



LIQUID&GRIT

Slots Design Report

Competitive Research and Data Insights for Slots Designers

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AUGUST

2019

NEW INNOVATIONS



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WHEEL ELIMINATION MECHANICS

Rich Little Piggies in Jackpot Party

MECHANIC TEARDOWN

During the bonus, players roll dice to move around a wheel. Landing on a pig collects coins, increases a free spins multiplier, and replaces the pig with a bomb. Players spin until they land on a bomb, ending the bonus and starting the free spins.

Feature Details

- Players trigger the bonus by hitting three or more bomb symbols (1).
- Players have the option to 'Auto Roll' or 'Roll Dice' (2).
- Each dice roll determines the number of arrow moves (3).
- When the arrow lands on a pig, the pig is collected and replaced with a bomb, and the free spins multiplier moves up the prize ladder.
- The value of the pigs is based on the bet amount and the number of bombs that triggered the bonus (4).
- When the arrow lands on a bomb, the bonus ends (5).
- Players are then awarded free spins with the prize ladder multiplier (6).

Additional Information

- See more images and videos in the [Rich Little Piggies](#) Library page.



EXPERT INSIGHTS

When adding a longer bonus game, require *some* player involvement and an option for a shorter bonus to limit churn. Then, use familiar mechanics to excite players without overwhelming them.

Insight Details

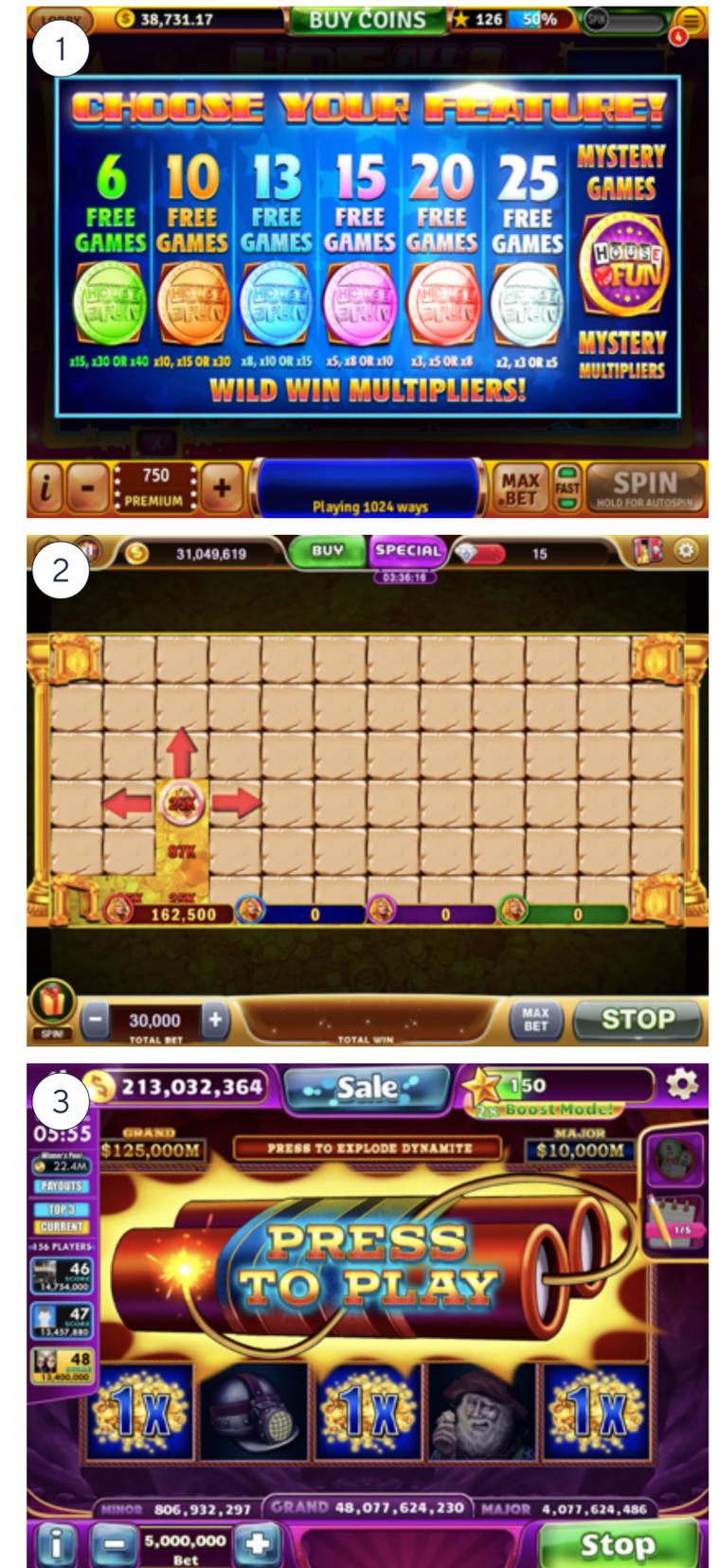
- **Let players choose between a long and short bonus.** If players do not have time for an extended bonus, allow them to opt-in to a shorter one. In House of Fun's [All Stars 3](#), players can decide between six different free spins, ranging from a short experience of six spins to a longer experience of 25 spins (see image 1).
- **Require players to make minor actions to stay engaged during the longer bonuses.** In Cash Frenzy's [Invincible Brave](#), players must select adjacent, open tiles to collect coins in the *Map Feature* bonus (see image 2).
- **Use known mechanics to reduce complexity and risk.**
 - The bonus in *Rich Little Piggies* reduces complexity by taking several popular mechanics—a wheel, dice, prize tower, and free spins—to create an easily understandable, yet elaborate, bonus.
 - Jackpot Party saw a +5% WoW and +10% 2Wo2W increase in revenue after combining a wheel bonus with a trending respins mechanic in [Eureka Blast Reel](#) (see image 3 and the [Lock and Respin with Combination Symbols](#) Wiki page).

Persona Information

- **Target *Daydreamer Denise* player types with longer bonuses.** *Daydreamer Denise* uses layered mechanics, like pick'em bonuses with free spins and multiple consecutive bonuses, to escape everyday pressures.

Go Deeper Online Using the Feature Database

- See more images and videos of the [Rich Little Piggies](#) machine in the Library tool.
- Read the analysis of Cash Frenzy's *Invincible Brave* in [Expanding Respins & Spawning Bonus Boards](#) Wiki page.
- Download the Slots Design Report to see the revenue increase in Jackpot Party on the [Lock and Respin with Combination Symbols](#) Wiki page.



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IN-MACHINE QUESTS

Golden Island in Cash Frenzy

MECHANIC TEARDOWN

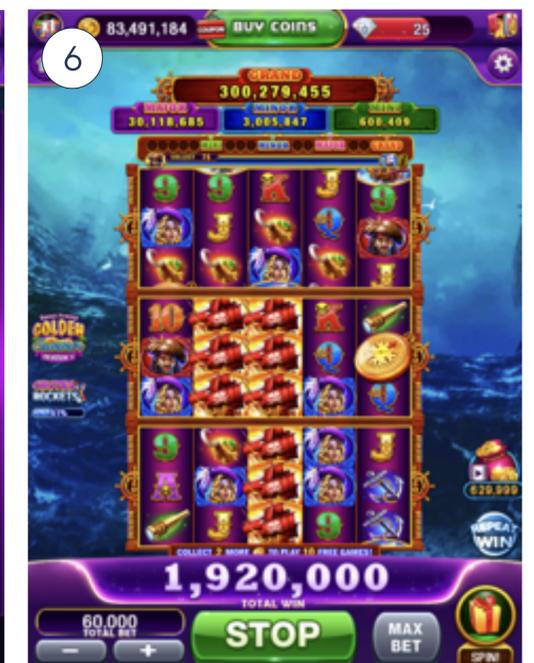
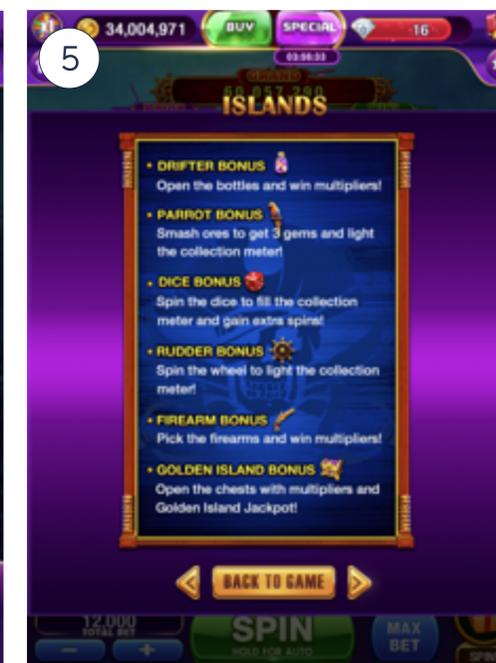
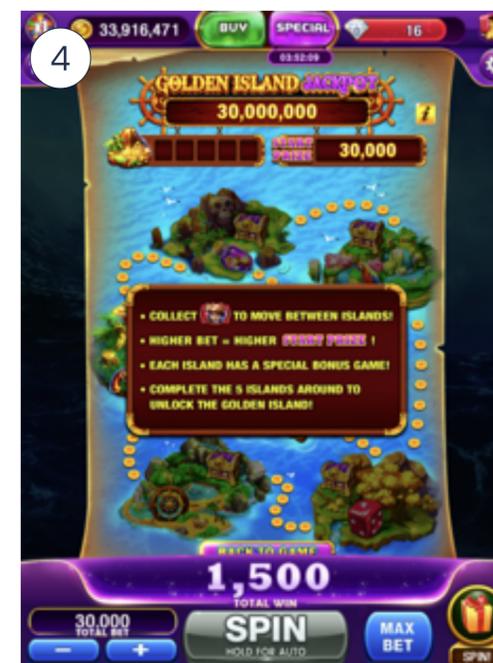
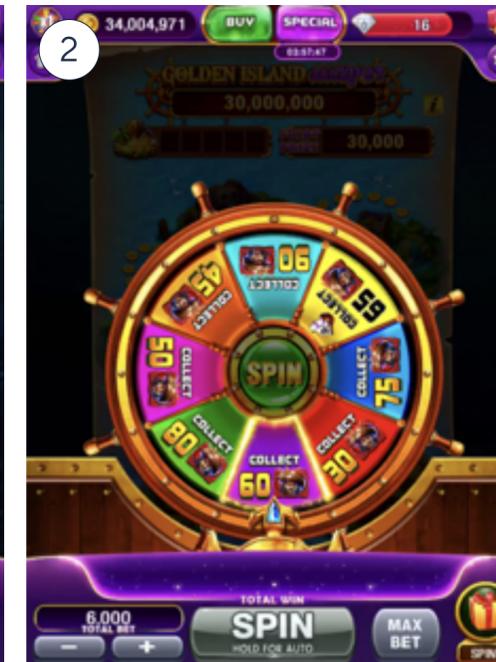
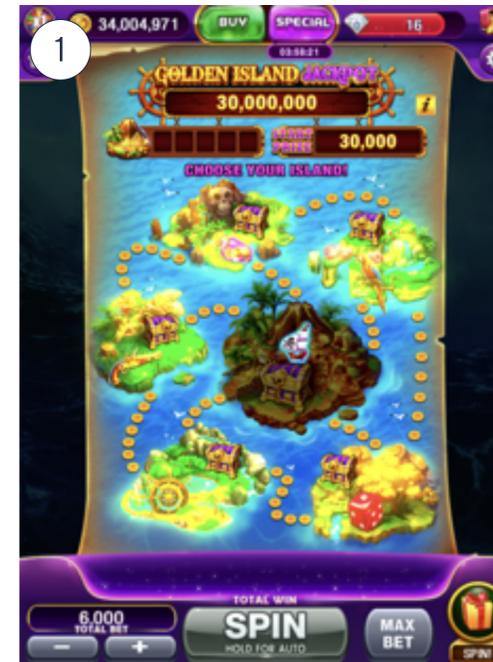
Players progress through a map of five different islands by filling a meter during machine play. Each island has a unique bonus game. After completing all five islands, players unlock a sixth island to play for a jackpot.

Feature Details

- Before entering the machine, players choose an island (1).
- Players then spin a wheel to determine the number of pirates needed to fill the selected island's meter (2 and [video](#)).
- Players fill the meter by collecting pirate symbols during machine play (3).
- Progressing through all five islands unlocks the *Golden Island* (4).
- Each island has a unique bonus (5).
- Players trigger respins after filling a reel with pirate ships.
- The respins adds up to three reel sets every time ship symbols land and removes a reel set every time a ship symbol does not land (6 and [video](#)).

Additional Information

- See more images and videos in the [Golden Island Treasure](#) Library.



EXPERT INSIGHTS

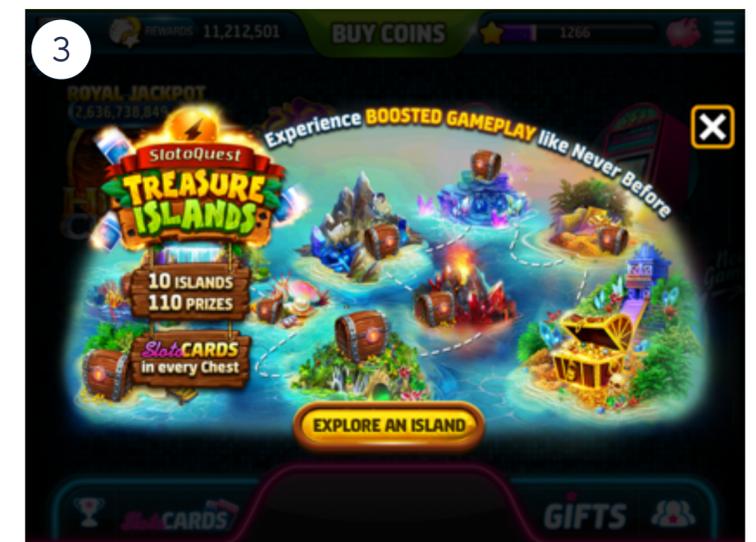
Strong machine output, a content roadmap combining fast follows with innovative machines, and a willingness to test complex machine mechanics are components of Cash Frenzy's success.

Insight Details

- **Cash Frenzy has exceptional production strength.**
 - Cash Frenzy releases 3.5 machines per month, 41% above the average machine output of the 5 top-grossing slots apps. Only Heart of Vegas has a stronger output this year.
 - Although Cash Frenzy went live in the U.S. in August of 2018, the app already has a feature in 55% of the Feature Categories. This is only 17% below the average of the 5 top-grossing slots apps.
- **Mix fast follows with innovative machines to create sustained engagement and experimental upside.** Cash Frenzy recently released two innovative machines: [Slots Tower](#) (a locked VIP machine) and [Golden Island Treasure](#), and two fast follows: [Superb Gorilla](#) and [Western Cash](#) (see images 1 and 2).
- **Match the complexity of design with players' increasing knowledge of slots machine mechanics.** Based on the success of Cash Frenzy and Lotsa Slots, which both release complicated slots machines, certain player types are ready for more complexity (see image 3 and [Rolling in Dough](#) for examples of intricacy in Lotsa Slots' machines).
- **Use proven mechanics from core game features as blueprints for more involved machine designs.** The innovative quests in Cash Frenzy's *Golden Island Treasure* is heavily inspired by Slotomania's [SlotoQuests](#) (see image 3).

Go Deeper Online Using the Feature Database

- Find the Cash Frenzy app teardown in the [May 2019 Casino Report](#).
- Use the Library tool to see all Cash Frenzy recent releases of [Content](#), [Features](#), and [Events](#).
- A new Matrix tool is coming soon to make benchmarking analysis easy.
- Review all the Feature Categories in Liquid and Grit's Taxonomy System in the [Appendix](#).



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MULTI-MATRIX CHOICE MECHANICS

Devin & Dell in myVEGAS Slots

MECHANIC TEARDOWN

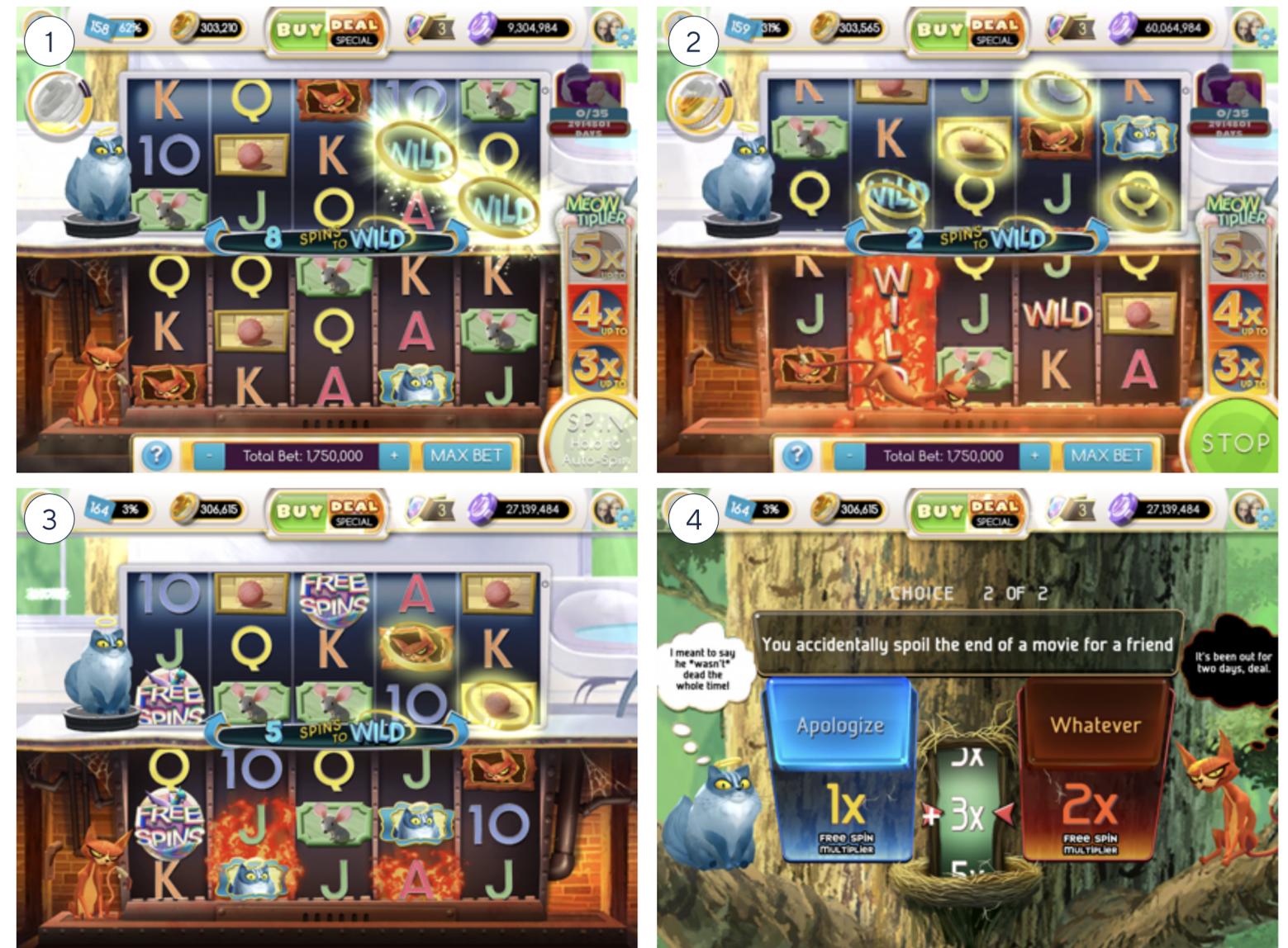
Players collect wilds on two reel sets. On the top reel set, a good cat drops floating halos that become wilds every ten spins. On the bottom reel set, an evil cat stacks flames to create a full-reel wild. During a free spins bonus, players answer moral dilemma questions to determine the free spins multiplier.

Feature Details

- Wilds on the top reel set drop halos that become wild every 10 spins (1).
- Wilds on the bottom reel set stack flames behind the reels. When a reel has three flames, it becomes a full-reel wild (2).
- The free spins bonus is triggered by hitting three or more free spins symbols across both reel sets (3).
- Before the free spins, players assign multipliers to either the good or evil cat by choosing responses to moral dilemma questions (4 and [video](#)).
- Players spin a wheel to determine the value of each multiplier.

Additional Information

- See more images and videos in the [Devin & Dell](#) Library.



EXPERT INSIGHTS

Given the growth of the Choices app category and overlapping audience demographics with slots apps, choice-based mechanics are a big opportunity for slots designers.

Insight Details

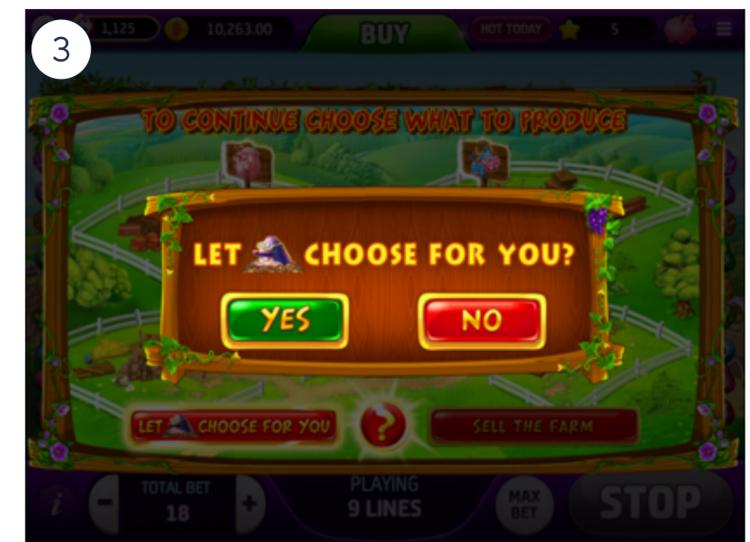
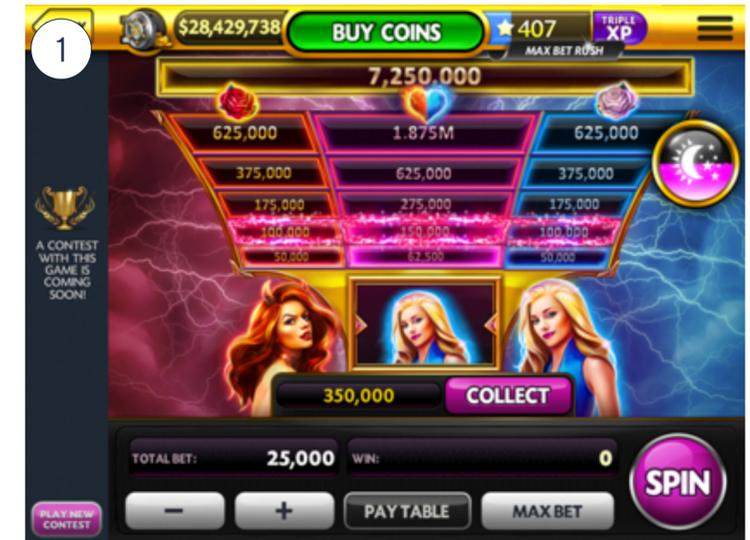
- **Choice mechanics help make each session unique.** In Caesars Slots' [Devil's Choice](#), players must choose to keep their wins or continue playing after every win (see image 1 and the [October 2019 Slot Design Report](#)).
- **Choice-based apps, like Episodes: Choose Your Story, have similar target audiences to top grossing slots apps.** See [slide 13](#) for player demographics of Episodes: Choose Your Story.
- **'Ten spins until a bonus' mechanics were popular at G2E 2018 and recently released in social slots machines.** At G2E 2018, IGT showcased [Scarab](#), a well-designed machine with the 'ten spins until a bonus' mechanic. In May 2019, the mechanic was included in House of Fun's [Irish Princess](#) (see image 2 and the [Slots Design Report: G2E Edition](#)).
- **In choice-based mechanics, offer a 'no brainer' option for decision-fatigued players.** In Slotomania's [Farm Fortunes Markets](#), players can either pick one of four challenges or the simple, no-thought option of letting a gopher choose (see image 3 and [Bonus Customizations](#) Wiki page).

Persona Information

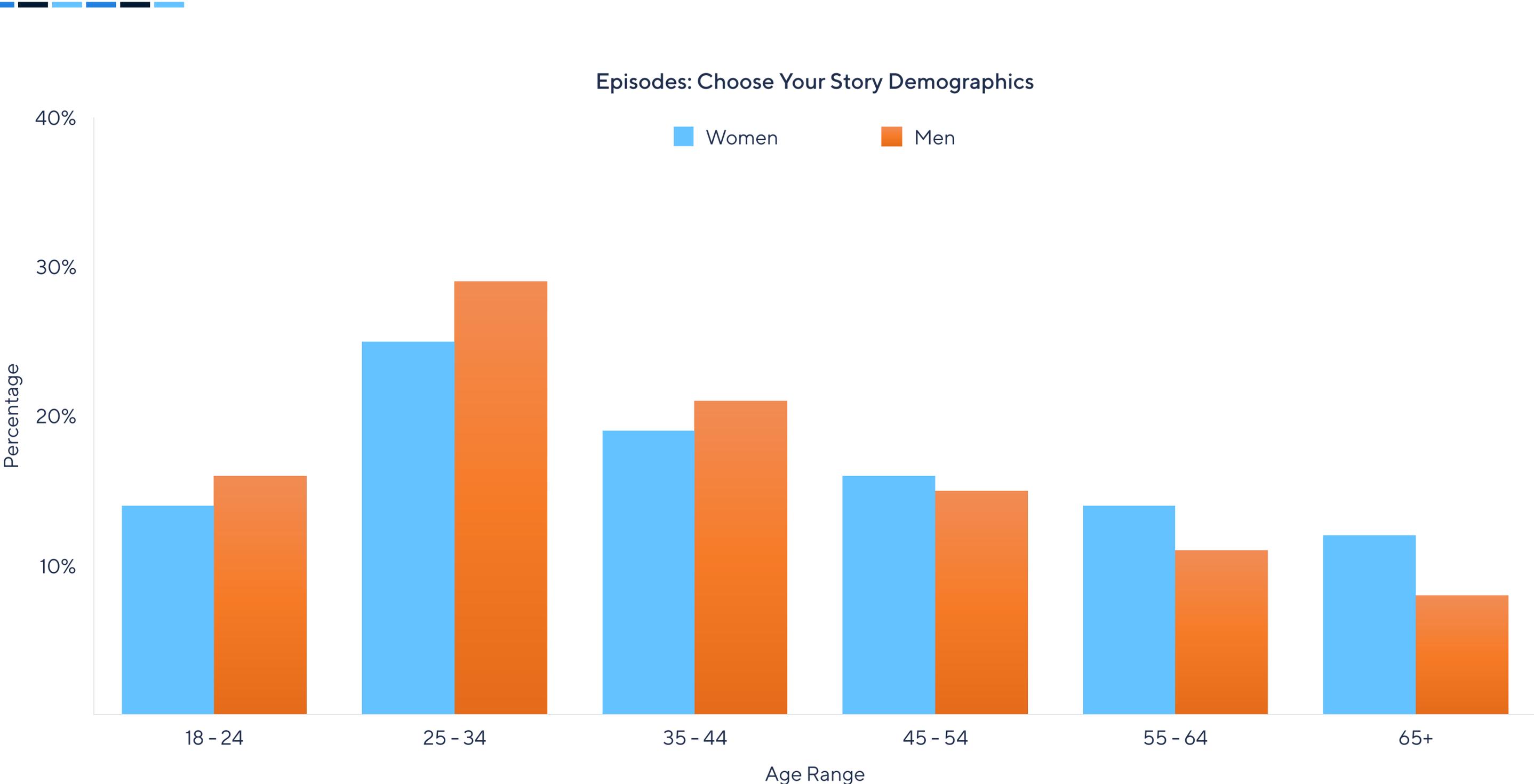
- **Choice-based mechanics strongly appeal to Sensation Serena's belief that she can control her chances of winning.** *Sensation Serena* is motivated by the sensory experience of slots and the challenge they present, so she is drawn to more involved bonus mechanics and collection features.

Go Deeper Online Using the Feature Database

- See more images and videos of the [Devin & Dell](#) machine in the Library tool.
- Download the [L&G Slots Personas Reports](#) for more player insights.



EPISODES: CHOOSE YOUR STORY DEMOGRAPHICS



• Information comes from [Facebook Insights](#)

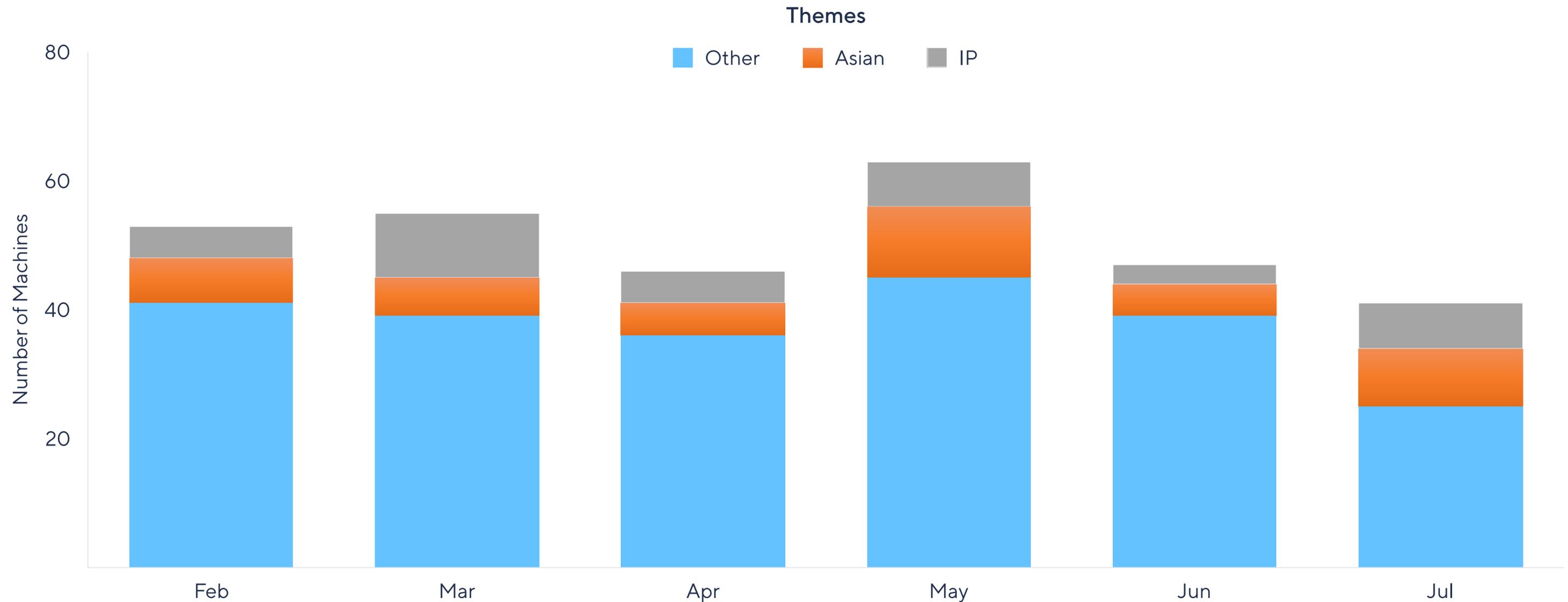
SLOTS TRENDS



THEMES

Asian-themed machines are up +2.0x MoM and represented 22% of all tracked machines released in July. IP-themed machines increased +2.8x MoM and represented 17% of all machines released in July.

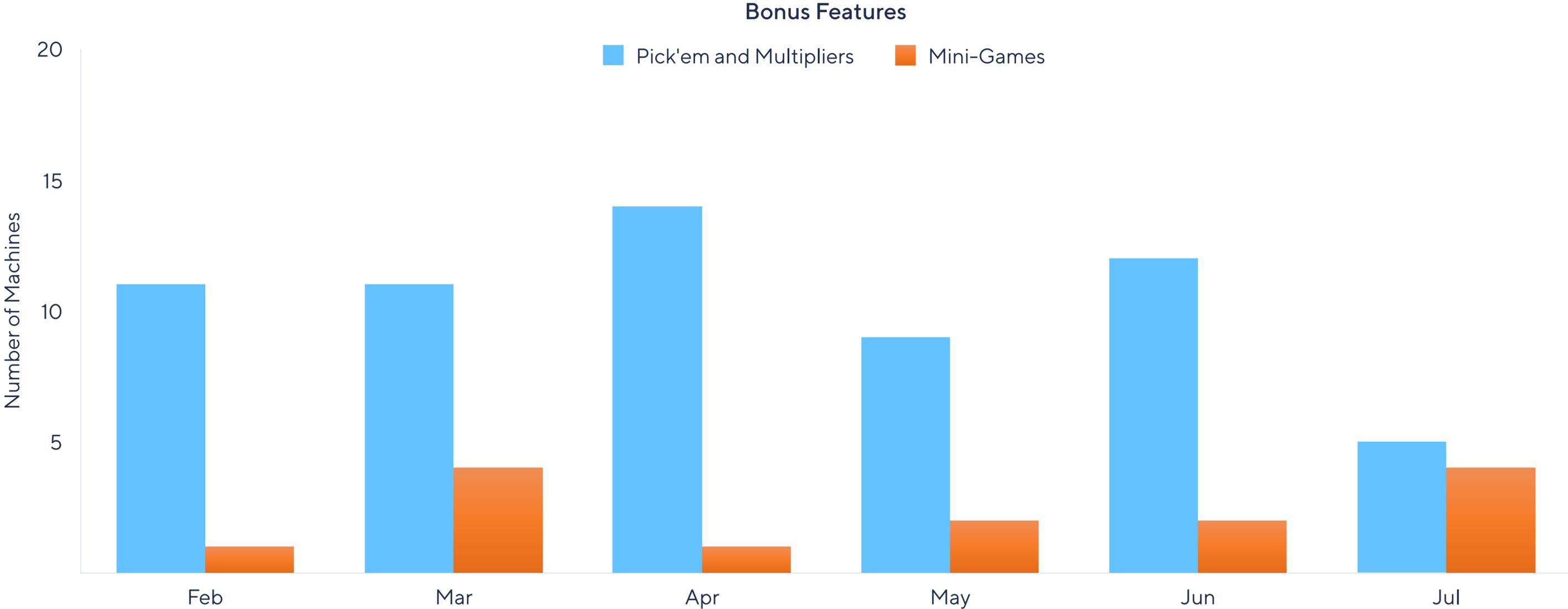
- Use the [Data Tool](#) to uncover more trends. The filters below are pre-set using the link.



BONUS FEATURES

There was a -2.4x MoM decline in pick'em and multiplier bonuses. This decline is partly explained by a shift towards mini-game bonuses, which increased +2.0x in July.

- Use the [Data Tool](#) to see more Bonus Feature trends. The filters below are pre-set using the link.



HOW TO UTILIZE LIQUID AND GRIT'S TOOLS

Uncover new slots trends, determine optimum machine output, and understand competitor investments with Liquid and Grit's tools and capabilities. A benchmarking Matrix tool is coming soon!



DATA TOOL

1. Find new trends using the Data Tool's categorization
2. Benchmark your app's output against competitors
3. Export data into .csv to do more in-depth analysis



WIKI TOOL

1. Reference all Liquid and Grit's insights
2. Find and download previous Reports
3. Uncover revenue driving features from other genres



LIBRARY TOOL

1. Watch videos to understand the animation and flows
2. Download images to use as design templates and spec references
3. Check out level-locked machines and features



SLACK REPORTS

1. Read the Reports in any Slack channel
2. Start a team conversation about new designs and innovations
3. Quickly review the Report's Executive Summary

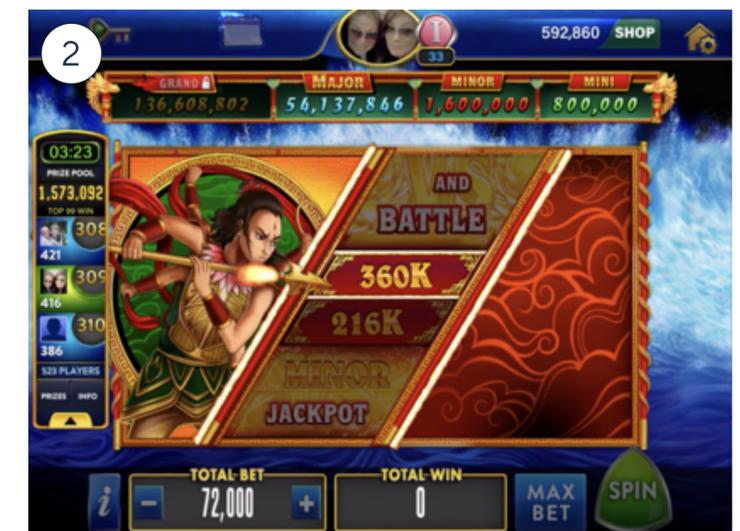
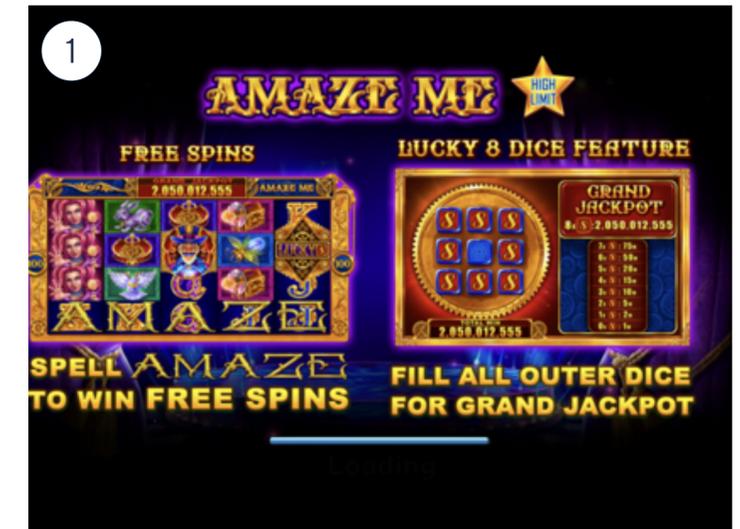
MARKET WATCH



7/1/19 - 7/31/19

NOTABLE RELEASES I

App	Machine	Description
Slotomania	Amaze Me	<ul style="list-style-type: none"> During base play, players spell 'AMAZE' on the reels to trigger the free spins. Symbols under 'AMAZE' turn wild for the free spins. In a mini-game bonus, players roll dice to hit 8s. All 8s are held and rolls continue until no 8s appear (1). A similar dice mini-game was in Heart of Vegas' Lucky 88 Extra Choice.
Heart of Vegas	The Third Prince Vs	<ul style="list-style-type: none"> This machine is a near-reskin of Heart of Vegas' The Third Prince. Players can increase their bet to activate additional symbols and jackpots. Landing special and activated symbols trigger a wheel spin for coins, jackpots, or the <i>Battle Feature</i> (2).
Big Fish Casino	Wild Flame	<ul style="list-style-type: none"> Jackpots, which appear on a bonus symbol, can only be won when free spins are triggered or re-triggered.
Caesars Slots	The Great Carnival	<ul style="list-style-type: none"> A ticket collection mechanic is only available during a pick'em bonus game. Filling the ticket meter triggers a wheel spin that awards free spins, multipliers, full-reel wilds, and random wilds (3 and video).

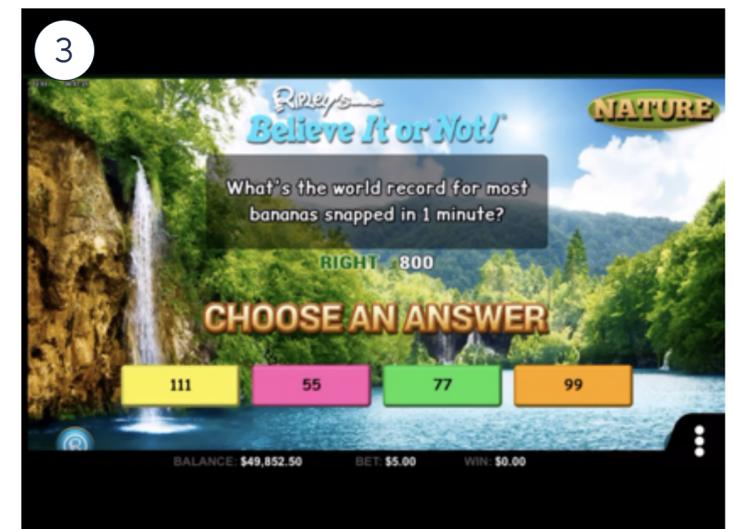


NOTABLE RELEASES II

App	Machine	Description
Huuuge Casino	Cusco Sun	<ul style="list-style-type: none"> Before free spins, players spin a wheel up to six times to set the value of a bonus symbol. The prize is the combined value of all wheel spins earned in the free spins (1 and video).
myKONAMI Slots	Star Watch Magma	<ul style="list-style-type: none"> During the base play and free spins, a large bonus wheel above the reels is triggered by hitting a special symbol.
Lotsa Slots	Rolling in Dough	<ul style="list-style-type: none"> During base play, players collect cookies to buy ingredients and complete recipes. Completing recipes awards free spins with wild reels (2).
	Diner Dollars	<ul style="list-style-type: none"> During a pick'em bonus, players can collect boosts to use during the free spins.
Slingo Arcade	World of Ripley's	<ul style="list-style-type: none"> Players trigger a trivia mini-game through base play or bonus wheel spins. In the mini-game, rewards are based on how many picks it takes players to choose the correct answer to 'Believe It or Not' questions (3 and video).

Review all the Machines Released

- Use the [Data Tool](#) and filter on Casino in the [Feature Database](#).



APPENDIX



CASINO MECHANICS TAXONOMY

Mechanic	Definitions
Accelerators	Increases the power, impact, or efficiency of play
Banks	Saves a % of spend that can be unlocked later
Bonuses	Free bonuses given to players often with time intervals
Challenges	Players must play, complete, and win
Clubs	A group of players accomplishing goals or competing with other groups
Collections	A set of items players collect (often for a completion prize)
Competitions	Players competing against other players
Cosmetics	Improvements or updates to the game or a Feature
Currencies	Changes to currencies, economies, stores, and items
Expansions	Additional Rooms, Worlds, play modes, VIP Lounges, etc.
Flows	Specific flows, like the new user, ratings, and surveys

Mechanic	Definitions
Interactions	Any social feature with direct or indirect interaction
Leaderboards	Stand-alone leaderboards
Levels	Anything to do with leveling
Mini-Games	Smaller, shorter games within the app (e.g. Scratcher Cards)
Missions	A linear set of tasks that players must accomplish
Notices	Feature or product announcements
Other	Miscellaneous Features and outliers
Profiles	Related to a player's setup, profile, settings, and controls
Purchases	Anything to do with spending money on items in the app
Quests	Completing tasks to progress along a map or map-like mechanic
Rewards	Any reward players receive for engagement or spend (other than in the bonuses family)

LIQUID AND GRIT'S SLOTS PERSONAS

A survey of 1,299 participants from the U.K. and U.S. were recruited to respond. The data formed patterns of game choices, slots preferences, and playing habits ... producing five distinct personas.

	Demographics*				
	Fame Frank	Money Mike	Daydreamer Denise	Gambler Gail	Sensation Serena
Size	21%	22%	27%	19%	12%
Women	50%	51%	66%	60%	55%
Age	32 mean / 30 median	34 mean / 32 median	35 mean / 34 median	35 mean / 33 median	35 mean / 32 median
Education*	3.5	3.3	3.5	3.2	3.3
Money Spent	4.2	4.9	3.5	5.4	5.8
Play Time	5.0	4.5	5.0	4.9	6.5



* The Education, Money Spent, and Play Time numbers are representative of the strength of each player persona.

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 Quadrant Strategies website</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 website</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 Sensor Tower website</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



“I do not literally paint that table, but the emotion it produces upon me.”

– Henri Matisse

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