



LIQUID&GRIT

Slots Design Report

Competitive research and data insights for slots designers

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JANUARY

2018

INTRODUCTION



*“Form follows function...that has been misunderstood. Form and function should be one, joined in a spiritual union.”
- Frank Lloyd Wright, famous architect*

Two new bet mechanic innovations deliver very clear information to players about the benefits of larger bets. As players become increasingly more educated on slots mechanics, clear marketing will have a larger impact than frictionless flows.

Respins continue to entertain and influence player behavior. In this report, we highlight how DoubleU Casino increases the RTP of base and bonus play with respins. Our recommendations break free from regulatory handcuffs to suggest RTP-based retention mechanics you can use.

Get ready for the major upcoming holidays. Holiday-themed machines account for 13% of machines recently released by Featured Apps.

Simplify decisions for players with a *Best Strategy* button. Review the Deep Dives on the RMG machine by Push Gaming *Wild Wheel Big Money* for details.

Ensure that your design team understands how SGI/WMS *Zeus God of Thunder* visually explains the bonus to players with three mini wheels above the reel set.

Make form and function one.

Brett Nowak
Editor-in-Chief

NEW INNOVATIONS

ANIMATED BET UP MECHANICS

House of Fun *Shanghai Thunder* adds a two-screen bet up flow. The second screen displays the pay table and uses animation to illustrate the different payouts based on bet amounts

- Upon machine-load, players are presented with a full-screen message (1)
- The Choose Your Bet dialogue includes pay table information (2)
- A small hand moves from the top down, changing the bet amounts selected, and in turn, the pay table information above (3)
- In addition to the bet up mechanic, this machine also offers players free spin options with different reel set combinations

- Release: 12/17/17
- KPI: Revenue
- Target player: Entertain-Me Eddie

Related machines:

- [Cap'n Candy Cane](#) - myVEGAS Slots
- [American Glamour 2](#) - Caesars Slots
- [Jolly Jackpots](#) - Bingo Blitz

- Simplify the messaging by showcasing changes to one or two of the most important symbols (instead of all the symbols)
- Adding two dialogues will likely have a positive impact on higher value players, who won't drop off and may be swayed by the bet up messaging While the end result will pay off, this dialogue could negatively impact lighter player retention
- For best results, personalize the flow based on player types (one dialogue for light players, and two for heavy players)



RESPIN COLLECTIONS

DoubleU Casino *Elves Workshop* converts middle symbols during the free spins into walking wilds that trigger respins. This increases the chances of hitting a respin as the free spins progress

- During free spins, the walking wild does not count towards the awarded free spin (1)
- When a middle symbol lands 3x during the free spins, that symbol is converted to a walking wild (2)
- There are three different middle symbols that may be converted to respin-triggering walking wilds (3)

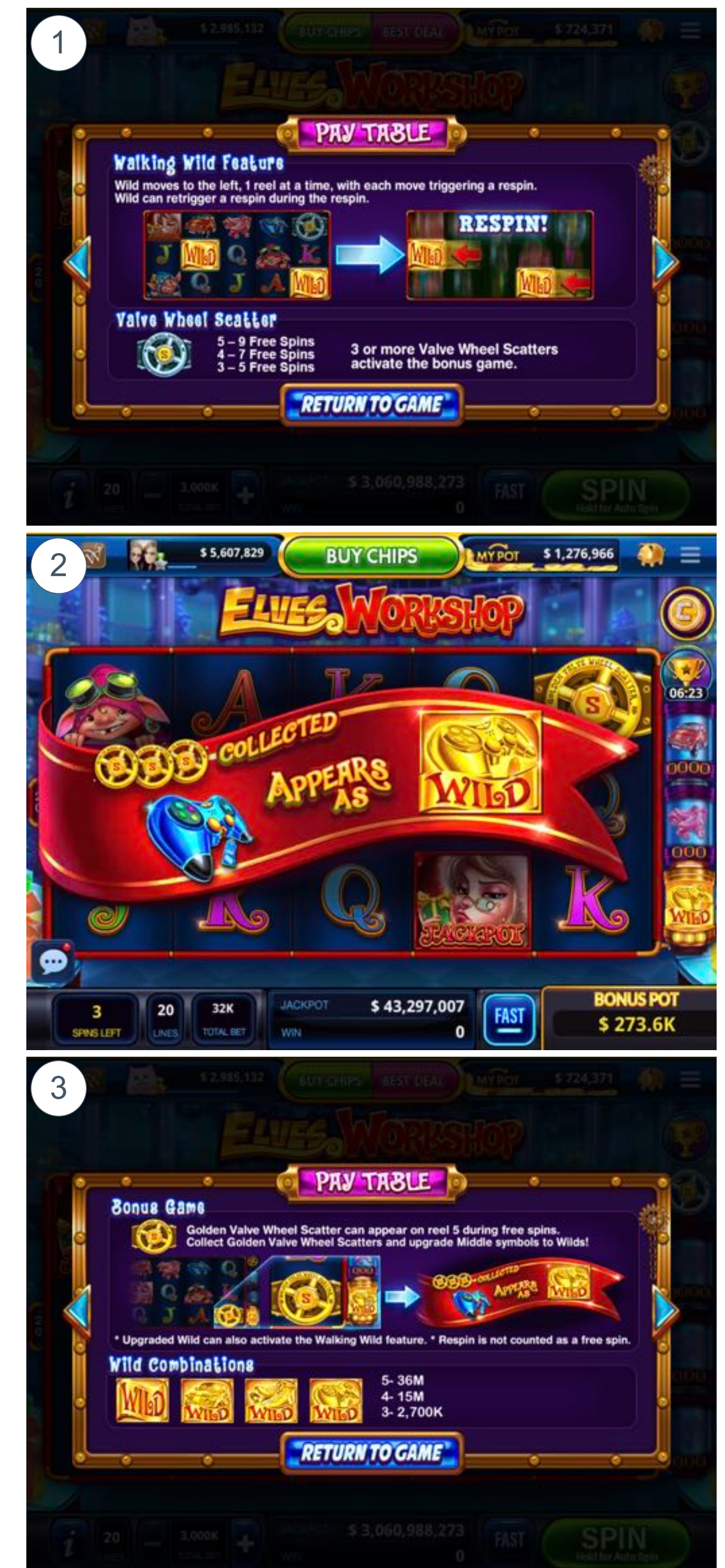
- Release: 12/14/17
- KPI: Engagement
- Target player: Night-Out Nancy, Entertain-Me Eddie

Related machines:

- [Get Me A Prince](#) - Slotomania
- [Trip Desire](#) - Infinity Slots
- [Ancient Phoenix](#) - Caesars Slots
- [Respin Ranch](#) - Huuuge Casino
- [Sinatra Ol'Blue Eyes](#) - Hit it Rich

- Increase the RTP of base game play and/or free spins during a session to drive engagement. To drive retention, have the RTP increase *remain* between sessions. The benefit of session-based changes is that the RTP can increase more significantly, which the player will more likely sense
- Surprise and delight players by: 1) setting a modest number of free spins (in this case 5), 2) adding free spins during the bonus, and 3) displaying the comparison at the conclusion of the bonus (e.g., "You received 23 free spins instead of the initial 5")

[Click here for more images and videos online](#)



UNIVERSAL BET UP BOOSTS

myVEGAS Slots released boosts on multiple machines. The boosts add features to a machine based on bet amounts

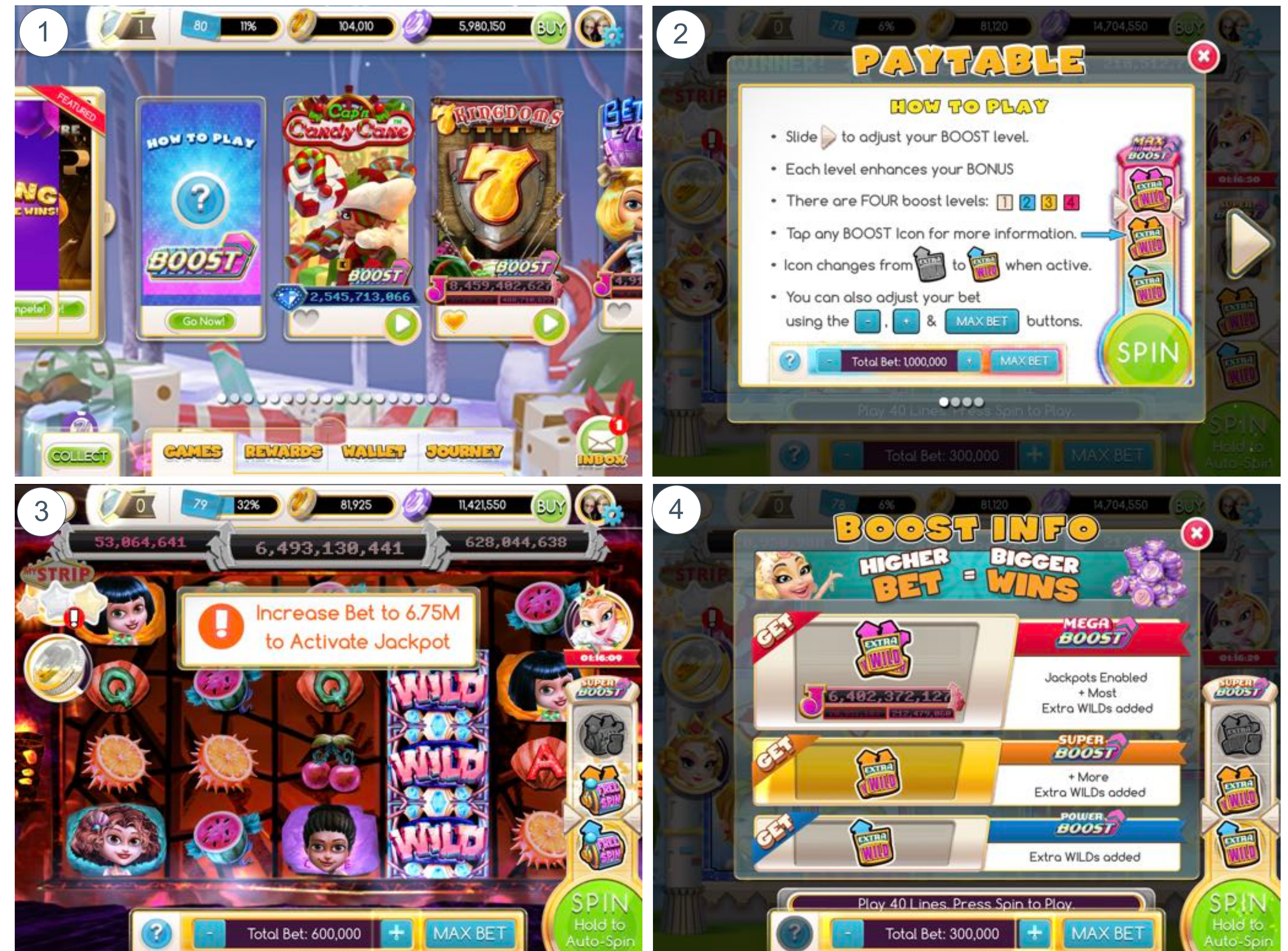
- A lobby card markets the boost feature and lists the machines featuring boosts on the lobby card (1)
- Clicking the lobby card opens an instructional dialogue. This is also triggered upon machine-load (2)
- Types of boosts include: Extra Mystery Symbols, Extra Free Spins, and Extra Wilds
- There is a boost bar above the spin button that explains how many features are added (3)
- Clicking on the bar opens a boost info dialogue that includes specific information for that machine based on bet amount (4)

- Release: 12/6/17
- KPI: Revenue (driven by average bet per spin)
- Target player: Entertain-Me Eddie

Related machines:

- [7 Kingdoms](#) – myVegas Slots
- [Excalibur](#) – myVegas Slots
- [7 Shining Pandas](#) – Caesars Slots
- [All-Stars 3](#) – House of Fun

- Adding shared bet ups across machines creates one UI/UX for players to learn. The downside of releasing all at once is larger development cost risks. Utilizing a test on one machine with a subset of users will mitigate the risk



SLOTS TRENDS

12/1/17 – 12/31/17

THEMES: RECENT MONTHS

13% of the machines released by Featured Apps in December were holiday-themed. Prepare for upcoming holidays: Valentine’s Day, St. Patrick’s Day, and Easter



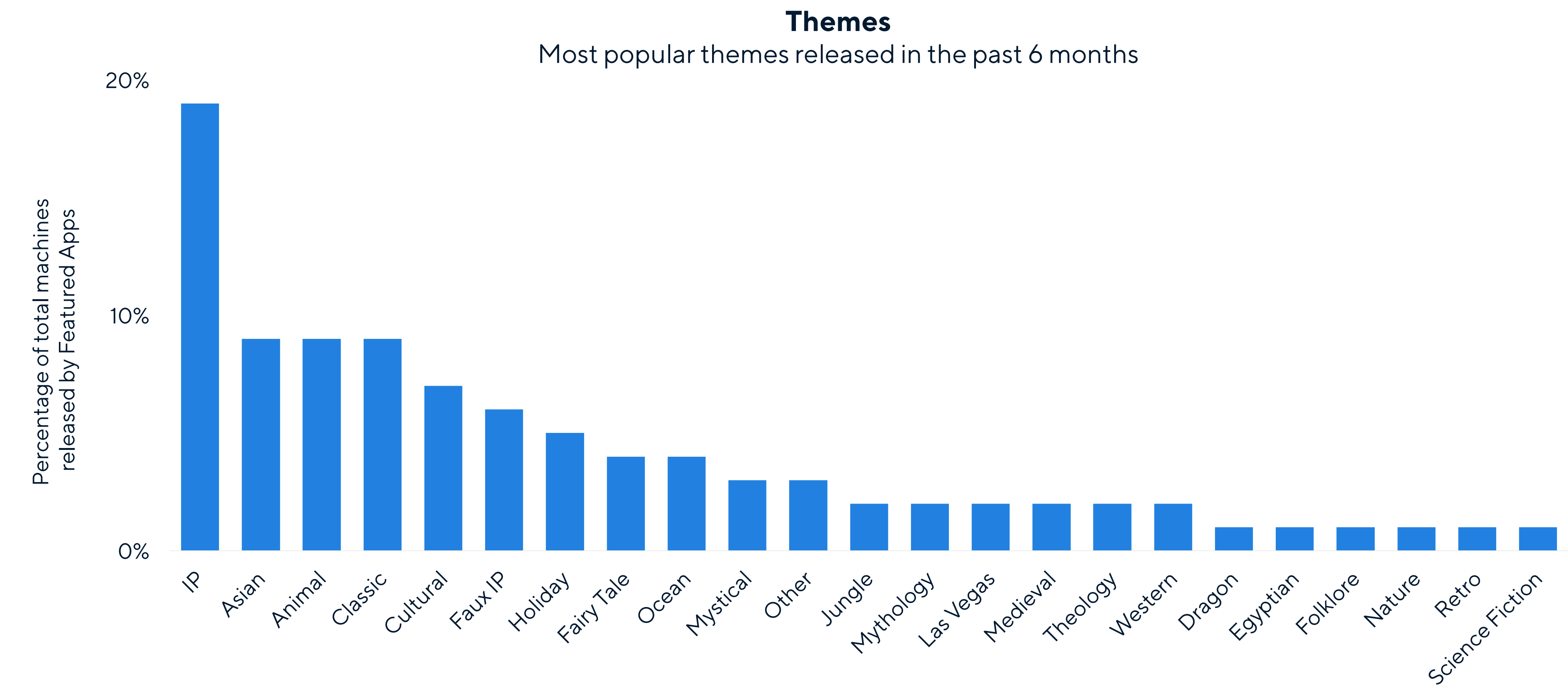
Slotomania [Elfis Back](#)



Hit it Rich [Kringle's Get Away](#)

THEMES: PAST SIX MONTHS

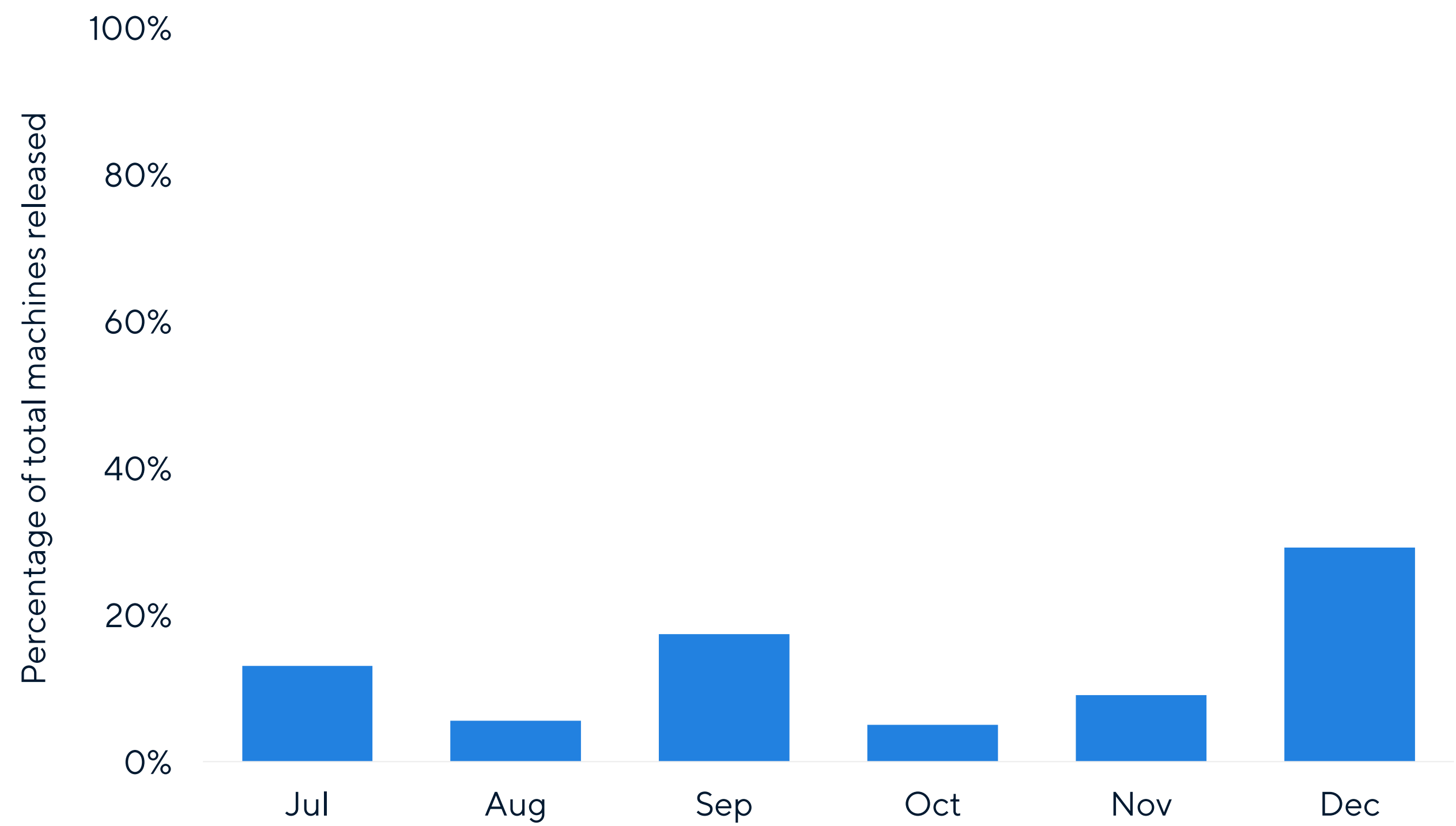
IP-themed machines were by far the most utilized theme in the past six months. Asian, Animal, and Classic themes were all tied for second; and Cultural, Faux IP, and Holiday machines followed



BONUS FEATURES

Adding wilds to the free spins spiked in December. Jackpot Party *Michael Jackson Black or White* utilized full reel wilds with matching symbols that added a multiplier. For more details, go to the [Feature Database](#)

Bonus Features: Adding Wilds



Jackpot Party [Michael Jackson Black or White](#)



Caesars Slots [Christmas in Pink](#)

DEEP DIVES

SOCIAL CASINO

- *Elfstravaganza* – House of Fun
- *Christmas/Jolly in Pink* – Caesars Slots
- *Quick Hit Super Wheel Wild Red* – Gold Fish Casino
- *Cleopatra's Palace* – POP! Slots

ELFSTRAVIGANZA

House of Fun *Elfstraviganza*, a reskin of *Monster Riches Revenge*, entertains with a fill meter and randomly triggered challenges

- Players collect wilds during play to fill a meter (1)
- 1 to 6 full reels may randomly turn wild (2)
- Four or more adjacent bonus symbols trigger the free spins. More bonus symbols award more free spins (3)
- Filling the meter awards the bonus: 7 free spins with locked wilds in the pattern displayed on the meter (4 & 5)
- A challenge may trigger randomly. Filling the meter within the time limit triggers upgraded mini reels (6)

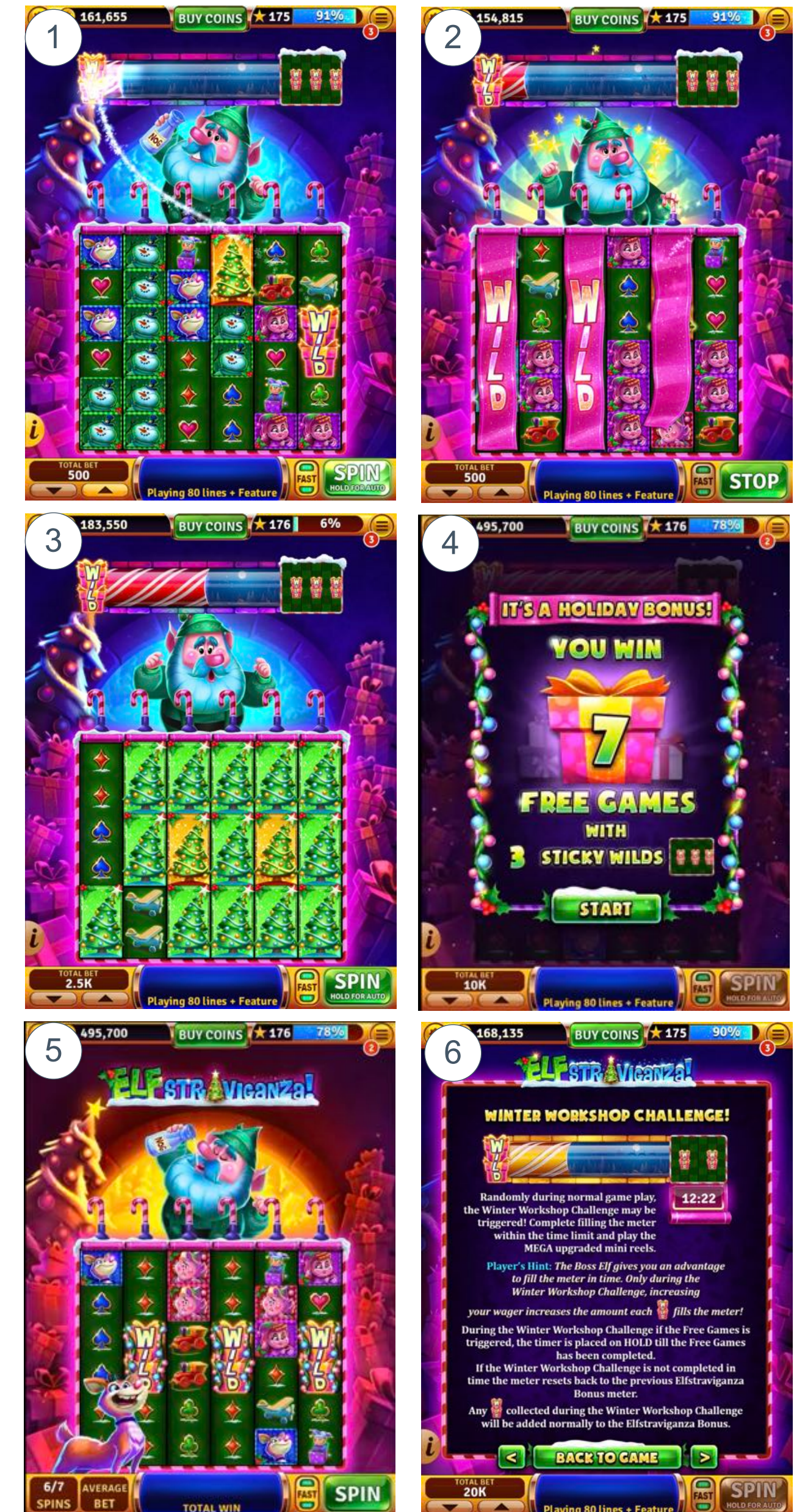
- Release: 12/10/17
- Target players: Night-Out Nancy
- [More images and video](#)

Related machines:

- [Monster Riches Revenge](#) - House of Fun
- [Captain's Fortune](#) - DoubleDown Casino
- [Sands of Time](#) - House of Fun

- We recommend putting your own twist on triggered challenges to drive engagement in machines. Review the [November 2017 Slots Design Report](#), where we first analyzed the feature
- Take into consideration the average session length of your players: when the player is about to hit their average session length, trigger the feature to extend their session. Ideally, personalize the difficulty of the challenge as well
- Start the challenge meter partially complete since players are more likely to finish a challenge if they already feel invested

[Click here for payout details](#)



CHRISTMAS/JOLLY IN PINK

Caesars Slots *Christmas/Jolly in Pink* introduces a pair of linked machines with shared map progression play

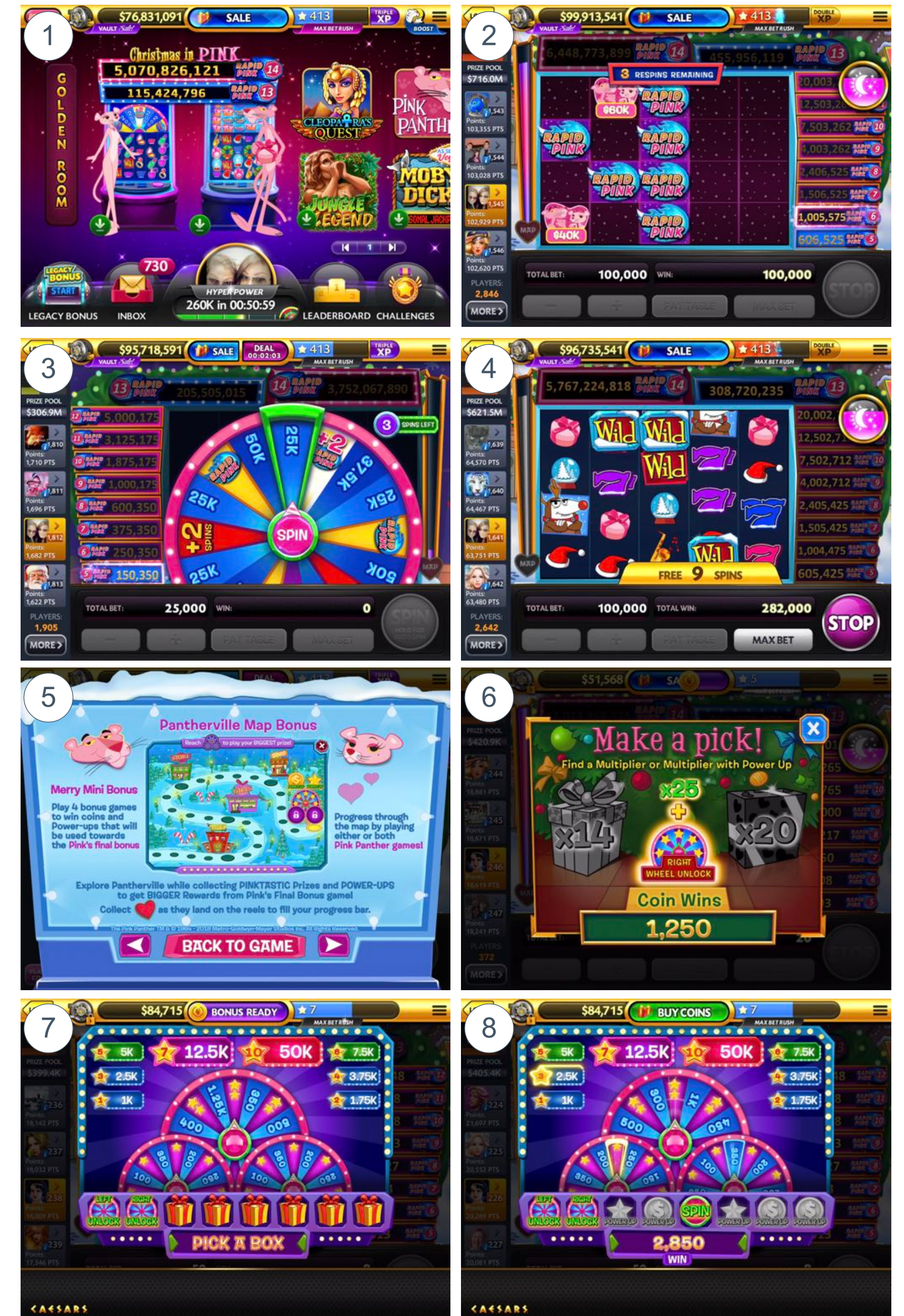
- The linked machines are shown in the lobby (1)
- Five or more scatter symbols triggers a jackpot feature. In *Christmas in Pink*, a respin mechanic. In *Jolly in Pink*, a wheel (2 & 3)
- Both machines offer a wild mechanic in the free spins. In *Christmas in Pink*, locking wilds (4)
- The map offers a shared progression by collecting heart symbols in either machine (5)
- Each step awards credits or a pick 'em. The pick 'em awards coins and power ups for the final step (6)
- The final bonus on the map includes a main wheel, pick 'em boxes, and two side wheels unlocked by winning power ups. Players pick presents until the spin button is revealed (7 & 8)

- Release: 12/7/17
- Target players: Night-Out Nancy
- More images and video: [Christmas in Pink](#), [Jolly in Pink](#)

Related machines:

- [Lightning Link: Sahara Gold](#) - Heart of Vegas
- [Brave Red](#) - House of Fun
- [Incredible Pan](#) - Caesars Slots
- [Rapid Fire: Hot Vegas Thrills](#) - Caesars Slots

- Progression systems continue to be an area for potential growth in retention mechanics
- Social casino slots designers must lead the way in these innovations as real money is fairly handcuffed with progression systems (although IGT is adding these types of mechanics to casino floor machines with their On Premise mobile platform)
- Consider a shared progression system (like this one) for high value IP and mirror a typical casino floor (e.g., [Scientific Games' new James Bond machines](#))



QUICK HIT SUPER WHEEL

Gold Fish Casino Quick Hit Super Wheel Wild Red offers a double bonus wheel with four bonus features

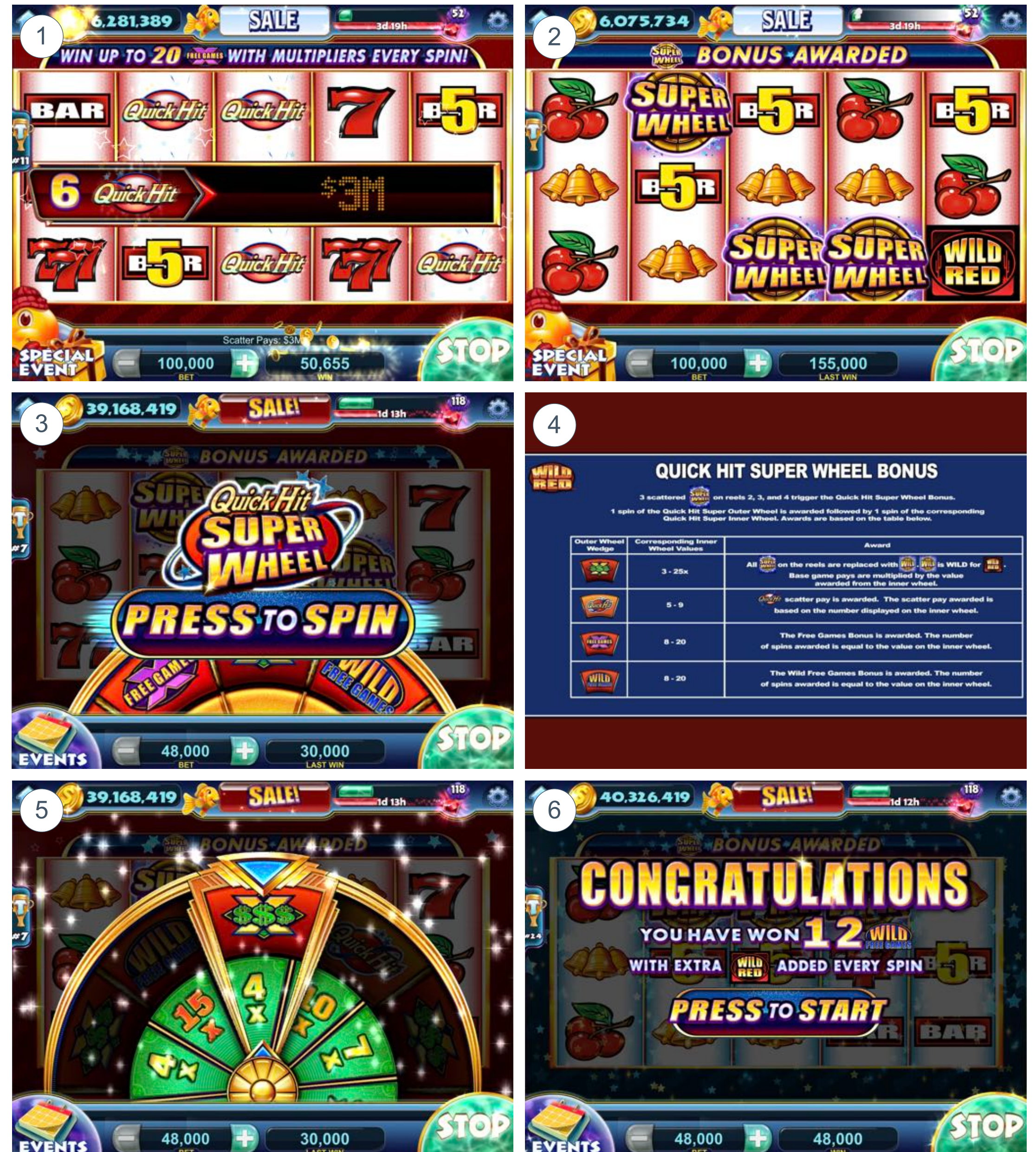
- Jackpots pay up to 1500x the bet (1)
- Three bonus symbols on reels 2, 3, and 4 trigger the bonus (2)
- The wheel awards 1 of 4 bonus features (3 & 4).
- Bonus awards include: Bonus symbols replaced by wilds, Quick Hit symbols, Free games, and Wild free games
- The inner wheel awards a multiplier or number, depending on the winning feature (5)
- The bonus details appear after the wheel (6)

- Release: 12/7/17
- Target player: Plain Jane
- [More images and video](#)

Related machines:

- [Hot Hot Super Jewels](#) - Vegas Words Downtown Slots
- [Dean Martin's VIP Party](#) - Jackpot Party HD
- [Kooza Cirque Du Soleil](#) - Jackpot Party HD
- [Betty Boop's Fortune Teller](#) - Quick Hit Slots
- [Dreaming of Oz](#) - Caesars Slots

- When you have a winning theme or mechanic, take what has worked and continue to evolve other pieces until the value is clearly saturated. In this case, the Quick Hit theme works and Scientific Games continues to release it with new mechanics (see also House of Fun's [All Stars](#), [All Stars 2](#), and [All Stars 3](#) machines)



CLEOPATRA'S PALACE

POP! Slots *Cleopatra's Palace* adds a bonus game with a group-involved *Deal or No Deal* bonus round

- Higher bets include a progressive, and an increase in *Bonus Credits* value (1)
- Special symbols award Bonus Credits for the bonus game (2)
- The respin is triggered by a Cleopatra symbol filling the first reel (3)
- The player who triggered the bonus begins play by choosing 1 of 24 cases. All players then take turns opening chests, eliminating possible awards (4)
- Chests may contain 1 of 3 boosts:
 - Double Up: All prizes and offers double
 - Highs and Lows: Return a large prize and swap out a small prize
 - Offer Boost: Boosts current offer (5)
- After each round, an offer is made that each player decides to take or leave (6)

Details:

- Release: 12/16/17
- Target players: Mr. and Mrs. Ricardo
- [More images and videos](#)

Related machines:

- [Deal or No Deal](#) - GSN Casino
- [Ooh Aah Dracula](#) - Hot Shot Casino
- [Tavern of Fortune](#) - POP! Slots

- Social must lead the way with group mechanics since they are very restricted in real money. POP! Slots has carved a nice niche with their social slots machines
- When adding social mechanics with shared bonuses, consider clearly establishing machines by minimum bet level so higher spenders can play together. This type of [social proof](#) (a psychological and social phenomenon where people assume the actions of others in an attempt to reflect correct behavior) will potentially lead to more spend



REAL MONEY

- *Wild Wheel Big Money* – Push Gaming
- *Zeus God of Thunder* – SGI/WMS

WILD WHEEL BIG MONEY

Push Gaming *Wild Wheel Big Money* offers a *Deal or No Deal* with a *Best Strategy* help option

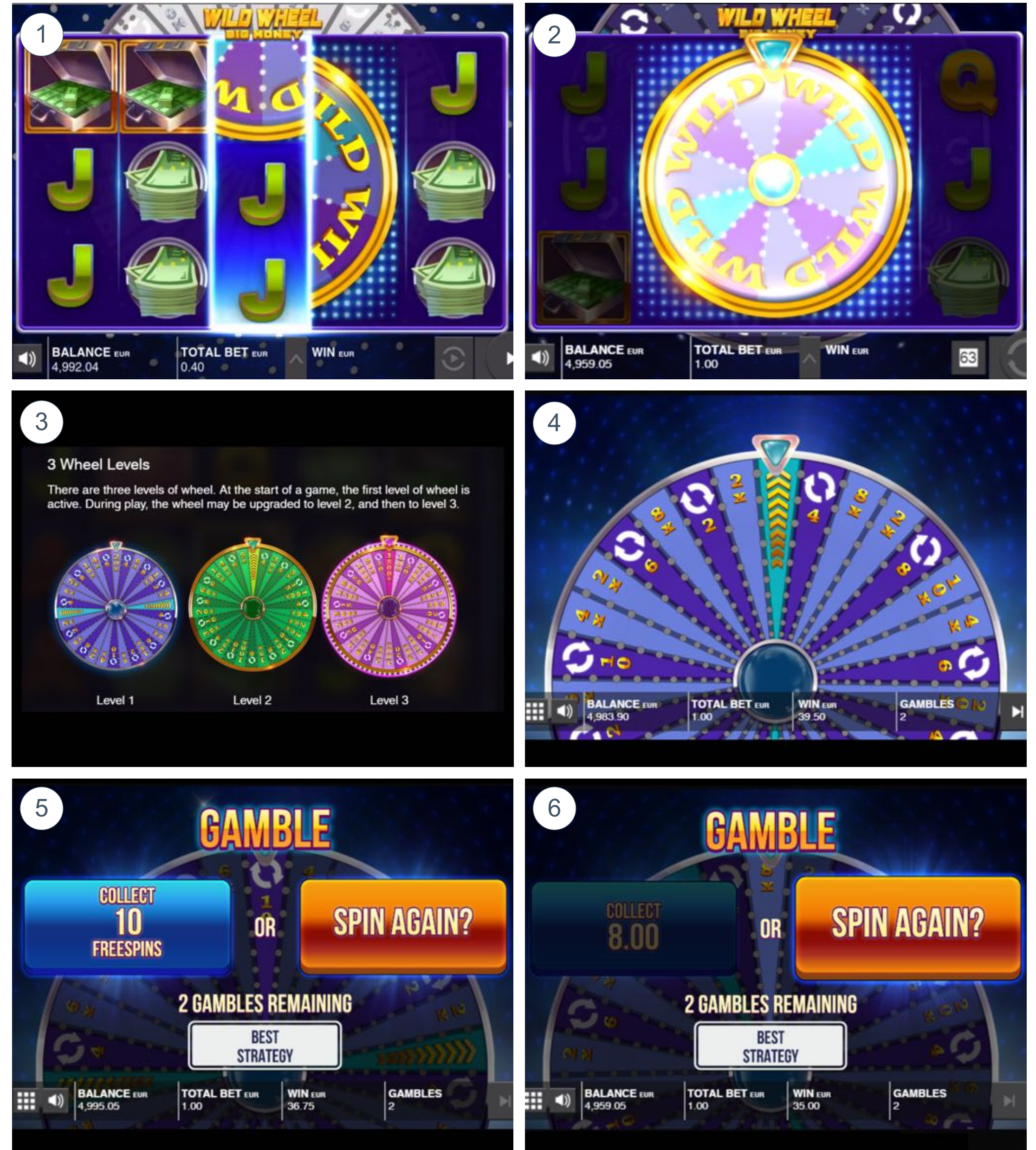
- The wilds appear on reels 2, 3, and 4 and nudge to full reel wilds. The nudging wilds then form a 3 x 3 symbol that triggers a wheel (1 & 2)
- One spin is awarded and starts on the first level wheel (3)
- Wheel wedges include free spins, instant wins, and a wheel upgrade (4)
- At the end of a wheel spin, players are offered a gamble option up to 3x (5)
- Clicking the *Best Strategy* button highlights the best choice (6)

- Release: 12/20/17
- Target players: Plain Jane
- [More images](#)

Related machines:

- [Royal Guard](#) - Scatter Slots
- [Double Dice](#) - Black Diamond Slots
- [Grease: Graduation Day](#) - Black Diamond Slots
- [Lightning Wheel](#) - Big Fish Casino
- [Sky Passion](#) - Infinity Slots
- [Zeus God of Thunder](#) - SGI/WMS

- One of the main reasons people enjoy slots is for simplicity (unlike real life). When a player clicks spin, they accomplish a 'task' and a small amount of [dopamine fires in their brain](#). Adding too much complexity and choice moves slots closer to real life, where people are bombarded with choices (see Jobs to be Done segmentation information in the January 2016 [Social Casino Product Report](#))
- To eliminate this potential source of stress and choice-based effort, consider adding a *Best Strategy* button to any choice screen to make the decision process simple and easy for players



ZEUS GOD OF THUNDER

SGI/WMS Zeus God of Thunder features background patterns as bonus triggers

- Three bonus wheels sit above the reels (1)
- The *Extra Bet* increases wheel awards and bet cost by 50% (2 & 3)
- Wheels trigger by 3, 4, or 5 black backgrounds on adjacent reels of the same row (4)
- Wheel prizes include: jackpots, wilds with a respin, free spins, and wheel upgrades (5 & 6)

- Release: 7/26/17
- Target players: Plain Jane
- [More images and video](#)

Related machines:

- [Lightning Wheel](#) - Big Fish Casino
- [Sky Passion](#) - Infinity Slots
- [Wild Wheel](#) - Push Gaming
- [Pirate Queen](#) - Jackpot Party
- [Overflowing Stacks](#) - myKONAMI Slots
- [7 Shining Pandas](#) - Caesars Slots

- Visually explain to players that they will receive better bonuses based on the number of symbols hit in a row using wheels at the top of the reel set
- The wheels are designated: “3 in a row”, “4 in a row”, and “5 in a row” written in the middle, explaining the potential awards
- Players will quickly understand how the machine works with these ever-present wheels



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 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

Machine observations are from 10,000 spins. The process used to determine the data is outlined below. Recommendations, information, and data comes from market research, app intelligence tools, industry consultants, and 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, specifically from wizardofodds.
- Trending revenue, downloads and package-rank data come from Priori Data, a Liquid and Grit partner.

Immature poets imitate; mature poets steal; bad poets deface what they take, and good poets make it into something better, or at least something different

– T.S. Elliot

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