



LIQUID&GRIT

PUZZLE REPORT

Competitive Research and Actionable Product Recommendations

TABLE OF CONTENTS

MECHANIC GUIDE: CLUBS	3
User Interfaces	
Competitions	
Collaborations	
Participation	
Gifting & Rewards	
TRENDS	9
Club Event Investment by Genre	
Puzzle Club Events by App	
Puzzle Event Investment by Type	
Puzzle Club Feature Prevalence	
LEVEL DESIGN	14
New Level Designs	
MARKET WATCH	17
Soft-Launch & Breakout Apps	
Notable Releases	
APPENDIX	22
Revenue-Driving Club Features and Events	
L&G Puzzle Personas	
Puzzle Product Council	
Premium Partnerships	
Puzzle Mechanics Taxonomy	

JULY

2020

MECHANIC GUIDE: CLUBS



References and research insights for five core elements of clubs: User Interfaces, Competitions, Collaborations, Participation, and Gifting

A table of past revenue-driving club events and features is included in the [Appendix](#).
View previous Mechanic Guides for [banks](#), [missions](#), and [mini-games](#).

User Interfaces

Well-designed UIs help players navigate events and socialize within clubs—increasing engagement and driving purchases.

Recent UI updates have led to big revenue bumps in both RPG and casino apps. *Star Wars: Galaxy of Heroes*' [Journey Guide](#), which introduced a comprehensive quest UI with guides for unlocking elite heroes, saw revenue increase +51% WoW. [Mission Blitz](#) expanded *Lotsa Slots*' centralized missions menu and contributed to a +18% 50Do50D revenue increase.

User Interface References

Event/Feature	Mechanic
Clan Members Activity Tracker <i>Angry Birds 2</i>	Profile pages for each club member display recent activity and play stats (1).
Alliance Event Calendar <i>Rise of Kingdoms</i>	A club calendar shows upcoming events (2).
Guild Team Hunting <i>AFK Arena</i>	Members can view each other's battle statistics for different heroes.
Club Types <i>Big Fish Casino</i>	Clubs are categorized into social, casual, or competitive (3).
Prank War <i>Last Shelter: Survival</i>	An event reward lets players turn another club member into a random monster for 20 minutes.



COMPETITIONS

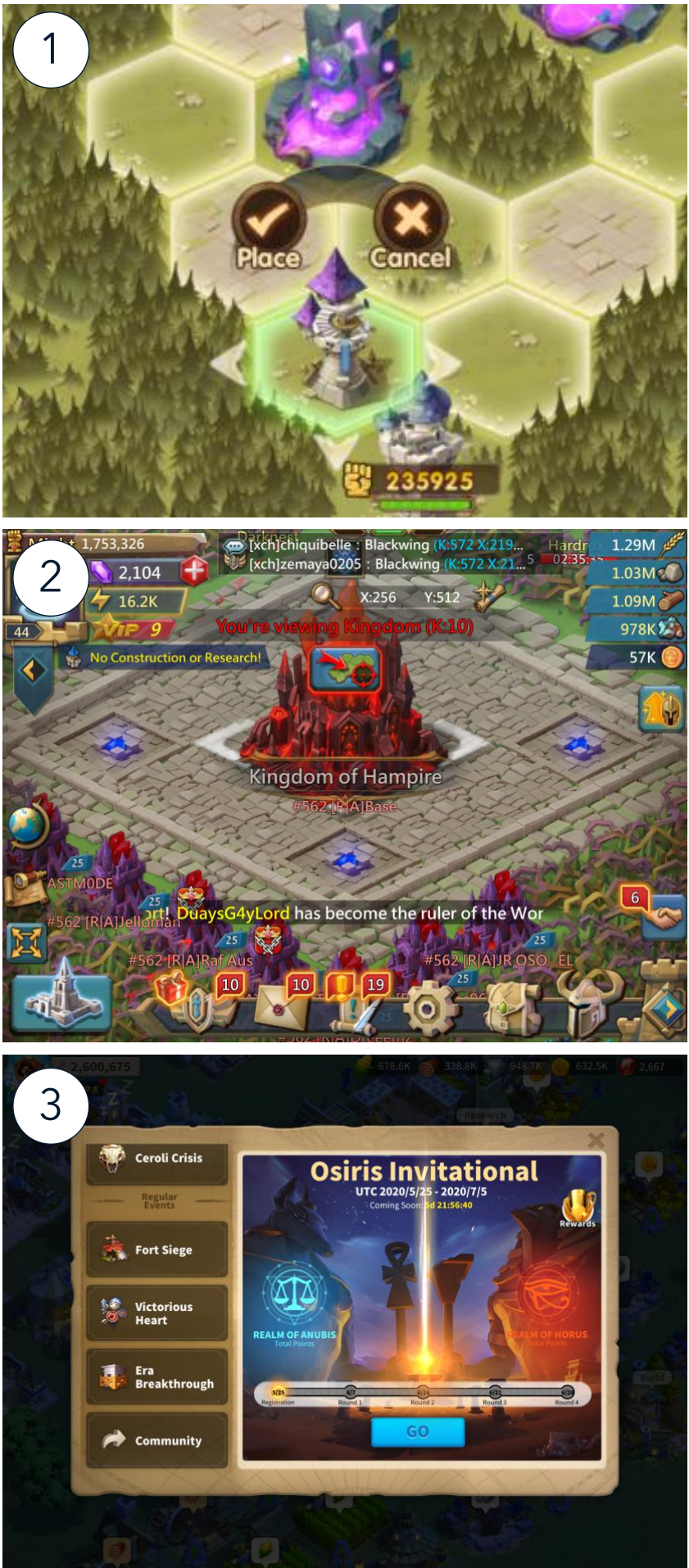
Players who like clubs enjoy competitions—and competitions increase revenue.

Our research on player personas in RPG and slots apps found that players who favor clubs, gifting, and chat also have the greatest preference for competitive features like tournaments and leaderboards.¹ Competitions appeal to these players' motivations for social distinction and achievement. A survey of over 170,000 players by Quantic Foundry also showed a strong positive correlation between the appeal of competition and community.²

Not only that, but competitions lead to purchases: Four out of the top five [revenue-driving club events](#) involved competitions.

Competition References

Event/Feature	Mechanic
Pillage & Plunder <i>AFK Arena</i>	Clubs compete to build and attack tower defense-style encampments (1).
Kingdom Clash <i>Lords Mobile: War Kingdom</i>	During a four-club battle, each club is assigned another club as a target. Attacking a target club awards bonus points (2).
Best Alliance Leader Contest <i>King of Avalon: Dragon Warfare</i>	Members can nominate and vote for their club leader using Facebook likes. Clubs with the most likes earn rewards for all members.
Osiris Invitational <i>Rise of Kingdoms</i>	The top four clubs from each realm compete using identical armies and resources (3).
Netherfall Support <i>King of Avalon: Dragon Warfare</i>	Players can bet on the winners of three randomly chosen battles between top-100 clubs.
Ark of Osiris & Netherfall <i>Rise of Kingdoms</i> & <i>King of Avalon: Dragon Warfare</i>	Clubs compete to control different types of buildings on a map for unique boosts.



¹ [Liquid & Grit RPG Personas Report](#), p. 12; [Liquid & Grit Slots Personas Report](#), p. 11

² [Competition Is Not The Opposite of Community](#)

COLLABORATIONS

Combining individual and group goals increases individual engagement and group performance.

A study of group performance in a word game found that a combination of group goals and group-centric individual goals increased performance by 27% compared to group goals alone.³ For this effect to work, however, *individual goals must be related to group performance*: A third group assigned a combination of group goals and self-centered individual goals substantially underperformed both other groups by 56% and 44%.⁴

Star Trek Fleet Command's [Crucible of War](#) event embraced this dynamic by offering customizable rewards for both individual and group progress, contributing to a +88% revenue increase for its duration—the largest of any tracked club event.

Collaboration References

Event/Feature	Mechanic
Shadow Legion Invasion <i>Rise of Kingdoms</i>	Players defend themselves and other club members from waves of enemy attacks (1).
The Abyssal Expedition: Vault of Time <i>AFK Arena</i>	Players without clubs and clubs with too few members are automatically teamed up with other clubs.
Clubs & Demonic Siege <i>Solitaire TriPeaks & King of Avalon: Dragon Warfare</i>	Members choose goals of different difficulties for tiered rewards (2).
Silk Road Speculators <i>Rise of Kingdoms</i>	Clubs protect a moving caravan from attacks.
Celebrated Spirits <i>MARVEL Strike Force</i>	Club missions award bonus points for using specific heroes.
Realm Boss & World Boss <i>Final Fantasy XV: A New Empire & Epic Seven</i>	Members battle an event boss for rewards.



³ [Yours, Mine, and Ours: Facilitating Group Productivity through the Integration of Individual and Group Goals](#), p. 145-146

⁴ Ibid.

PARTICIPATION

Identifying and rewarding individual contributions increases participation in group events.

Group tasks often lead to lower engagement from some members, a phenomenon known as “social loafing.” This effect can be mitigated by identifying individuals' contributions and by providing scaled rewards.⁵ One study demonstrated that identifying participants' contributions increased effort by 46% compared to a control group where participants remained anonymous.⁶

For example, *Angry Birds 2*'s [Clan Leaderboard](#), which ranks members of competing clubs and rewards the top three, led to +18% 2Wo2W revenue growth.

Participation References

Event/Feature	Mechanic
The Lost Kingdom <i>Rise of Kingdoms</i>	Club members can earn achievement badges for completing tasks (1).
Clan Leaderboard* & Lotsa Clans <i>Angry Birds 2</i> & <i>Lotsa Slots</i>	A club leaderboard shows members' individual contributions (2).
Club Battle <i>Bingo Journey</i>	An event dashboard shows which members have participated.
Time Rush & Club Power Hour <i>June's Journey</i> & <i>Jackpot Magic Slots</i>	Clubs can set a one-hour time slot in which members earn bonus points.
Seashells Event <i>Lost Island: Blast Adventure</i>	Members must complete at least five levels to participate in the event.
Star Team Tournament <i>Matchington Mansion</i>	Members must earn at least one point for their clubs to qualify for rewards.



*Revenue driver

⁵ [Social Loafing: A Field Investigation](#), p. 297-298

⁶ [Identifiability as a Deterrent to Social Loafing: Two Cheering Experiments](#), p. 306

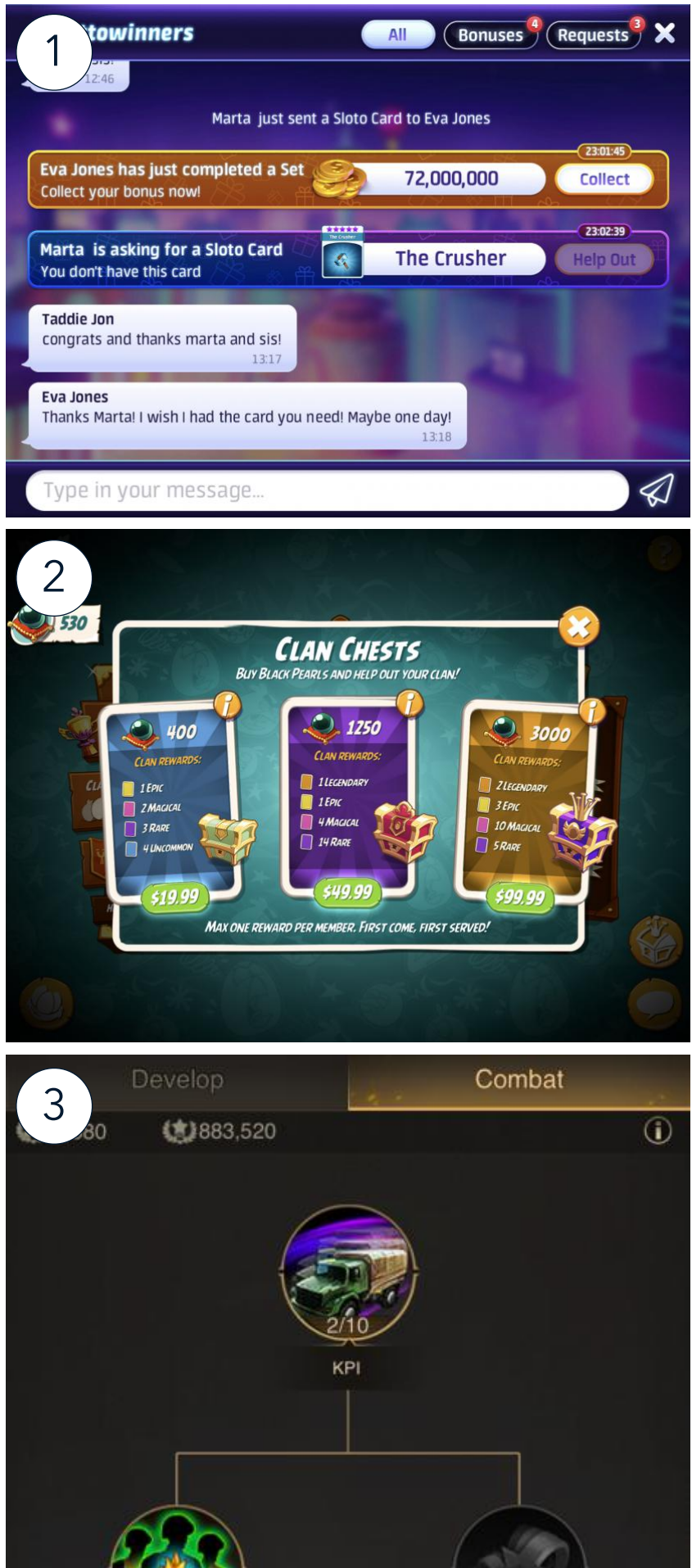
GIFTING & REWARDS

Effective club gift and reward mechanics provide social reinforcement on top of their material benefits.

The early iterations of clubs centered on members sharing and receiving lives (gifts): *Lost Island: Blast Adventure*'s [Clubs](#) allowed members to request lives every four hours and increased revenue +20% 2Wo2W. *Homescapes*' [Teams](#) included a similar life-sharing mechanic and saw revenue grow +25% WoW following its release.

Gifting & Reward References

Event/Feature	Mechanic
SlotoClans Trading in <i>Slotomania</i>	Club members can trade collectible items and earn bonuses when other players complete sets (1).
Crucible of War * in <i>Star Trek Fleet Command</i>	Individual and club PvE challenges award event currencies. Players choose their rewards from an event store.
Club Boost in <i>WSOP</i>	An IAP temporarily boosts club benefits to the next club rank.
Clan Chests * in <i>Angry Birds 2</i>	Purchasable chests allow other club members to claim timed rewards (2).
Club Win Bonus in <i>Big Fish Casino</i>	Club members earn bonuses when other members win big.
Alliances in <i>Last Shelter: Survival</i>	Clubs unlock exclusive upgrade trees (3).
Champion Celebration in <i>MARVEL Strike Force</i>	Reward events celebrate the two winning clubs from a competition season.
Midwinter Feast in <i>AFK Arena</i>	Players earn bonus rewards for helping club members during emergencies.
Detective Lounge in <i>June's Journey</i>	Purchasable gifts reward members, and players earn coins for each gift collected.



*Revenue driver

TRENDS

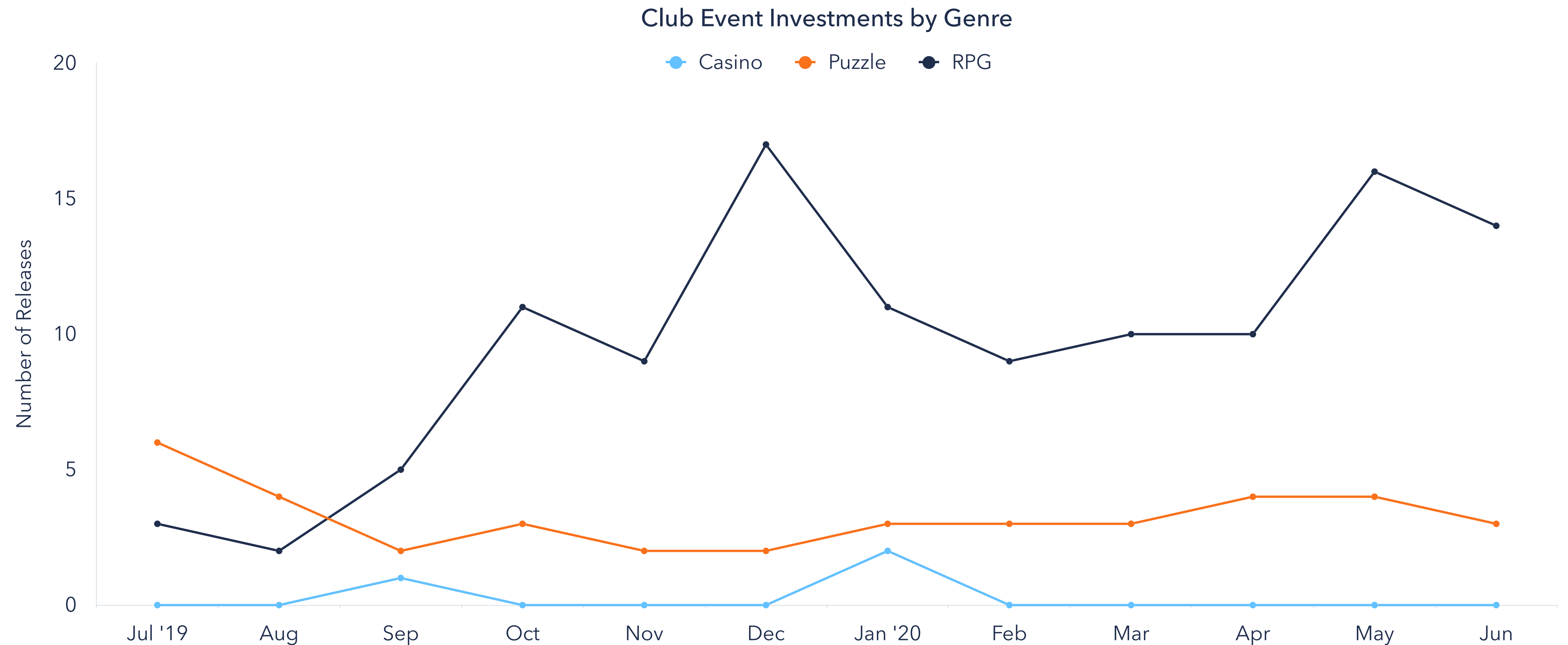


The latest feature, event, and revenue developments in top-grossing apps

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*

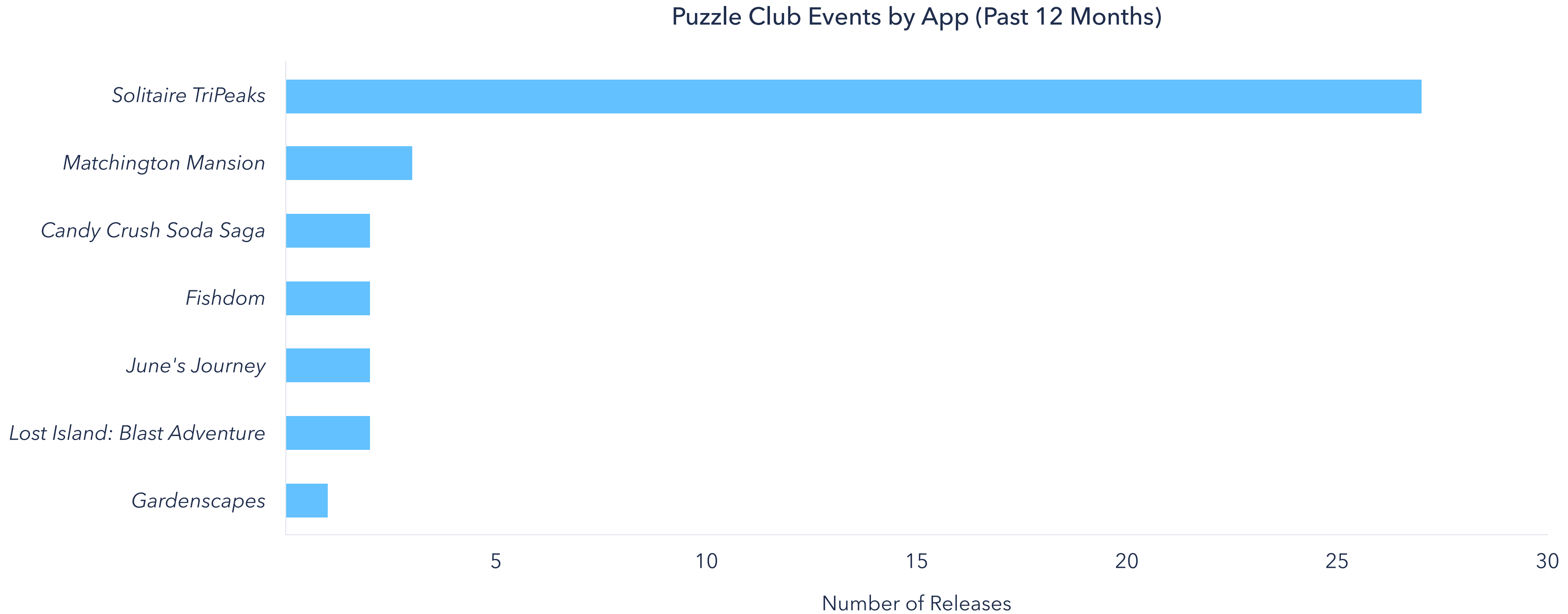
PUZZLE CLUB EVENT INVESTMENTS STAY FLAT

The number of club event releases in tracked puzzle apps has remained relatively flat for the past year. RPG apps released the most club events and saw the largest growth during this period.



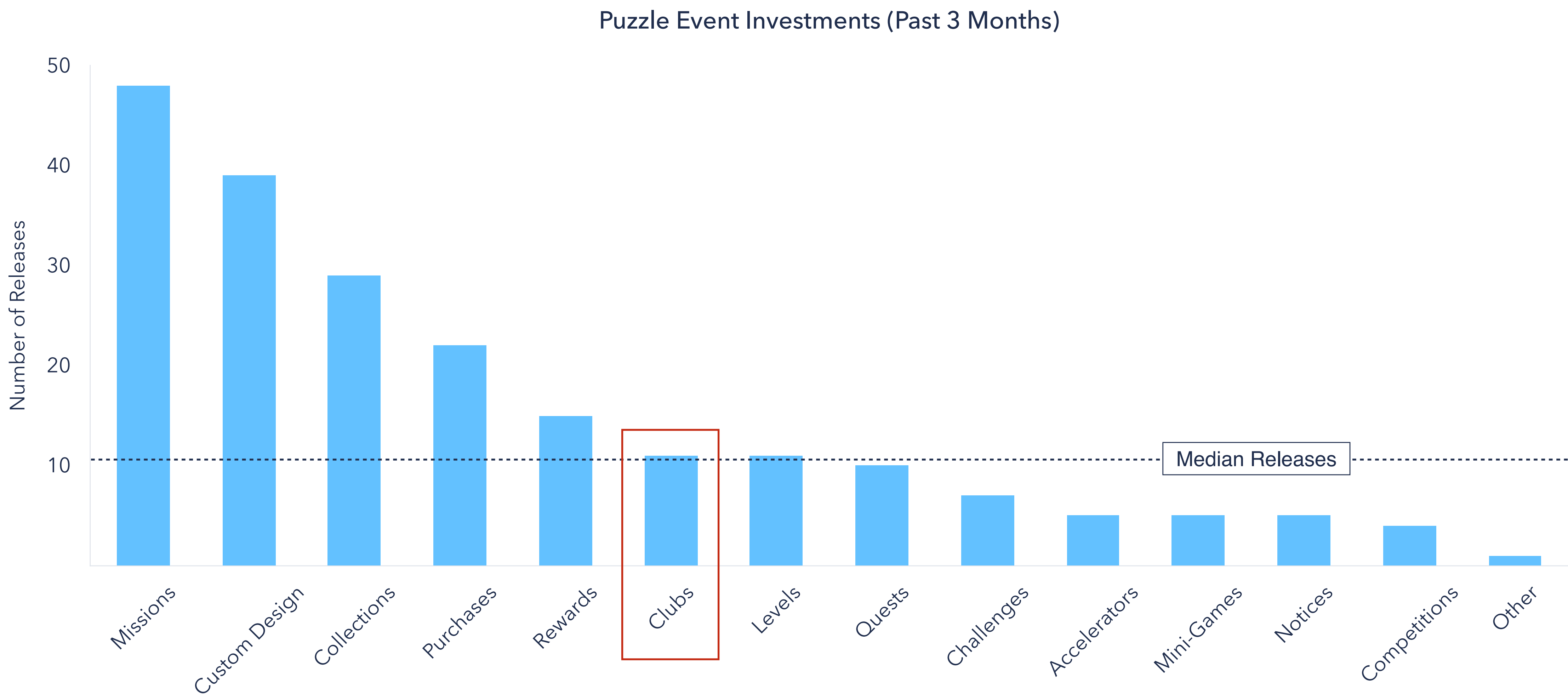
SOLITAIRE *TriPeaks* LEADS CLUB EVENT RELEASES

Solitaire TriPeaks released the most club events by far among tracked puzzle apps. No other app released more than three club events in the past 12 months, and only seven released club events at all.



CLUB EVENTS ARE MODERATELY COMMON

In the past three months, club event investment ranked just slightly above the median number of releases for all puzzle event types.



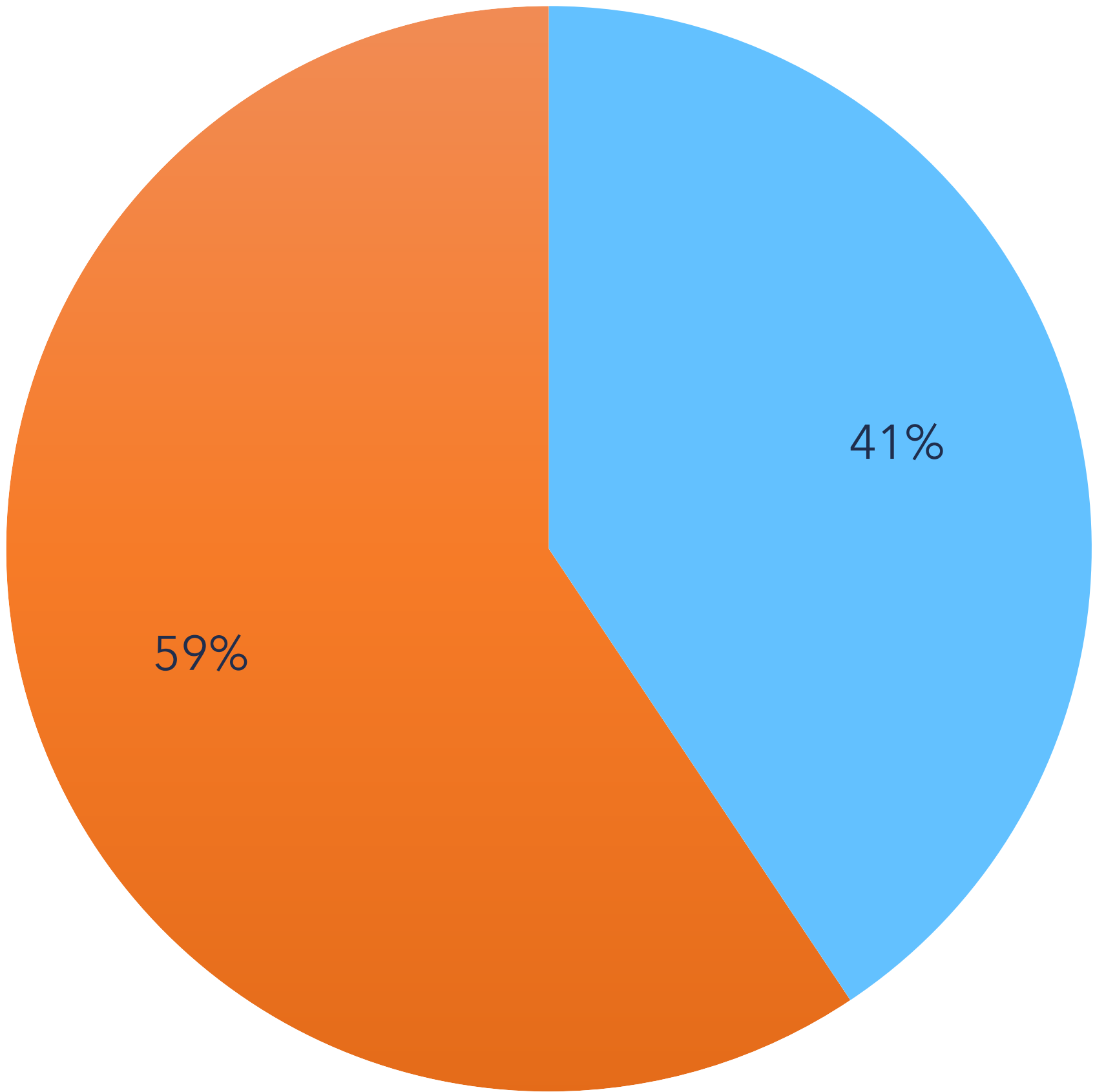
OVER HALF OF PUZZLE APPS HAVE CLUB FEATURES



Among tracked puzzle apps, 59% have club features.

Puzzle Apps with Club Features

- No Club Features
- Club Features



LEVEL DESIGN



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

NEW LEVEL DESIGNS I

Magnifying Glass – Angry Birds 2

- Magnifying glasses rain down on structures and pigs (1 and [video](#)).

Alien Brittle – Best Fiends

- This alternate version of Brittle is unlocked by completing the First Contact event (2).
- Alien Brittle adds a permanent +50 attack boost.

Dina Bones – Best Fiends

- This alternate version of Dina is unlocked by earning 60 achievement medallions.
- Dina Bones adds a permanent +50 attack boost (3).

Hula Carmen – Best Fiends

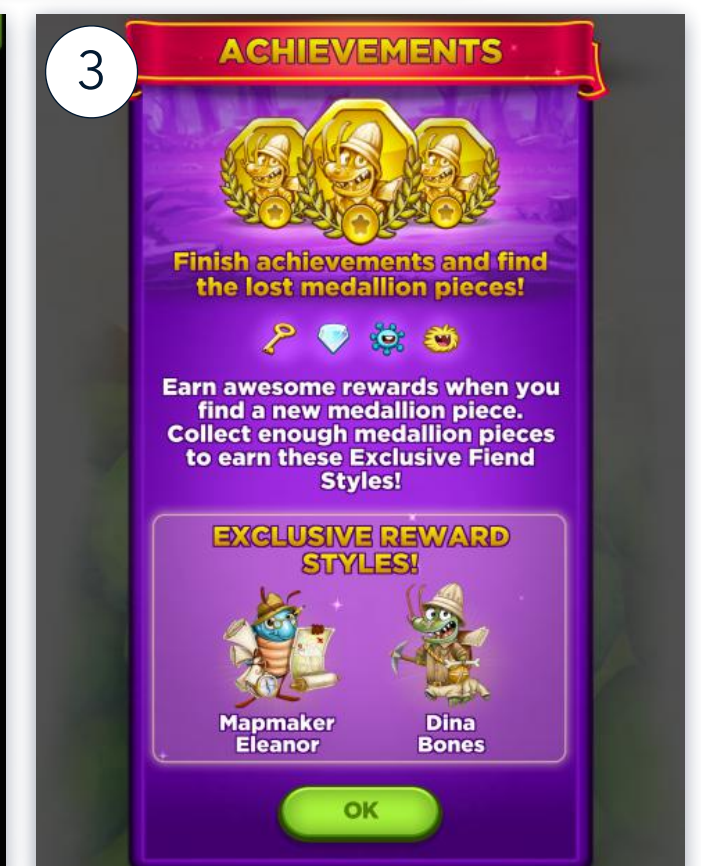
- This alternate version of Carmen is unlocked by completing the Annual Minutian Luau event.
- Hula Carmen adds a permanent +50 attack boost.
- Carmen and Hula Carmen can be purchased together for 250 gold bars (4).

Mapmaker Eleanor – Best Fiends

- This alternate version of Eleanor is unlocked by earning 30 achievement medallions.
- Mapmaker Eleanor adds a permanent +50 attack boost (5).

Tantrum, Sr. – Best Fiends

- This alternate version of Tantrum is unlocked by completing the Gone Fishing event.
- Tantrum, Sr. adds a permanent +50 attack boost.



NEW LEVEL DESIGNS II

Rainbow Rapids – Candy Crush Saga

- Players make matches to clear obstacles that block rainbows from falling (1 and [video](#)).
- Collecting all rainbows at the bottom of the board completes the level.

Clocks – Disney Emoji Blitz

- Clocks are cleared by boosts.
- Clocks that are not cleared explode and decrease a health meter (2 and [video](#)).
- The level ends when the health meter is depleted.

Tarp – Gardenscapes

- Players make matches or trigger boosts to remove ties from a tarp (3).
- Removing all ties clears the tarp ([video](#)).

Compass – Homescapes

- Four-sided compasses have one or two glowing sides.
- Compasses rotate 90 degrees each turn ([video](#)).
- Players clear compasses by making matches or triggering boosts next to the glowing sides (4).

Generator – Matchington Mansion

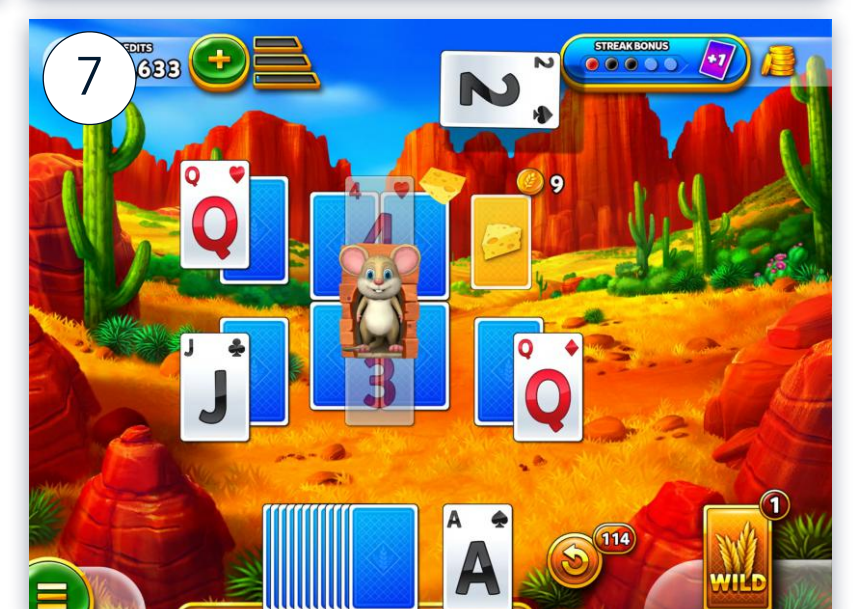
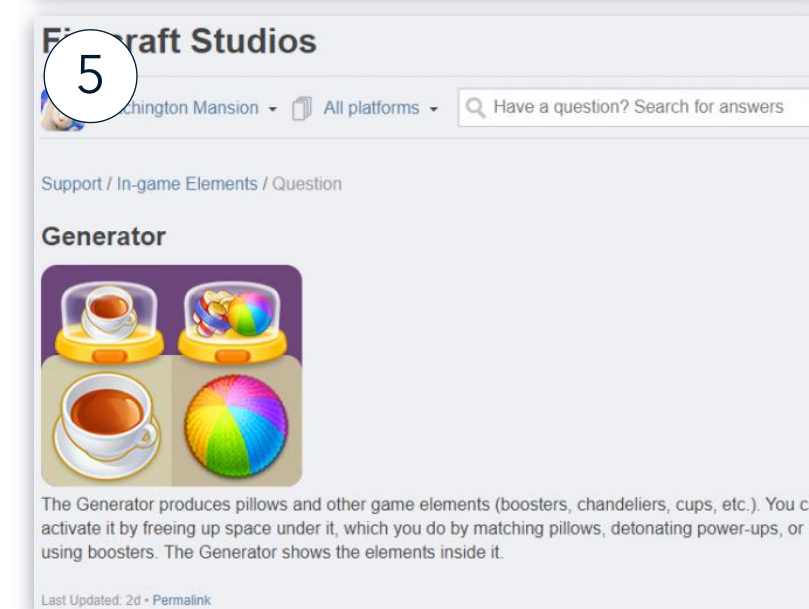
- Generators dispense game pieces each time a match or boost is made under them (5).

Magic Hat – Matchington Mansion

- Rabbits are cleared from hats by adjacent matches or boosts.
- Matches and boosts affect all same-colored hats (6).

Oscar – Solitaire Grand Harvest

- A mouse blocks certain cards from use.
- Uncovering cheese cards clears the mouse (7 and [video](#)).



MARKET WATCH



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

SOFT-LAUNCH APPS

Tiles & Tales by Kuu Hubb Oy

App Details

- This app combines match-3 gameplay with an interactive story sim progression.
- Levels award keys that allow players to choose how to progress in four stories (1).
- Tiles can be thrown across levels to make matches.

Launch Information

- Soft-launched on 3/9 in the Netherlands, Australia, Finland, and Croatia
- Average daily revenue since launch: \$3
- Average daily downloads since launch: 137
- View *Tiles & Tales* on the [App Store](#).

A 2017 study by Quantic Foundry found that match-3 and interactive drama were the 1st and 5th most popular mobile genres among female players.⁷

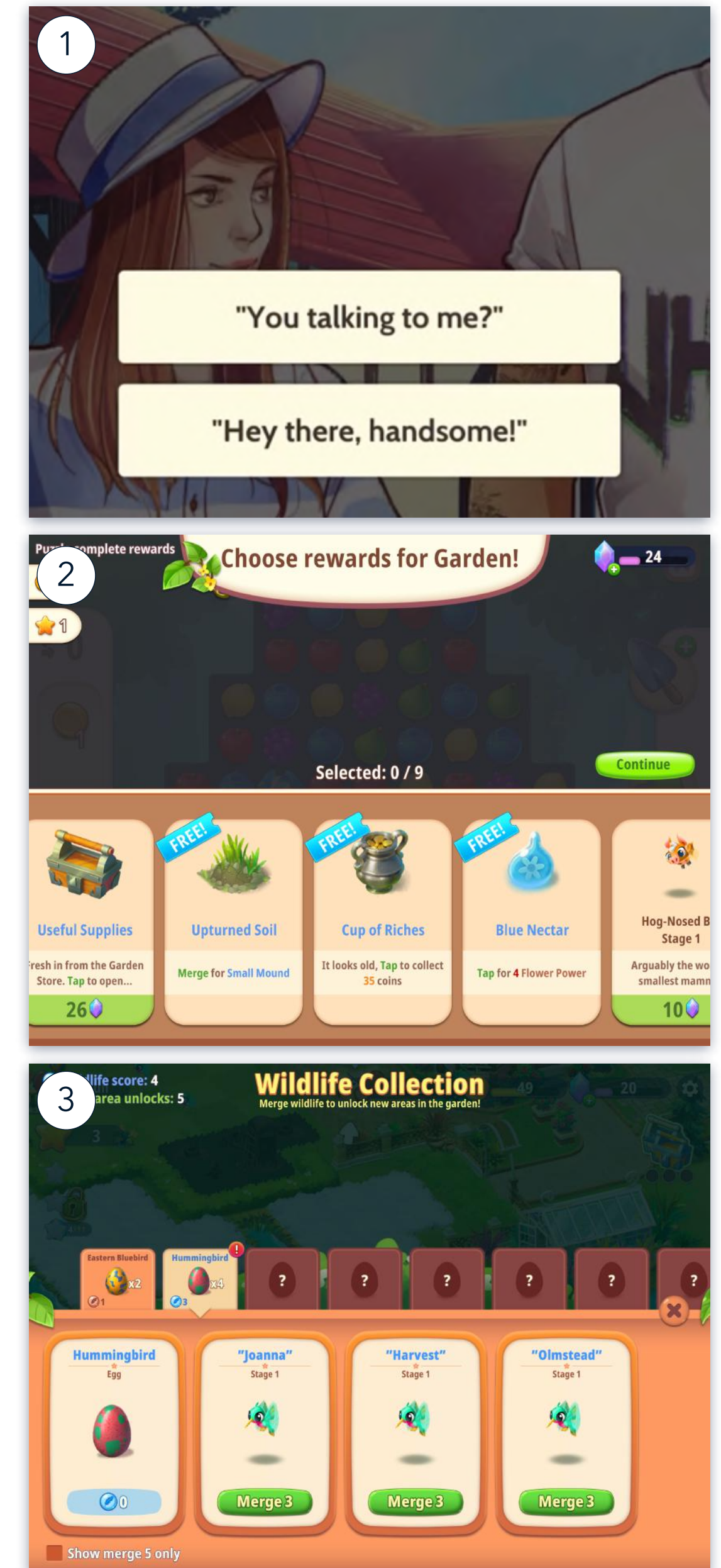
Merge Gardens by Futureplay

App Details

- Match-3 levels award free and purchasable resources for a customizable garden (2).
 - Boosts must be matched with same-colored tiles to trigger.
- Wildlife can be merged to upgrade creatures and unlock new garden areas (3).
- A daily offer allows players to trade resources for wildlife.

Launch Information

- Soft-launched on 3/13 in Canada, Australia, New Zealand, Vietnam, the Philippines, Thailand, and Finland
- Average daily revenue since launch: \$1,064
- Average daily downloads since launch: 1,006
- View *Merge Gardens* on the [App Store](#).



⁷ [Beyond 50/50: Breaking Down The Percentage of Female Gamers by Genre](#)

BREAKOUT APP

EverMerge by Big Fish Games

App Details

- Challenges award coins and XP for clearing objects and collecting resources (1).
 - XP levels unlock new items and areas.
- Players spend energy to break down objects into resources (2).
 - Resources can be merged into characters, buildings, and more.
 - Merging and building require gnomes that operate on a timer.
- Characters can make recipes to fulfill orders (3).
 - Completed orders award wands and coins.
 - Wands clear fog on unlocked areas.
- Daily challenges provide better rewards for multi-day streaks (4).
- A scratch card pick'em retention bonus awards free energy every three hours.

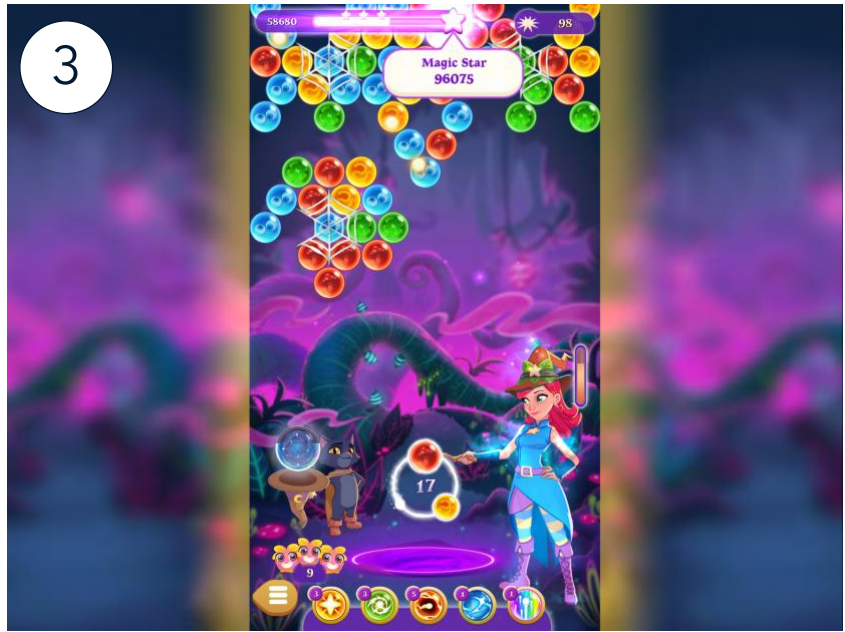
Launch Information

- Released worldwide on 5/4
- 34th highest-grossing puzzle app as of 6/1
- Average daily revenue since launch (U.S.): \$48,562
- Average daily downloads since launch (U.S.): 9,884
- View *EverMerge* on the [App Store](#).



NOTABLE RELEASES I

App	Library	Description
Best Fiends	Achievements Update challenge feature	<ul style="list-style-type: none">Players complete challenges to earn medallions.Medallions award exclusive character styles at milestones (1).
	Golden Wheel Race challenge event	<ul style="list-style-type: none">Completing a certain number of levels on the first try within 24 hours awards a wheel spin (2).Wheel spins award gold bars (video).
Bubble Witch 3 Saga	Magic Star challenge feature	<ul style="list-style-type: none">Players earn 1-3 stars for high scores.A fourth star is awarded for super high scores (3).
Candy Crush Saga	Fantastic Five Update club feature	<ul style="list-style-type: none">Teams earn points for completed levels, daily logins, first-try wins, sugar stars, and boosts.Points fill a meter for rewards at milestones (4).
	Rainbow Rapids Adventure quest event	<ul style="list-style-type: none">Players complete two maps of levels for rewards (video).Failing a level on the second map resets progress on that map.The second map can be replayed for additional rewards.



NOTABLE RELEASES II

App	Library	Description
Gummy Drop	Traveler's Backpack challenge event	<ul style="list-style-type: none">Consecutive wins fill a meter for increasing boosts at milestones (1 and video).Failing a level resets the meter.
Home Design Makeover	To Do List challenge feature	<ul style="list-style-type: none">Daily challenges award coins (2 and video).
June's Journey	Mystery Lounge Event reward event	<ul style="list-style-type: none">Players gift drinks to contribute toward a daily global goal of 500,000 drinks.Daily goals unlock episodes of a live-action mystery series on Facebook (3).Participants earn an exclusive decoration for meeting three daily goals (video).
	Weekly Wonders expansion feature	<ul style="list-style-type: none">A new decoration is added to the permanent collection each week (4).
Panda Pop!	Level Blitz! level event	<ul style="list-style-type: none">Completed levels fill a meter for rewards at milestones (video).



Quickly review all features and events

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

APPENDIX



REVENUE-DRIVING CLUB FEATURES AND EVENTS

Event/Feature	Type	App	Genre	Revenue Boost
Crucible of War	Challenge & Competition Event	<i>Star Trek Fleet Command</i>	RPG	+88% 3Do3D
SlotoClans	Club Feature	<i>Slotomania</i>	Casino	+32% WoW
Teams	Club Feature	<i>Homescapes</i>	Puzzle	+25% WoW
Red Guard Raid	Challenge Event	<i>Guns of Glory</i>	RPG	+24% WoW
Clubs	Club Feature	<i>Lost Island: Blast Adventure</i>	Puzzle	+20% WoW
Dragon Arena	Competition Event	<i>Lords Mobile: War Kingdom</i>	RPG	+20% WoW
Clan Chests and Clan Leaderboards	Competition Event and Reward Features	<i>Angry Birds 2</i>	Puzzle	+18% 2Wo2W
Team Tournaments	Weekly Competition Event	<i>Toon Blast</i>	Puzzle	+11% 2Wo2W

L&G PUZZLE PERSONAS

Survey data from 1,513 puzzle players produced five personas with distinct motivations: 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
<p>Co-Founder and COO of PuzzleMove Inc. 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 for dozens of iOS and Kindle apps.</p>	<p>Mobile F2P Consultant 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 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 & 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 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 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 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	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., scratch 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

“The rules are simple. Take your work, but never yourself, seriously. Pour in the love and whatever skill you have, and it will come out.”

– Chuck Jones

LiquidandGrit.com



Brett.Nowak@LiquidandGrit.com

