen Grabarchuk

Co-Founder and COO of PuzzleMove Inc.

[LinkedIn Profile](#)

Helen is a level design expert. At PuzzleMove Inc., Helen develops new puzzle products for different platforms, focusing on mobile devices.

Helen spent over two years at Zynga as a puzzle content creator.

After Zynga, Helen created concepts, puzzles, testing, and puzzle content for dozens of iOS and Kindle apps.

Helen's comments can be found predominantly in the Level Mechanics section.

Florian Steinhoff

Mobile F2P Consultant

[LinkedIn Profile](#)

Florian has built and led teams that created top-grossing mobile casual games.

For the last 10 years, he has overseen game projects during all phases—research, concept, prototyping, pitching, pre-production, production, and live-ops.

His most successful title is *Jelly Splash*, which reached a monthly player base of +30M.

To find out more, check out his GDC talk on casual puzzle games, difficulty curves, and the importance of randomness [here](#).

Florian Ziegler

Consultant in Mobile Gaming

[LinkedIn Profile](#)

After over a decade of making games, Florian now advises game studios and companies on improving their game products through his own consultancy, Lava Lake Games Consulting.

Before launching his own consultancy, Florian worked at Electronic Arts on flagship titles, such as *Need for Speed: No Limits*. He also spent time at King as a principal designer.

At Mind Candy, he was the lead game designer on titles that include the mobile hit *World of Warriors*. This gained Apple's Editor's Choice Award and scaled the charts to the No. 1 game position in most major markets.

PREMIUM PARTNERSHIPS

Liquid & Grit partners with these premier market research and analytics companies to infuse our reports with the most relevant and detailed gaming user personas, data, and statistics available.

Quadrant Strategies

Market Research

[Quadrant Strategies](#)

Quadrant Strategies is a market research consultancy that uses research to help the world's most prominent technology, gaming, and entertainment companies develop strategies for building their user base, increasing user engagement and spend, and strengthening their marketing and brand plans.

We do that using a range of quantitative and qualitative methodologies, including gamer segmentation and persona development, feature testing, message creation, and loyalty and engagement modeling. The work of our senior leadership goes back many years, and includes long-term engagements for console and gaming-PC hardware-makers, individual games in a range of genres, and across consoles, PCs, and mobile, and for some of the top game franchises.



Kinrate Analytics

Player Personas

[Kinrate Analytics](#)

Kinrate Analytics offers game developers, consultants, publishers, and cloud gaming operators the best cross-platform game recommendation engine for targeted marketing, as well as a novel profiling-as-a-service solution for intelligent market segmentation and social networking.

Other services include advanced market prediction analyses for identifying emergent gaming trends and access to unique AI-enhanced data of 140 thousand game titles and 48 million game players.

The products of Kinrate Analytics have been developed in university-led research projects in collaboration with economists, psychologists, game scholars, and data scientists.



Sensor Tower

Mobile App Store Intelligence

[Sensor Tower](#)

Sensor Tower is relied upon by financial analysts, VCs, and publishers who need to leverage data to identify the fastest-growing apps, emerging markets, and more.

Clients harness Sensor Tower's suite of app intelligence tools to:

- ▶ Evaluate app economies and app vitality.
- ▶ Drive organic growth with the leading App Store Optimization platform.
- ▶ Get the best global download and revenue estimates for the App Store and Google Play.
- ▶ Discover top creatives and better shape user acquisition strategy.



PUZZLE MECHANICS TAXONOMY

Family	Definition
Accelerators	Increases in the power, impact, or efficiency of play
Banks	Features that save a % of spend to be unlocked later
Bonuses	Free bonuses given to players (e.g., retention or W2E)
Challenges	Goal-oriented tasks for players to complete
Clubs	Groups that accomplish goals or compete with other groups
Collections	Sets of items that players collect (often for a completion prize)
Competitions	Features where players compete against other players
Cosmetics	Improvements or updates to the app or features
Currencies	Changes to currencies, economies, stores, and items
Custom Design	Options for cosmetic customization
Expansions	Additional rooms, worlds, play modes, VIP lounges, etc.
Flows	Specific flows, like the NUX, ratings, and surveys

Family	Definition
Hazards	Level elements/blockers that increase difficulty
Interactions	Social features with direct or indirect interaction
Leaderboards	Stand-alone leaderboards
Levels	Anything to do with leveling
Mini-Games	Smaller, shorter games within games (e.g., scratcher cards)
Missions	Linear sets of tasks that players must accomplish
Notices	Feature or product announcements
Other	Miscellaneous features and outliers
Profiles	Features related to a player's settings, profile, and controls
Purchases	Anything to do with purchases
Quests	Tasks that advance players along a map-like feature
Rewards	Rewards players receive for engagement or spend

“Everybody doesn’t have to get every joke. People really appreciate not being condescended to.”
– Matt Groening

LiquidandGrit.com



Brett.Nowak@LiquidandGrit.com

