



LIQUID&GRIT

Slots Design Report

Competitive research and data insights for slots designers

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JUNE

2018

STRATEGY INSIGHTS

NEW RMG LICENSES

New RMG content licenses are emerging each month. PokerStars Play released their first NetEnt-licensed machine, and Slingo Arcade released their first Ainsworth-licensed machine

PokerStars Play [Gonzo's Quest](#)



Slingo Arcade [Roaming Reels](#)



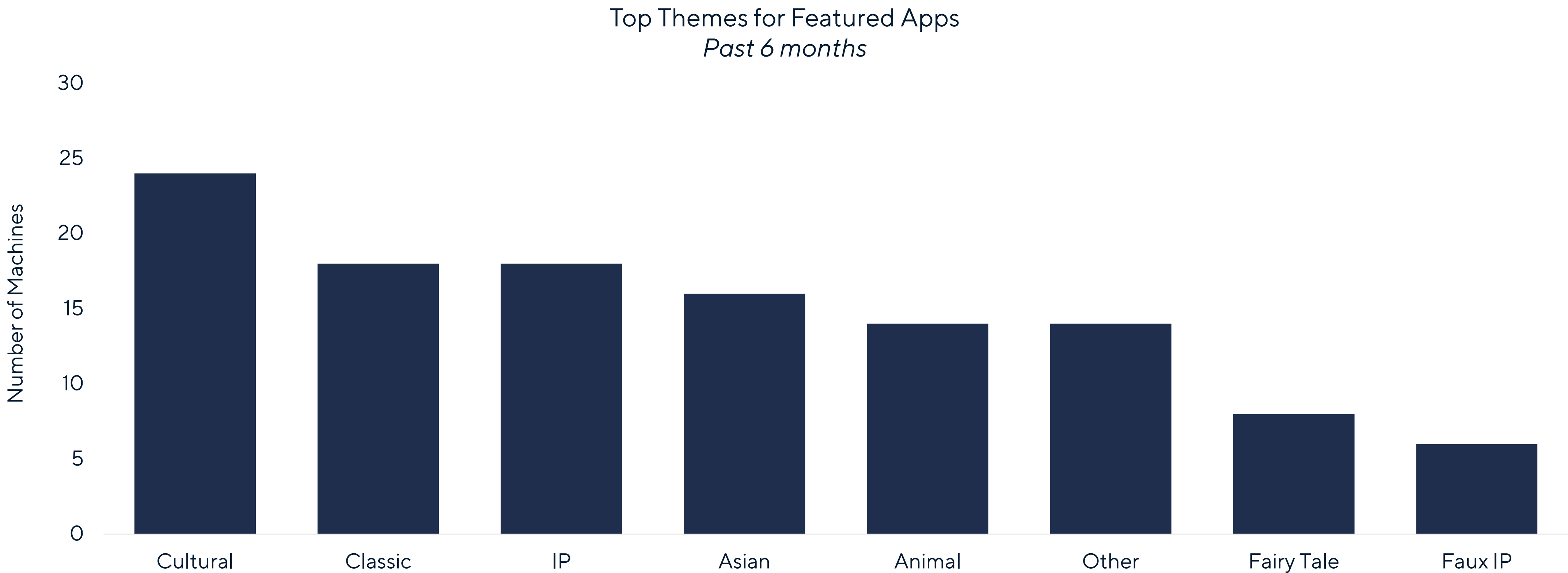
INTRODUCTION

SLOTS DESIGN REPORT
JUNE '18

MORE REAL WORLD IP

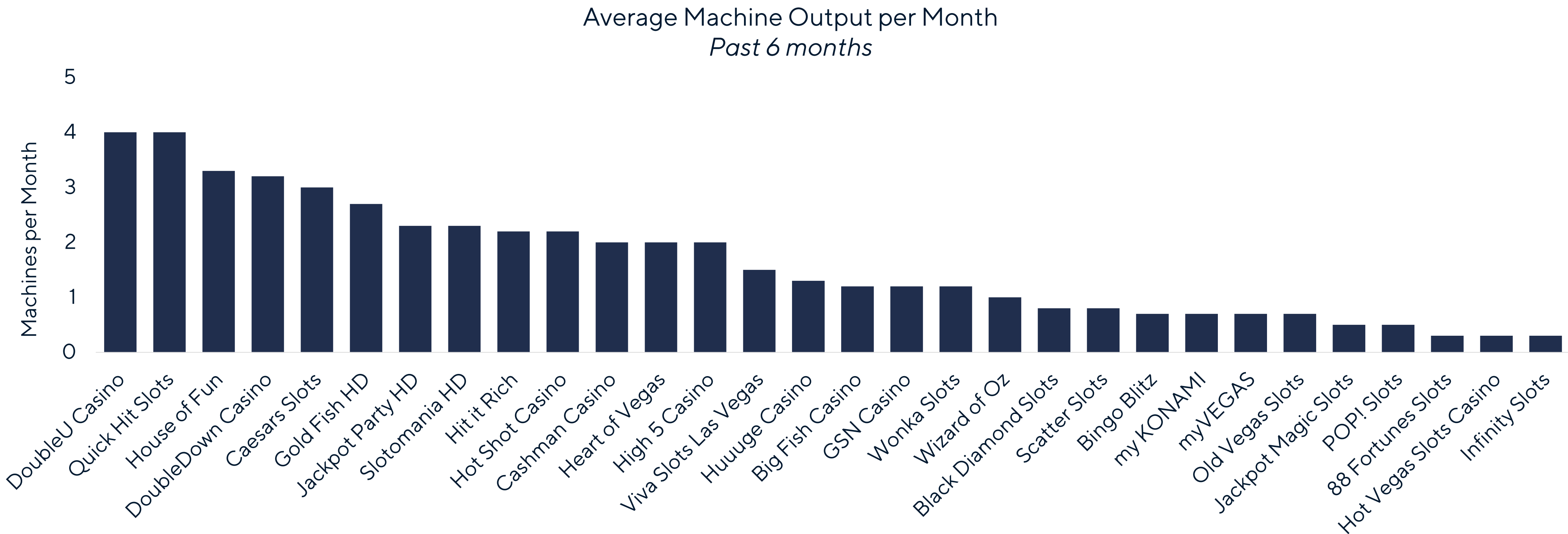


Real world IP is a vital component of Featured Apps content strategy. For Featured Apps, real world IP is the 2nd most popular theme (tied with Classic)



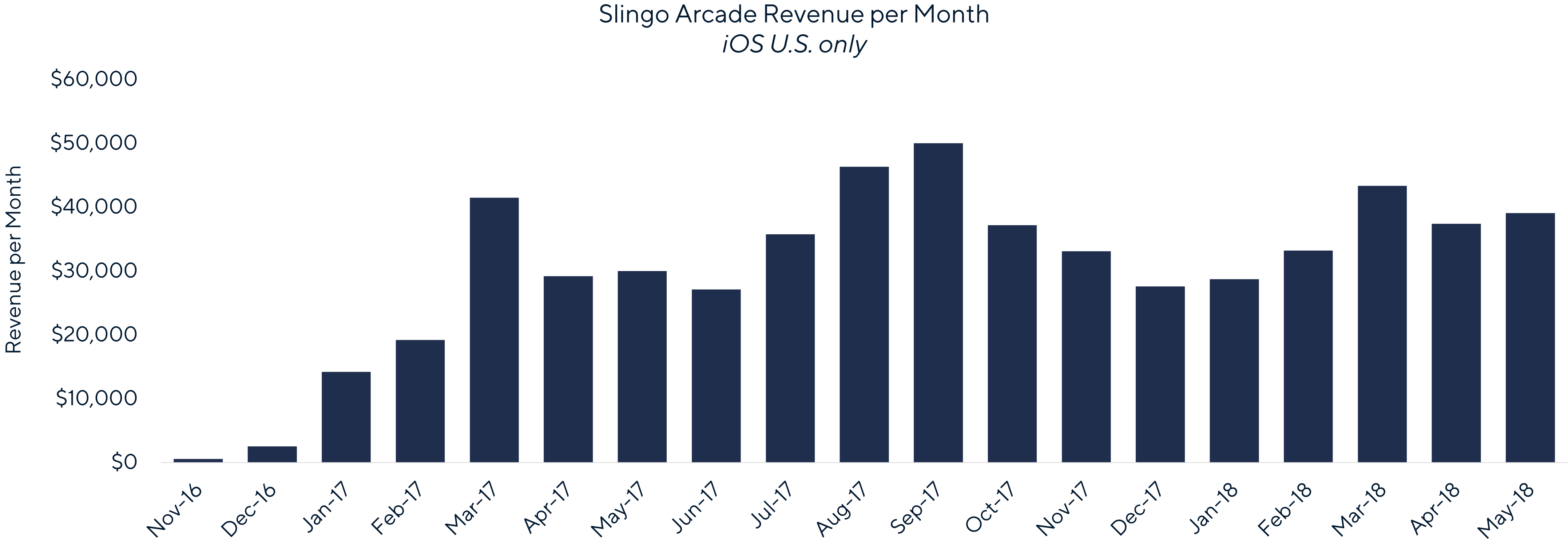
HUUUGE RAMPS PRODUCTION

In March, Huuuge Casino started improving slots *content*. Now, they are also focused on slots *output*. In May alone, they released 5 new machines. While this pace is unlikely to continue, anticipate more slots competition from Huuuge Casino. For comparison, the top machine producers—DoubleU Casino and Quick Hit Slots—average 4 machines per month



NEWCOMER: SLINGO ARCADE

Released in November 2016, Slingo Arcade now ranks between the 75th to 150th grossing app in the U.S. iOS Casino category. In May, Slingo Arcade released an Ainsworth RMG machine—their first RMG machine. Ainsworth machines are also frequently released in Zynga products, expanding content uniformity within the F2P mobile casino market



NEW INNOVATIONS

MULTI-LEVEL CABINETS

Add vertical panning to deliver the *closest mobile experience currently possible* for a multi-level cabinet (a popular feature at G2E 2017)

Feature Explanation

- At machine-entry, players are shown a multi-level cabinet with:
 - Upper bonus wheel (1)
 - Middle pick 'em screen (2)
 - Bottom stepper reel (3)
- Scatters move the player up to the middle of the cabinet for a pick 'em bonus. The pick 'em awards free spins, wheel spins, or both (4)
- Picking a wheel spin moves players to the top level wheel that pays coins or jackpots (5)

Additional Information

- [Lap of Luxury](#) - House of Fun
- Release: 5/23/18
- Target Player: Plain Jane

Related Machines

- [Gladiator](#) - Old Vegas Slots
- [Jingle Bell 7's](#) - Black Diamond Slots
- [Big Cash Wheel](#) - DoubleU Casino

Key Takeaways

- Land-based machines have a clear advantage over mobile machines: the breadth of screen real estate
- At G2E 2017, larger cabinets and displays were a trend. The cabinets for Scientific Games' [Lord of the Rings - Rule Them All](#) and the James Bond-themed [Diamonds are Forever](#) had three play areas: a bottom stepper reel set, a middle display for bonus games, and a top wheel
- Designers and executives must expand their screen real estate to advance the *cinematic, casino-like* experience on mobile. In the meantime, vertical panning is the best option for the current display space



ENHANCING WILDS

Delight casual players with persistent base game features that also increase spending with qualified bets. Implement with care to manage RTP

Feature Explanation

- Wilds randomly appear at the bottom of any reel ... moving up 1 reel each spin (1)
- Wilds landing on a *Magic Forest* symbol convert all surrounding slots to wild (2)
- Wilds occupying the same slot as a scatter will act as a wild *and* a scatter (3)
- Qualifying bets activate the *Firefly Boost*, which increases the output of wilds (4)
- The *Radiant Bonus* game gives the illusion of skill, making players pick *Fireflies* flying up the screen (5)

Additional Information

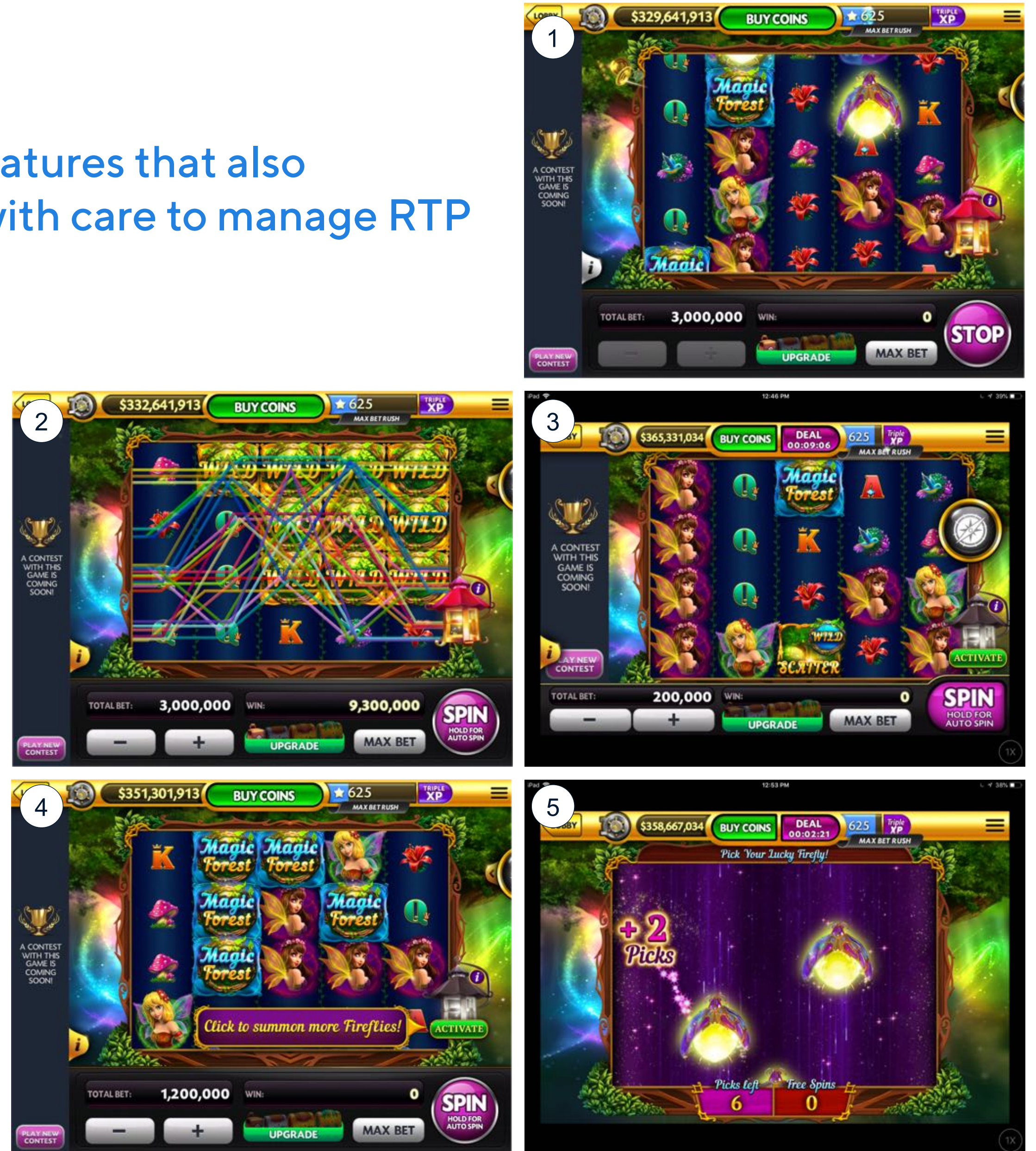
- [Magic Forest](#) - Caesars Slots
- Release: 5/31/18
- Target Player: Night-Out Nancy

Related Machines

- [Cute Horror Story](#) - Huuuge Casino
- [Johnny Cash](#) - Jackpot Party
- [Civiltreasures II](#) - Slotomania

Key Takeaways

- Managing RTP with persistent base game features can be tricky, because players can manufacture high RTPs by upping their bets once the bonus is triggered
- To ensure the intended RTP is produced, either lock bet amounts when the feature is triggered, or at the average bet made since the previous trigger (this requires tracking each bet up to the base game feature trigger, which can be costly to develop)
- Clearly explain to players how the feature works using communication *and* design. Remember, one negative emotion towards a machine can erase hundreds of positive ones
- Add an, "Are you sure?" option, when players try to adjust their bets to ensure they do not mistakenly confirm changes (see [Cute Horror Story](#) by Huuuge Casino for a strong example of this type of safeguard)



PROGRESSIVE WHEELS

Use a break-the-chain mechanic to initiate a level-based experience. Then, add a tiered bonus system to reward and extend player engagement

Feature Explanation

- Upon machine-load, all 20 reel positions are covered by tiles (1)
- Tiles are removed during the base game with winning combinations (2)
- Successfully breaking all of the tiles advances players to the next tier and awards a *Bonus Wheel* (3)
- The higher the tier, the fewer wheels players spin (4)
- Depending on the wheel: credits, extra spins, and wheel upgrades are awarded (5)

Additional Information

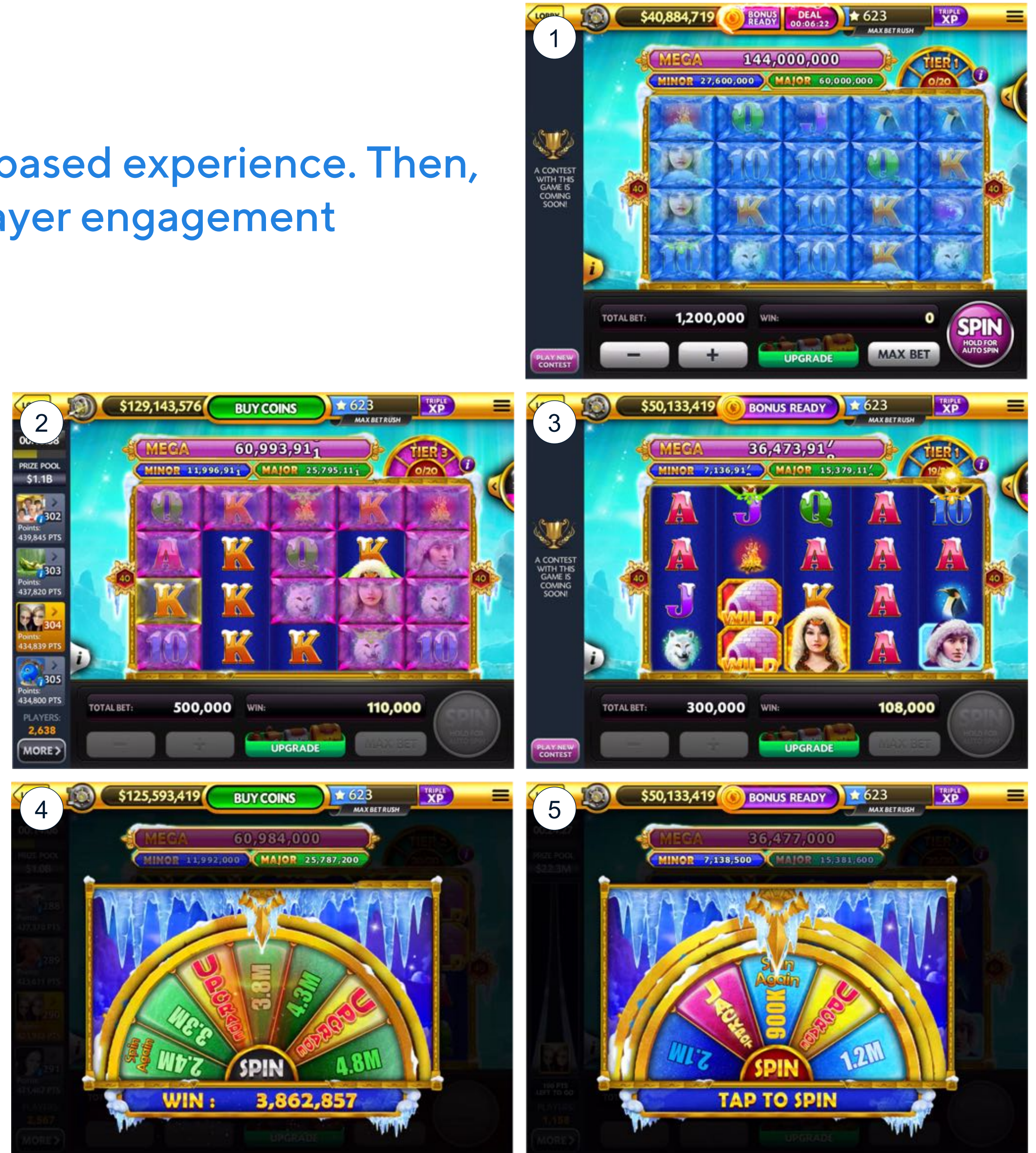
- [Arctic Beauty](#) - Caesars Slots
- Release: 5/6/18
- Target Player: Entertain-Me Eddie

Related Machines & Features

- [Long John's Loot](#) - Caesars Slots
- [Ice Breaker](#) - Push Gaming
- [Chain Quest](#) (feature) - Scatter Slots

Key Takeaways

- The break-the-chain feature has been done for a while in F2P, but it continues to give players a good sense of *progress* during a single session. This mechanic is a clever way to engage players in a machine that might not be hitting
- The integration of a break-the-chain feature with a tiered wheel system is an involved, but exhilarating design for Entertain-Me Eddie players ... who want to *feel lucky* and have a chance at winning a jackpot
- Adding what seems to be a skill or challenge-based bonus trigger allows players to associate their effort (and luck) with the outcome. The more a player *feels in control*, the *less responsibility* they place on the machine
- Consider adding back chains based on time played to reverse player progression ... then, award boosts that break chains (building upon match-3 mechanics). To increase average bet, unlock the boosts at qualified bets only



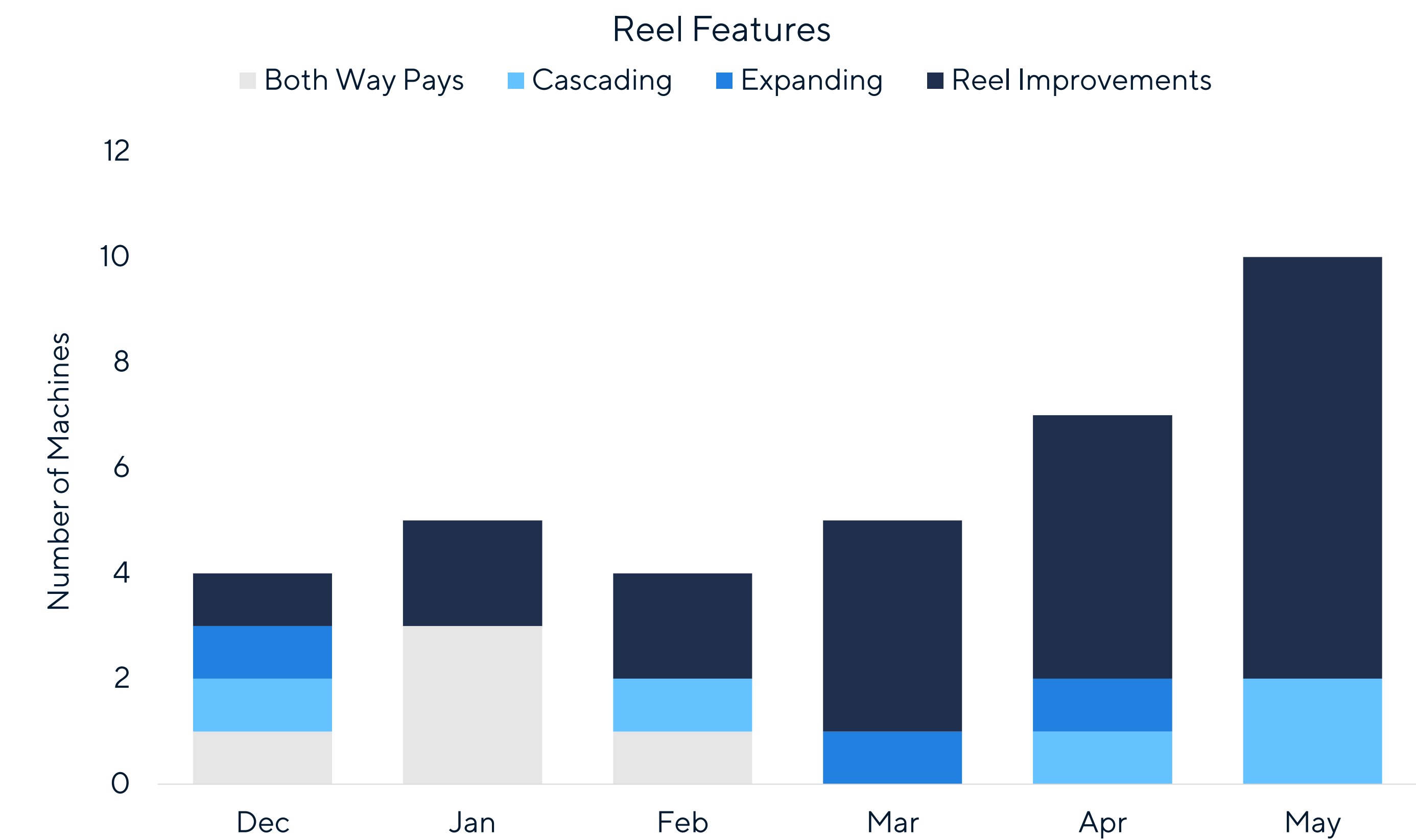
MACHINE TRENDS

Featured Apps:

Caesars Slots • Cashman Casino • DoubleDown Casino • DoubleU Casino
Gold Fish • Heart of Vegas • Hit It Rich • Hot Shot Casino • House of Fun
Jackpot Party • Quick Hit Slots • Slotomania

REEL FEATURES

Out of the 32 machines released by Featured Apps in May, 10 include a *Reel Feature* ... up from 4 in December. *Reel Improvements* (a subset of *Reel Features*) are trending



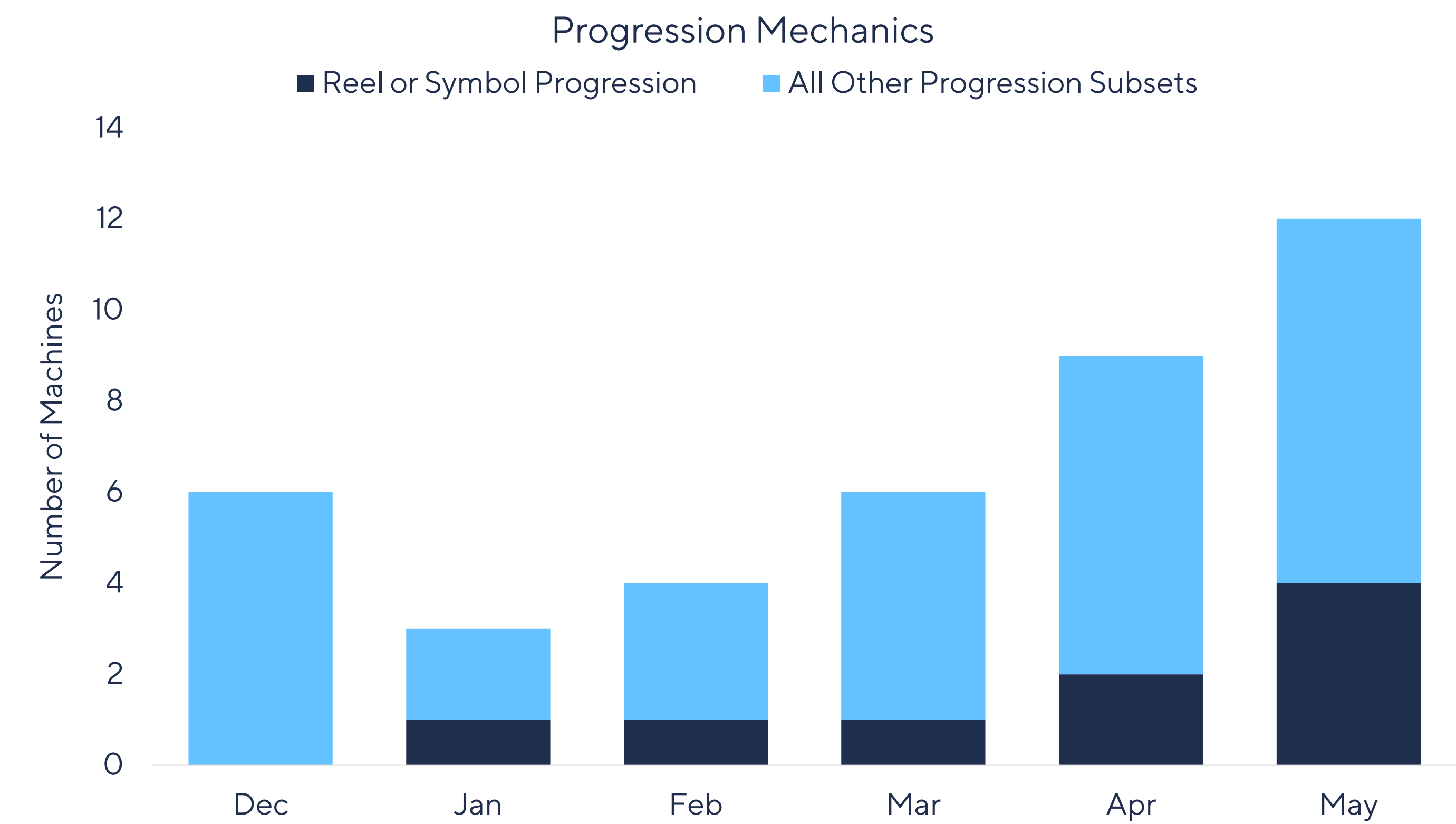
Hot Shot Casino [Jewel of the Dragon](#)



Slotomania [Old Man's Gold](#)

PROGRESSION MECHANICS

12 of the machines released by Featured Apps had *Progression Mechanics*. Caesars Slots released 3 of the 4 machines with *Reel or Symbol Progression* (a subset of *Progression Mechanics*)



Caesars Slots [Arctic Beauty](#)



Caesars Slots [Long John's Loot](#)

MARKET WATCH

5/1/18 - 5/31/18

NOTABLE SOCIAL RELEASES

Publisher	Machine	Feature
Slotomania	Old Man's Gold	<i>Pattern Pay Jackpots</i> are awarded with random bet multiplier bonus prizes (1)
Bingo Blitz	Progressive Peppers	Bet up unlocks additional jackpots and picks for the bonus
DoubleU Casino	Wacky Don Jose	Respins are triggered by wilds landing on reels 2-5
Hit it Rich	Enchanted Island	Bet up mechanics award more tokens for jackpot mini game
myVEGAS	Shaq Slam	<i>Golden Wilds</i> landing on main reel will trigger Shaq, who shoots for a bonus that awards bet multipliers or full-reel wilds (2)
Scatter Slots	Ancient Witchcraft	Landing special symbols clears a full reel or row, filling a meter. When the meter fills, free spins are awarded
Hot Shot Casino	Jewel of the Dragon	<i>Cash Zones</i> randomly overlay symbols and convert symbols into wilds in this portrait mode machine
	Heidi's Bier Haus	Reels randomly receive sleeves. Beer fills from the top of the reels, acting as stacked wilds
PokerStars Play	Gonzo's Quest	A NetEnt machine that uses consecutive cascades to increase the win multiplier (3)



[Click here for full list of machines released >>](#)

NOTABLE RMG RELEASES

Publisher	Machine	Feature
1X2 Gaming	Football 3x3	Multi-matrix 1 x 3 stepper that feels like a slot machine combined with a soccer management game
Capecod Gaming	Time Machine Creator	Landing 5 scatters triggers a random number of spins played in various time periods. Each time period has a different feature
Fugaso	The Mummy	Modified <i>Lightning Link</i> -inspired mechanic: symbols not connected to blocks or winning combos respin as non-winning symbols (1)
MGA	Mr. Hacker	Play area divided into upper and lower game stepper machines
Play'n Go	Cops 'N' Robbers 2018	Gamble feature integrated into machine play, where players choose the color (x2 winnings) or suit (x4 winnings)
Pragmatic Play	The Champions	Players select a <i>Cash Zone</i> position on the reels in this soccer-themed machine
Quickspin	Pirates Charm	Mystery reveal symbols can trigger a <i>Lightning Link</i> -inspired respin (2)
Red Tiger	Fortune Charm	Mystery symbols spin on the reel before the reveal
SGI	Kronos Unleashed	Cluster evaluation on landed scatters determine the free spins (3)
Tom Horn Gaming	Red Lights	Win 3x consecutively in the gamble feature for a wild card and a win on next play



[Click here for full list of machines released >>](#)

APPENDIX

SLOTS PLAYER PERSONAS

	PLAIN JANE	NIGHT-OUT NANCY	ENTERTAIN-ME EDDIE	MR. AND MRS. RICARDO
Desire	Utility	Excitement	Multi-Purpose	Relaxation
Motivation	Looking for something to do: kill time and reduce boredom	Wants a buzz: thrill of winning a jackpot, relaxing, and having a good time	Considers machines “lucky” or fun to play	Socialization, have fun, and relieve day-to-day stress
Features for choosing one game over another	Denomination that I want to play	Bet within budget, fun game to play	Fun game to play, good chance of winning	Fun game to play, denomination I want to play
% of machines played with progressives	29%	40%	37%	25%
Player Income	Medium-high	High	Low	Medium-low
% female	54%	59%	45%	48%
Size of group	20%	28%	27%	26%

DATA COLLECTION PROCESS

Recommendations, information, and data come from market research, app intelligence tools, industry consultants, and a deep analysis of the games

Data

- The RTP range is found using a sample of 10,000 spins, which is approximately 20 hours of play.
- To find the RTP range with 90% confidence, the median payout of the 10K spin \pm (standard error) \times (z-score for 90% confidence) is calculated.
- The standard error is (standard deviation) $/ \sqrt{\text{sample size}}$ and the z-score for 90% confidence is 1.65.
- For example, the median payout for *Zombie Prom* after 10K spins was 103% with a standard deviation of 3.3.
- The standard error is $3.3 / (\sqrt{10,000})$, which equals 3.3%.
- The RTP range for *Zombie Prom* is then 103% \pm (1.65 \times 3.3%).
- Based on this sample, the result is a 90% confidence that the real RTP of *Zombie Prom* falls between 97% and 109%.
- The volatility is the standard deviation, expressed in Excel as =STDEV(A1:A10001), of the 10K payouts. Payouts are in the form of multiples of bet.

Research

- Each game is reviewed daily for updates, regardless of whether the game has been updated through the App Store.
- Transaction information comes from the iOS App Store's In-App Purchases tab. These transactions are ranked based on the number of transactions.
- Las Vegas player insights come from online sources, such as the Las Vegas Convention and Visitors Authority, and the UNLV Center for Gaming Research.
- Progressive jackpot information comes from online research.
- Trending revenue, downloads, and package-rank data come from Piori Data, a Liquid and Grit partner.

If you want to be a writer, you must do two things above all others: read a lot and write a lot. There's no way around these two things that I'm aware of, no shortcut.

– Stephen King

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