LIQUID&GRIT

PUZZLE REPORT

Competitive Research and Actionable Product Recommendations

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JUNE

2020

REVENUE DRIVER

A breakdown of important features and events that boosted revenue, plus relevant product data, research, and recommendations.
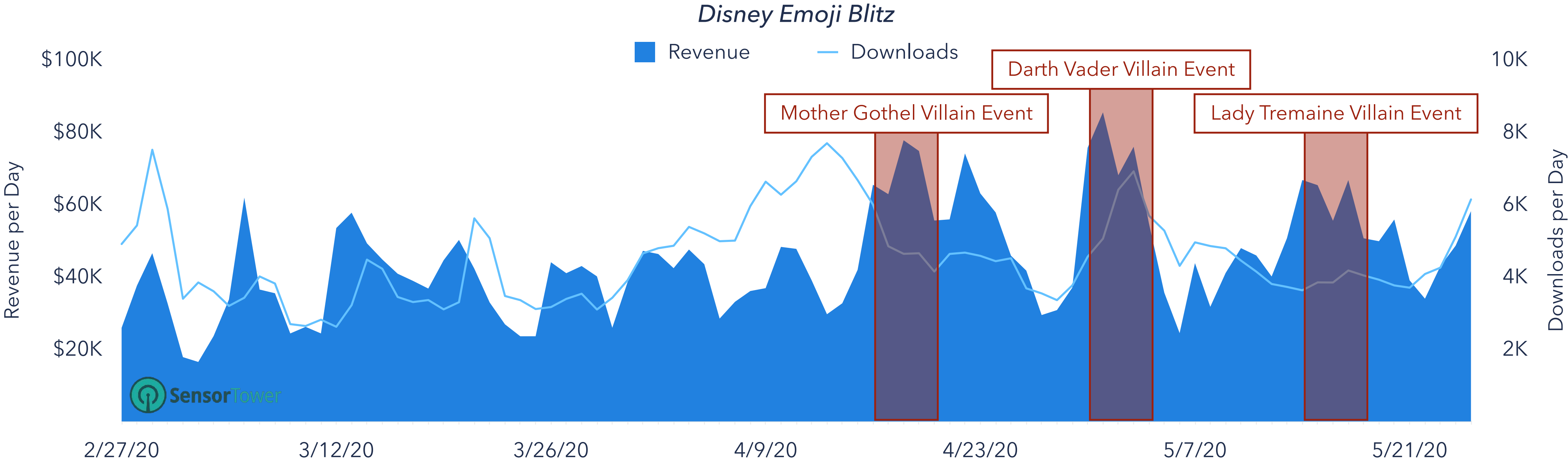
Collection Event with Exclusive Heroes

Darth Vader Villain Event & Diamond Box in *Disney Emoji Blitz*

REVENUE ANALYSIS

After the release of the Darth Vader Villain Event and Diamond Box, *Disney Emoji Blitz*'s revenue was +51% and downloads were +38% 5Do5D. During the three most recent Villain Event and Diamond Box releases, revenue averaged +54% 5Do5D.

Releases

4/14–4/20: Diamond Box purchase event (reskin)
4/16–4/20: Mother Gothel Villain Event collection event (reskin)
4/30–5/4: Darth Vader Villain Event collection event (reskin)
4/30–5/4: Diamond Box purchase event (reskin)
5/1:
- $4.99 Gem Pack 2 IAP moved +1 to #1
- $1.99 Limited Offer 2 moved +1 to #7
5/1–5/31: May Giveaway reward event
5/1–5/31: Resistance Rendezvous collection event
5/3: $49.99 Gem Pack 5 moved +1 to #7
5/3: Limited Time Offer purchase event
5/11–5/18: Diamond Box purchase event (reskin)
5/14–5/18: Lady Tremaine Villain Event collection event (reskin)

Disney Emoji Blitz

■ Revenue — Downloads

Darth Vader Villain Event

Mother Gothel Villain Event

Lady Tremaine Villain Event

Revenue per Day: $100K, $80K, $60K, $40K, $20K

Downloads per Day: 10K, 8K, 6K, 4K, 2K

2/27/20　3/12/20　3/26/20　4/9/20　4/23/20　5/7/20　5/21/20

SensorTower

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

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VILLAIN EVENT REVENUE

Disney Emoji Blitz's three most recent Villain Events averaged almost seven times the average revenue increase of the three preceding Villain Events (+54% vs. +8%).

Disney Emoji Blitz Villain Events

SensorTower
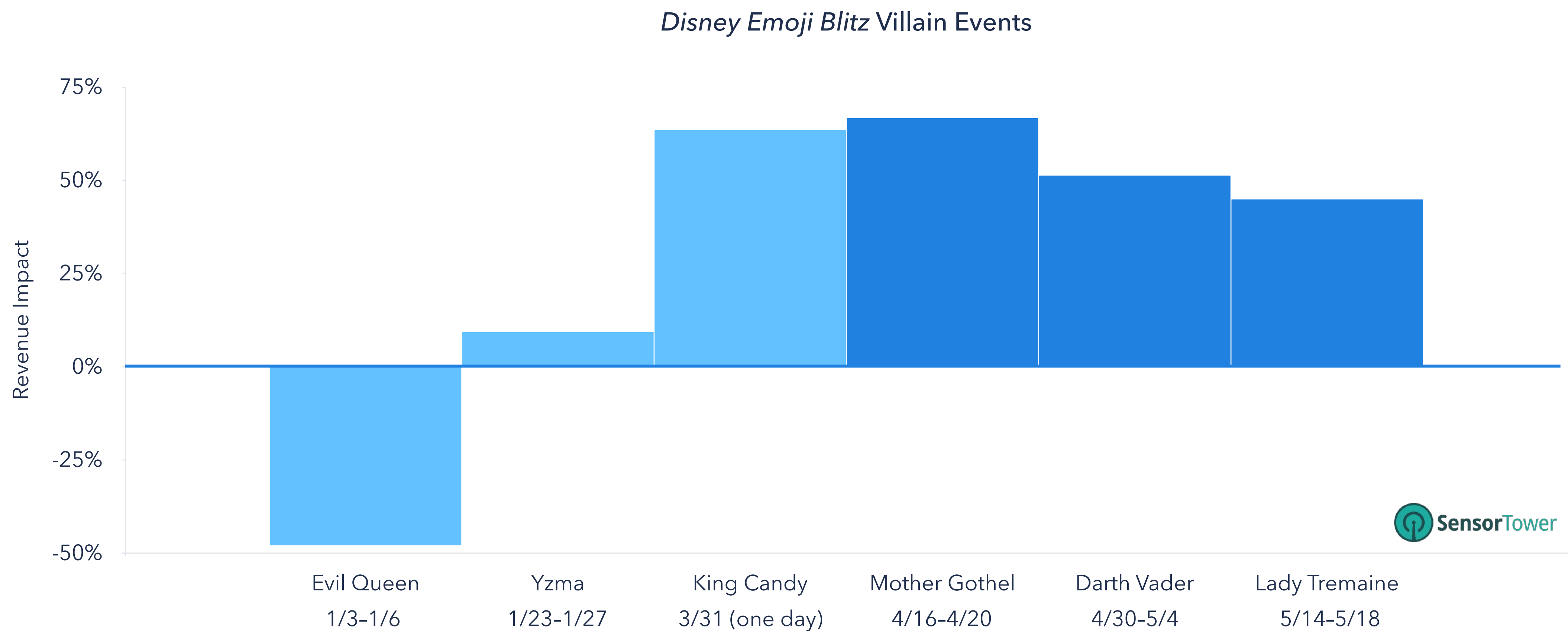
DIAMOND BOX REVENUE

Since January, Diamond Boxes with Villain Events have significantly outperformed those without Villain Events, with an average revenue increase of +15% compared to an average revenue *decrease* of -10%.

Disney Emoji Blitz Diamond Box Events

■ Diamond Boxes with Villain Events
■ Diamond Boxes without Villain Events

SensorTower
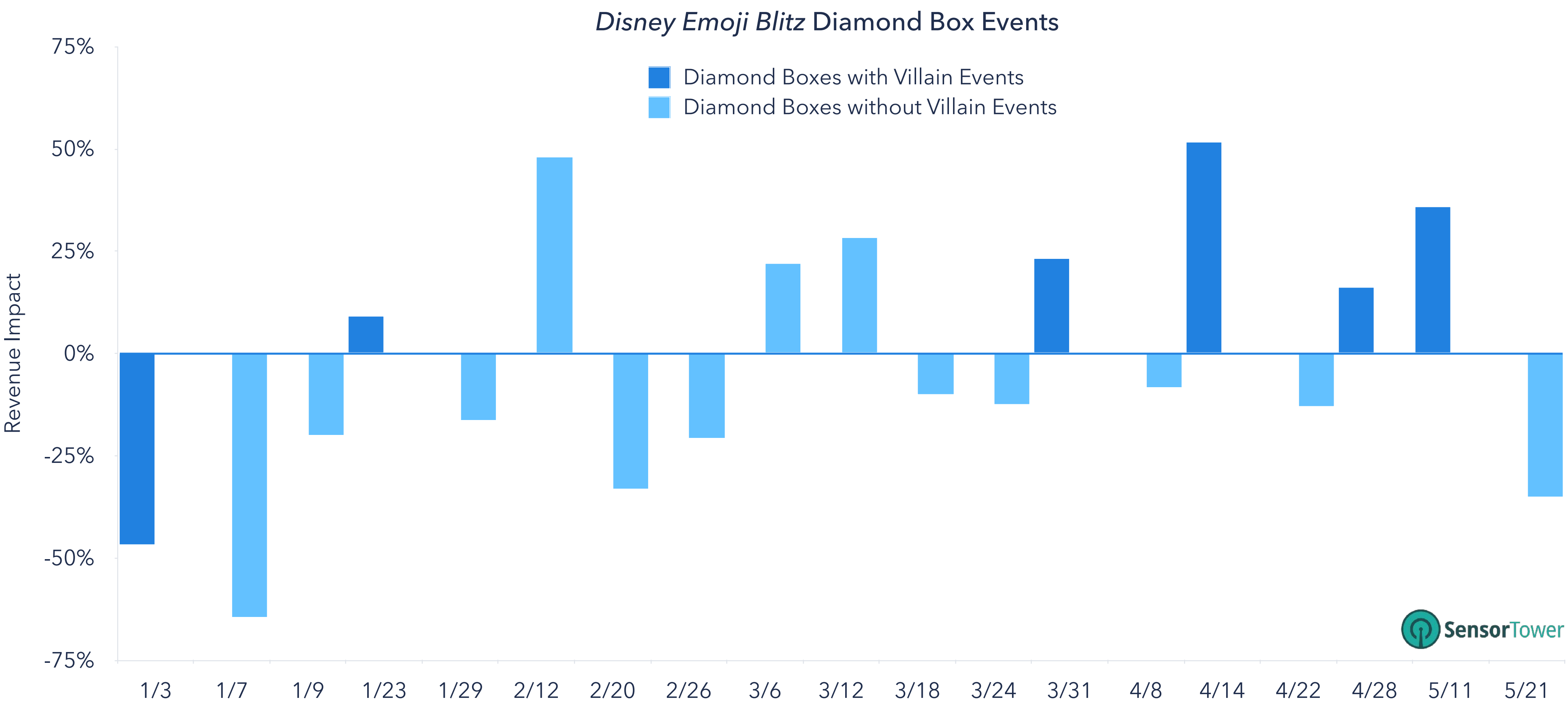
FEATURE TEARDOWN

Players collect lightsabers from levels to defeat Darth Vader and advance through a series of prize maps. Purchasable event emojis double collected lightsabers.

Details

- Tapping a Darth Vader icon activates Villain Event mode (1 and video).
- Players make matches to move lightsabers to the bottom of the board (2).
  - Lightsabers are collected upon reaching the bottom (3).
  - During rounds, Darth Vader's meter charges over time.
  - Lightsabers slow down Darth Vader's meter.
  - When full, Darth Vader holds a section of emojis in place (4).
  - Lightsaber, sun, and cloud symbols deactivate Darth Vader's power.
- Collected lightsabers fill a meter after each round.
  - Filling the meter defeats Darth Vader and advances players on a prize map (5).
  - Completing a prize map unlocks the next map (6).
  - Subsequent maps require higher level emojis.
  - High-level maps award the Darth Vader emoji.
- Five event emojis are only available through purchasable Diamond Boxes.
  - Diamond Boxes display each emoji's drop rate (7).
  - Diamond Box emojis have unique abilities (8).
  - Each level designates certain event emojis as lucky.
  - Lucky emojis collect double lightsabers and double lightsaber damage.
  - Duplicate emojis increase emojis' levels.

Additional Information

- See the Darth Vader Villain Event and Diamond Box Libraries for more images and videos.
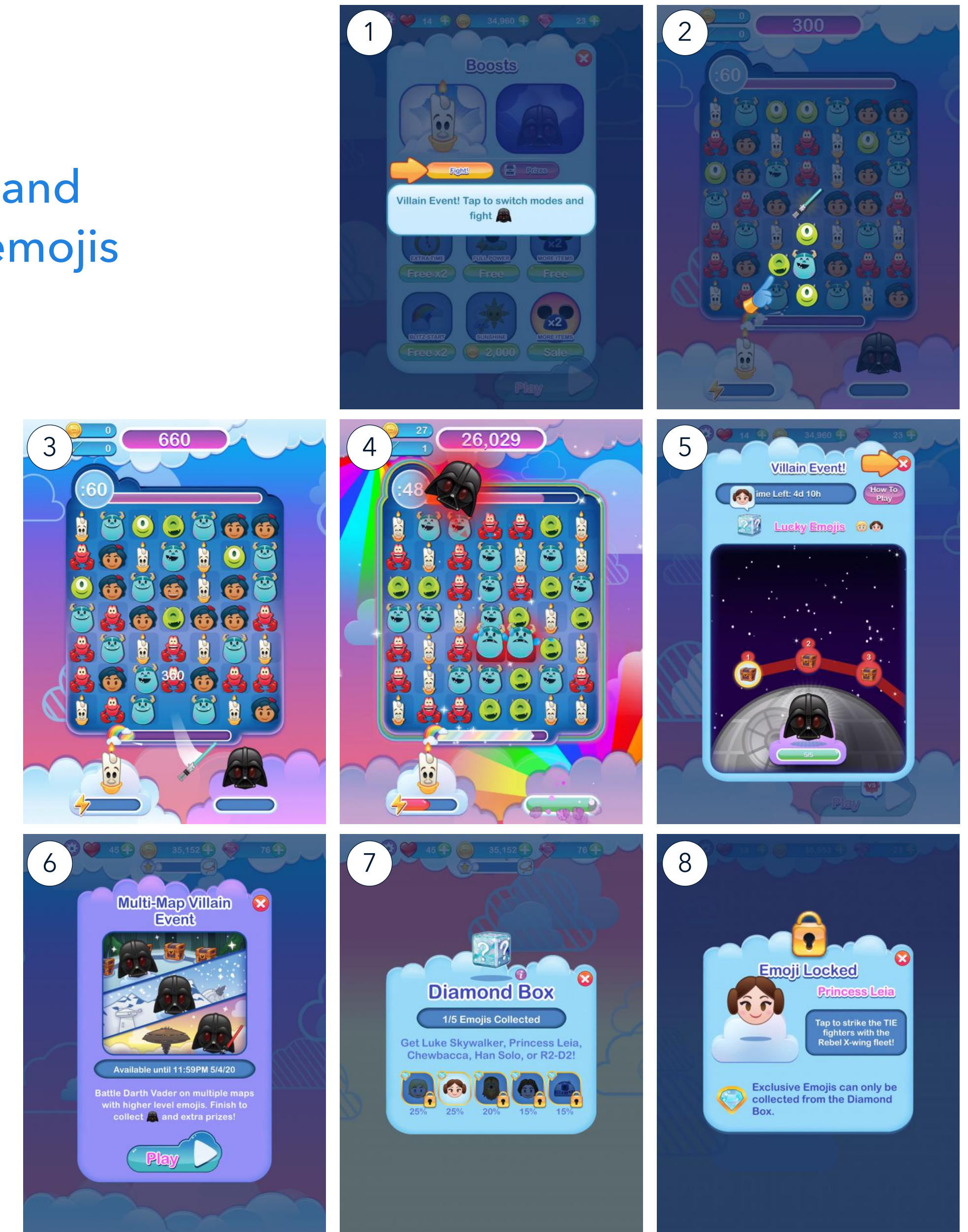
PRODUCT INSIGHTS

Drive revenue using purchasable event collectibles with special abilities. Turn events into standout experiences with temporary redesigns of home screens, menus, and other core app aesthetics.

Insights

- **Challenge-oriented players also like compelling aesthetics.** *Disney Emoji Blitz*'s Villain Events appeal most Challenger Chris player types. These players are highly motivated to complete challenges and have the greatest preference for missions and quests with interesting themes or art.[1]

  Moreover, although Diamond Box emojis must be purchased, the event's villain emoji (Darth Vader) *can only be won*. This presents a clear goal for Challenger Chris to pursue and an exciting objective for paying and non-paying players alike.

- **Event-specific gameplay mechanics add extra meaning to purchasable collections.** In addition to representing favorite characters, rare Diamond Box emojis have special abilities and double the impact of Villain Event items—a potent combination of aesthetic pleasure and gameplay utility for Challenger Chris player types ([1]).

- **Memorable, app-wide redesigns for special events can increase user loyalty and spending—especially if the experience is sharable.** Experiential marketing is a massive trend in which brands temporarily reimagine their spaces, products, or presentations.[2] A 2018 study found that experience-driven brands saw 1.6x word-of-mouth customer acquisition, 1.4x customer retention, 1.8x repeat purchase rate growth YoY, and 1.5x revenue growth YoY compared to other brands.[3]

  Villain Events use themed home screens, level maps, and emojis to create experiences that stand out from normal gameplay ([2]). Other assets, like temporary player portraits and social gifts, could take these experiences even further.

  For a sharable impact, consider themed AR filters, like Gatorade's Super Bowl Snapchat promotion that got over 165 million impressions.[4] As covered in our May 2020 RPG Report, *The Seven Deadly Sins*—which became the seventh highest-grossing RPG app *just one month after launching*—allowed players to take AR pictures with their heroes.

[1] [Liquid & Grit Puzzle Personas Report](#), p. 6–8

[2] [9 Case Studies That Prove Experiential Retail Is The Future](#)

[3] [The Business Impact Of Investing In Experience: A Spotlight On Retail](#)

[4] [Gatorade Snapchat Dunk](#)
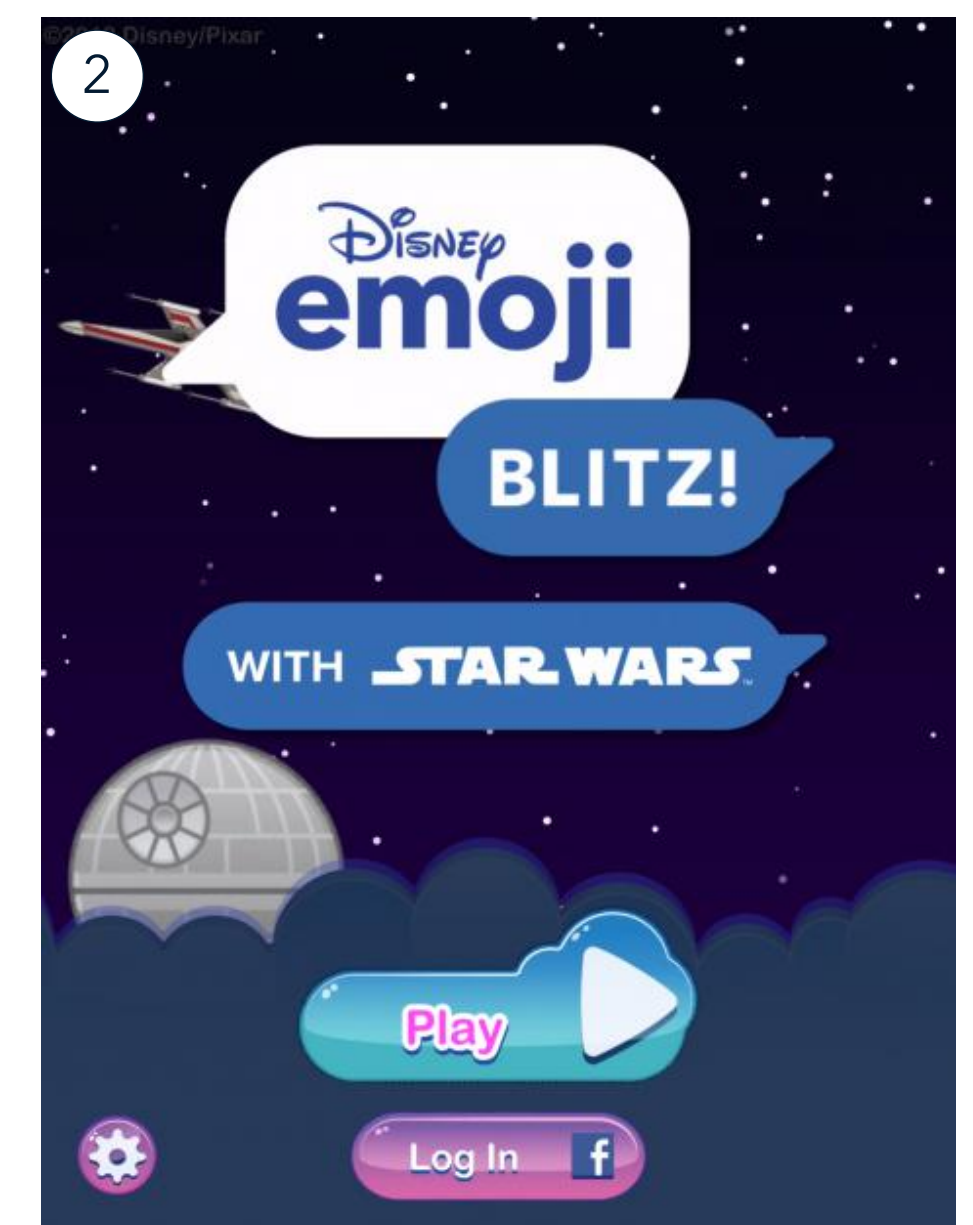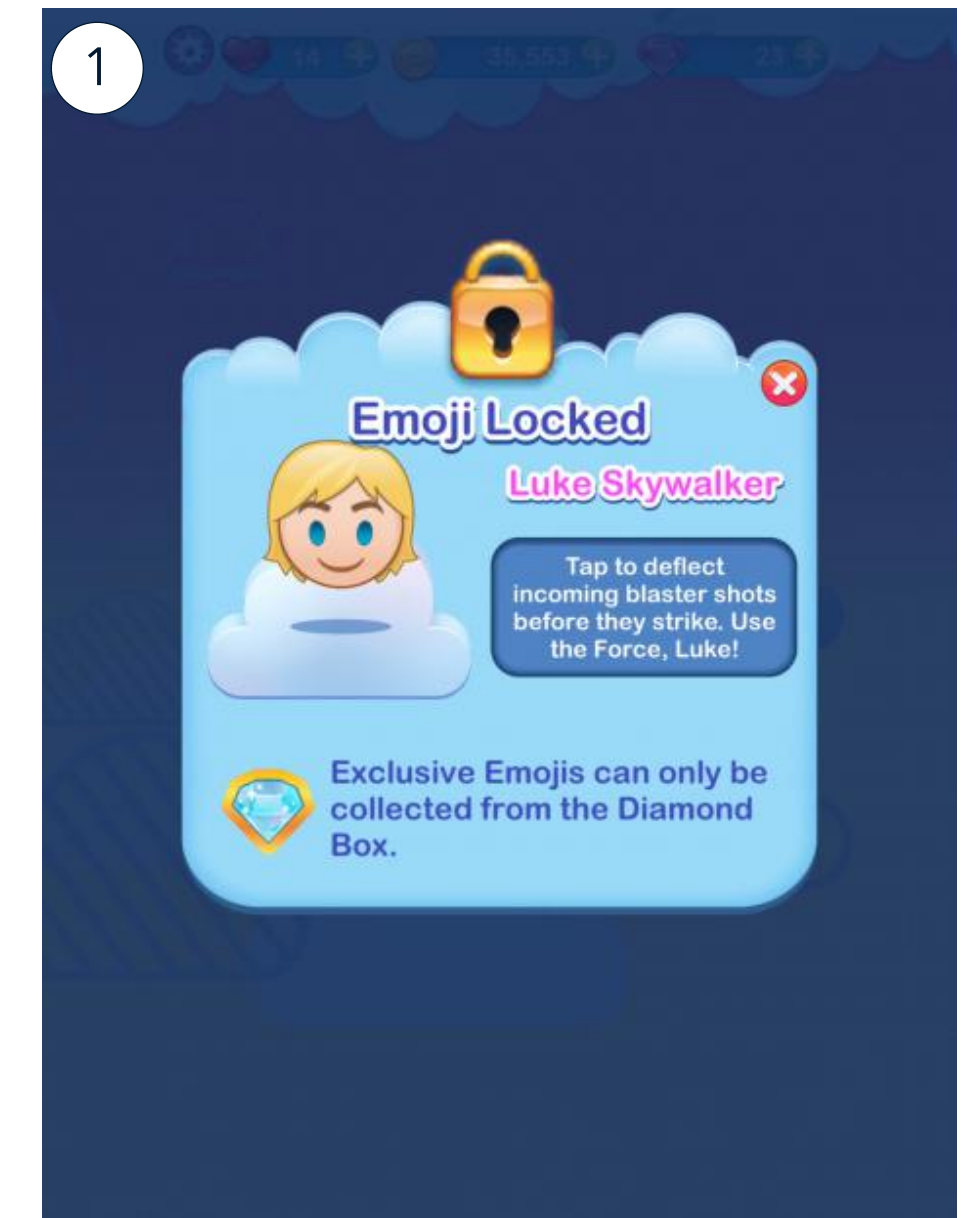
TRENDS

Analysis of the latest feature, event, and revenue developments in top-grossing apps.

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*

COLLECTION FEATURE AND EVENT INVESTMENTS

So far this year, *Disney Emoji Blitz* leads tracked apps in collection event and feature investments. Events make up 70% of all collection releases; only three apps invest in collection features.

Collection Investments (Jan–May 2020)

Number of Releases

Legend:
- Events (blue)
- Features (orange)
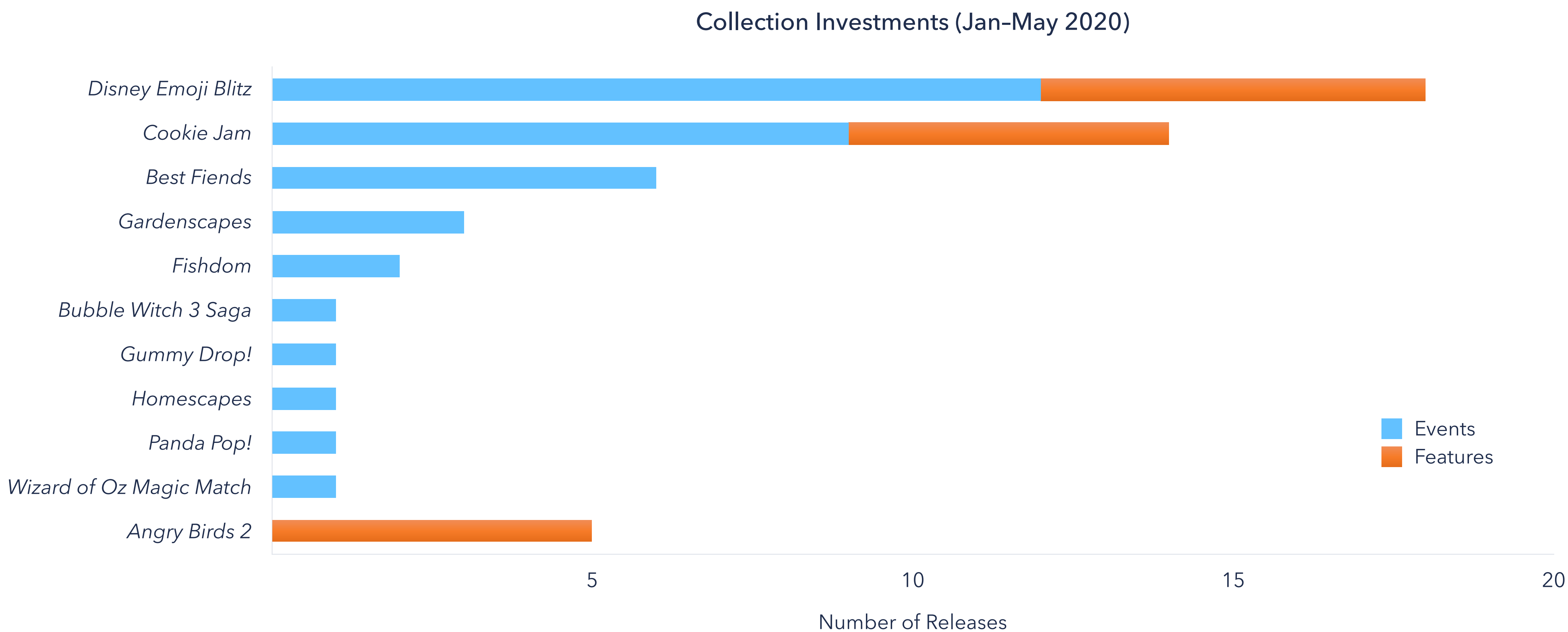
DISNEY EMOJI BLITZ EVENT INVESTMENT

Disney Emoji Blitz has more than doubled its average number of active events per day in the last year–from 2.4 in May 2019 to 5.1 in April 2020.

Disney Emoji Blitz Events per Day
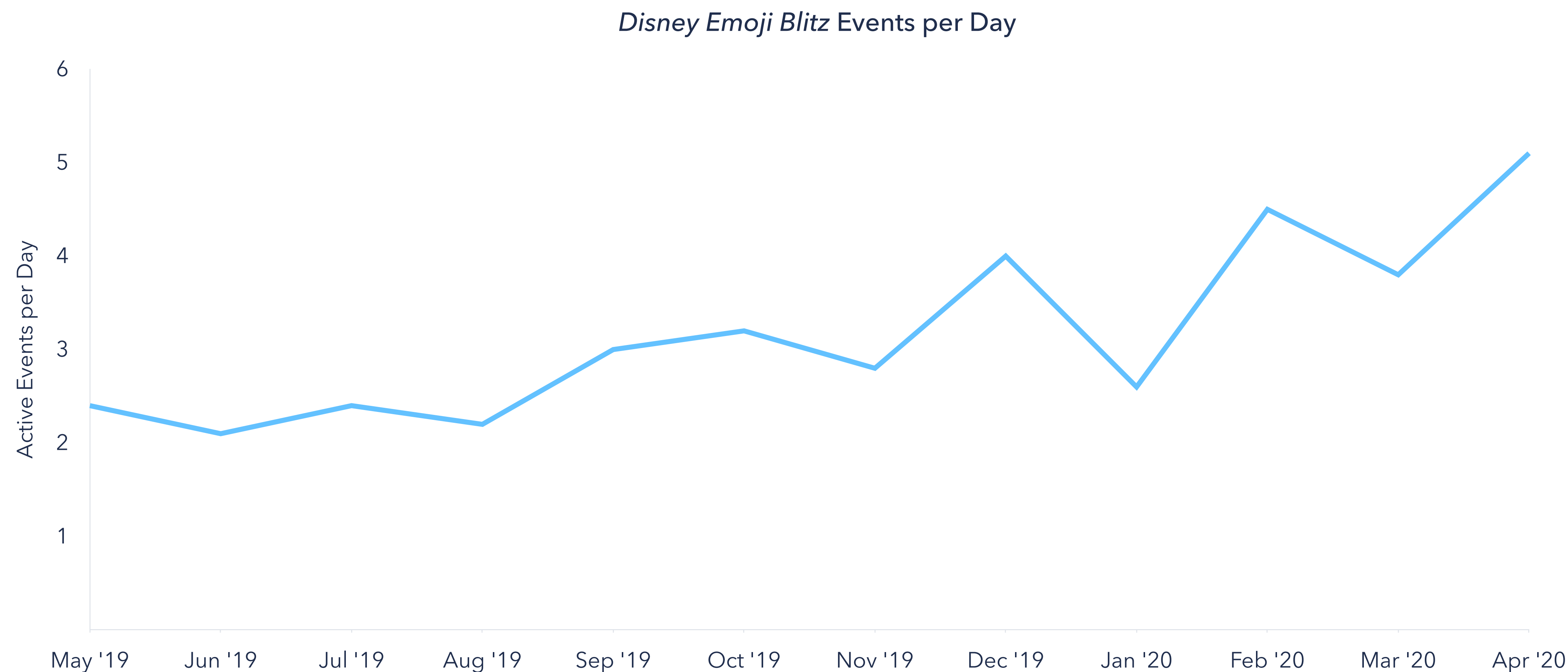
LEVEL DESIGN

New mechanics and content releases, including characters, obstacles, boosts, and level requirements.

NEW LEVEL DESIGNS I

Baby Pop – *Best Fiends*

• This alternate version of Pop is unlocked by completing the Memorial Day Parade event (1).
• Baby Pop adds a permanent +50 attack boost.

Bolice Officer – *Best Fiends*

• This alternate version of Bo is unlocked by completing the Police Academy event (2).
• Bolice Officer adds a permanent +50 attack boost.

Grandma Snaphine – *Best Fiends*

• This alternate version of Snap is unlocked by completing the Grandma's House Mother's Day event.
• Grandma Snaphine adds a permanent +50 attack boost.
• Snap and Grandma Snaphine can be purchased together for 225 gold bars (3).

Score Rocket – *Candy Crush Soda Saga*

• During the Bear Brawl event, players compete to make adjacent matches and fill a point meter.
• Hitting score rockets triggers a boost and extra points (4 and video).
• Event rewards include rocket parts.
• Rocket parts are used to upgrade and increase the point value of score rockets.

Bombs – *Disney Emoji Blitz*

• Players clear bombs by hitting them with boosts.
• If not cleared, bombs turn red, explode, and decrease a health meter (5 and video).
• The level ends when the health meter is depleted.

Glass Slippers – *Disney Emoji Blitz*

• Players make matches to increase Lady Tremaine's meter.
• When the meter is full, glass slipper shards appear.
• Players clear slipper shards by making adjacent matches or triggering boosts (6).
• Once all slipper shards are cleared, the completed glass slipper appears.
• Players clear the glass slipper by moving it to the bottom of the board (video).
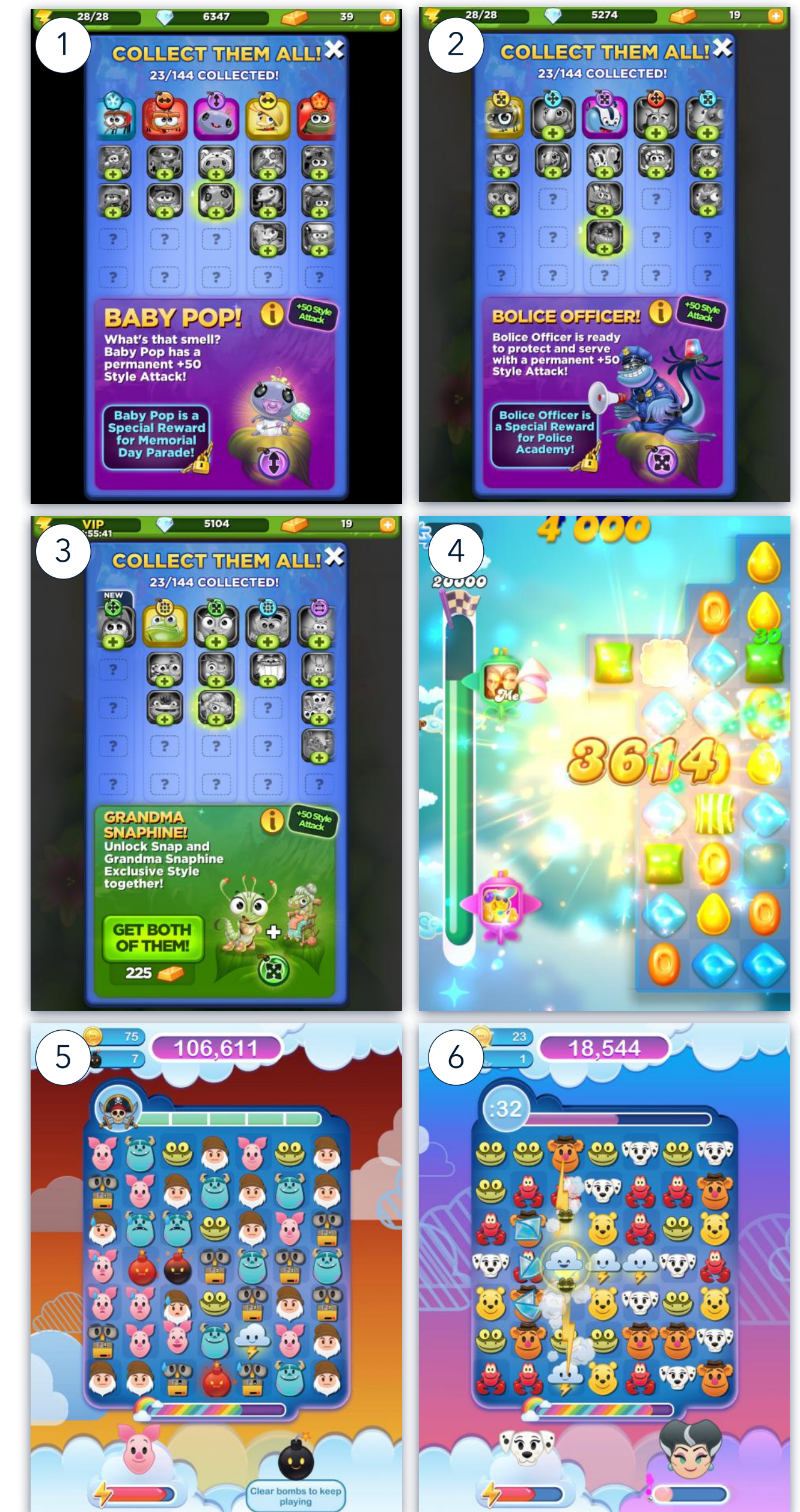
NEW LEVEL DESIGNS II

Lanterns – *Fishdom*
- Colored lanterns display a counter (1).
- Matching a lantern reduces its counter by one and changes its color.
- The lantern is cleared when its counter reaches zero.

Ladybugs – *Gardenscapes*
- Players make matches or trigger boosts to move ladybugs to the bottom of the board.
- Ladybugs climb up one tile each turn that they don't move down.
- Ladybugs can only be swapped with other tiles if the move makes a match or triggers a boost.
- Moving all ladybugs to the bottom of the board completes the level (2).

Custom Furniture – *Home Design Makeover*
- Furniture can be customized with different colors, materials, and accessories (3 and video).

Tea Kettles – *Home Design Makeover*
- Tea kettles are cleared by making two consecutive adjacent matches (4 and video).

Bird Pillow – *Matchington Mansion*
- Bird pillows are cleared by matching them with same-colored tiles or by hitting them with boosts (5).
- Bird pillows hit another element when cleared.

Ice Maker – *Matchington Mansion*
- Ice makers dispense an ice cube with each adjacent match or boost (6 and video).
- Ice makers are cleared when they run out of ice cubes.
- Players must match ice cubes to complete levels.

Surprise Box – *Toon Blast*
- Surprise boxes are opened by making four adjacent matches.
- Opening a box clears the box and its entire column (7 and video).

Cake – *Toy Blast*
- Players open cake boxes to reveal cakes by making adjacent matches or triggering boosts.
- Cakes are cleared by adjacent matches or boosts (8 and video).

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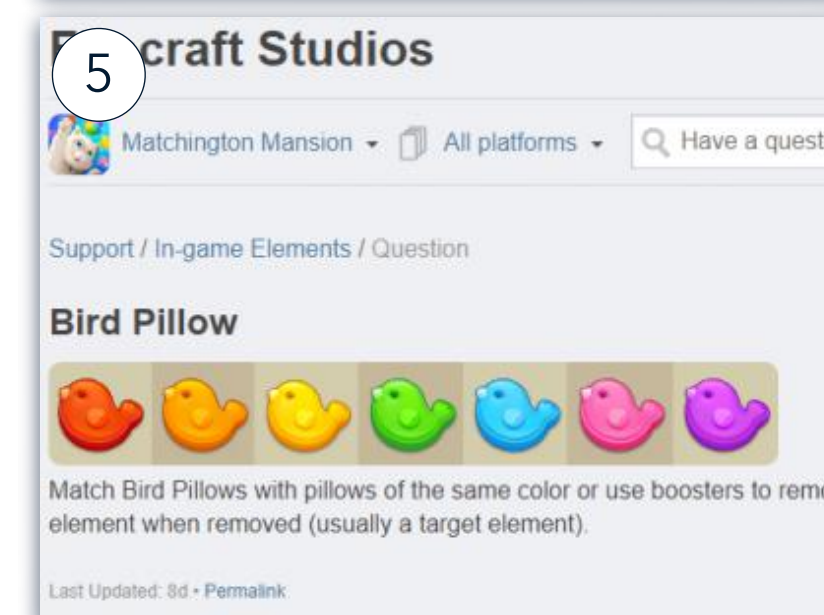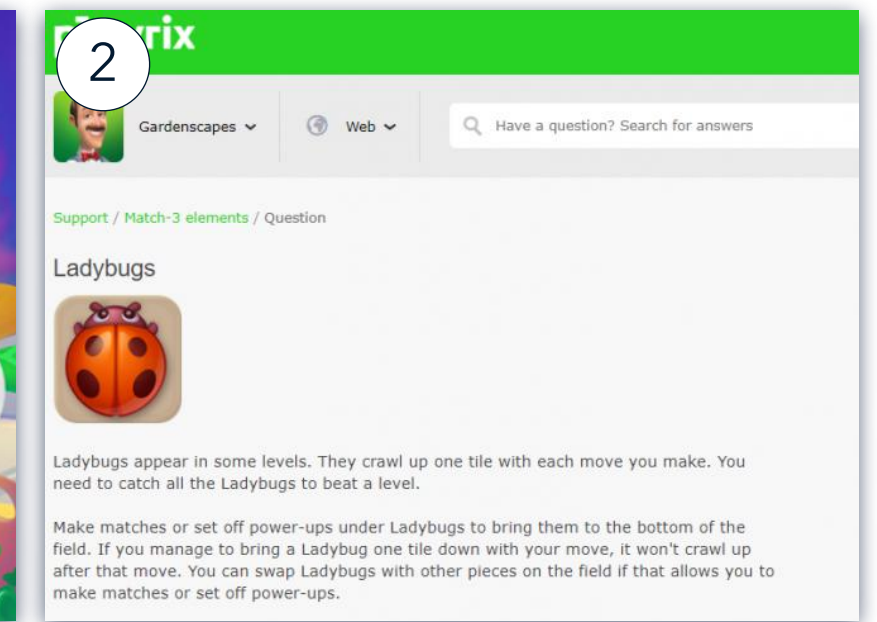
MARKET WATCH

A look at new and soft-launched apps as well as notable releases from established competitors.

SOFT-LAUNCH & BREAKOUT APPS I

## Harry Potter: Puzzles & Spells by Zynga

App Details
- Players complete match-3 puzzles to advance through levels inspired by the Harry Potter series (1).
- Customizable avatars include unlockable items and outfits (2).
- Upgradable spells trigger special abilities (3).
- A card collection feature unlocks a magical creature for each completed album.
- Creatures award boosts at the start of levels during win streaks (4).
- Activating boosts fills a creature meter for more boosts.

Launch Information
- Soft-launched 3/5/20 in Canada, Australia, Austria, Taiwan, the Philippines, and India
- Average daily revenue since launch: $518
- Average daily downloads since launch: 936
- View *Harry Potter: Puzzles & Spells* on the App Store.

Virtual pets have been successful across genres. In casino, *Caesars Slots*' revenue increased +26% MoM after the release of the Prize Dragon Tamagotchi feature.

Studies show that expressive faces[5] and empathetic responses based on wins and losses[6] can enhance players' attachment to virtual pets.
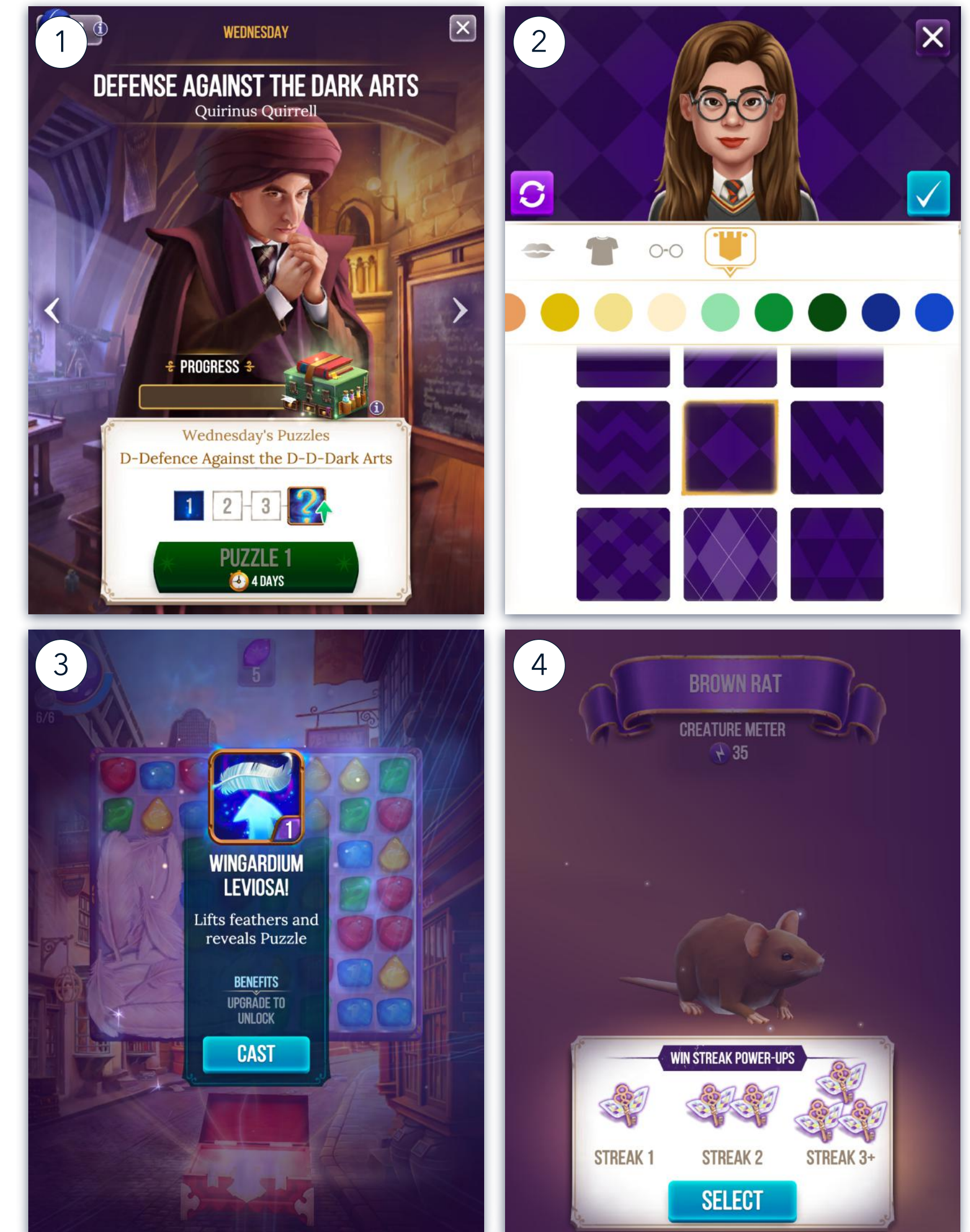
[5] Assessment of human response to robot facial expressions through visual evoked potentials, p. 650–652

[6] Using Empathy to Improve Human-Robot Relationships, p. 7

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SOFT-LAUNCH & BREAKOUT APPS II

Undersea Solitaire Tripeaks by Plarium Global Ltd.

App Details
- Solitaire levels award gems (1).
- Gems are used to purchase custom design elements (2).
- Completed custom design tasks award prizes.
- Other features include a daily pick'em bonus and four daily missions (3 and 4).

Launch Information
- Worldwide Release: 4/1/20
- 92nd highest-grossing puzzle app as of 5/1/20
- Average daily revenue since launch: $4,044
- Average daily downloads since launch: 1,329
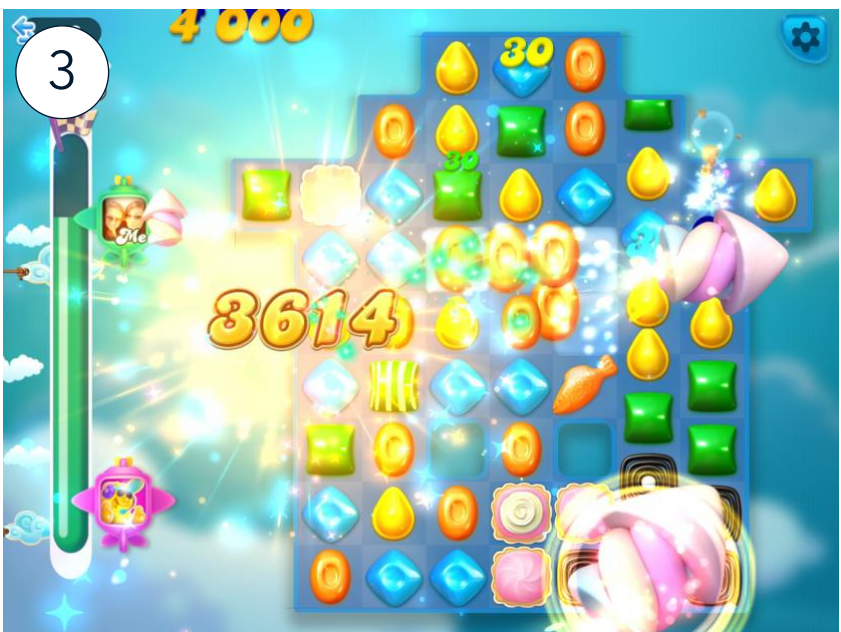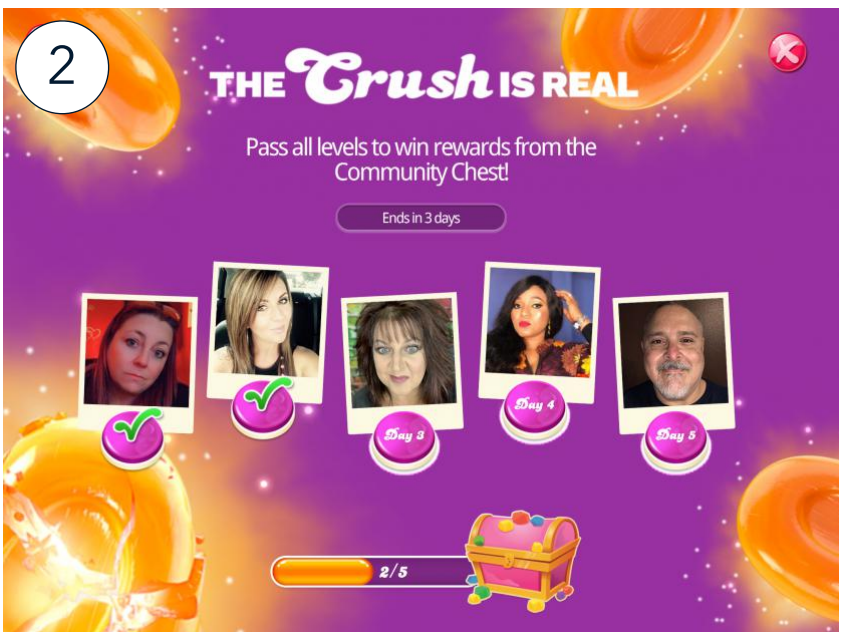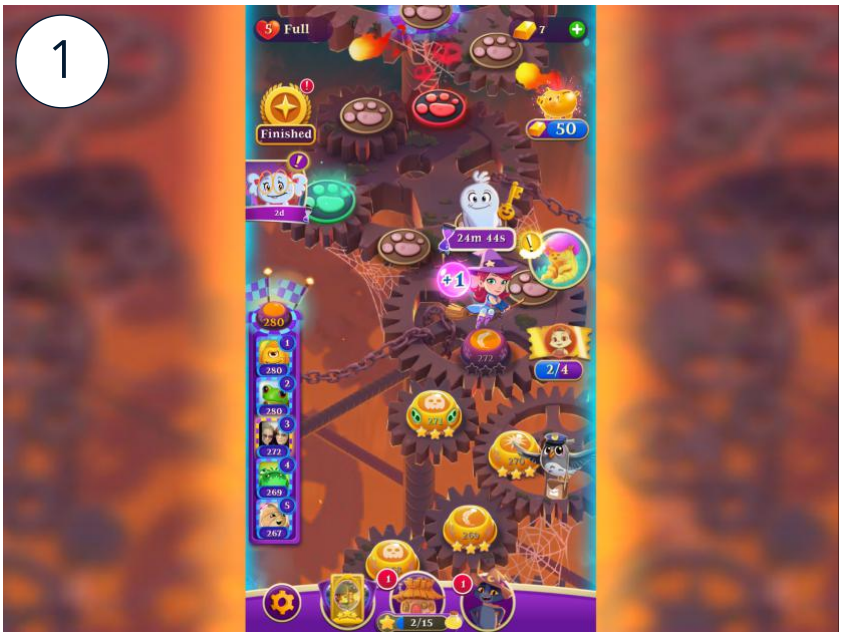- View *Undersea Solitaire Tripeaks* on the App Store.

Custom design mechanics are major revenue drivers and a growing trend. The October 2019 Puzzle Report found that the 15 highest-grossing puzzle apps increased their investment in custom design events by 357 basis points YoY.[7]

[7] October 2019 Puzzle Report, p. 11

NOTABLE RELEASES I

| App	Library	Description
Bubble Witch 3 Saga	**Treasure Hunt** level event	• A ghost with a timer appears on the game map. • Reaching the ghost within the time limit awards a chest (1 and video).
Candy Crush Saga	**The Crush Is Real** mission event	• Each week, five levels *inspired by real players* unlock over five days (2). • Players have three attempts per day to complete each level. • Completing all five levels awards a chest with rewards chosen by the five players.
Candy Crush Soda Saga	**Bear Brawl** competition event	• Players take turns making matches to fill a meter (3). • The first player to fill the meter wins (video). • Players must complete an event training before they can participate.
	The Noble Path level event	• Players over level 66 complete levels to earn rewards every third level (video). • A premium pass unlocks a second tier of rewards for all levels (4).

Notable Releases II

App	Library	Description
Candy Crush Soda Saga	Soda Teams club feature	• Players earn points for their clubs by playing every day and completing levels and episodes. • Points fill a club meter for prizes at milestones (1 and video). • A leaderboard ranks members by club points earned.
Home Design Makeover	Bonus Bank purchase event	• Each completed level adds a reward to a bank (video). • After 12 wins, 5 losses, or an expired timer, players have 24 hours to purchase bank contents (2).
Matchington Mansion	Mansion Badge mission event	• Players complete levels to earn rewards. • A $5.99 pass unlocks a second tier of rewards, including a new fountain decoration (3 and video).
Solitaire TriPeaks	Relay Challenge challenge feature	• Players team up with a friend to take turns completing a series of challenges (4 and video). • Each challenge must be completed within 24 hours. • Completing the series awards a chest. • Players can have up to five active relay challenges at any time.

Quickly review all features and events
Filter the Library Tool by month and year to see all new releases.

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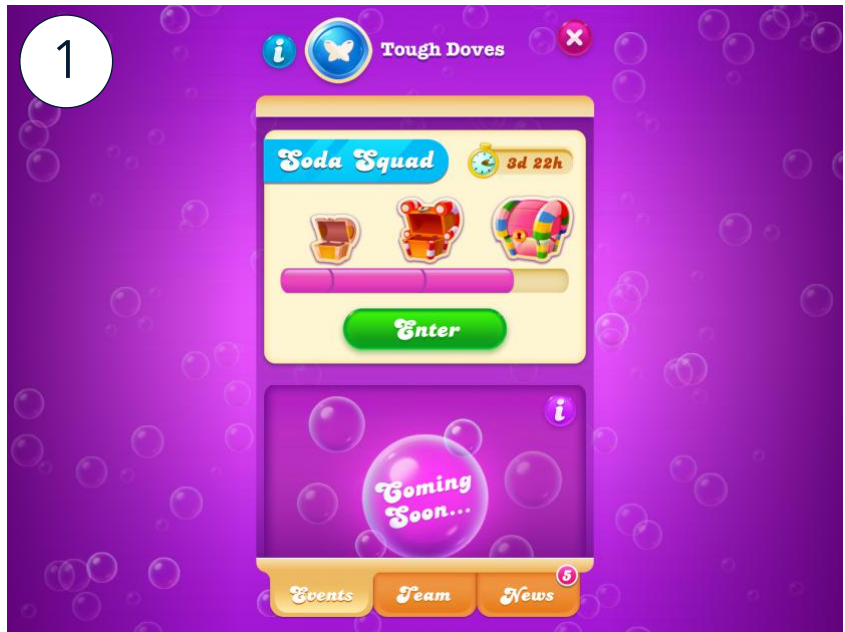
APPENDIX

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	Florian Steinhoff	Florian Ziegler

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.

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.

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	Kinrate Analytics	Sensor Tower
Market Research	**Player Personas**	**Mobile App Store Intelligence**
Quadrant Strategies	Kinrate Analytics	Sensor Tower

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

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

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

"Whenever you're doing two things at once, you're compromising them both."

– Genndy Tartakovsky

LiquidandGrit.com

Brett.Nowak@LiquidandGrit.com