

# Cashbury

**Spin 2 Win :: Setup , Build, Simulate**

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## 0. Overview: Configure, Build, Simulate

The following are a high level description of the steps needed to simulate the game.

### **Configure the simulation**

Define the number of prizes in each group (N, L, M).

Define the symbols needed to run the game.

Define the pay lines and assign a win probability to each one.

Sort the Pay lines by their probability starting with the lowest first

### **Build the simulation**

Calculate the weightings for the virtual reel and output it.

Set the RNG range

Output the <http://stackoverflow.com/questions/1194585/what-is-the-difference-between-methods-and-attributes-in-ruby> reel

Generate the Pay tab for a spin credits with (M,L)

Generate Pay tab for a spin credits with (M,L, M)

### **Simulate**

Set the number of spins or game cycles

Generate the spin credits

Output the simulation result feed and analysis (tbd)

## 1. Configure the game ::

0) Define the max number of prizes for each prize category (N, L, M)

1) Set the symbols needed to run the game: Ex: 1) C crowned 2) magic 7 3) Bar 4) Diamond 5) space etc


### Game Reel Symbols

<a href="#">Add a reel symbol</a>	
1. C Crowned	edit   remove
2. Magic Seven	edit   remove
3. Diamond	edit   remove
4. X	edit   remove

[Add a reel symbol](#)

Add a reel symbol

cancel

Symbol ID	Symbol name	Symbol Icon	Symbol Icon X2 (Retna)
5	<input type="text" value="Star"/>	<div> upload</div>	<input type="text" value="Upload"/>

Add

2) Define the pay lines a.k.a winning combinations and assign their ranking ex: Grand Prize, Second

Game Pay Lines

Define a Pay Line

Defined Slot Symbol legend:

1. C Crowned 2. Magic Seven 3. Diamond 4. X 5. Star

Prize Ranking	Pay Line	Assign to Group	Probability	
1 (Grand Prize)	1 1 1	N	1:25,000,000	Edit   Remove
2	2 2 2	N	1:5,000,000	Edit   Remove
3	3 3 3	N	1:3,000,000	Edit   Remove
4	5 5 5	N	1:2,000,000	Edit   Remove
5	1 1 4	M	1:10,000	Edit   Remove

Define a pay line

Cancel

Pay line

1 1 1

Prize group

N

Probability

0.0025

SET

### 3) Define the prizes

Add a prize

Cancel

Prize Name	Business name	Prize Value	Prize Cost	Prize Group	Max Spend	Max Quantity
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

### 4) Assign or Auto-assign the prize to an available payline in the group

## Build the game ::

Calculate the weightings for the virtual reel and output it.

Set the range to the RNG

Output the reel interface reel

Generate the Pay tab for a spin credits with (M,L)

Generate Pay tab for a spin credits with (M,L, M)

## Simulate the game ::

Set the number of spins or game cycles

Generate the spin credit

Run the simulation, play the credits, output it, log it's outcome

Output the play feed including the play outcome, prize board, play outcome, prize won if any,

Conduct a variance analysis [95%, 99%] confidence level on the game, winnings and cost ranges

From each business:

Total Cost to business

Number of prizes granted

For each prize offered from the business:

# prizes won by #Customers for a total cost of \$

to be continued ....

# Lexicon

Ssi: Symbol ex: S3: Diamond  
si: symbol number ex: 1, 2,3,4,5  
sn: number of symbols configured ex: 9

Zzi (Bbi, name, value, cost, p) :: A prize offered by Business ( Bbi)

zi: prize number or identifier  
zn: total number of prizes  
Bbi: Business. ex: B3: Walt Disney  
bi : Business identifier. ex: 3  
name: Price Name : ex: Ipad  
value: Prize Value: ex: \$399.00  
cost: Price Cost: ex. \$349.00  
p: probability of winning the prize

Ri: Reel number  
N: the number of stops on the actual reel ex: 22  
K: is the number of stops of the virtual reel ex: 64

Wn,k: a weight, a positive integer between 1 and K inclusive,

subject to the constraint that each column sums to  $K$ .

$n$ : 1 -  $N$

$k$ : 1 -  $K$

**Derived variable and parameters when building and simulation the game:**

$L$ : A single row payline from the pay table

$C(L)$ : The number of combinations leading to the display of  $L$

$T$ : The total number of ways that a prize can be won =  $\sum [C(L)]$  summed over all  $L$

$\Pr(L)$ : The probability of landing on payline  $L = C(L)/T$

Odds( $L$ ): The odds of landing on payline  $L = \Pr(L)/(1-\Pr(L))$