



**LIQUID&GRIT**

**Slots Design Report**

Competitive research and data insights for slots designers

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JUNE

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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](#)

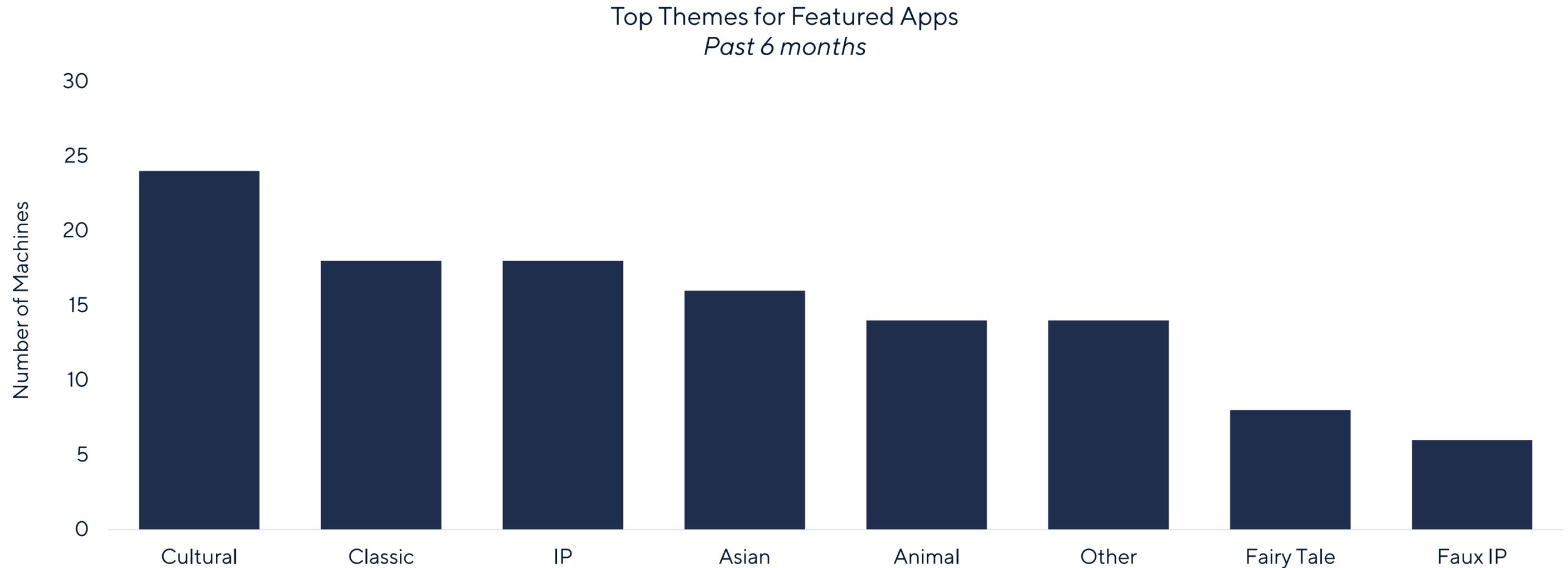


Slingo Arcade [Roaming Reels](#)



# MORE REAL WORLD IP

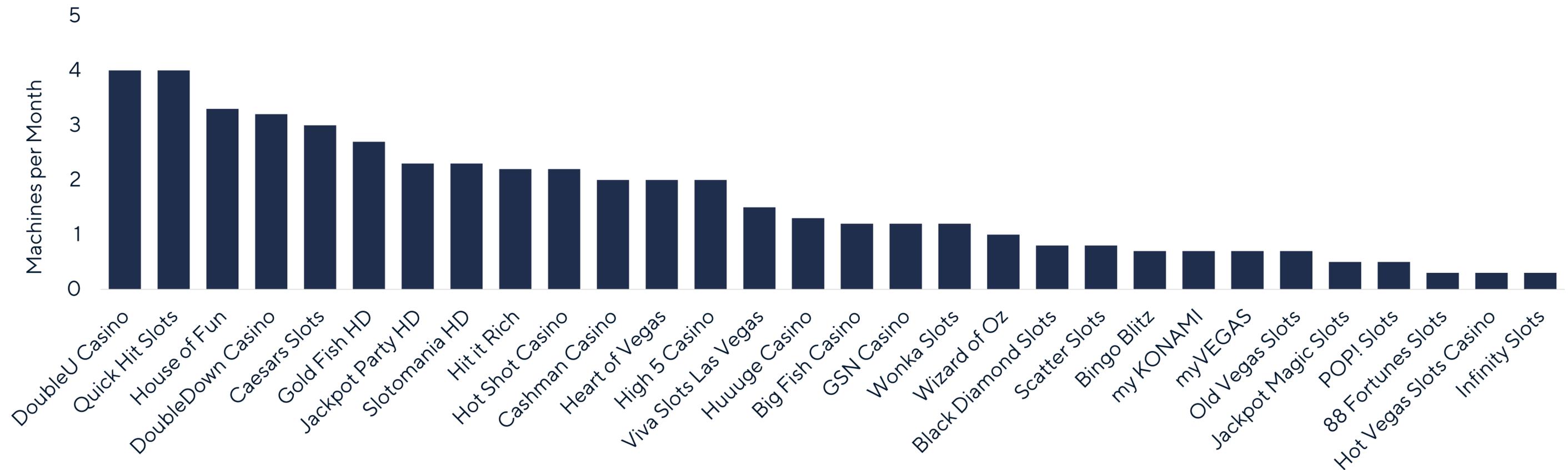
Real world IP is a vital component of Featured Apps content strategy. For Featured Apps, real world IP is the 2<sup>nd</sup> most popular theme (tied with Classic)



# HUUUGE RAMPS PRODUCTION

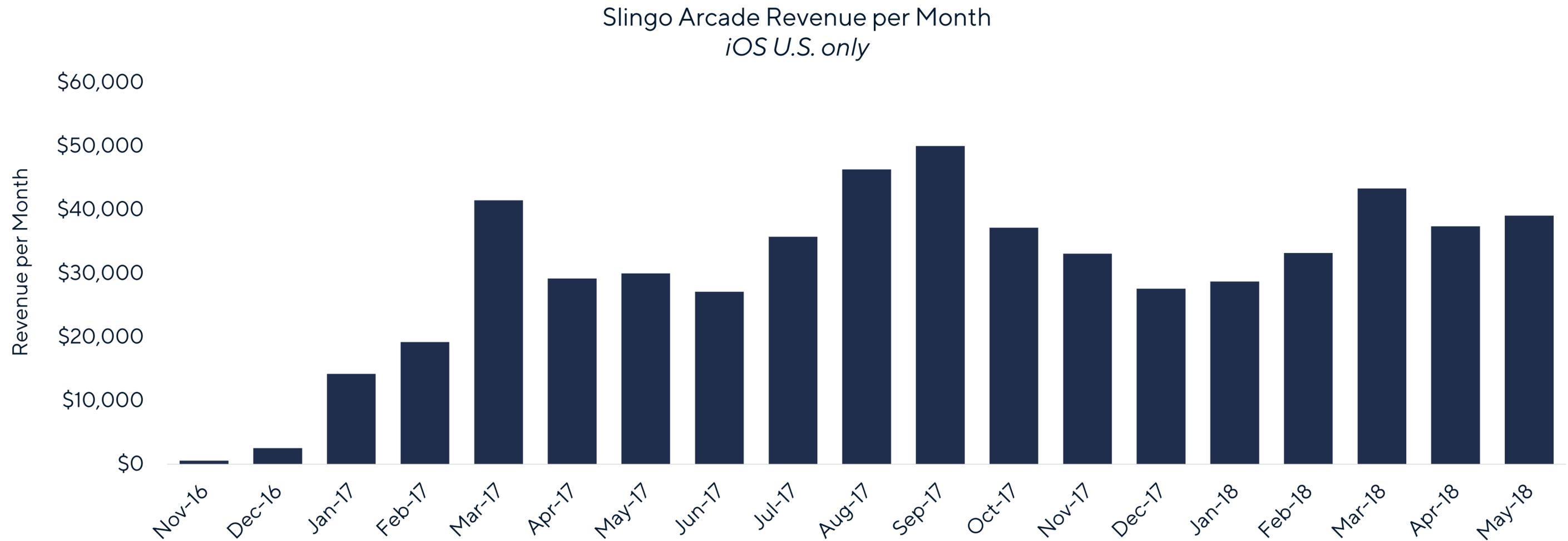
In March, HUUUGE Casino started improving slots *content*. Now, they are also focused on slots *output*. In May alone, they released 5 new machines. While this pace is unlikely to continue, anticipate more slots competition from HUUUGE Casino. For comparison, the top machine producers—DoubleU Casino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

Average Machine Output per Month  
*Past 6 months*



# NEWCOMER: SLINGO ARCADE

Released in November 2016, Slingo Arcade now ranks between the 75<sup>th</sup> to 150<sup>th</sup> 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



## INTRODUCTION

SLOTS DESIGN REPORT  
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# NEW INNOVATIONS



# 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

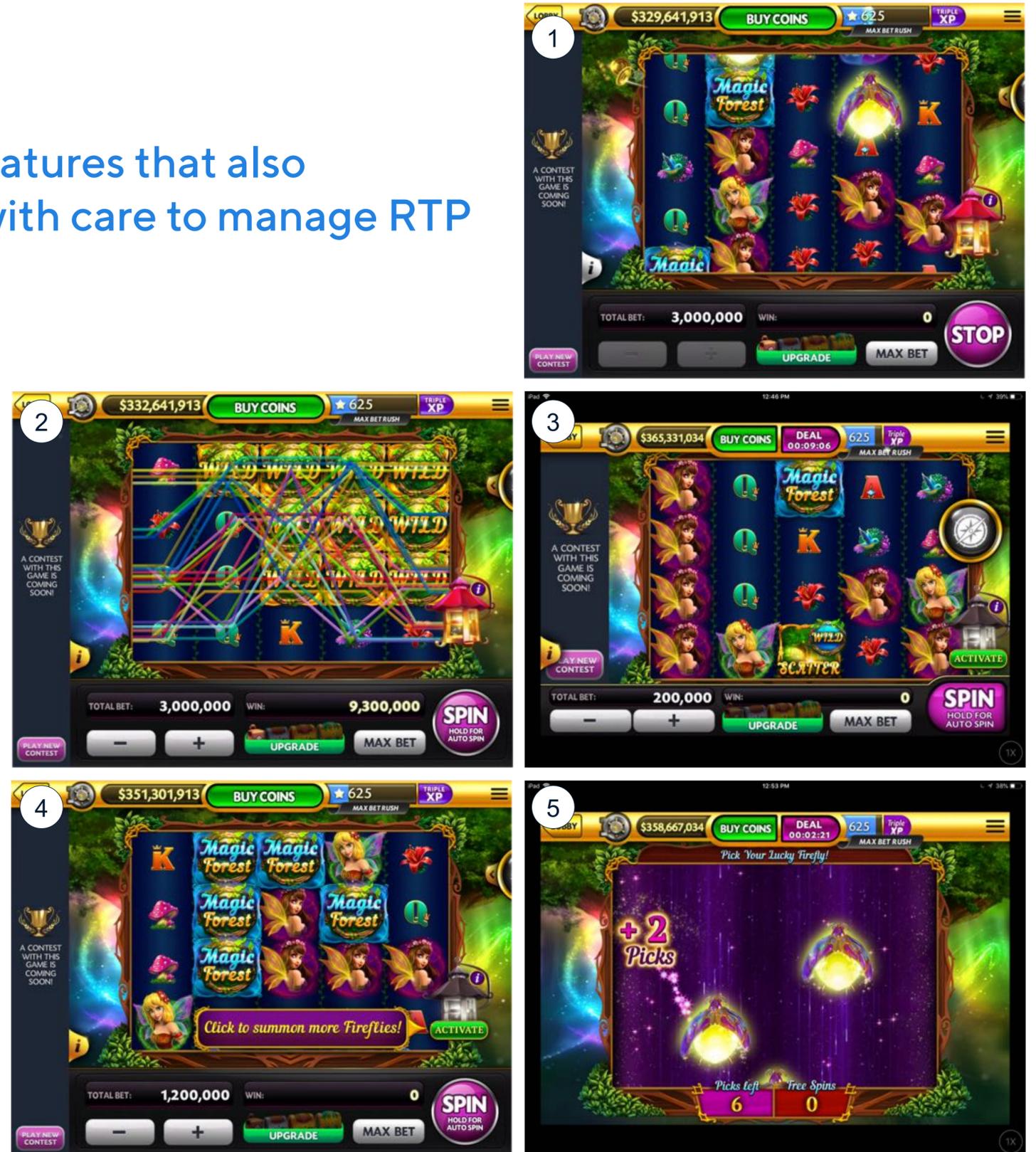
- [Magic Forest](#) - Caesars Slots
- Release: 5/31/18
- Target Player: Night-Out Nancy

## 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

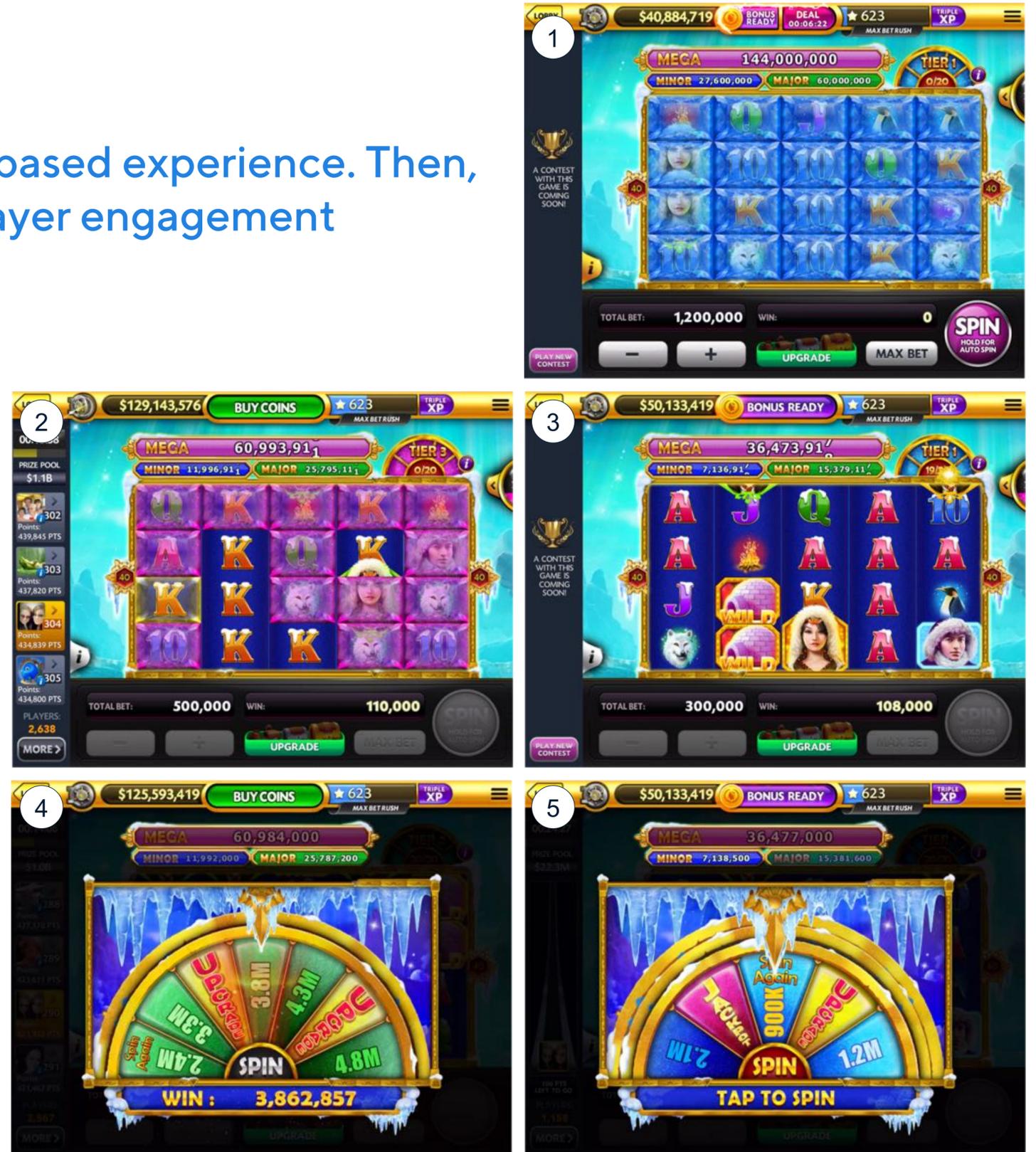
- [Arctic Beauty](#) - Caesars Slots
- Release: 5/6/18
- Target Player: Entertain-Me Eddie

## 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



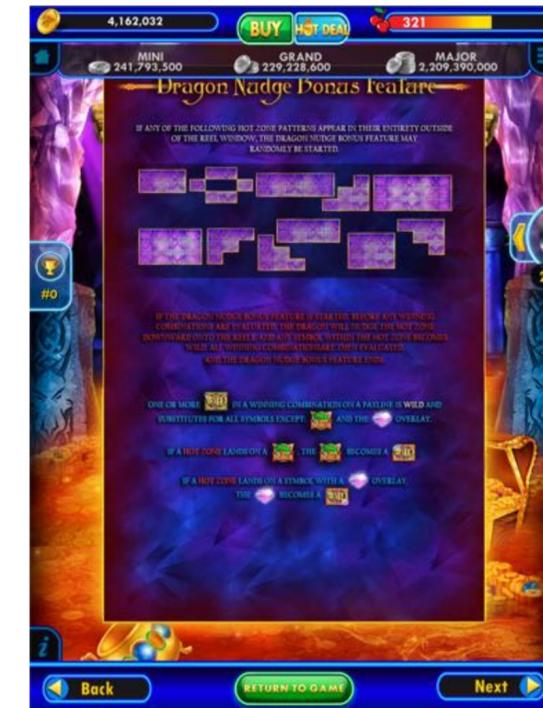
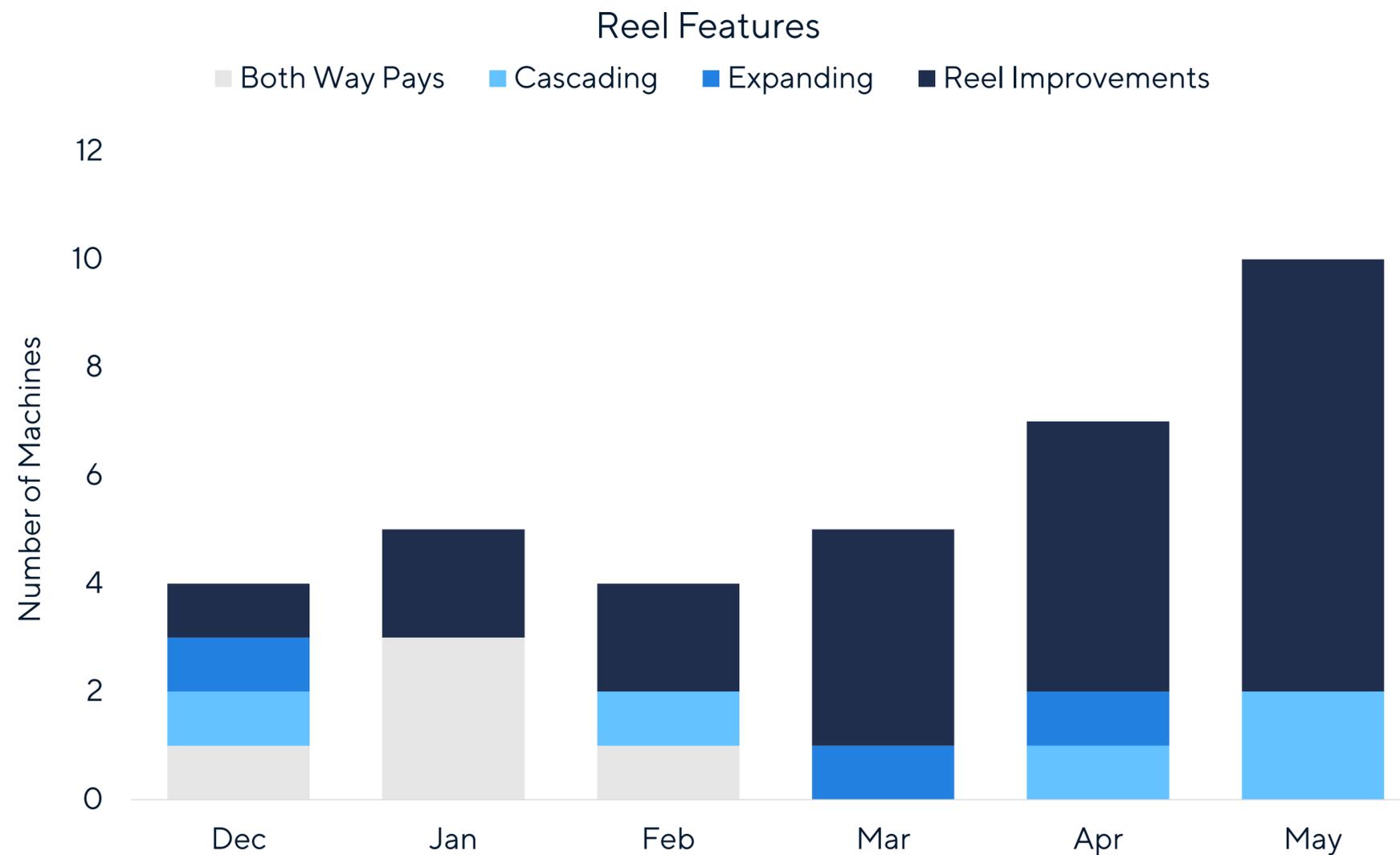
# MACHINE TRENDS

## **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



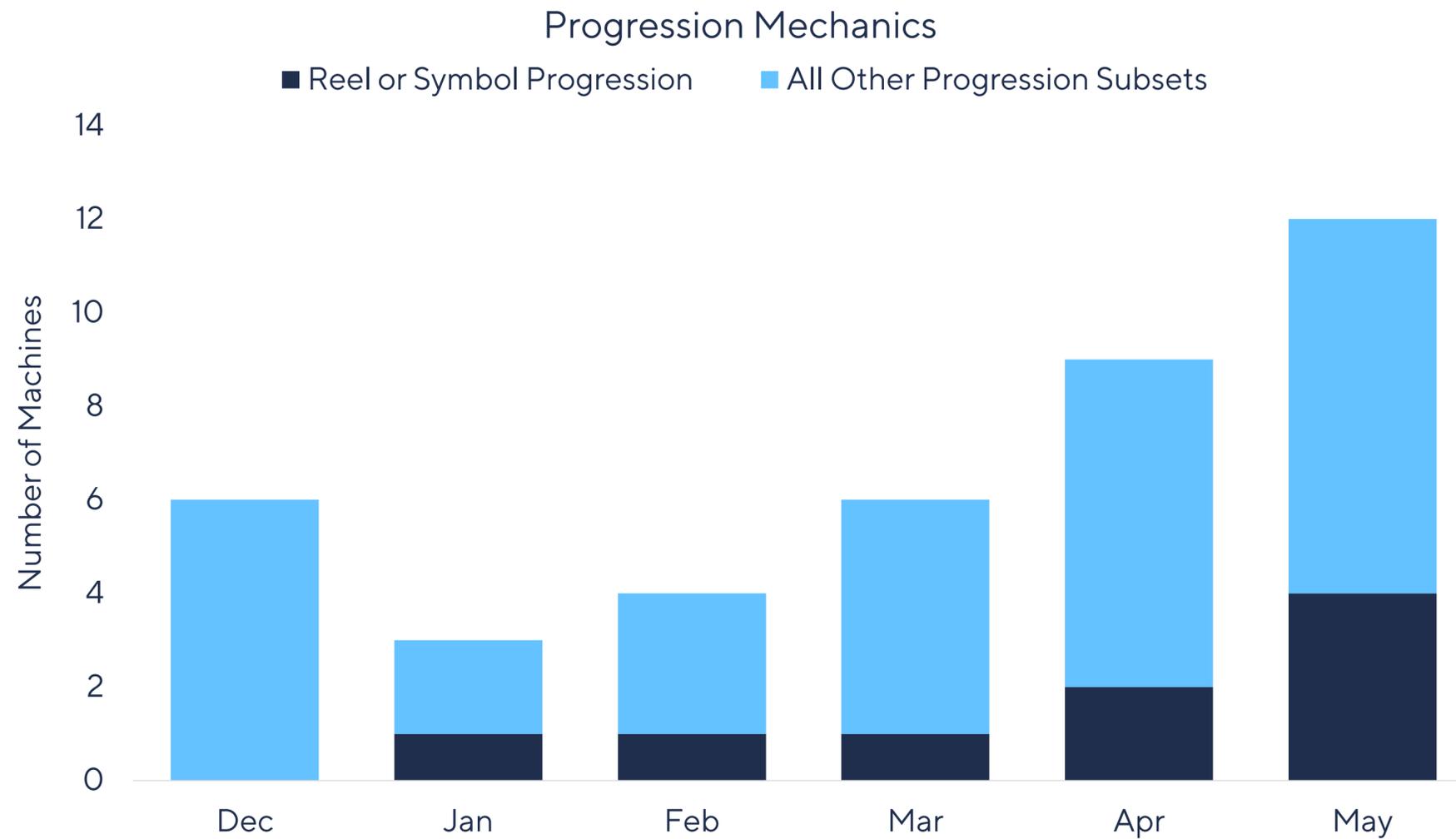
Hot Shot Casino [Jewel of the Dragon](#)



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

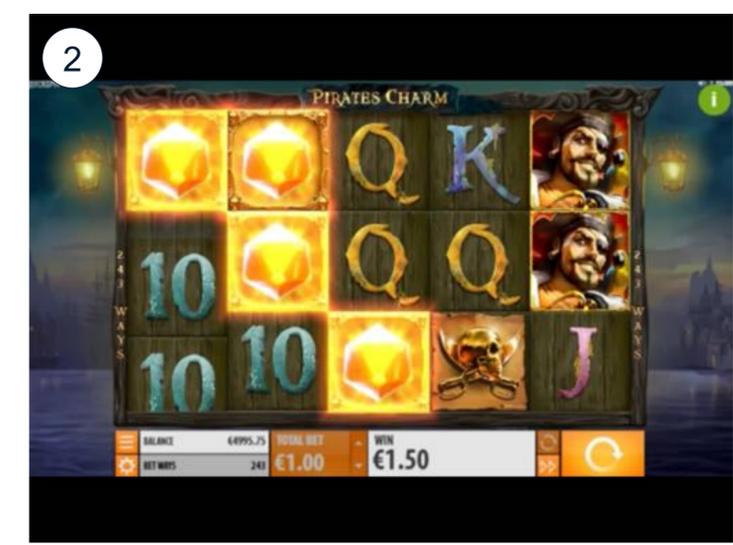
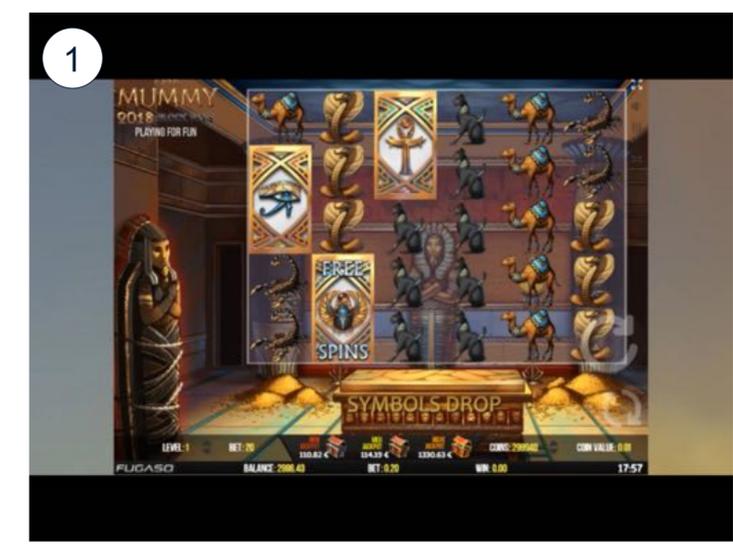
Publisher	Machine	Feature
Slotomania	<a href="#">Old Man's Gold</a>	Pattern Pay Jackpots are awarded with random bet multiplier bonus prizes (1)
Bingo Blitz	<a href="#">Progressive Peppers</a>	Bet up unlocks additional jackpots and picks for the bonus
DoubleU Casino	<a href="#">Wacky Don Jose</a>	Respins are triggered by wilds landing on reels 2-5
Hit it Rich	<a href="#">Enchanted Island</a>	Bet up mechanics award more tokens for jackpot mini game
myVEGAS	<a href="#">Shaq Slam</a>	Golden Wilds landing on main reel will trigger Shaq, who shoots for a bonus that awards bet multipliers or full-reel wilds (2)
Scatter Slots	<a href="#">Ancient Witchcraft</a>	Landing special symbols clears a full reel or row, filling a meter. When the meter fills, free spins are awarded
Hot Shot Casino	<a href="#">Jewel of the Dragon</a>	Cash Zones randomly overlay symbols and convert symbols into wilds in this portrait mode machine
	<a href="#">Heidi's Bier Haus</a>	Reels randomly receive sleeves. Beer fills from the top of the reels, acting as stacked wilds
PokerStars Play	<a href="#">Gonzo's Quest</a>	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	<a href="#">Football 3x3</a>	Multi-matrix 1 x 3 stepper that feels like a slot machine combined with a soccer management game
Capecod Gaming	<a href="#">Time Machine Creator</a>	Landing 5 scatters triggers a random number of spins played in various time periods. Each time period has a different feature
Fugaso	<a href="#">The Mummy</a>	Modified <i>Lightning Link</i> -inspired mechanic: symbols not connected to blocks or winning combos respin as non-winning symbols (1)
MGA	<a href="#">Mr. Hacker</a>	Play area divided into upper and lower game stepper machines
Play'n Go	<a href="#">Cops 'N' Robbers 2018</a>	Gamble feature integrated into machine play, where players choose the color (x2 winnings) or suit (x4 winnings)
Pragmatic Play	<a href="#">The Champions</a>	Players select a <i>Cash Zone</i> position on the reels in this soccer-themed machine
Quickspin	<a href="#">Pirates Charm</a>	Mystery reveal symbols can trigger a <i>Lightning Link</i> -inspired respin (2)
Red Tiger	<a href="#">Fortune Charm</a>	Mystery symbols spin on the reel before the reveal
SGI	<a href="#">Kronos Unleashed</a>	Cluster evaluation on landed scatters determine the free spins (3)
Tom Horn Gaming	<a href="#">Red Lights</a>	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
<b>Desire</b>	Utility	Excitement	Multi-Purpose	Relaxation
<b>Motivation</b>	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
<b>Features for choosing one game over another</b>	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
<b>% of machines played with progressives</b>	29%	40%	37%	25%
<b>Player Income</b>	Medium-high	High	Low	Medium-low
<b>% female</b>	54%	59%	45%	48%
<b>Size of group</b>	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 +/- (standard error) x (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% +/- (1.65 x 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 Priori 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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