



LIQUID&GRIT

PUZZLE REPORT

Competitive Research and Actionable Product Recommendations

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MARCH

2020

NEW COMPETITOR



PUZZLE > GAMES

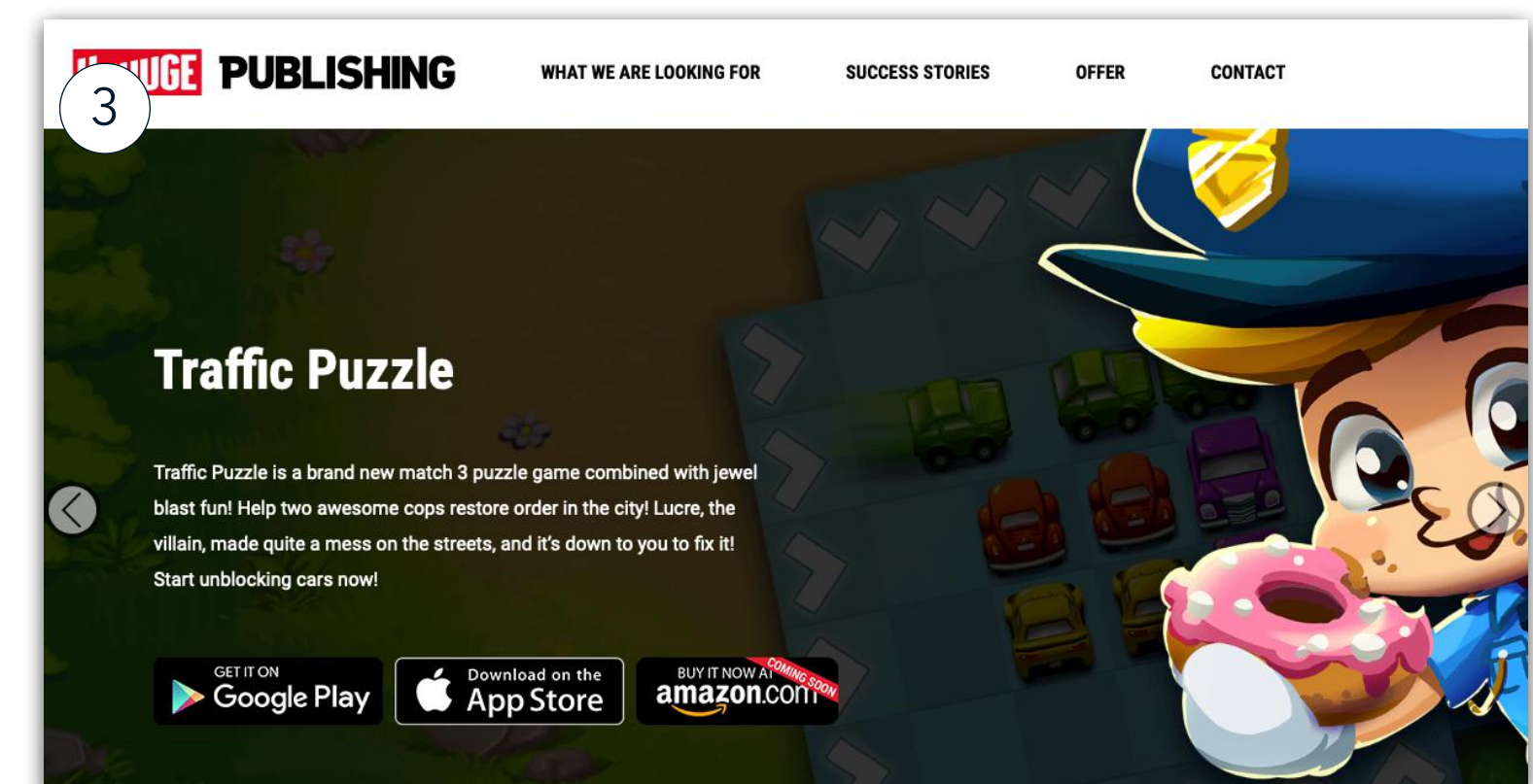
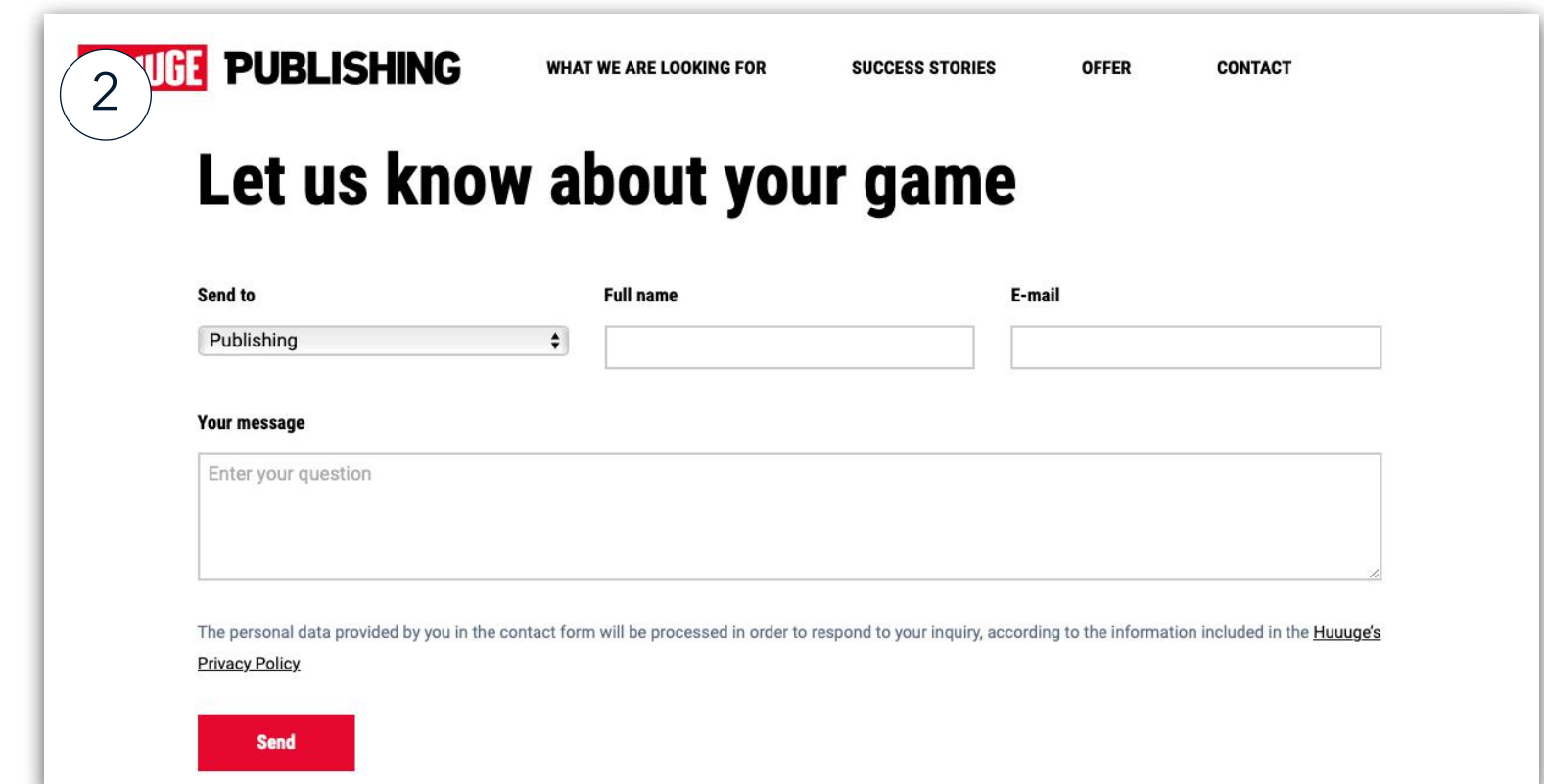
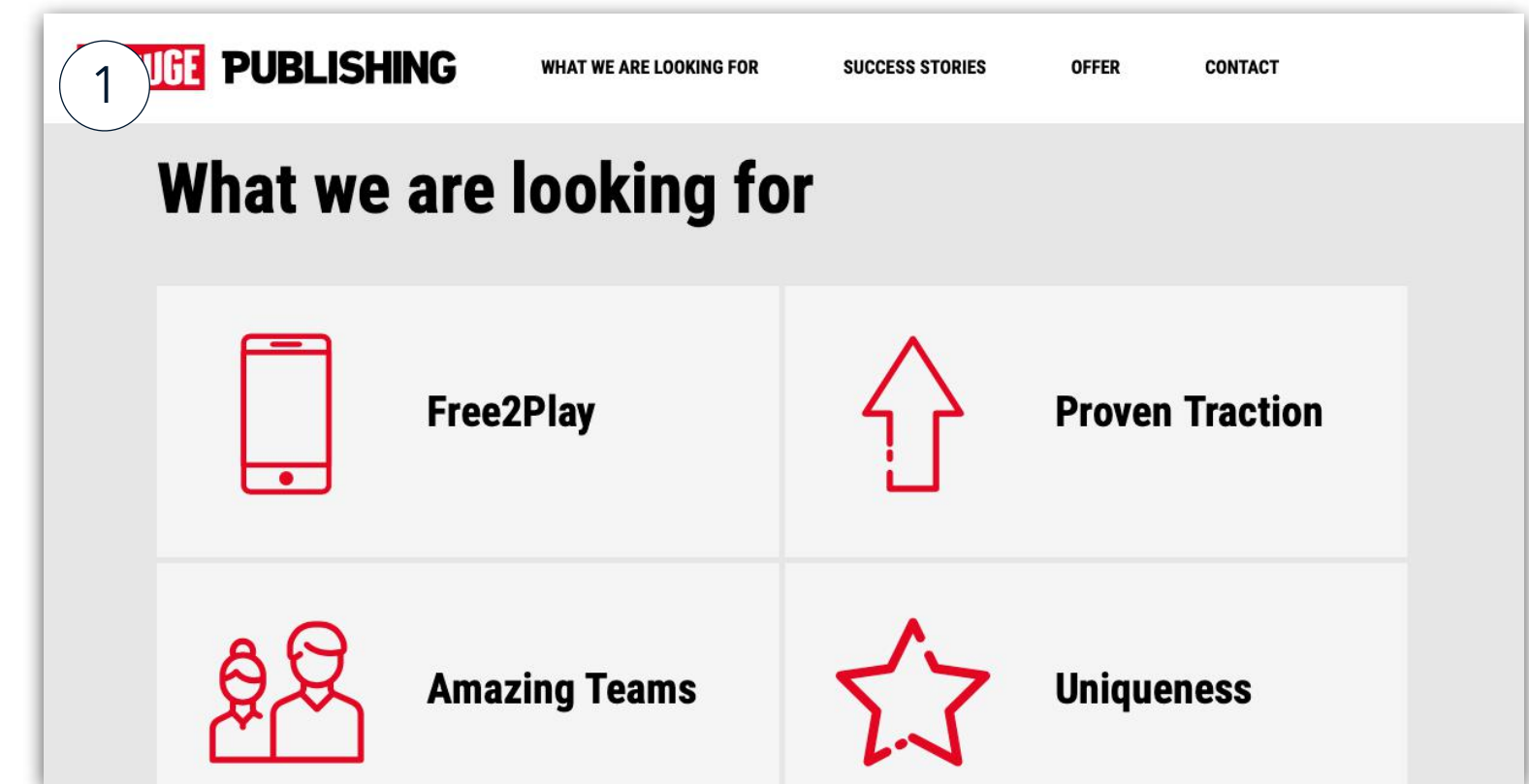
TRAFFIC PUZZLE BY HUUUGE GAMES

COMPANY INSIGHTS

Huuuge Games' Huuuge Publishing service works with developers to market, distribute, and support live F2P apps like *Traffic Puzzle*.

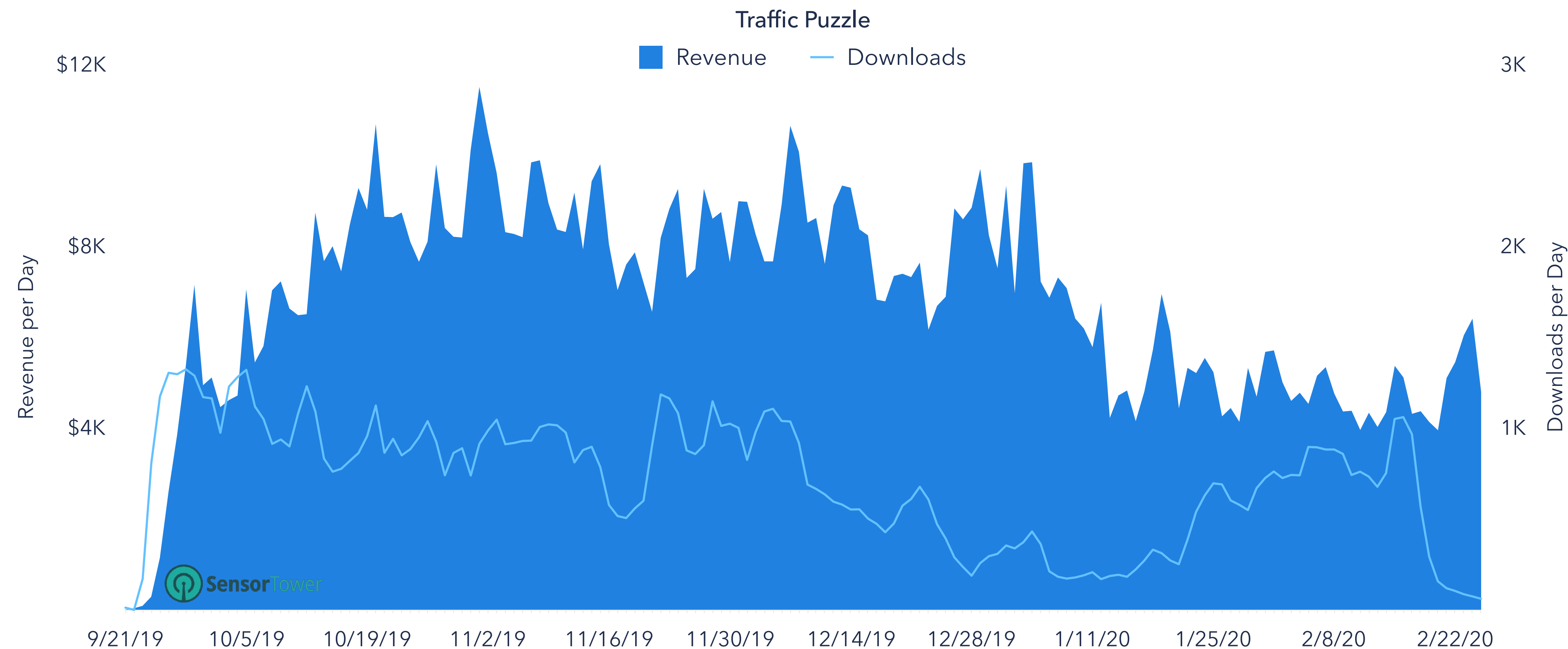
Creating Opportunities

- [Huuuge Publishing](#) invites developers to submit soft- or hard-launched F2P apps (1).
- Huuuge offers marketing, distribution, and support for chosen apps.
- Apps must already be live and have data.
- Developers submit apps via a contact form at the bottom of Huuuge Publishing's website (2).
- *Traffic Puzzle* is featured as a "success story" on the site (3).



REVENUE ANALYSIS

In January 2020, *Traffic Puzzle* averaged \$5,990 in daily revenue and 358 daily downloads.



Graph data is iOS U.S. only.

APP TEARDOWN

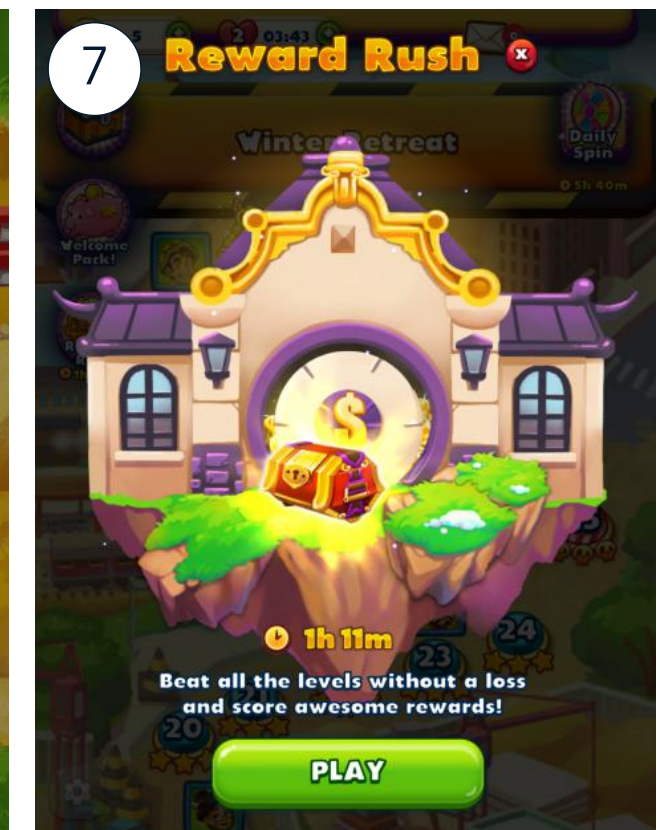
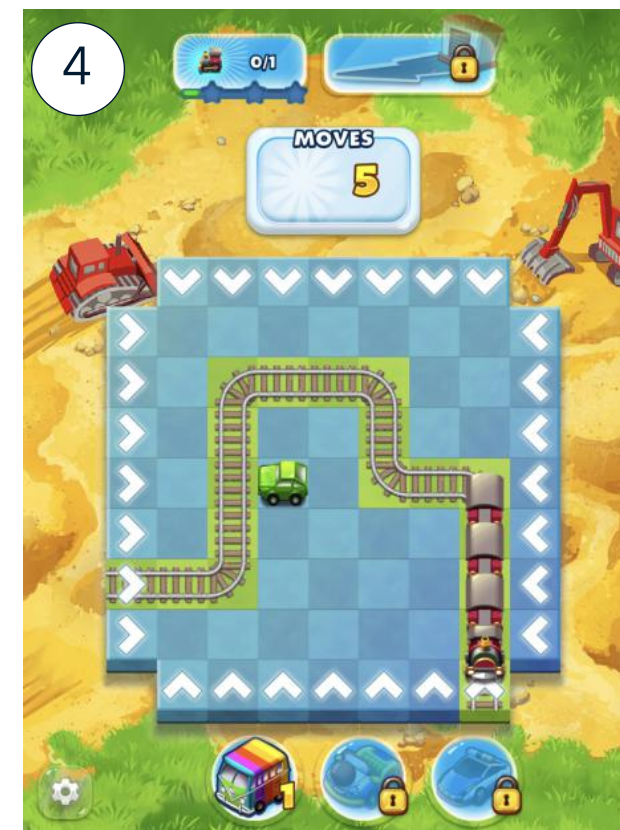
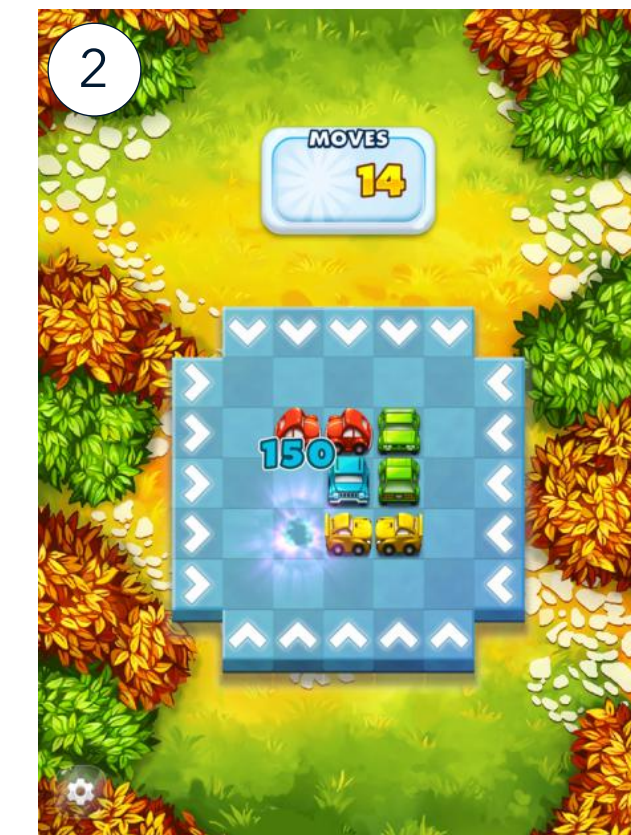
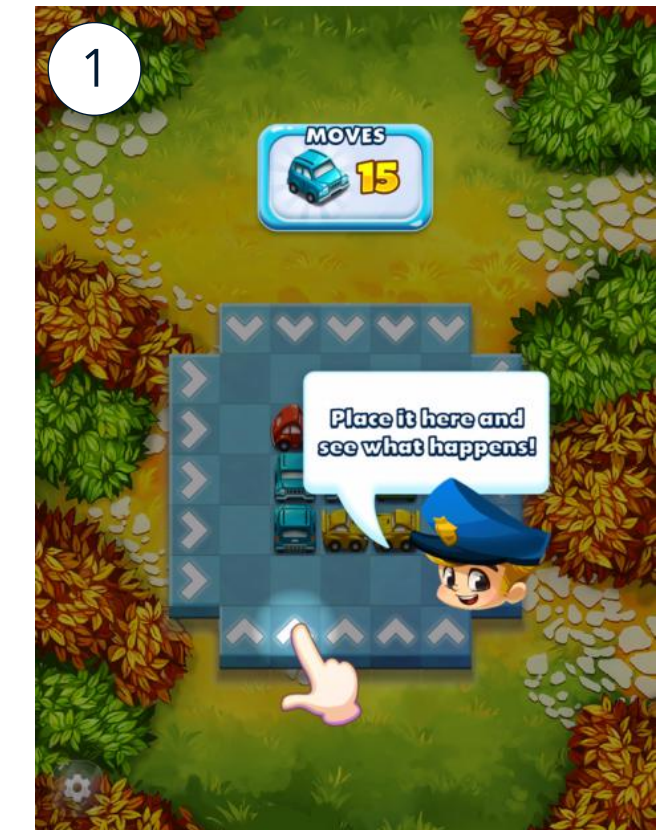
In this kinetic match-3 app, players send cars into traffic jams to make matches and clear paths for other vehicles.

App Details

- Players place colored cars on arrow spaces at the edges of a board (1).
- Cars drive forward until they hit an obstacle or leave the board.
- Matching three or more cars clears them (2).
- Clearing cars allows previously blocked vehicles to drive forward (video).
- Levels require players to clear helipads, train tracks, or paths for ambulances (3, 4, and 5).
- Matching cars fills a garage meter for a boost (6).
- A quest event rewards players for completing all levels on a map without losing (7).

Launch Information

- U.S. Launch: 9/21/19
- Not launched outside the U.S.
- Go to the [Feature Database](#) to see more features.



REVENUE DRIVER



PUZZLE > EVENTS > MISSIONS

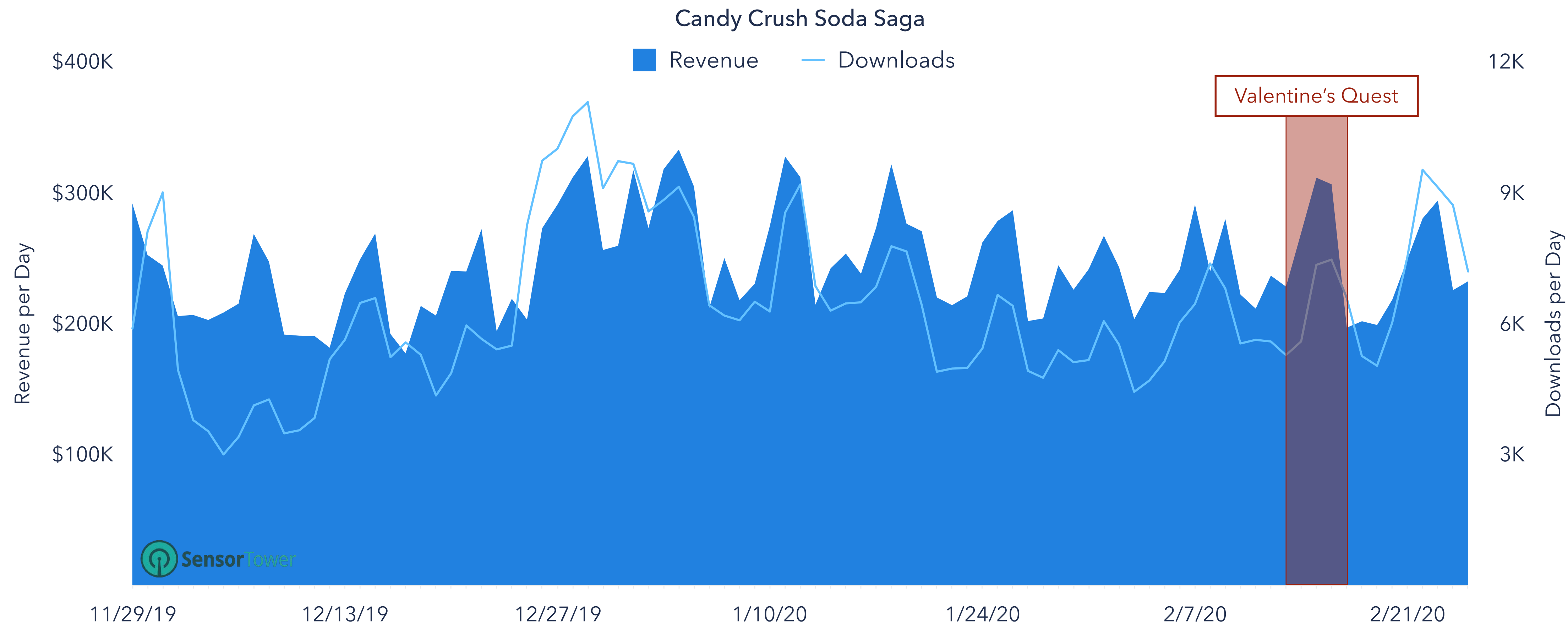
MISSIONS WITH PUZZLE COLLECTION

Valentine's Quest in *Candy Crush Soda Saga*

REVENUE ANALYSIS

After the release of Valentine's Quest, Candy Crush Soda Saga's revenue was +10% and downloads were +4% 5Do5D.

Releases
2/13-2/17: Valentine's Quest mission event
2/14-2/15: Batula level event
2/15-2/16: Bubblegum Hill competition event
No IAP changes during this date range.



Graph data is iOS U.S. only.
5Do5D = Five days over the same five days from the previous week.

FEATURE TEARDOWN

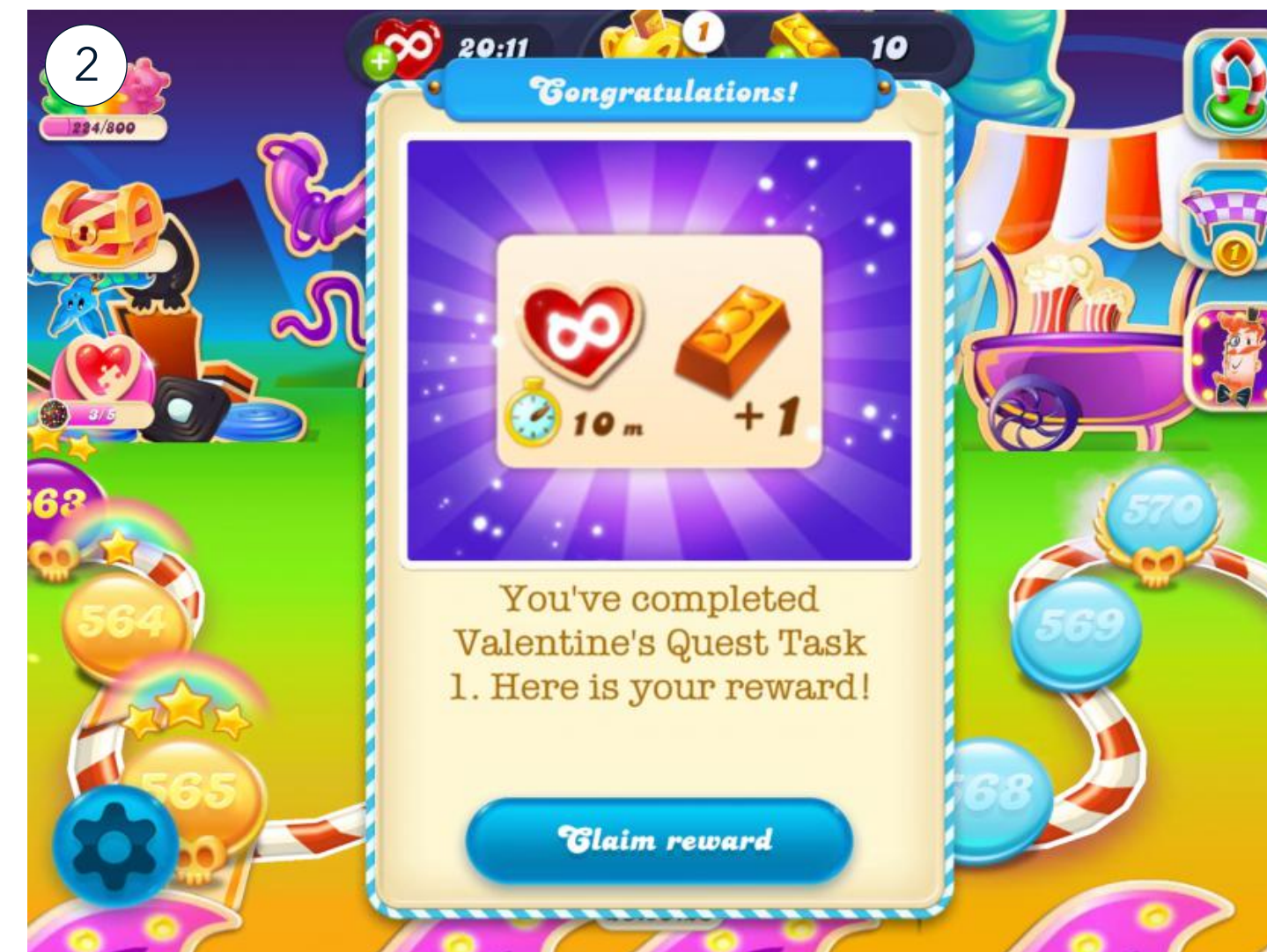
Players complete missions to earn puzzle pieces and unlimited life boosts.

Details

- Players complete a series of seven challenges ([1](#) and [video](#)).
- Each challenge awards a puzzle piece and increasing amounts of unlimited life boosts and gold bars ([2](#)).
- Puzzle pieces are used to build a heart ([3](#)).
- Completing the heart awards the grand prize.

Additional Information

- See the [Valentine's Quest](#) Library for more images and videos.



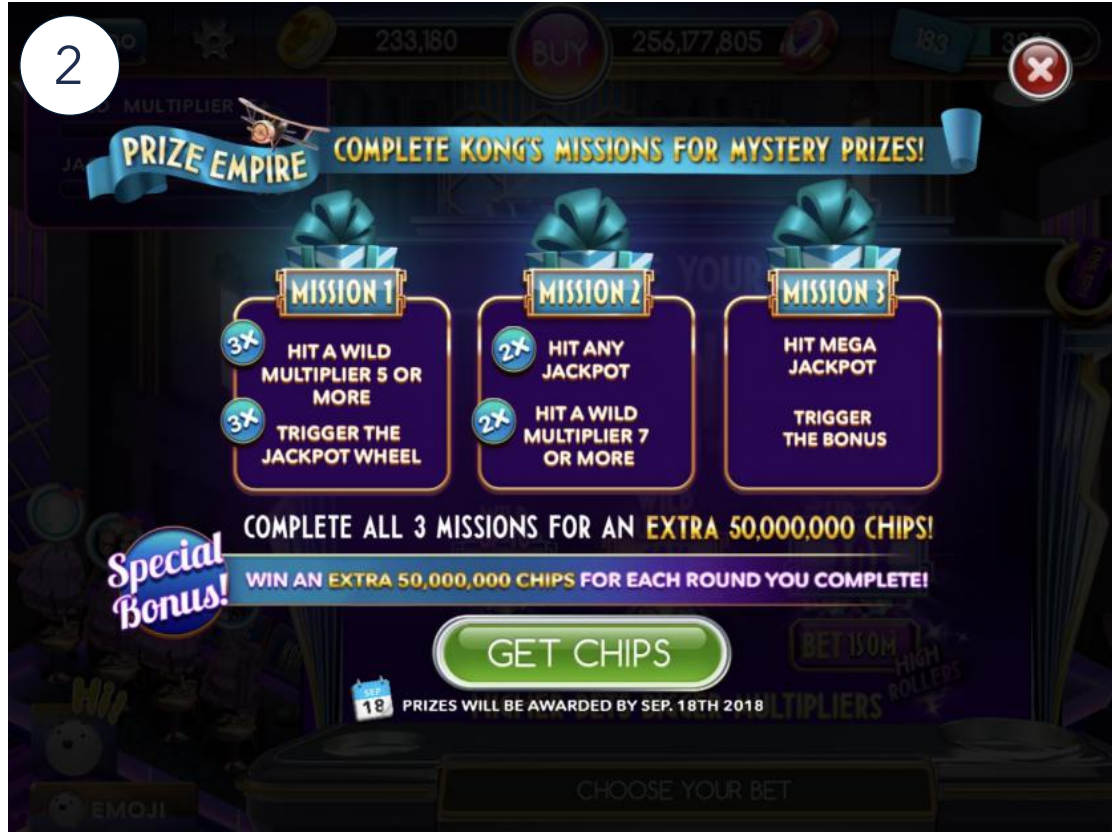
MECHANIC SUMMARY: MISSIONS



REVENUE DRIVERS

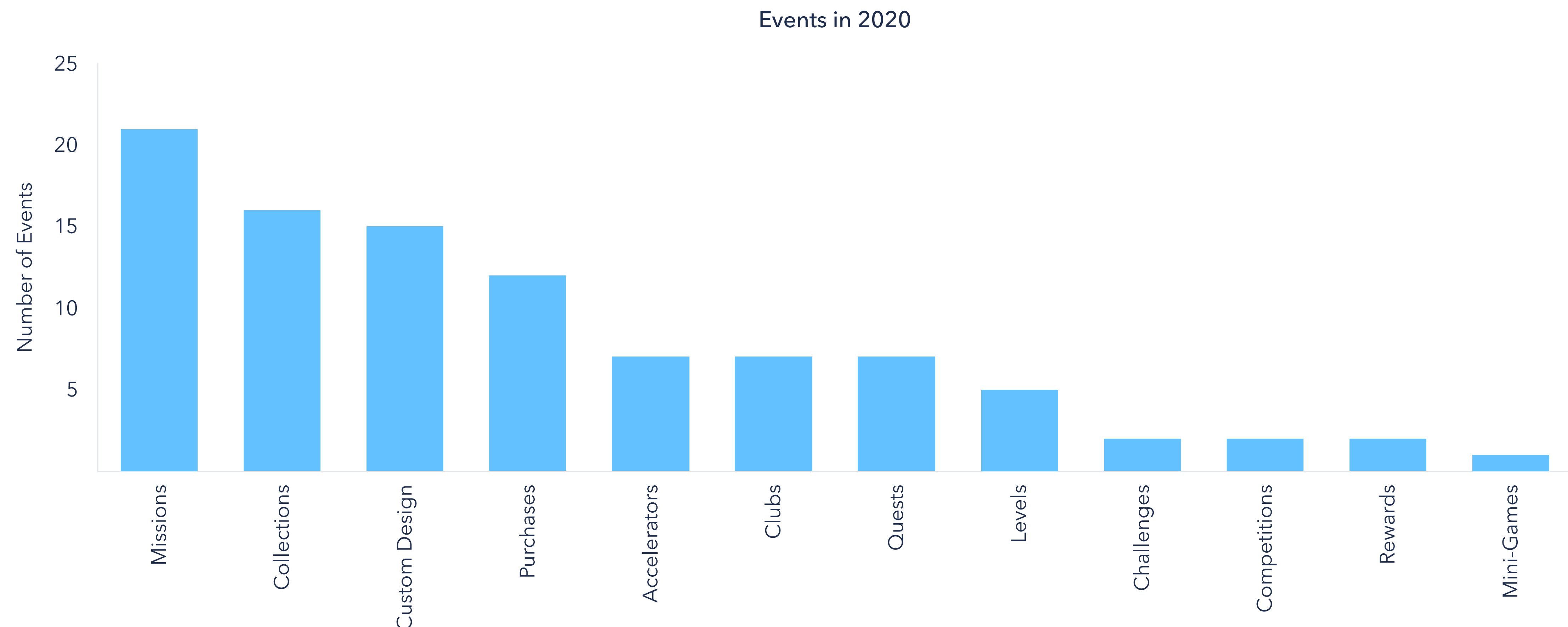
Mission events drive revenue across genres, and successful mission events can be reskinned to create multiple seasons.

Genre	Subgenre	App	Review	Feature	WoW Revenue	2Wo2W Revenue
RPG	Strategy/IP	Star Wars: Galaxy of Heroes	Hero Sampler Mission Events	Clash on Kamino (1)	+72%	+40%
Casino	Slots	POP! Slots	Replayable Missions	Prize Empire (2)	+23%	N/A
Puzzle	Match/Build	Gardenscapes	Missions & Upgradeable Rewards	Furry Season (3)	+18%	+14%



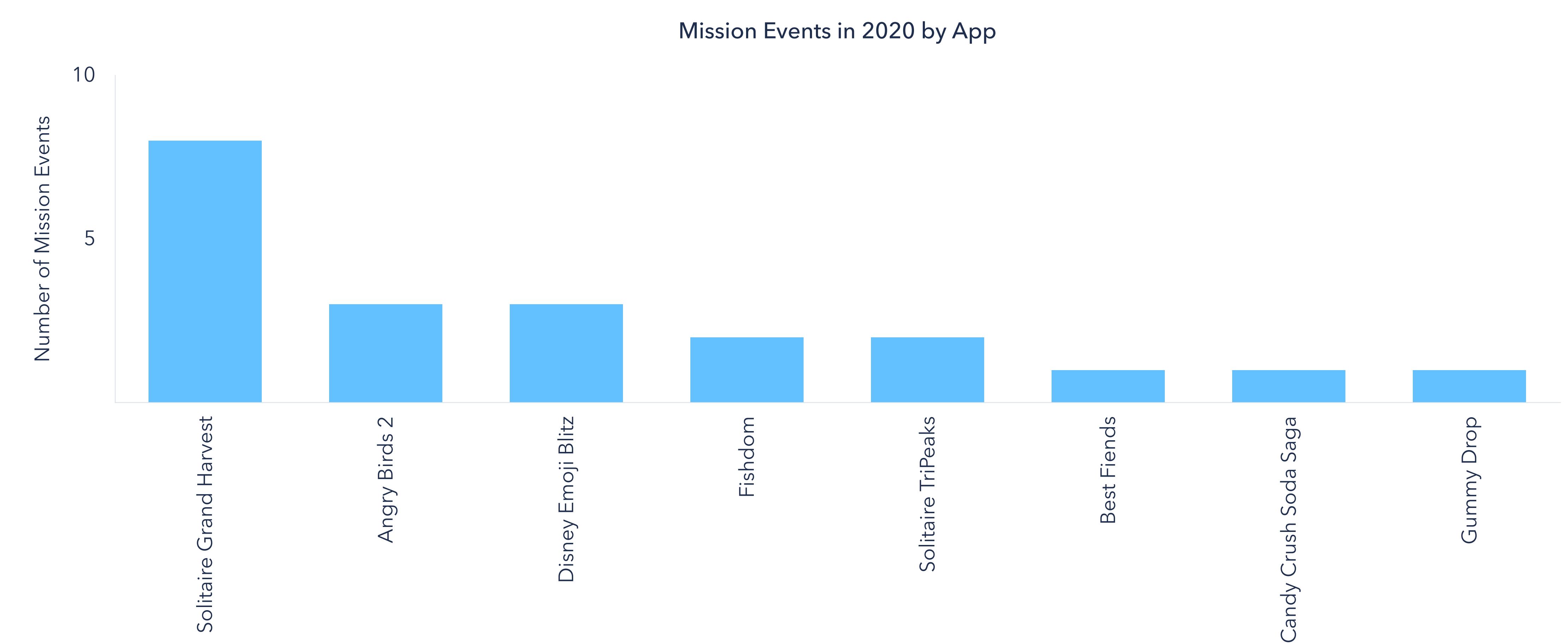
TRENDS: EVENTS IN 2020

Mission events are the most popular event type so far in 2020. Last year, missions were the fourth most popular events—behind challenges, purchases, and collections.



TRENDS: MISSION EVENTS BY APP

Solitaire Grand Harvest leads the way in mission event releases in 2020. Last year, *Angry Birds 2*, *Solitaire Grand Harvest*, and *Disney Emoji Blitz* released the most mission events (in that order).



MECHANICS: DIFFICULTY, TIME LIMITS, & STREAKS

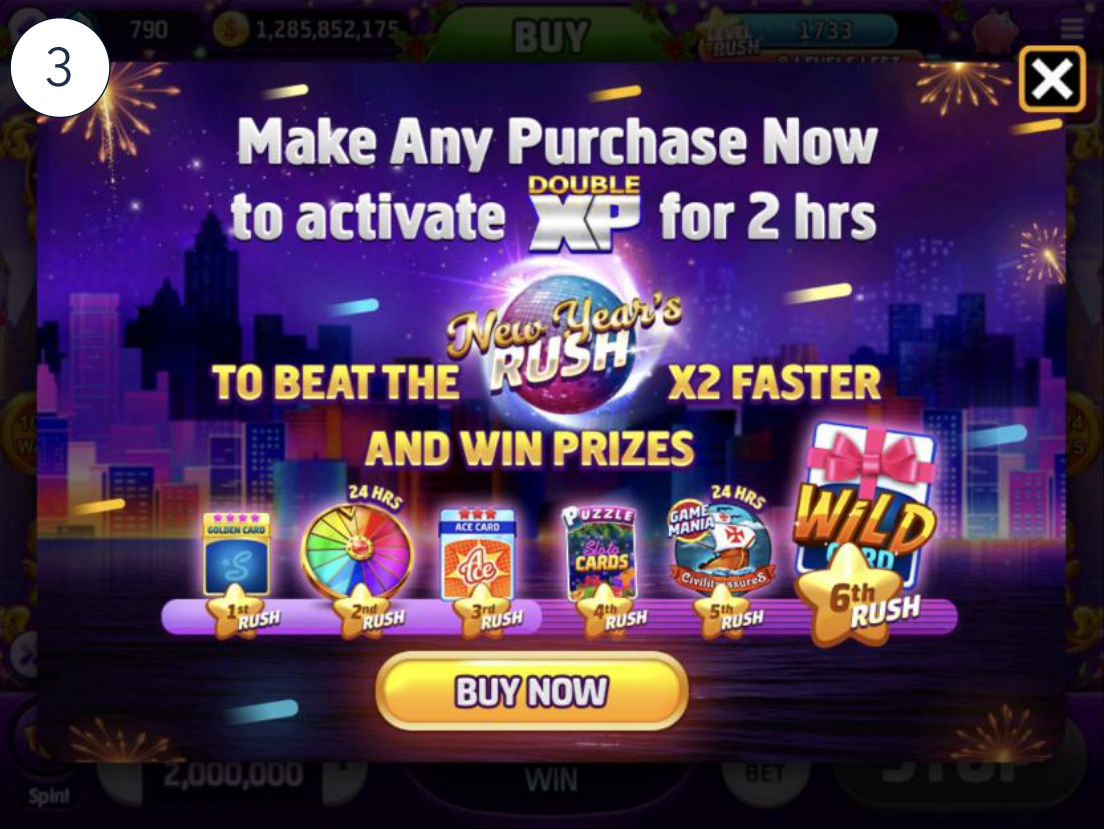
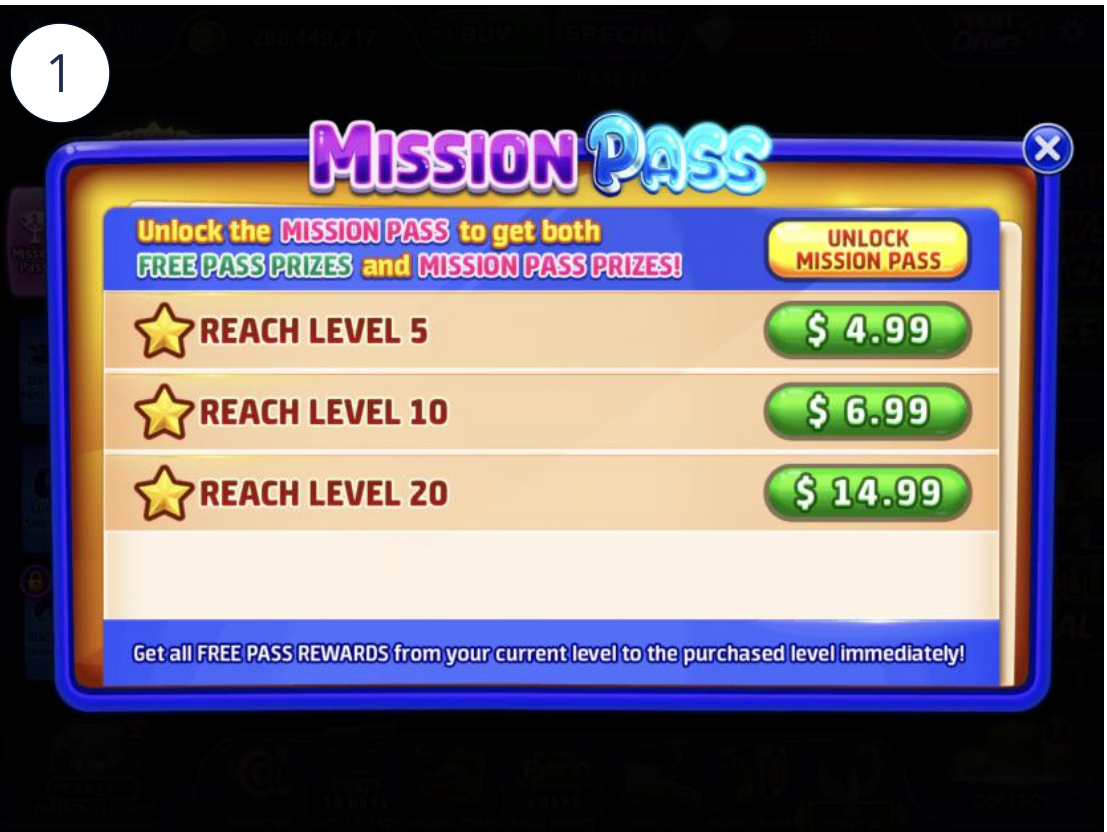
Missions use time limits and streak requirements to drive engagement. Difficulty settings reduce churn by letting players choose the right level of strain for each session.

App	Feature/Event	Mechanic	Notable Attribute
Scatter Slots	Daily Boosters: Rush Time	Time Limit	<ul style="list-style-type: none">Progression resets after a certain number of days (1).
Governor of Poker 3	Winter Calendar	Streak	<ul style="list-style-type: none">Missed daily missions can be claimed for \$0.99.
Bingo Blitz	Trick-or-Treat?!	Streak	<ul style="list-style-type: none">Missing a daily mission decreases progress (2).
Angry Birds 2 and Gardenscapes	Challenge Streaks and Exercising!	Streak	<ul style="list-style-type: none">A series of challenges must be completed on the first try (3).
Tycoon Casino	Daily Goals	Difficulty	<ul style="list-style-type: none">Three difficulty tiers of daily challenges must be completed consecutively.
Game of Thrones Slots	The Wight Hunt	Difficulty	<ul style="list-style-type: none">Players choose between two difficulties at the start of the event.
Caesars Slots	Power Bank	Difficulty	<ul style="list-style-type: none">Players choose six out of eight challenges to complete.



MECHANICS: SEASON PASSES & ACCELERATORS

Season passes and purchasable boosts are proven revenue drivers for mission events and features—especially when tied to exclusive collectible rewards.



App	Feature/Event	Mechanic	Notable Attribute
Cash Frenzy	Mission Pass Season 4	Accelerator	<ul style="list-style-type: none">Players can purchase instant level progression packages (1).
Epic Seven and my KONAMI	Epic Pass and my KONAMI Pass	Season Pass	<ul style="list-style-type: none">Premium passes award an exclusive skin and profile frame.
Fishdom and Gardenscapes	Season Adventures! and Furry Season	Season Pass	<ul style="list-style-type: none">Premium passes award an exclusive pet, frame, and decorations (2).
Raid: Shadow Legends	Battle Pass	Season Pass	<ul style="list-style-type: none">Premium pass purchases instantly award 25 levels.
Slotomania	New Year's Rush	Accelerator	<ul style="list-style-type: none">Any purchase doubles XP earned for two hours (3).
Slotomania	SlotoQuest Rulers' Riches	Accelerator	<ul style="list-style-type: none">A purchasable power-up doubles progression for all missions for five minutes.

MECHANICS: REWARDS & PREREQUISITES

Effective rewards increase players' satisfaction and sense of accomplishment. Prerequisites may increase prestige or drive revenue—but potentially at the cost of engagement.

App	Feature/Event	Mechanic	Notable Attribute
POP! Slots	Valentine's Special	Reward	<ul style="list-style-type: none">Awards an exclusive outfit that boosts rewards for an upcoming event (1).
myVEGAS	It's Happening!	Reward	<ul style="list-style-type: none">Completing the event unlocks early access to a new game.
my KONAMI and Hit It Rich!	Bellagio Sweepstakes and SlotVentures: Lucky Ducky	Reward	<ul style="list-style-type: none">Completing the mission enters players in a sweepstakes for real-world prizes.
myVEGAS	Wild Night on the Strip	Reward	<ul style="list-style-type: none">A mystery prize is awarded for achieving a mystery goal (2).
Governor of Poker 3	Summer Calendar	Reward	<ul style="list-style-type: none">Completed missions increase a bonus gift at the end of the event.
Scatter Slots	Sunny Diary	Reward	<ul style="list-style-type: none">Mission rewards can be used to purchase boosts.
Angry Birds 2	The Royal Adventure!	Prerequisite	<ul style="list-style-type: none">The mission event requires an item from a previous event (3).
Heart of Vegas	Valentines Tasks	Prerequisite	<ul style="list-style-type: none">Players must make a purchase to complete the challenge.
Heart of Vegas	Valentine's Romantic Rewards!	Prerequisite	<ul style="list-style-type: none">The two largest challenges require purchases.



MECHANICS: GAMEPLAY

Fresh gameplay elements, like new heroes or unique abilities, keep players excited and prevent recurring event structures from getting stale.

App	Feature/Event	Notable Attribute
Wonka's World of Candy	Tasks	<ul style="list-style-type: none">Challenge rewards allow players to plant custom trees in a garden (1).
Best Fiends	Minutian Free Clinic	<ul style="list-style-type: none">Missions award timed VIP memberships at milestones.Challenges include narrative videos and related quizzes.
Disney Emoji Blitz	Villain Challenge	<ul style="list-style-type: none">Challenges use special villain pieces (2).Villain pieces must be unlocked with purchases.
Disney Emoji Blitz	Best of 2019 Team Event	<ul style="list-style-type: none">Missions require players to switch between pairs of characters.
Angry Birds Blast	Christmas Event	<ul style="list-style-type: none">Challenges award custom decorations for a Christmas tree (3).



KEY TAKEAWAYS

Mission design must balance a repeatable structure with enticing variations. Make each new iteration stand out with exclusive rewards and new gameplay mechanics.

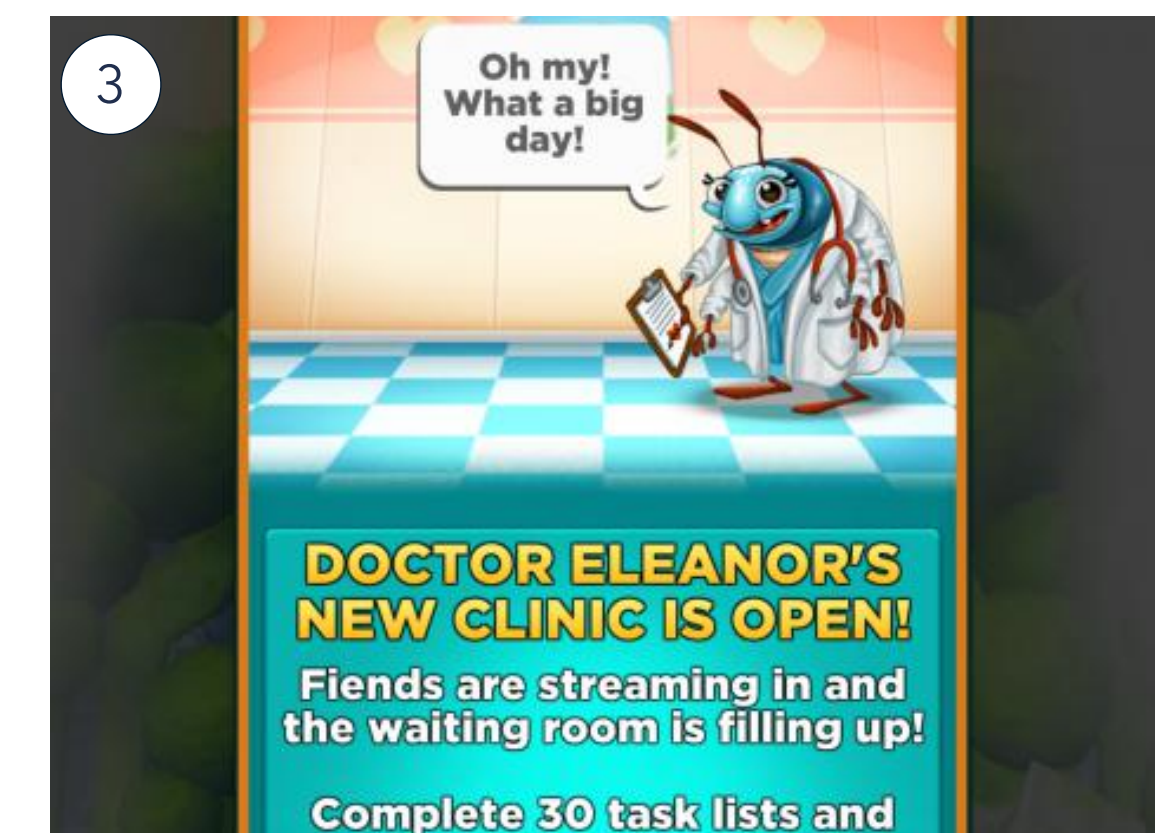
Insights

- **Add unique mechanics or new content to excite players, particularly for recurring events.** New heroes, special abilities, and features from other genres keep mission events fresh. *Star Wars: Galaxy of Heroes*' [Clash on Kamino](#) introduces a brand new hero that players can both use *and* fight against (1). *Angry Birds Blast*'s [Christmas Event](#) and *Wonka's World of Candy*'s [Tasks](#) incorporate custom design elements.
- **Make progressions easier in the middle.** Player motivation is highest at the beginning and end of a progression.¹ Avoid low points by accelerating progress through middle sections with boosts or easier challenges.
- **Drive engagement with event-exclusive permanent items.** Collectible items—like decorations, pets, and frames—motivate players to complete events by providing a permanent record of their achievements (2). Link cosmetic items to premium passes, but make sure that non-cosmetic items are obtainable through free play. Players strongly preferred *Overwatch*'s cosmetic loot boxes to *Star Wars Battlefront II*'s loot boxes that conveyed significant gameplay advantages.²
- **Provide rewards that tie in to mission themes.** Research shows that people strongly prefer rewards that are thematically related to the effort required to obtain them.³ *Best Fiends*' mission events, like [Minutian Free Clinic](#), revolve around themed characters that players unlock by completing the event (3).

¹ [Stuck in the Middle: The Psychophysics of Goal Pursuit](#)

² [A Case Study on Loot Boxes in Two Video Games](#), p. 37

³ [Promotion Reactance: The Role of Effort-Reward Congruity](#), p. 728

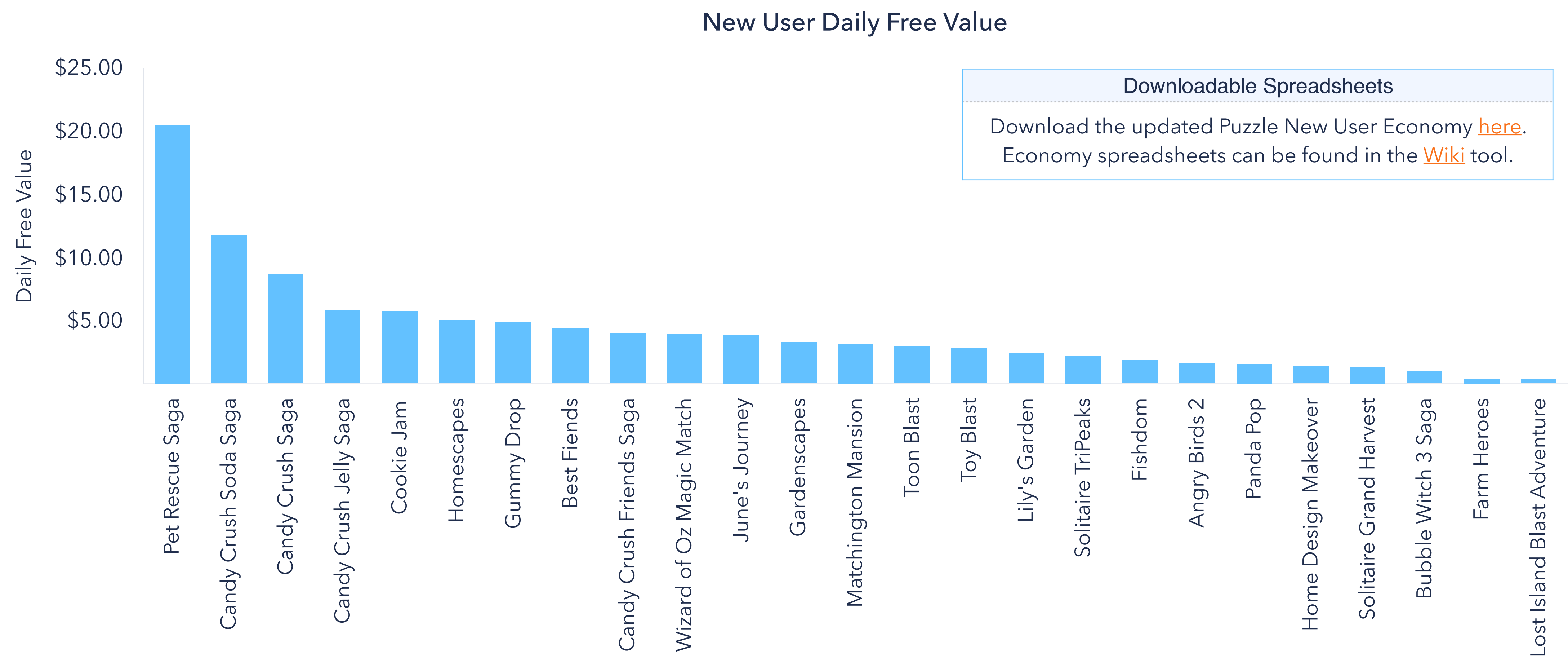


ECONOMY SPREADSHEET



NEW USER ECONOMY

The Puzzle New User Economy spreadsheet details the value players receive upon installation and the average free daily value given to new players. *Pet Rescue Saga* offers players the greatest daily value by refilling lives (which cost \$0.40) every five minutes.



LEVEL MECHANICS



NEW LEVEL DESIGNS I

Bachelor Thorn – *Best Fiends*

- This alternate version of Thorn is unlocked by completing all 30 challenges from the Looking for Love event.
- Bachelor Thorn adds a +50 attack boost.
- Thorn and Bachelor Thorn can be purchased together for 250 gold bars (1).

Rose of Hearts – *Best Fiends*

- This alternate version of Rose is unlocked by completing all 30 challenges from the Wonderland Palace Gala event.
- Rose of Hearts adds a +50 attack boost.
- Rose and Rose of Hearts can be purchased together for 200 gold bars (2).

Valentine's Bob – *Best Fiends*

- This alternate version of Bob is unlocked by completing the Valentine's Heart Challenge event.
- Valentine's Bob adds a +50 attack boost.



NEW LEVEL DESIGNS II

Conveyor – *Fishdom*

- Conveyors move pieces one space each turn.

Magic Balls – *Gardenscapes*

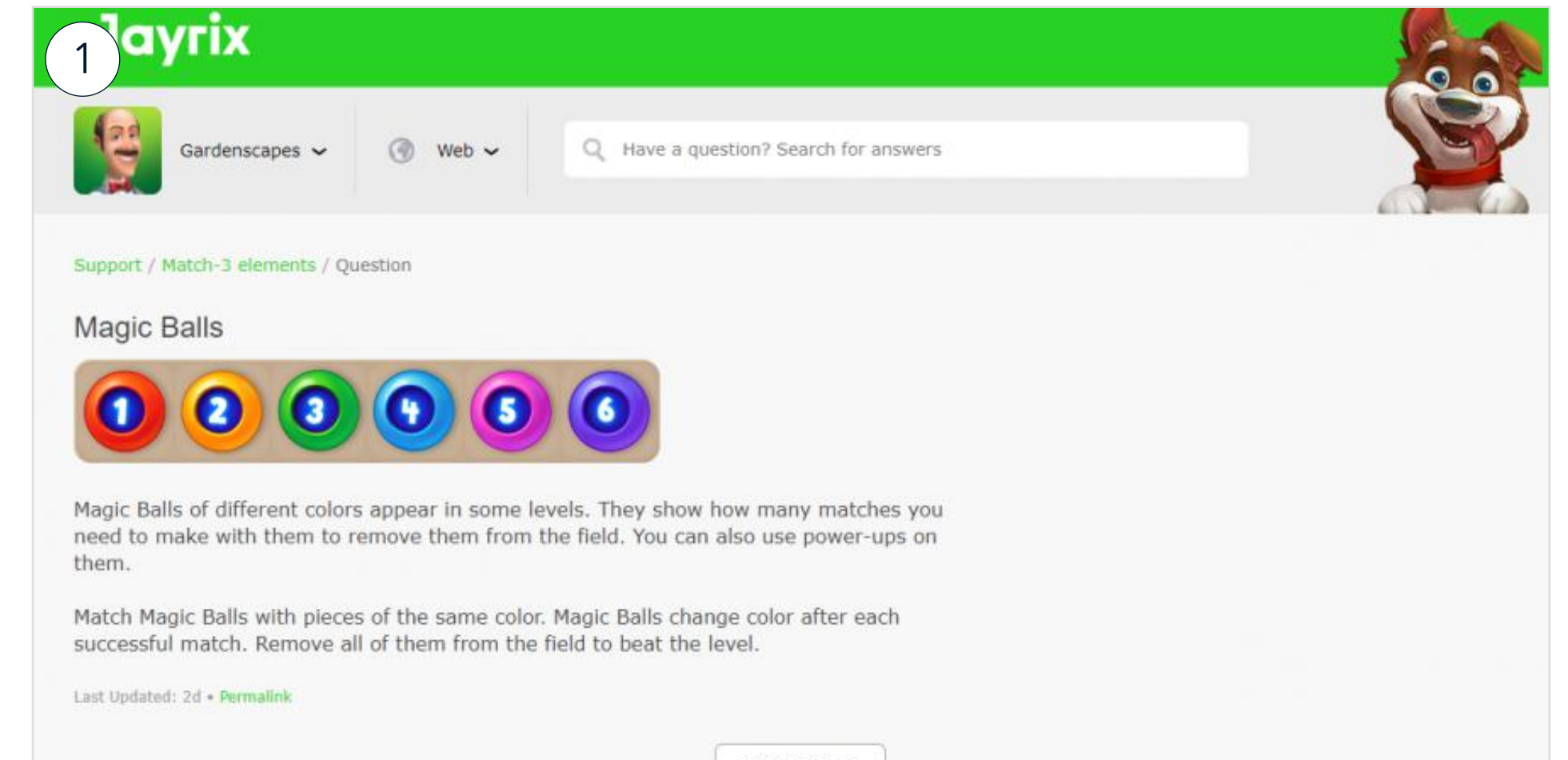
- Each colored magic ball shows the number of matches required to clear it ([1](#)).
- Boosts or adjacent matches of the ball's color reduce this number.
- Each match or boost changes the ball's color.

Target – *Toy Blast*

- Adjacent matches or boosts knock down targets ([2](#) and [video](#)).
- Clearing all targets completes the level.

Valentine's Bombs – *Wizard of Oz Magic Match*

- Chocolate box bombs explode when swapped with any piece.
- Explosions destroy all adjacent pieces ([3](#) and [video](#)).



MARKET WATCH



NOTABLE RELEASES I

App	Library	Description
Angry Birds 2	Mighty Eagle's Bootcamp Update competition feature	<ul style="list-style-type: none">This competition event update adds local leaderboards (1 and video).The event store is open permanently.
	Tower of Fortune Tickets & Express Tickets accelerator feature	<ul style="list-style-type: none">Tickets awarded during play let players retry a timed bonus feature (2 and video).Express tickets let players start the bonus at level 20 with rewards from the first 19 levels.
Best Fiends	Boost Mode accelerator feature	<ul style="list-style-type: none">Players can spend gold to purchase two timed boost packages (3).Boost packages award increased character strength, additional gold, extra moves, level boosts, challenge reward multipliers, and VIP membership.
Candy Crush Saga	Tiffi and the Beanstalk challenge event	<ul style="list-style-type: none">Players must complete five levels in a single life (4 and video).



NOTABLE RELEASES II

App	Library	Description
Disney Emoji Blitz	Magic Missions accelerator feature	<ul style="list-style-type: none">• Every six hours, a random challenge awards five times as many tokens (1 and video).• Tokens allow players to progress through the Token Quest event.• Players can enable notifications for each new challenge multiplier.
June's Journey	Detective Lounge club feature	<ul style="list-style-type: none">• Clubs allow players to chat, send and receive energy, and participate in team competitions (video).• Players earn tips for gifting energy (2).• Tips can be spent on event-exclusive boosts and portraits.
<div>Breakout App</div> <div>Memories: Magic Connect by Playrix</div>	Memories: Magic Connect puzzle app	<ul style="list-style-type: none">• This app soft-launched on 10/23/19 in Australia, Canada, and Great Britain.• A previous version, Memories: Magic Match, was removed from the App Store in August 2019.• Players now link pieces to make matches instead of swapping them (3).
Solitaire Grand Harvest	Golden Day accelerator event	<ul style="list-style-type: none">• During this one-day event, players earn four times as many rewards for completing the Golden Glade challenge feature (4 and video).

Quickly review all features and events

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



APPENDIX



L&G PUZZLE PERSONAS

Using the motivational buckets developed by Liquid and 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 and Grit gathers recommendations and intelligence from industry-leading product experts.

Helen Grabarchuk	Florian Steinhoff	Florian Ziegler
<p>Co-Founder and COO of PuzzleMove Inc.</p> <p>LinkedIn Profile</p> <p>Helen is a level design expert. At PuzzleMove Inc., Helen develops new puzzle products for different platforms, focusing on mobile devices.</p> <p>Helen spent over two years at Zynga as a puzzle content creator.</p> <p>After Zynga, Helen created concepts, puzzles, testing, and puzzle content in dozens of iOS and Kindle apps.</p> <p>Helen’s comments can be found predominantly in the Level Mechanics section.</p>	<p>Mobile F2P Consultant</p> <p>LinkedIn Profile</p> <p>Florian has built and led teams that created top-grossing mobile casual games.</p> <p>For the last 10 years, he has overseen game projects during all phases—research, concept, prototyping, pitching, pre-production, production, and live-ops.</p> <p>His most successful title is <i>Jelly Splash</i>, which reached a monthly player base of +30M.</p> <p>To find out more, check out his GDC talk on casual puzzle games, difficulty curves, and the importance of randomness here.</p>	<p>Consultant in Mobile Gaming</p> <p>LinkedIn Profile</p> <p>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.</p> <p>Before launching his own consultancy, Florian worked at Electronic Arts on flagship titles, such as <i>Need for Speed: No Limits</i>. He also spent time at King as a principal designer.</p> <p>At Mind Candy, he was the lead game designer on titles that include the mobile hit <i>World of Warriors</i>. This gained Apple’s Editor’s Choice Award and scaled the charts to the No. 1 game position in most major markets.</p>

PREMIUM PARTNERSHIPS

Liquid and 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	Kinrate Analytics	Sensor Tower
<p>Market Research</p> <p>Quadrant Strategies</p> <p>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.</p> <p>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.</p>	<p>Player Personas</p> <p>Kinrate Analytics</p> <p>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.</p> <p>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.</p> <p>The products of Kinrate Analytics have been developed in university-led research projects in collaboration with economists, psychologists, game scholars, and data scientists.</p>	<p>Mobile App Store Intelligence</p> <p>Sensor Tower</p> <p>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.</p> <p>Clients harness Sensor Tower’s suite of app intelligence tools to:</p> <ul style="list-style-type: none">▸ 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	Definitions
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	Definitions
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

“Birds born in a cage think flying is an illness.”

– Alejandro Jodorowsky

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