



## Puzzle Report

Competitive Research and Actionable Product Recommendations

# TABLE OF CONTENTS



**REVENUE DRIVERS** 3

- Task Challenge Events
  - Trouble in Paradise in *Fishdom*
- Multi-Stage Events
  - Rachel’s Quest in *Candy Crush Friends Saga*

**BREAKOUT APP** 12

- Merge Magic* by Gram Games

**LEVEL MECHANICS** 15

- New Level Designs I & II

**MARKET WATCH** 18

- Notable Releases I, II, & III

**APPENDIX** 22

- L&G Puzzle Personas
- Puzzle Product Council
- Premium Partnerships
- Puzzle Mechanics Taxonomy

# NOVEMBER

---

# 2019

# REVENUE DRIVERS



PUZZLE > EVENTS > CHALLENGES

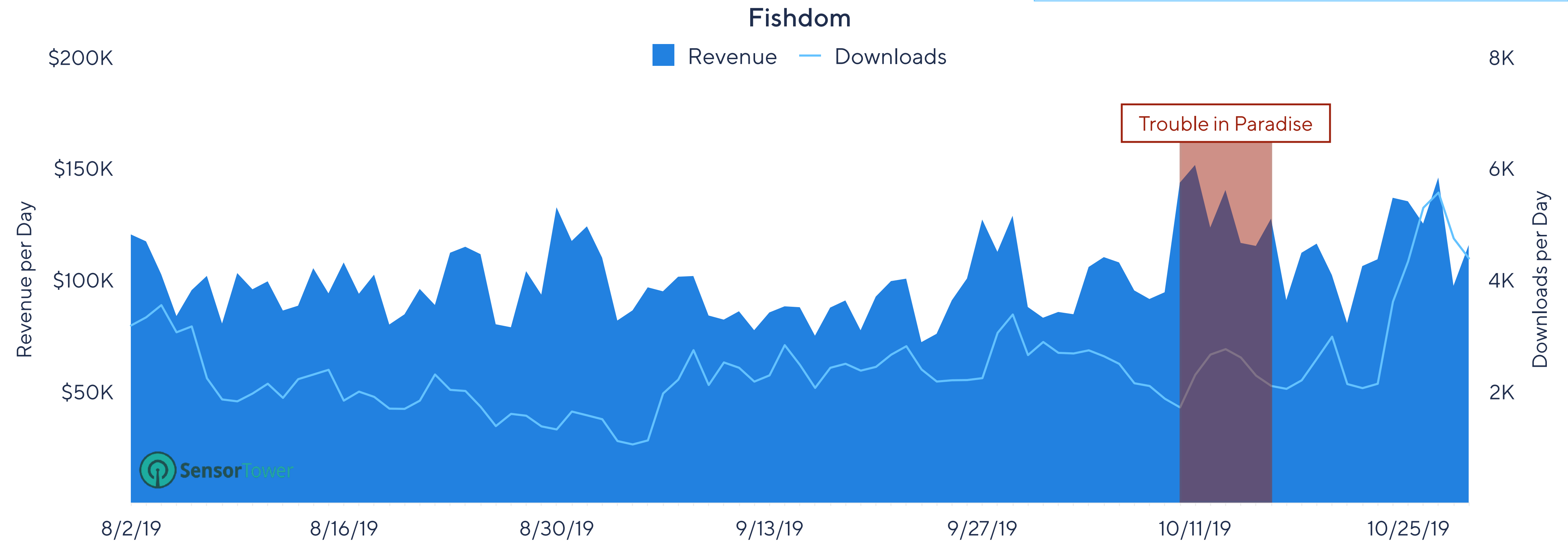
# TASK CHALLENGE EVENTS

Trouble in Paradise in *Fishdom*

# REVENUE ANALYSIS

Revenue was +33% WoW and +16% 2Wo2W after *Fishdom* launched Trouble in Paradise. Downloads were flat during this period.

Releases
10/10–10/13: <a href="#">Sea Song</a> challenge event
10/10–10/13: <a href="#">Pearl Rush Tournament</a> competition event
10/10–10/16: <a href="#">Trouble in Paradise</a> challenge event
10/11: <a href="#">Beta Testing Survey</a> notice feature
10/11–10/14: <a href="#">Team Chest</a> club event
10/11–10/16: <a href="#">Treasure Hunt</a> level event
10/14: Version update
10/15–10/16: <a href="#">Happy Times</a> accelerator event
10/16: <a href="#">Lucky Horseshoe</a> challenge event
<i>*No IAP rankings changed during this period.</i>



Graph data is iOS U.S. only.



# FEATURE TEARDOWN

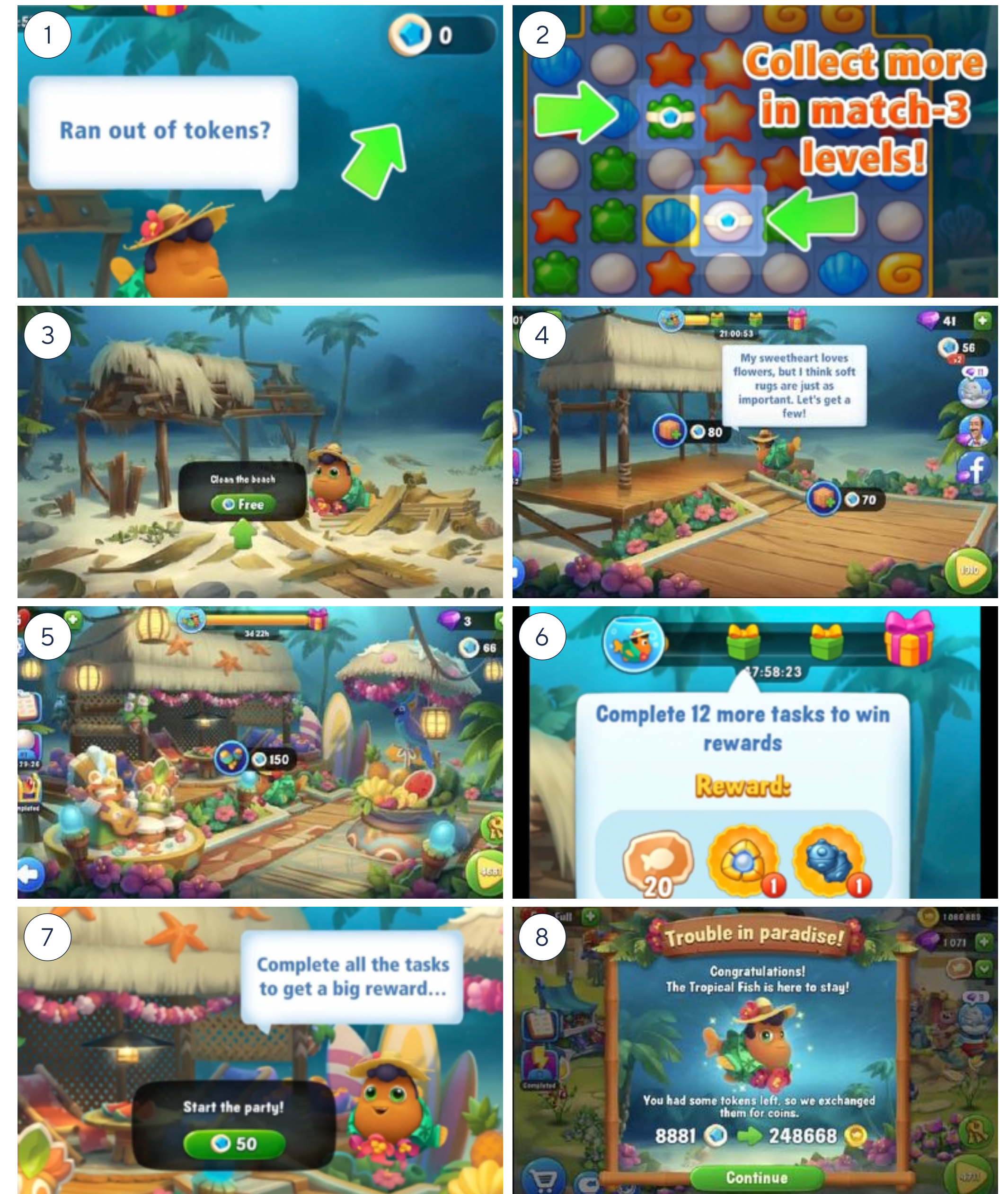
Players earn tokens to rebuild a cabana area.  
Completing the cabana awards in-game boosts and event-exclusive rewards.

## Details

- This six-day event takes place in a new beach cabana area.
- Players complete match-3 levels to earn tokens ([1](#) and [2](#)).
- The event's first task, cleaning up the cabana area, is free ([3](#)).
- After cleaning the cabana, players spend tokens to rebuild and decorate ([4](#) and [5](#)).
- Finishing tasks fills a meter that awards boosts and currency at three milestones ([6](#)).
- Completing all tasks within the time limit unlocks an in-game party and an event-exclusive fish ([7](#), [8](#), and [video](#)).
- Players do not keep the cabana area once the event ends.

## Additional Information

- See the [Trouble in Paradise](#) Library for more images and videos.





# PRODUCT INSIGHTS

Top-grossing apps have time and capital advantages that make challenging projects more profitable. Original IP is a prime example that generates long-term value for match-3 apps.

## Build long-term value

- **Invest in projects that are complex, take time, and/or require substantial capital.** To determine the ROI of these more expensive projects, build [expected value](#) models with longer time horizons for the revenue impact (i.e., model expected values for a year). In addition to the financial benefits, these types of projects are harder for competitors to replicate.
- **Original IP outperforms licensed IP in match-3 apps.** While about 30% of the top 100 mobile games in 2019 use a third-party IP, all of the 10 highest-grossing match-3 apps use original IP ([source](#)).
- **Hire outside talent to strengthen original IP.** *Best Fiends* works with [Reel FX Animation](#) to produce animated shorts about their in-game characters ([video](#)).
- **Consider building a stronger brand—a difficult, but valuable, undertaking.** As an extraordinary example, Apple's brand is worth an estimated \$206 billion ([source](#)). Review the [Controversial Ad Campaigns](#) Wiki to learn how to bolster a brand with ad campaigns.

## Use psychological motivators

- **Tap into players' desire to clean, fix, and rebuild.** Trainer Tracy and Challenger Chris score higher in 'Conscientiousness'. These dutiful, reliable, and organized players are more likely to want to clean up the cabana space in *Trouble in Paradise* (1). This type of "declutter" game design uses the [Zeigarnik Effect](#), where unfinished tasks create mental tension that is relieved when the task is complete (email us for more information on the [L&G Puzzle Personas](#)).

## Drive revenue and spending

- **Add boosts that speed up progress toward the end of events.** During the last two days of *Trouble in Paradise*, the [Happy Times](#) accelerator event doubled token rewards to help players complete tasks (2). Alternatively, offer an IAP that lets players pay to complete tasks (see *Homescapes*' [William's Birthday](#) event and the [Custom Design Expansion Events](#) Wiki).



PUZZLE > EVENTS > QUESTS & COLLECTIONS

# MULTI-STAGE EVENTS

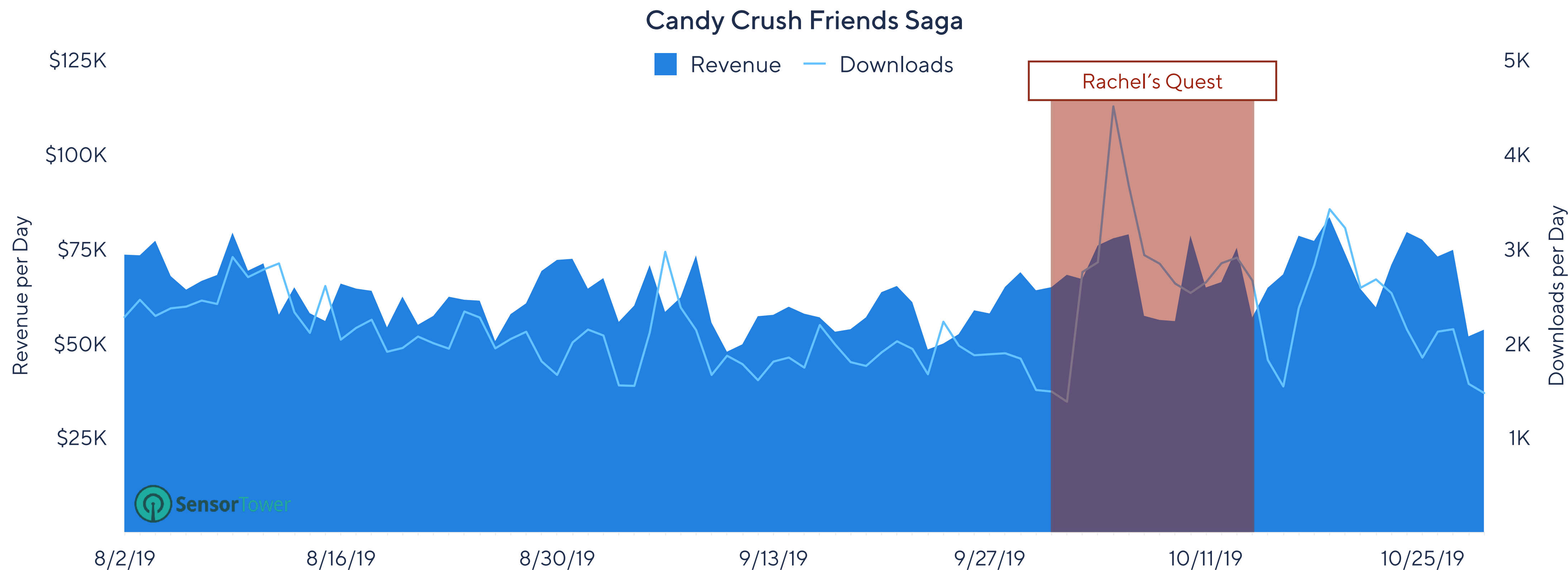
Rachel's Quest in *Candy Crush Friends Saga*



# REVENUE ANALYSIS

Following the launch of Rachel's Quest in *Candy Crush Friends Saga*, revenue was +24% WoW and +18% 2Wo2W. Downloads spiked +21% WoW and +36% 2Wo2W due to being featured in Apple's "Updated and Upgraded Games" category.

Releases
10/1: Version update
10/1: <a href="#">Rachel the Raccoon</a> accelerator feature
10/1-10/14 Rachel's Quest challenge event
• Part 1: <a href="#">Paris in Macaroon</a> quest event
• Part 2: <a href="#">Rachel's Star Chaser</a> collection event
*No IAP rankings changed during this period.



Graph data is iOS U.S. only.



# FEATURE TEARDOWN

Players collect stickers to unlock a new character in a two-part event. The first part takes place on a quest map, while the second occurs on the main map.

## Event Overview

- Players use a new character, Rachel the Raccoon, during the event.
- Rachel's special ability is activated by collecting 12 green candy level elements.
- The ability randomly replaces a candy on the board with a rainbow candy (1).
- When swiped with another candy, the rainbow candy paints four spaces the color of the swiped candy (2 and [video](#)).
- Players collect 500 Rachel stickers to permanently unlock Rachel the Raccoon (3).

## Part One: Paris in Macaroon

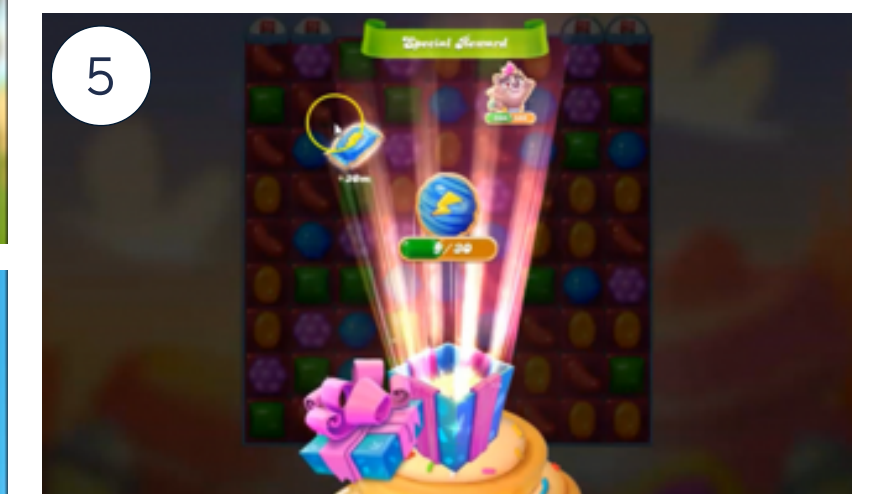
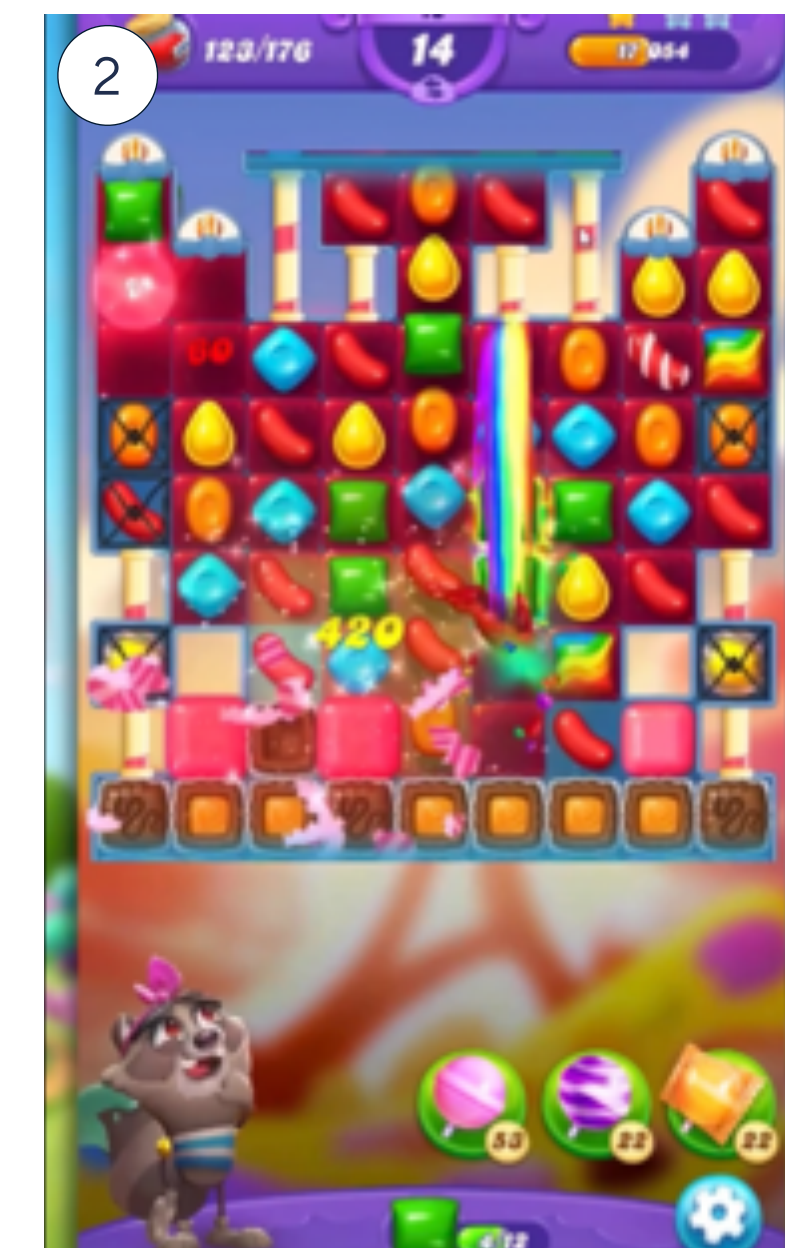
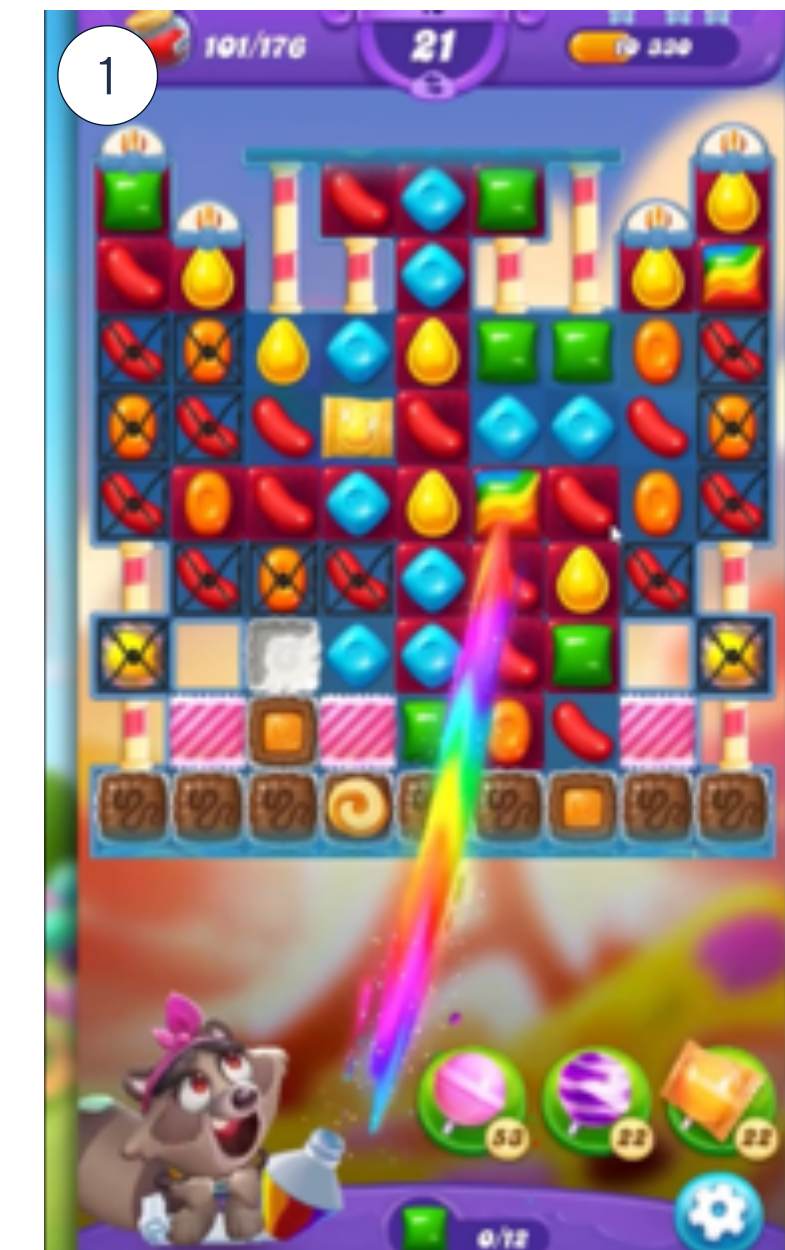
- Players complete 10 quest levels on an event-specific map (4).
- Completing all 10 levels unlocks part two and awards stickers, boosts, and collection items (5).

## Part Two: Rachel's Star Chaser

- Players complete levels on the main map to earn stars (6).
- Collecting 45 stars triggers a Divine Surprise, which includes stickers, boosts, and collection items (7).

## Additional Information

- See the [Paris in Macaroon](#) and [Rachel's Star Chaser](#) Libraries for more images and videos.





# PRODUCT INSIGHTS

Drive downloads with user acquisition videos that highlight new boosts ... and, by leveraging platform relationships. Then, design event-specific levels to display new boosts.

## Generate more downloads

- **Showcase new boosts in user acquisition videos, an effective marketing tool for *Candy Crush Friends Saga*.** In October, *Candy Crush Friends Saga*'s user acquisition videos showing boosts, including one of Rachel the Raccoon, received the most impressions ([video](#), downloaded from Sensor Tower).
- **Leverage platform partnerships, particularly during strong feature updates.** In October, *Candy Crush Friends Saga* received 21K iOS U.S. downloads from Apple's featured app categories. The biggest sources of featured downloads were the "Updated and Upgraded Game" category and the "Essential Game Picks" category. King excels at platform partnerships, as demonstrated by the successful [Apps for Red](#), [AR Battle](#), and [Snapchat](#) events.

## Increase event engagement

- **Release event levels designed to activate new boosts.** For example, the first event level in Rachel's Quest makes it easy for players to trigger Rachel the Raccoon's boost ([1](#)).
- **Use an event calendar for multi-stage and concurrent events.** During *Rise of Kingdoms*' four-phase [Qixi Festival Events](#), players can easily view all the current and upcoming events in a straightforward calendar ([2](#) and [Multi-Events Festival](#) Wiki). Qixi Festival increased revenue by 48% WoW during its one-week duration.

## Decrease roadmap risk

- **Re-invest in successful features within your app.** Across genres, mobile gaming companies are upping their re-investments in successful features—even more than in the past. Rachel's Quest in *Candy Crush Friends Saga* is a continuation of [The Big Bubblegum Debacle](#), which increased revenue by 26% 2Wo2W ([Free Event Levels](#) Wiki). *Fishdom*'s Trouble in Paradise includes task-based gameplay similar to that found in [Aquatasks](#), a feature that boosted revenue by 16% 2Wo2W in *Fishdom* ([3](#) and [Task Lists](#) Wiki).





# BREAKOUT APP



PUZZLE > GAMES

# ***MERGE MAGIC*** BY GRAM GAMES

- **Soft Launch:** 7/30/19
- **Worldwide Release:** 9/17/19

# APP TEARDOWN

*Merge Magic* combines merge-3 gameplay with Sims-like hardcore leveling mechanics and a dual progression system. The app is averaging \$18K in revenue, and 10K downloads per day.

## Play Areas

- In the **main map**, chests are awarded for completing the same level three times ([Level Rewards](#)).
  - Players must spend compasses to play levels and can choose up to four rewards upon completion ([1](#)).
- In the **garden** expansion feature, players receive level rewards, create creatures, and merge items and creatures ([Garden](#)).
  - Collecting creatures unlocks cursed land ([video](#)).
  - Creatures must sleep for a period determined by the level of the tree houses in the garden.

## Moving & Matching

- Merging three or more items creates upgraded items ([2](#) and [Moving & Matching](#)).

## Mythical Creatures

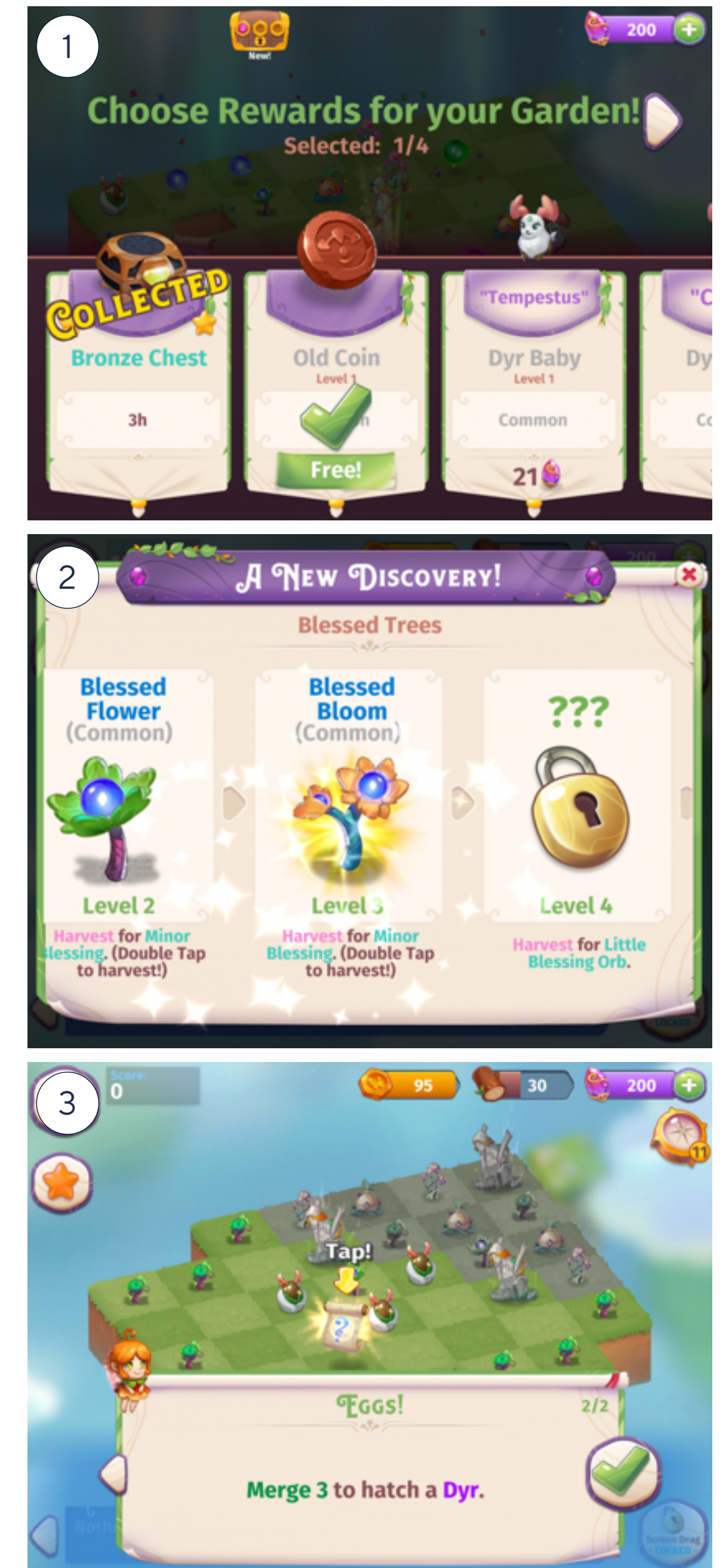
- Players collect eggs by beating levels, completing quests, making purchases, or unlocking cursed land.
- Merging three eggs creates a creature that collects items for the player ([3](#) and [Mythical Creatures](#)).

## Bonus Features

- A [Daily Treasure Chest](#) bonus can be collected in the garden.
- [Chests](#) collected as level rewards in the main map are sent to the chest room in the garden and can be unlocked after a timer or by spending currency.

## Challenge Features

- [Luna's Daily Trade](#) offers players daily collection challenges.
- Quests in the main map and garden reward players with fallen stars.
- Fallen stars can be tapped for items or merged for improved rewards.





# LEVEL MECHANICS



# NEW LEVEL DESIGNS I

## Red's TNT Delivery — *Angry Birds 2*

- This new spell increases the power of Red's explosion (1 and [video](#)).

## Dracoleon — *Best Fiends*

- This alternate version of Lapolean adds a +50 attack boost (2).
- Players unlock Dracoleon by completing the [Halloween Tales](#) event.

## Wicked Jojo — *Best Fiends*

- This alternate version of Jojo adds a +50 attack boost.
- Wicked Jojo is awarded for completing the [Spooky Sale Race](#) event.

## Rachel the Raccoon — *Candy Crush Friends Saga*

- Players collect 12 green candy game elements to trigger Rachel's special ability.
- When triggered, Rachel randomly replaces a candy on the board with a rainbow candy.
- Swiping the rainbow candy with another candy paints four spaces the color of the swiped candy (3 and [video](#)).

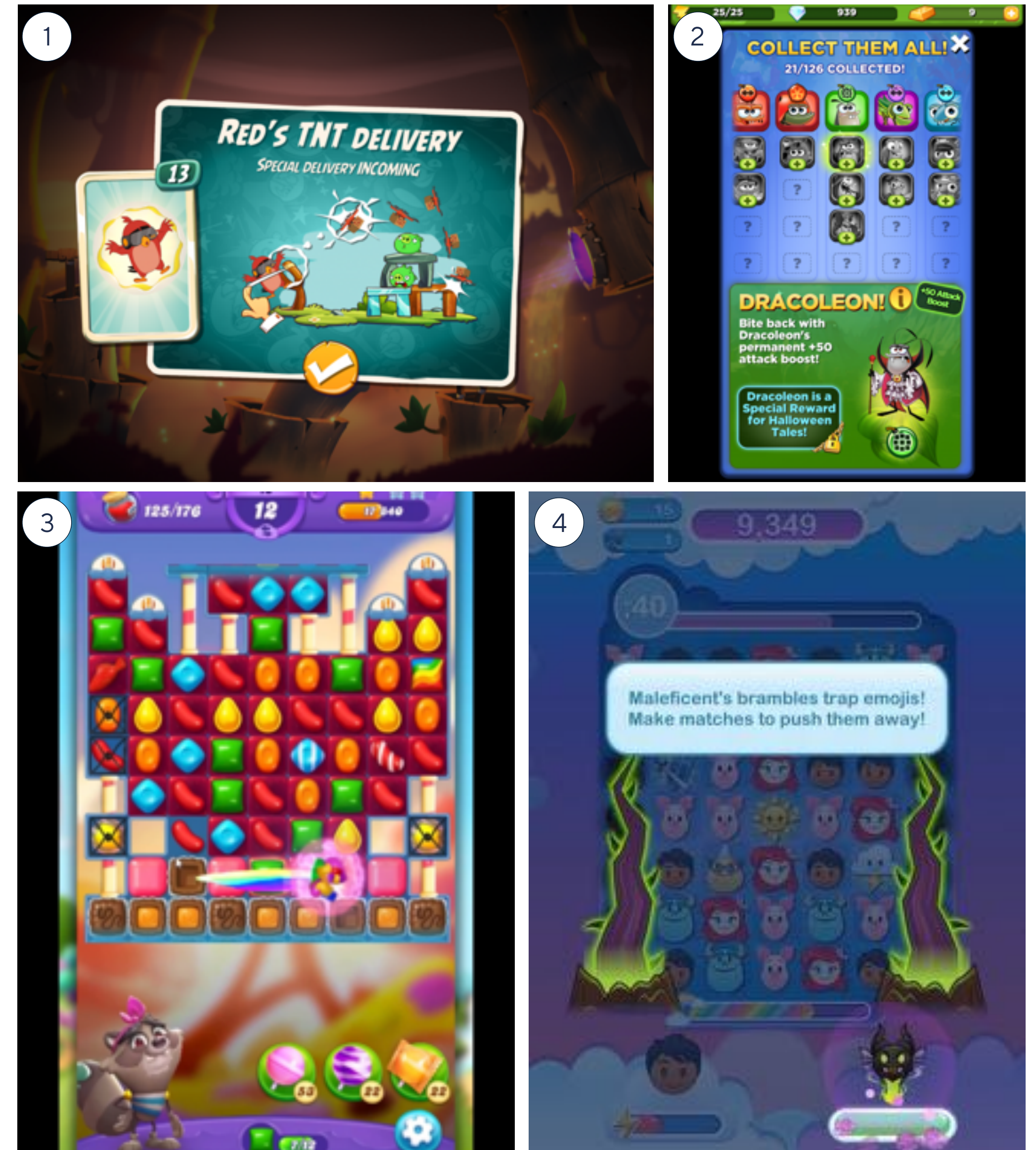
## Rainbow Twist — *Candy Crush Saga*\*

- This new blocker element has up to five layers.
- Players remove layers by making adjacent matches or activating power-ups.
- Rainbow Twists are connected to other Rainbow Twists.
- Destroying one Rainbow Twist destroys all the Twists that are connected to it ([YouTube](#)).

## Maleficent's Brambles — *Disney Emoji Blitz*

- Maleficent has a meter that fills over time.
- Players slow the meter by moving sword symbols to the bottom of the board.
- When the meter is full, Maleficent traps two columns of emojis in brambles (4).
- Players must make adjacent matches to push back the brambles.
- This feature was added during the [Multi-Map Villain Event](#).

\*As of 11/1/19, released only on Windows 10





# NEW LEVEL DESIGNS II

## Oogie Boogie — *Disney Emoji Blitz*

- Oogie has a meter that fills over time.
- Players slow the meter by moving thread symbols to the bottom of the board.
- When the meter is full, Oogie rolls dice and randomly drops that number of bugs on the board.
- Players must tap bugs to clear the board.
- Oogie was released with the [Happy Halloween](#) event.

## Maps — *Fishdom*

- Players make matches or activate power-ups on adjacent tiles to roll up maps (1).
- Each match rolls maps up one tile ([video](#)).
- Rolling maps all the way up causes them to disappear.

## Ship Wheel — *Fishdom*

- Players make matches or activate power-ups next to the colored parts of a ship wheel to remove the wheel's ropes (2).
- Removing all ropes causes the wheel to disappear.

## Weeds — *Gardenscapes*

- Weeds have vines that grow each turn to block additional tiles (3).
- Weeds cannot be destroyed.
- Players make matches or activate power-ups next to vines to remove all of that weed's vines from the board.

## Robot — *Toy Blast*

- Robots block entire rows of the board with metal pipes.
- Hitting metal pipes with rotors or TNT box power-ups causes robots to eat part of the pipes (4 and [video](#)).
- Robots disappear once pipes have been destroyed.



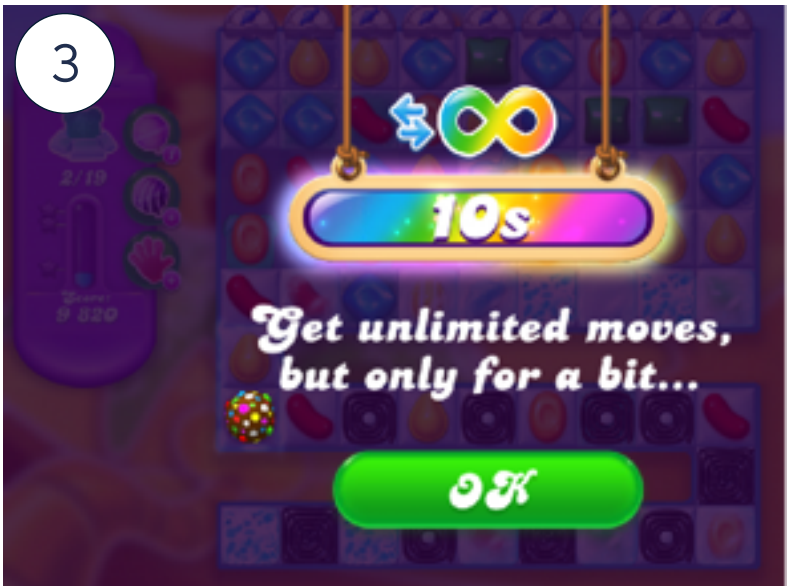


# MARKET WATCH



# NOTABLE RELEASES I

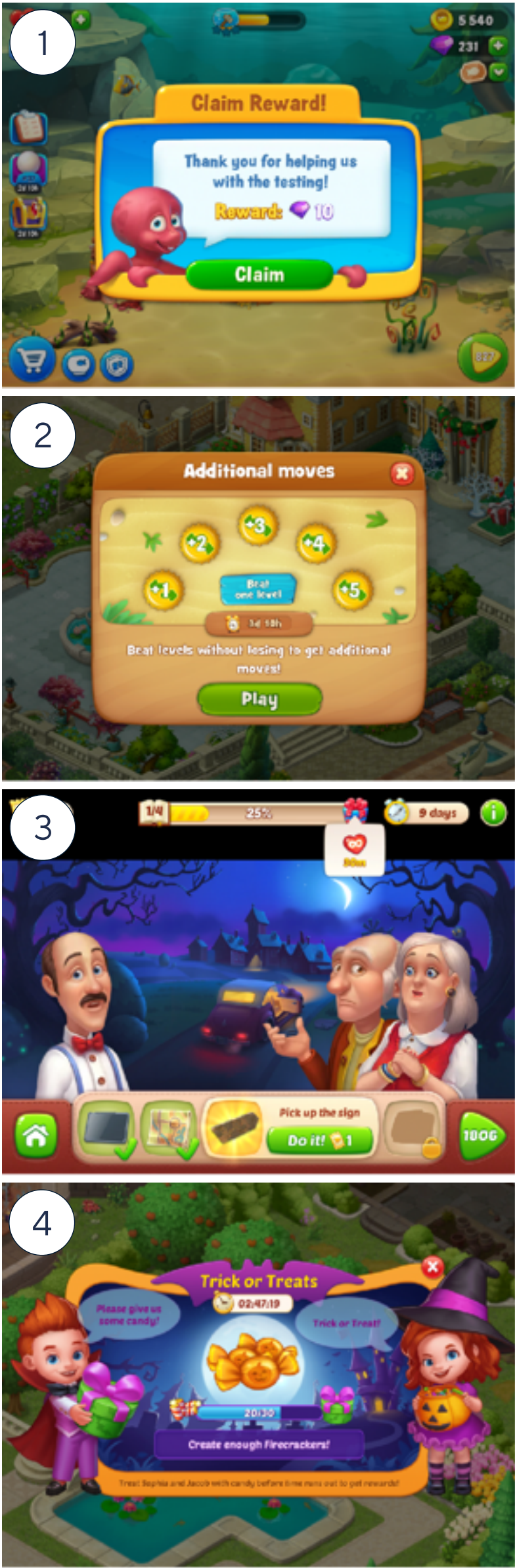
App	Library	Description
<b>Angry Birds 2</b>	<a href="#">Rowdy Rumble</a> competition event	<ul style="list-style-type: none"><li>• Players duel to get the highest score in this 16-player, single-elimination tournament (1).</li><li>• Winning a duel advances players to the next round.</li><li>• Players earn feathers for each round won.</li></ul>
<b>Bubble Witch 3 Saga</b>	<a href="#">Conjure Games Leagues</a> competition event	<ul style="list-style-type: none"><li>• Players compete to collect amulets.</li><li>• Different numbers of amulets are awarded for passing a level, completing a hard or super hard level, finishing a chapter, or getting three stars on a level.</li><li>• The top five players advance to the next league for improved rewards (2).</li></ul>
<b>Candy Crush Soda Saga</b>	<a href="#">Move Rush</a> accelerator feature	<ul style="list-style-type: none"><li>• The game randomly awards unlimited moves for 10 seconds (3 and video).</li><li>• Players are warned before the power-up activates.</li></ul>
	<a href="#">Batula</a> levels event	<ul style="list-style-type: none"><li>• Levels on the main map are randomly assigned key icons with timers (4).</li><li>• Collecting a key unlocks a reward chest of boosts (video).</li><li>• If a key's timer runs out, Batula takes the key away.</li></ul>





# NOTABLE RELEASES II

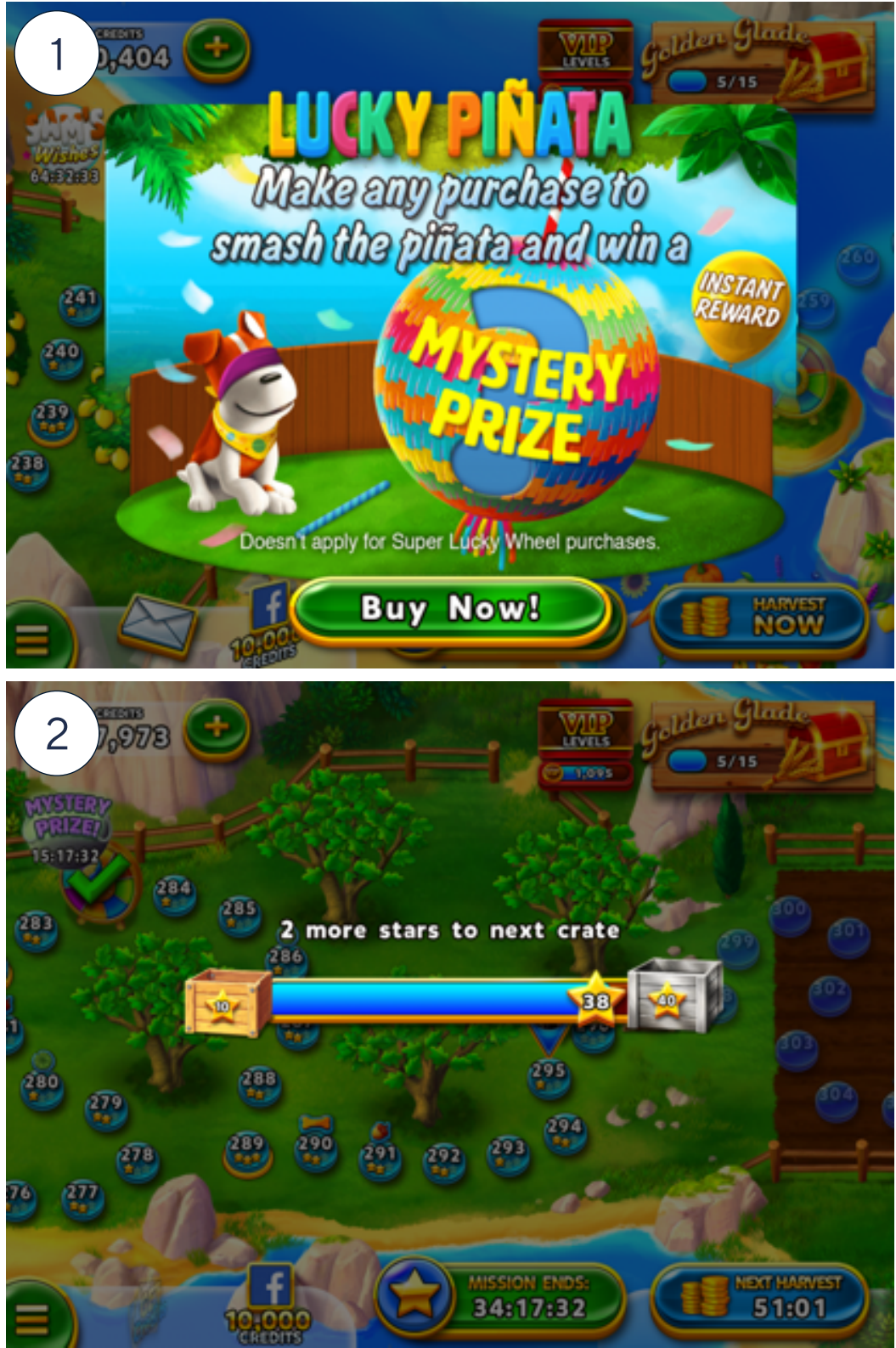
App	Library	Description
<i>Fishdom</i>	<a href="#">Beta Test Update</a> notice feature	<ul style="list-style-type: none"><li>• Players can beta test new content prior to release.</li><li>• After testing the content, players are given a survey about the content.</li><li>• Players who complete the survey receive a small reward (1).</li></ul>
<i>Gardenscapes</i>	<a href="#">Additional Moves</a> challenge event	<ul style="list-style-type: none"><li>• Players are granted up to five additional moves for maintaining win streaks (2).</li><li>• Additional moves last until the event expires or players lose a level.</li></ul>
<i>Homescapes</i>	<a href="#">Spooky Story</a> collection event	<ul style="list-style-type: none"><li>• Players beat levels to earn tickets.</li><li>• Tickets are used to progress through a spooky story and fill a story meter (3).</li><li>• Filling the meter unlocks a reward and advances players to the next section of the story.</li></ul>
<i>Matchington Mansion</i>	<a href="#">Trick or Treats</a> challenge event	<ul style="list-style-type: none"><li>• Timed mini-challenges randomly appear (4).</li><li>• Players have three hours to complete each challenge and earn a timed booster.</li></ul>





# NOTABLE RELEASES III

App	Library	Description
Solitaire Grand Harvest	<a href="#">Sam's Birthday</a> mission event	<ul style="list-style-type: none"><li>• Players complete missions to decorate a birthday cake.</li><li>• An event-exclusive sale allows players to smash a piñata for a mystery prize after making a purchase (1).</li></ul>
	<a href="#">Crop Master</a> collection event	<ul style="list-style-type: none"><li>• Players beat levels to progress toward a prize crate before the event expires.</li><li>• Collecting stars from completed levels upgrades crates and grants more prize picks (2).</li></ul>
Breakout App		
Funko Pop! Blitz by Universal Games	<a href="#">Funko Pop! Blitz</a> puzzle game	<ul style="list-style-type: none"><li>• The game uses IP from NBC Universal, including <i>Back to the Future</i>, <i>Jurassic World</i>, <i>Shrek</i>, <i>How to Train Your Dragon</i>, Universal Monsters, General Mills, Fantastik Plastik, and more (iTunes).</li><li>• This soft-launch, match-3 game is currently available in Great Britain, Canada, Philippines, Austria, Mexico, and Singapore.</li></ul>



## Quickly review all features and events

- Filter the [Library Tool](#) by month and year to see all the 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 Expert Insights and Level Analysis, 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. <a href="#">LinkedIn Profile</a></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 predominately in the Level Mechanics section.</p>	<p>Mobile F2P Consultant <a href="#">LinkedIn Profile</a></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—from research, concept, prototyping, pitching, pre-production, production, and live-ops.</p> <p>His most successful title is Jelly Splash, 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 <a href="#">here</a>.</p>	<p>Consultant in Mobile Gaming <a href="#">LinkedIn Profile</a></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 Consultancy.</p> <p>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 <i>Principal Designer</i>.</p> <p>At Mind Candy, he was the <i>Lead Game Designer</i> on titles that include the mobile hit, World of Warriors. This gained an 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><a href="#">Quadrant Strategies website</a></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><a href="#">Kinrate Analytics website</a></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 of economists, psychologists, game scholars, and data scientists.</p>	<p>Mobile App Store Intelligence</p> <p><a href="#">Sensor Tower website</a></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"><li>▸ Evaluate app economies and app vitality</li><li>▸ Drive organic growth with the leading App Store Optimization platform</li><li>▸ Get the best global download and revenue estimates for the App Store and Google Play</li><li>▸ Discover top creatives and better shape user acquisition strategy</li></ul>





# PUZZLE MECHANICS TAXONOMY

Family	Definitions
<a href="#">Accelerators</a>	Increases the power, impact, or efficiency of play
<a href="#">Banks</a>	Saves a % of spend that can be unlocked later
<a href="#">Bonuses</a>	Free bonuses given to players (e.g., retention or W2E)
<a href="#">Challenges</a>	Players must play, complete, and win
<a href="#">Clubs</a>	A group accomplishing goals or competing with other groups
<a href="#">Collections</a>	A set of items players collect (often for a completion prize)
<a href="#">Competitions</a>	Players competing against other players
<a href="#">Cosmetics</a>	Improvements or updates to the app or a feature
<a href="#">Currencies</a>	Changes to currencies, economies, stores, and items
<a href="#">Custom Design</a>	Options to customize the look
<a href="#">Expansions</a>	Additional rooms, worlds, play modes, VIP lounges, etc.
<a href="#">Flows</a>	Specific flows, like the NUX, ratings, and surveys

Family	Definitions
<a href="#">Hazards</a>	Level elements/blockers that increase difficulty
<a href="#">Interactions</a>	Any social feature with direct or indirect interaction
<a href="#">Leaderboards</a>	Stand-alone leaderboards
<a href="#">Levels</a>	Anything to do with leveling
<a href="#">Mini-Games</a>	Smaller, shorter games within a game (e.g., scratcher cards)
<a href="#">Missions</a>	A linear set of tasks that players must accomplish
<a href="#">Notices</a>	Feature or product announcements
<a href="#">Other</a>	Miscellaneous features and outliers
<a href="#">Profiles</a>	Related to a player's setup, profile, settings, and controls
<a href="#">Purchases</a>	Anything to do with purchases
<a href="#">Quests</a>	Completing tasks to progress along a map or map-like feature
<a href="#">Rewards</a>	Any reward players receive for engagement or spend (other than the bonuses family)

*“All our dreams can come true, if we have the courage to pursue them.”*

*– Walt Disney*

[LiquidandGrit.com](https://LiquidandGrit.com)



[Brett.Nowak@LiquidandGrit.com](mailto:Brett.Nowak@LiquidandGrit.com)

