



SLOTS DESIGN REPORT

Competitive Research and Data Insights for Slots Designers

TABLE OF CONTENTS

NEW INNOVATIONS 3

- Coin Drop Mechanics
The Legacy of Bonnie & Clyde in *Cash Frenzy*
- Mini-Steppers with Board Games
Fantasy of Oz in *DoubleU Casino*

SLOTS TRENDS 12

- Base Game Mechanics
Lines

MARKET WATCH 15

- Notable Releases I, II, & III

APPENDIX 19

- Liquid and Grit Slots Personas
- Premium Partnerships
- Casino Mechanics Taxonomy

NOVEMBER

2019

NEW INNOVATIONS



CASINO > CONTENT > SOCIAL

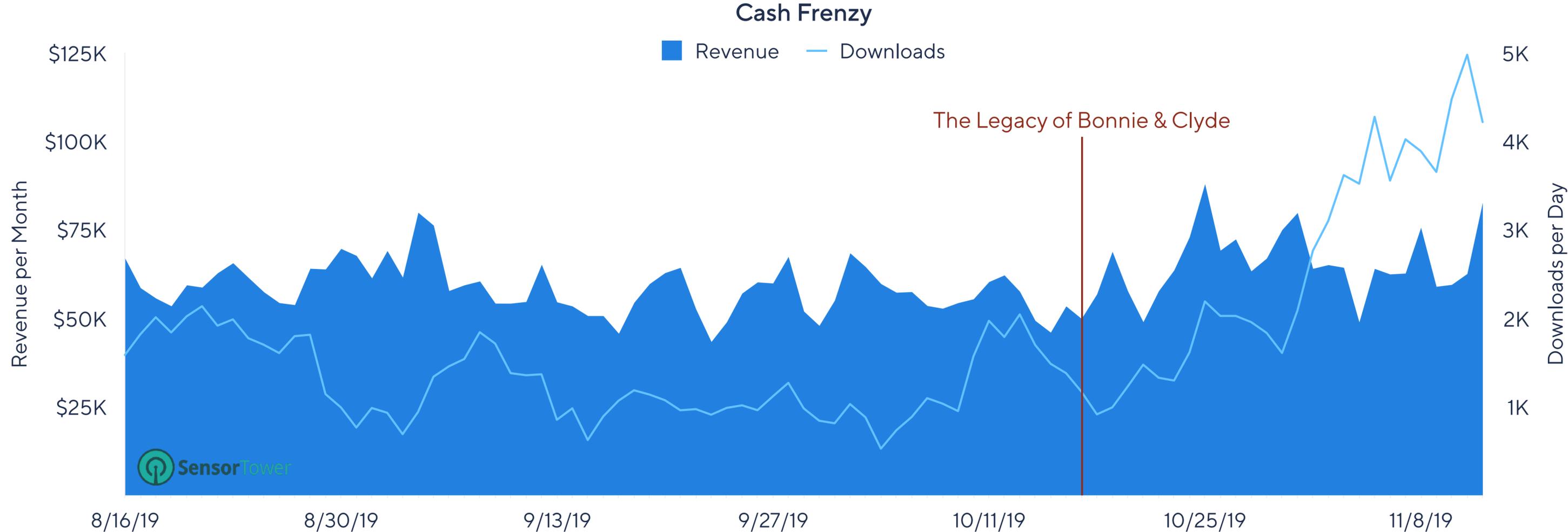
COIN DROP MECHANICS

The Legacy of Bonnie & Clyde in *Cash Frenzy*

REVENUE ANALYSIS

Revenue was +5% and downloads -30% WoW after the release of *The Legacy of Bonnie & Clyde* machine in *Cash Frenzy*. Other events released during this period likely contributed to the revenue increase.

Releases
10/11-10/17: Game of Fortune mini-game event
10/15-10/28: Quest Frenzy Horror Nights Season 11 quest event
10/16: \$4.99 Extra Sale Pack moved +1 to #1
10/17: The Legacy of Bonnie & Clyde content release
10/18-10/20: Bingo Frenzy mini-game event
10/18: <ul style="list-style-type: none"> \$6.99 Gold Sale Pack moved +1 to #3 \$7.99 Real Slots Pack moved +1 to #9
10/19: Set Party accelerator event



Graph data is iOS U.S. only.

MECHANIC TEARDOWN

Coins fall from the top of the machine to spell “WILDS” below the reel set. Filling all WILDS spots in a single spin converts extra coins to wilds. The machine also includes a Deal or No Deal mini-game.

Wilds Bonus

- Each spin, coins fall from the top of the reels to fill WILDS spots under the reel set (1).
 - More than one coin can fall into each WILDS spot.
- Filling all WILDS spots in one spin awards a wilds bonus (video).
- Each additional coin beyond those needed to spell WILDS converts a symbol on its reel to a wild.
- The spin is scored and the wilds disappear.

Vault Bonus

- Landing a vault symbol on the third reel triggers a vault bonus (2 and video).
- Vault bonuses add coins to any empty WILDS spots, triggering a wilds bonus.
- In addition to triggering the bonus, one extra wild is added to each reel.
- If a wild lands where a wild already exists, that wild receives a multiplier.

Take It or Leave It Bonus Trigger

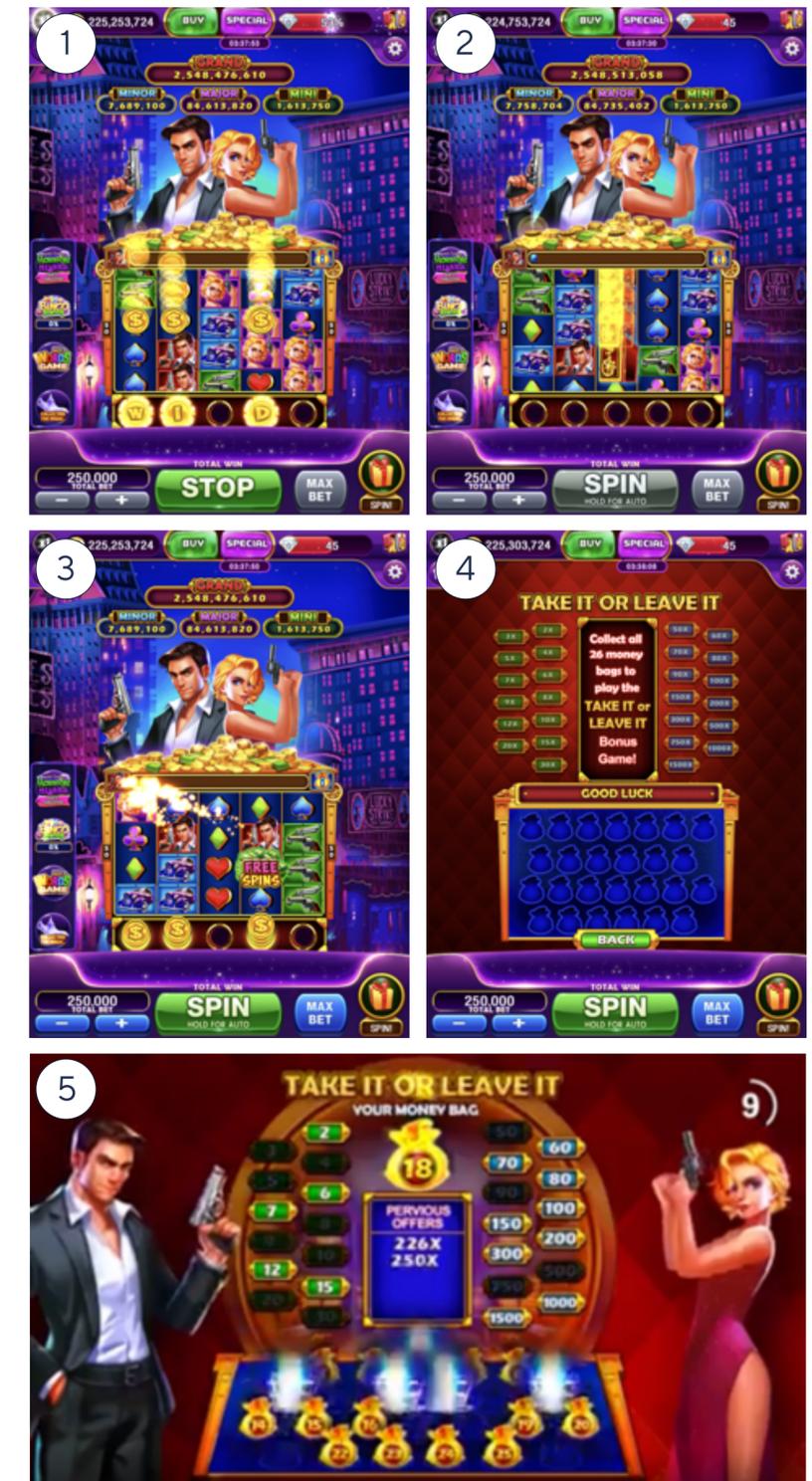
- Collecting Clyde symbols fills a treasure meter (3).
- Filling the meter awards a money bag.
- Collecting all 26 money bags triggers a Deal or No Deal mini-game (4 and video).

Take It or Leave It Bonus Mini-Game

- Players select a money bag with a hidden multiplier.
- The game presents players with a multiplier offer based on the values in the remaining money bags.
- Players must choose between taking the offer or sticking with their original money bag.
- If players take the offer, the mini-game ends.
- If not, the game eliminates a random selection of money bags and presents a new offer (5).
- The mini-game ends when players choose an offer or turn down five offers to keep their original money bag.

Additional Information

- See [The Legacy of Bonnie & Clyde](#) Library.



EXPERT INSIGHTS

To increase bet sizes, market a bet-up mechanic or bet dialogue after big wins or losses. According to research, these are the moments when players are most likely to take bigger risks.

Competitor Insights

- [Cash Frenzy](#) is combining mechanics inspired by both social and RMG machines. The coin-dropping mechanic from [The Legacy of Bonnie & Clyde](#) in *Cash Frenzy* is similar to the coin-dropping mechanic in IGT's RMG machine [Coin O Mania](#) (1). The *Cash Frenzy* machine also includes a Deal or No Deal mini-game similar to the bonus in *Slotomania's* [SmashoMania](#) (2).

Capitalize on Key Moments

- [Market bet-up mechanics and bet dialogues after big wins and losses](#). Players are more likely to make riskier bets after a significant loss or a significant gain, according to research on the Deal or No Deal game show ([Deal or No Deal? Decision Making under Risk in a Large-Payoff Game Show](#), pg. 43).
- [Showcase a wide range of offers in Deal or No Deal bonus games](#). On the Deal or No Deal game show, contestants tend toward moderate levels of risk aversion. Contestants regularly turn down offers that exceed 75 percent of the expected value; however, the offers people accept vary greatly ([Deal or No Deal?](#), pg. 42).

Mobile Gaming Trends

- [Mini-games with mechanics from other genres are a successful trend in top-grossing apps across genres](#). These mini-games add variety for current players and broaden apps' appeal to potential players. *AFK Arena's* revenue was +24% WoW after the release of [Voyage of Wonders](#), an event that integrated puzzles into an RPG dungeon map (3).

Target Player Personas

- [Deal or No Deal mechanics target Daydreamer Denise and Money Mike player types](#). Daydreamer Denise likes mechanics layered on top of the core slot machine, while Money Mike is drawn to promises of profit and features with multipliers. Email us for more information on the [L&G Slots Personas Report](#).



CASINO > CONTENT > SOCIAL

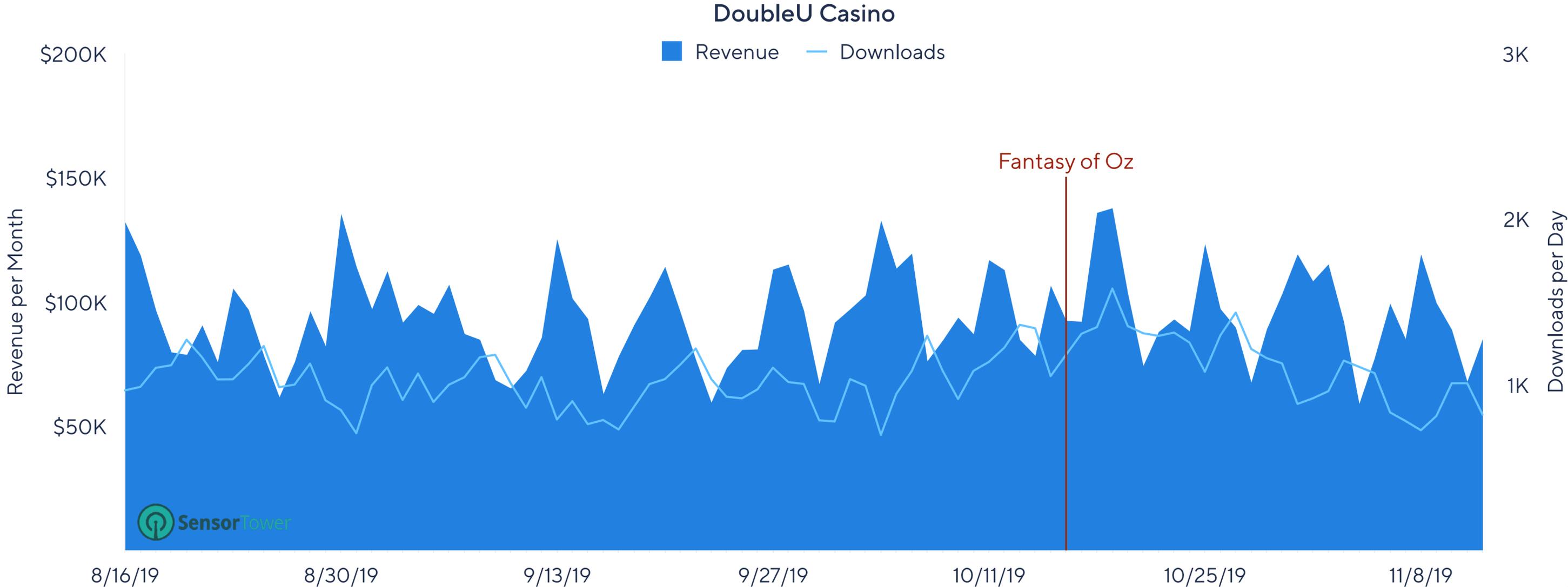
MINI-STEPPERS WITH BOARD GAMES

Fantasy of Oz in *DoubleU Casino*

REVENUE ANALYSIS

Revenue was +6% and downloads +16% WoW for the week following the release of Fantasy of Oz in *DoubleU Casino*. Other events, including a sale, likely contributed to the revenue increase.

Releases
10/15-10/18: Enchanted Pot of Coins mission event
10/16: Fantasy of Oz content release
10/17: Booster Event club event
10/18: Jackpot Tourney accelerator event
10/18-10/20: Opening Sale purchase event (FB)
No IAP changes during this date range.



Graph data is iOS U.S. only.

MECHANIC TEARDOWN

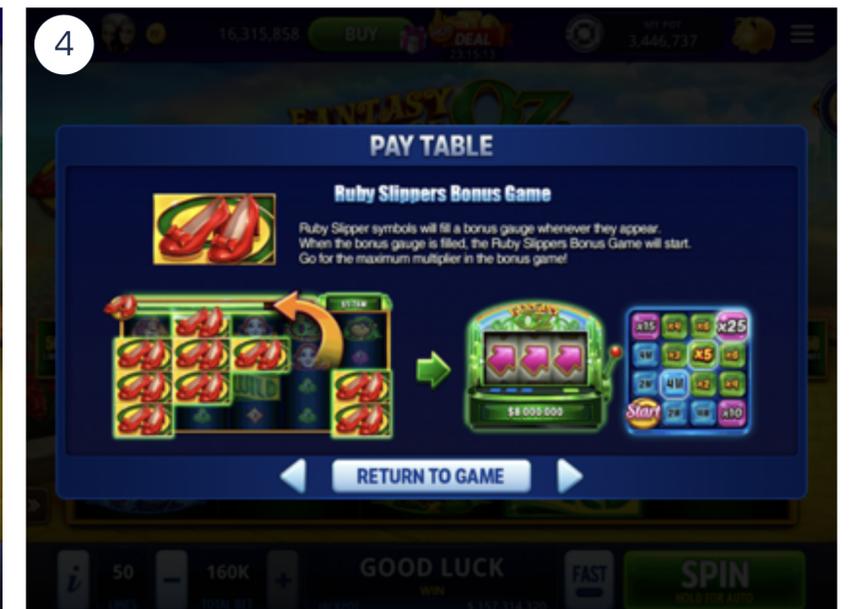
In the machine's mini-game, players spin a mini-stepper machine to move across a board of coin bonuses and multipliers.

Feature Details

- Players spin to collect ruby slippers and fill a meter (1 and [video](#)).
- Filling the meter triggers a mini-stepper bonus game ([video](#)).
- The mini-stepper machine has three reels with arrow symbols.
- Arrows point up, right, and diagonally (2).
- After spinning, players move across a prize board in the series of directions indicated by the arrows.
- Players collect a coin prize or multiplier from each space they hit (3).
- Landing three identical arrows achieves the largest coin bonuses and multipliers.
- The largest total bonus is awarded for three diagonal arrows (4).

Additional Information

- See more images and videos in the [Fantasy of Oz](#) Library.



EXPERT INSIGHTS

Augment the popular mini-stepper bonus game with a board that contains boosts and Whammies, expands as players increase their winnings, and persists across play sessions.

Enhance Bonus Game Excitement

- **Amplify bonus games by adding a game board.** The [Fantasy of Oz](#) mini-stepper could function as a straightforward mini-stepper. The addition of a game board provides a stimulating visualization that appeals to Sensation Serena player types who are highly motivated by arousal.
- **Place boosts around the board—like in Scrabble—to make the game more exciting and increase winnings.** For instance, add a space that sends players three spaces in one direction.
- **Expand the size of the game board as players progress.** In *Cash Frenzy's* [Invincible Brave](#), pieces on the bonus board shrink as the board expands (1 and [Expanding Respins & Spawning Bonus Boards](#) Wiki).

Boost Machine Retention

- **Make persistent game elements that require player choices.** In the infinite freedom machines released by *Slotomania* and, later, *Cash Frenzy*, players pick their path on a board—and their progress persists between sessions. After completing all five paths, a sixth, more valuable path is unlocked ([In-Machine Quests](#) and [Infinite Freedom Supplemental](#) Wikis).

Control RTP Impact

- **Add a countdown timer and/or Whammy pieces to reset a persistent bonus.** These reset mechanics will reduce excessive RTP impacts and increase engagement due to loss aversion—a psychological tendency that makes players about *twice* as sensitive to potential losses as potential gains ([The Neural Basis of Loss Aversion in Decision-Making Under Risk](#), pg. 517). *Slotomania's* post-purchase boost, [Leprechaun](#), activates a bonus meter with a countdown timer after a purchase ([Unlocking Boosts Post-Purchase](#) Wiki).

Increase Bonus Game ROI

- **Allow players to trigger a bonus game from multiple machines during a time-limited event.** The investment required to build more complex bonus games is often too large to justify for a single machine. In *Slotomania's* [Blast](#) events and, later, *Cash Frenzy's* [Frenzy](#) event, players can trigger stand-alone bonus games from any machine by filling meters with randomly dropped items during play (2).



SLOTS TRENDS

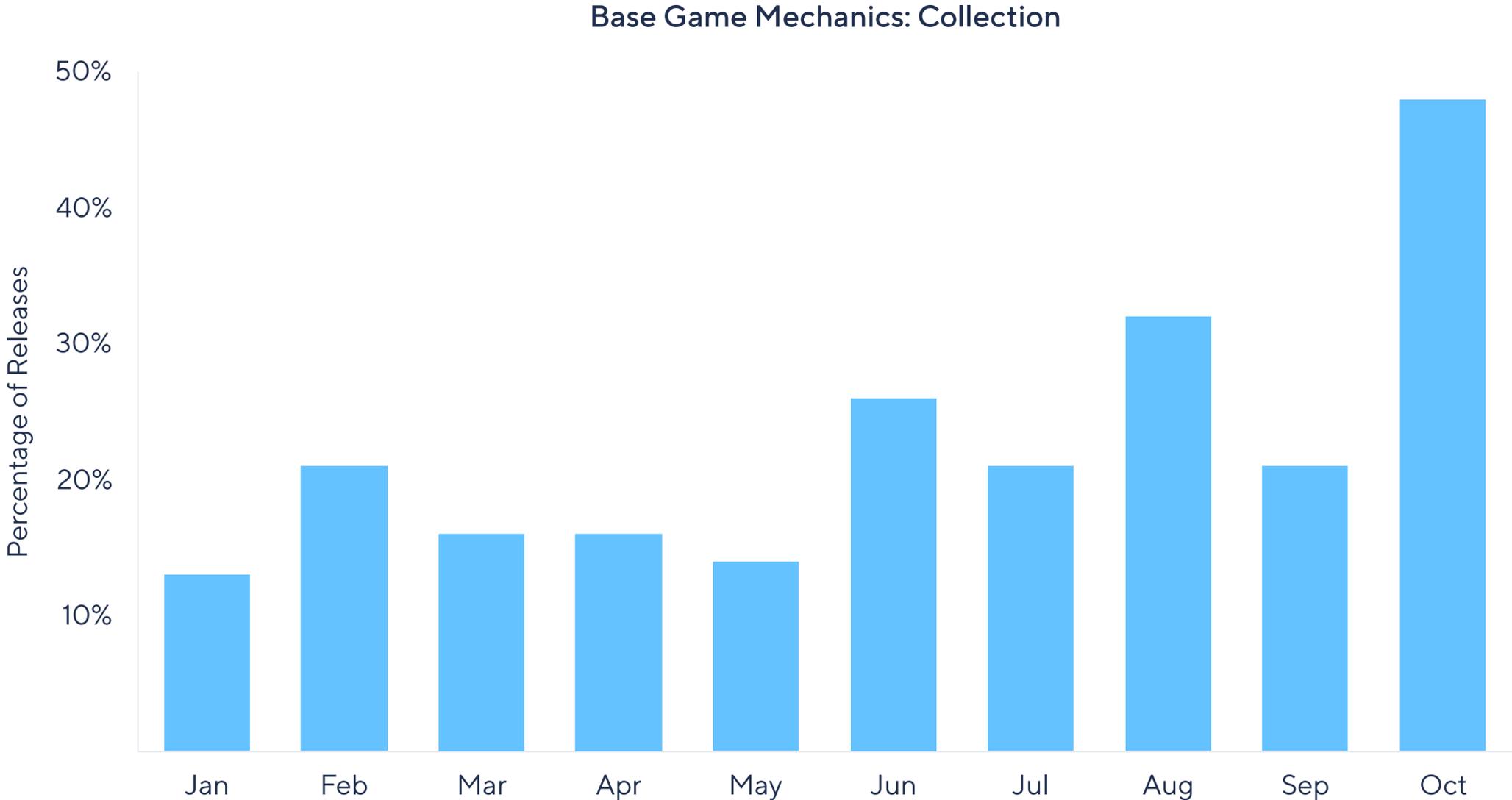


Featured Apps this month:

Big Fish Casino, Caesars Slots, Cash Frenzy, Cashman Casino, DoubleDown Casino, DoubleU Casino, Heart of Vegas, Hit it Rich!, House of Fun, Huuuge Casino, Jackpot Magic Slots, Jackpot Party, POP! Slots, and Slotomania

BASE GAME MECHANICS

Collection systems are on the rise. *Cash Frenzy*—a new addition to Featured Apps—led the way in October, releasing four machines with collection mechanics. *House of Fun* and *Slotomania* each released two machines with collections during the same period.



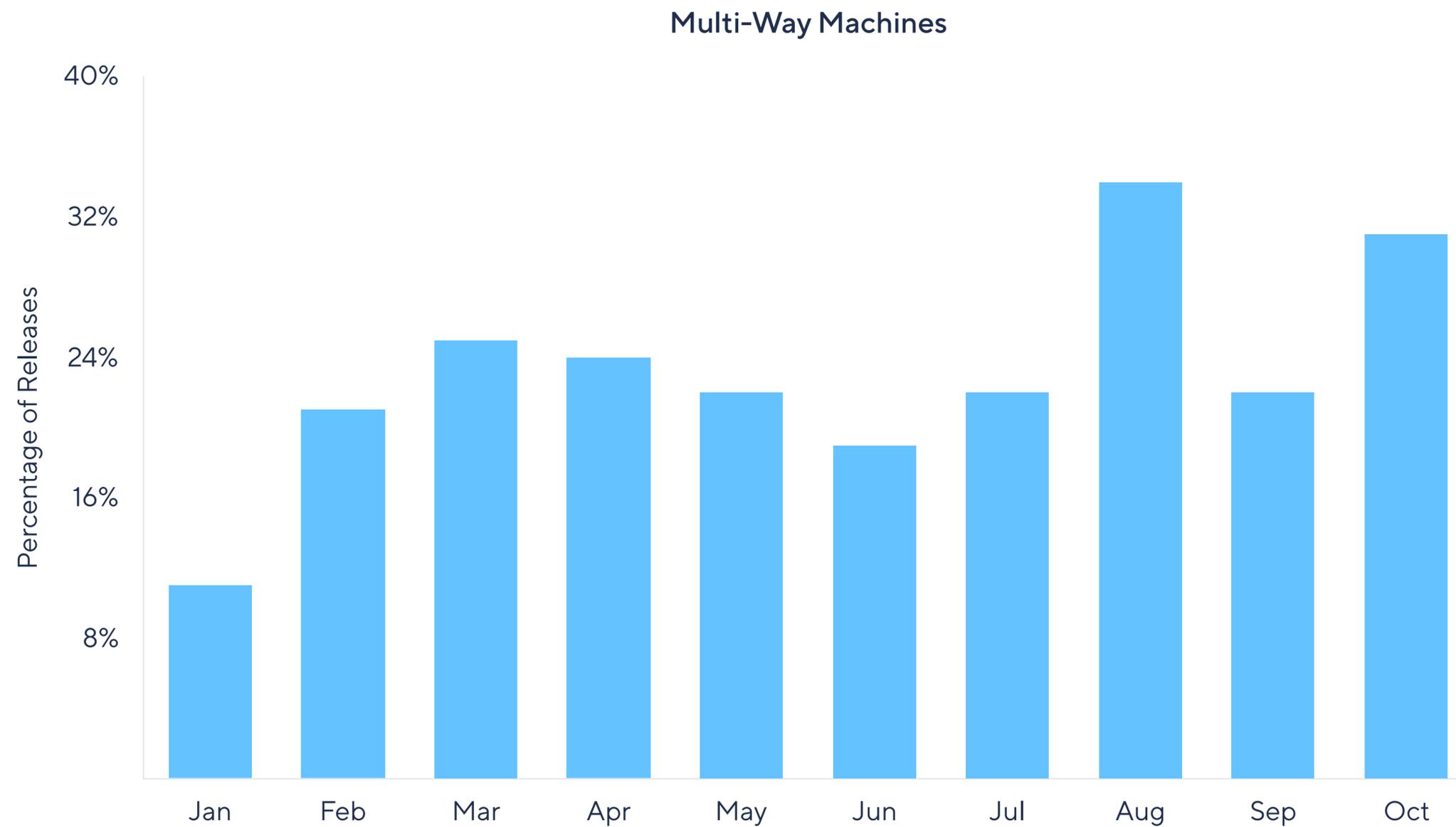
[Sushi Lover](#) – Cash Frenzy



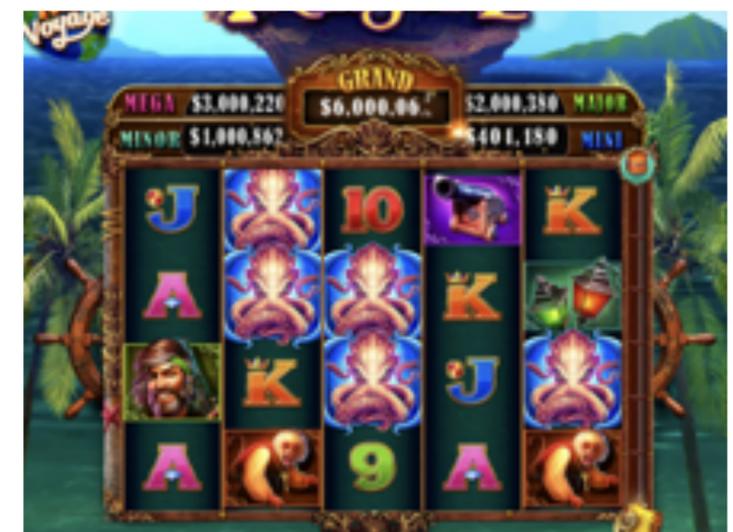
[SmashoLoco](#) – Slotomania

LINES

Multi-way machines are a growing trend in social gaming. At G2E 2019, real-money machines also appeared to be trending toward multi-way machines.



[Golden Fiesta](#) – Cashman Casino



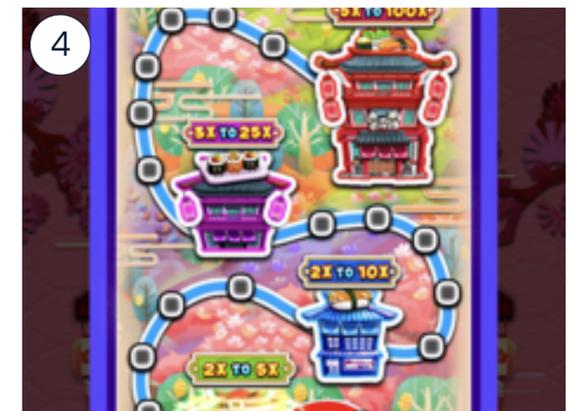
[Tides of Treasure](#) – House of Fun

MARKET WATCH



NOTABLE RELEASES I

App	Machine	Description
Caesar Slots	Ha-Ha-Halloween	<ul style="list-style-type: none"> Hitting six pumpkin symbols triggers a drop-and-lock respin bonus. All non-pumpkin symbols are removed from reels for the respins. Players have three respins to land more pumpkins. Each full row of pumpkin symbols awards the pumpkins' values and clears the row (1). When a row is cleared, the remaining pumpkin symbols fall down to fill the space. Landing a full row of jack-o-lantern pumpkins awards a jackpot reel spin.
Cash Frenzy	Prince Charming	<ul style="list-style-type: none"> Players spin to collect puzzle coins. Puzzle coins can be spent on four tiers of puzzle-piece jars. Each jar contains five puzzle pieces. Each puzzle awards prizes at progression milestones and free spins when completed. More difficult puzzles require more pieces but award more valuable free spins (2).
	Sushi Lover	<ul style="list-style-type: none"> During a free spin bonus, every winning spin raises a bonus meter 1-3 positions (3). At the end of the free spins, a pick'em mini-game allows players to further raise the bonus. When the bonus ends, players earn coins based on the bonus meter. Collecting Coin Boom symbols fills a meter. Filling the meter advances the player one space on a map (4). Map milestones trigger free spins with a full-reel multiplier that increases as players progress.



NOTABLE RELEASES II

App	Machine	Description
Cashman Casino	Golden Fiesta	<ul style="list-style-type: none"> • Players collect a series of animals—one at a time—to fill an upgrade meter (1). • When the meter reaches an animal milestone, that animal turns gold and increases in value. • Once an animal is upgraded, players begin collecting the next animal. • Milestones trigger 10 free spins with multipliers. • Filling the final meter awards 12 free spins with 2 extra rows and a multiplier.
DoubleU Casino	Pyramid of Kitty	<ul style="list-style-type: none"> • Landing six or more scatter symbols triggers five free spins. • The cumulative value of the scatter symbols becomes the value of kitty symbols during the free spins (2 and video). • Wilds randomly trigger a board game mini-game. • Players spin a wheel to advance on a game board until they hit a jackpot space on either the board or the wheel.
	Fiesta Mexicana	<ul style="list-style-type: none"> • Wild symbols convert to full-reel wilds for the next spin (3 and video). • Landing three scatter symbols triggers seven free spins. • All full-reel wilds that appear during free spins remain until free spins end.

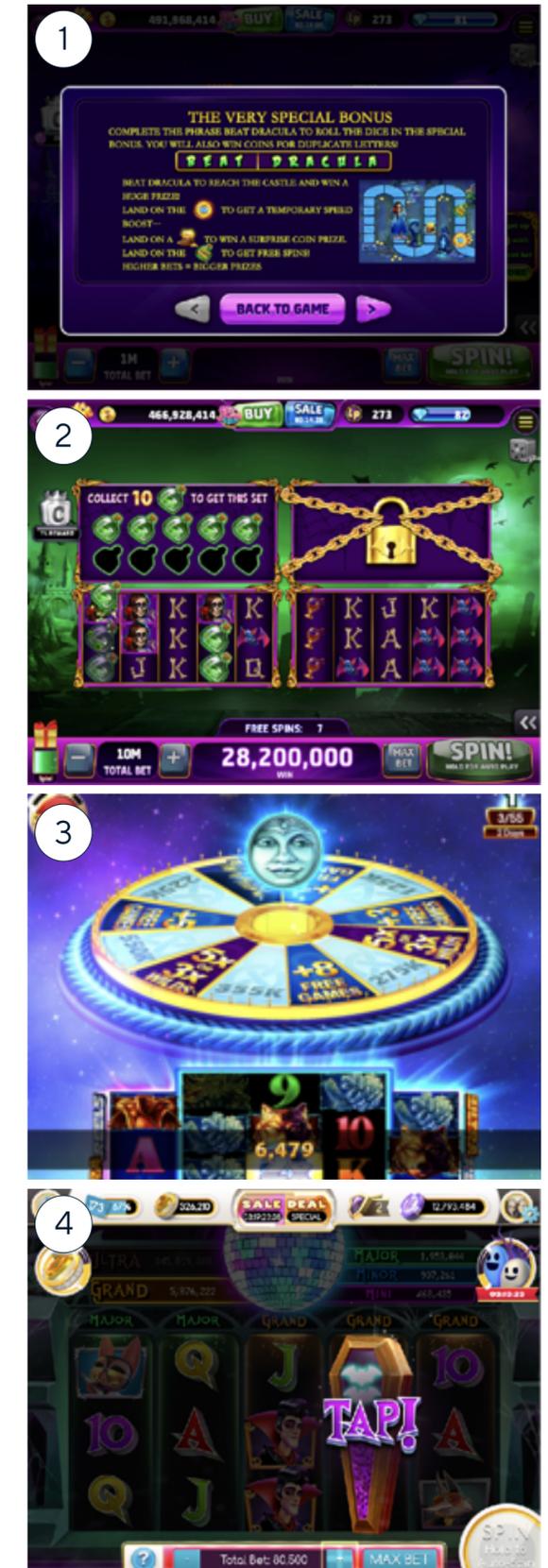


NOTABLE RELEASES III

App	Machine	Description
Lotsa Slots	Beat Dracula	<ul style="list-style-type: none"> • Players spin to collect letters and spell “BEAT DRACULA”. • Duplicate letters award coins. • Spelling “BEAT DRACULA” triggers a board game mini-game. • In the mini-game, players roll dice to advance across a game board, collecting prizes and boosts (1). • Landing 3 or more scatter symbols triggers 15 multi-matrix free spins. • Free spins begin with two out of four reel sets unlocked. • During free spins, players collect poison symbols to unlock two more reel sets and sticky wilds (2).
my KONAMI Slots	Celestial Moon Riches	<ul style="list-style-type: none"> • Wilds that land on reels 2–4 have 2x–3x multipliers. • Landing 3, 4, or 5 scatter symbols triggers 7, 12, or 20 free spins. • Each golden scatter symbol that lands when triggering free spins awards one bonus wheel spin. • Players spin the large wheel over the reels for coin prizes, free games, multipliers, and jackpots (3).
myVEGAS Slots	Disco Dracula	<ul style="list-style-type: none"> • Landing a coffin entirely on the reel creates a locked wild reel for the next 2–4. • Each coffin has a light meter that fills one notch when it lands. • Filling a coffin’s meter awards a chip prize or one of three different bonuses (4). • Coffin bonuses include a pick’em bonus, a roaming full-reel wild free spin bonus, and a jackpot bonus.

Quickly review all features and machines

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



APPENDIX



LIQUID AND GRIT SLOTS PERSONAS

Participants from the U.K. and U.S. were surveyed about their mobile gaming use. The data produced five personas with distinct patterns of game choices, slots preferences, and playing habits.

	Demographics				
	Fame Frank	Money Mike	Daydreamer Denise	Gambler Gail	Sensation Serena
Size	21%	22%	27%	19%	11%
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 represent the relative value of each category compared to other player personas.

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.



CASINO MECHANICS TAXONOMY

Family	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	Goal-oriented tasks for players to complete
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 flow, ratings, and surveys

Family	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., scratch cards)
Missions	A linear set of tasks that players must accomplish
Notices	Feature or product announcements
Other	Miscellaneous features and outliers
Profiles	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)

“The richness I achieve comes from nature, the source of my inspiration.”

– Claude Monet

LiquidandGrit.com



Brett.Nowak@LiquidandGrit.com

