

Monopoly

[Introduction](#)

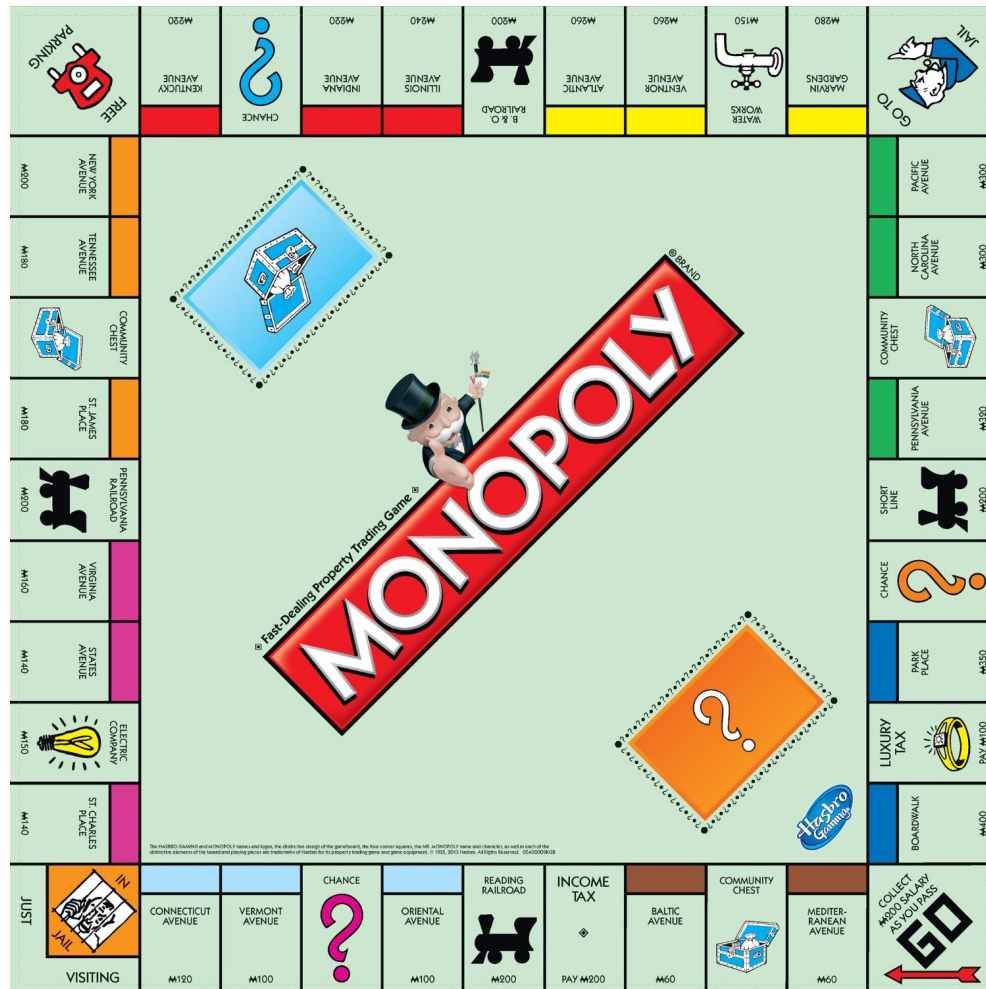
Themed slot machines have been a staple of casinos for decades. One such popular theme is the game of Monopoly. Each Monopoly themed slot machine has a bonus round that is triggered by certain symbols showing up on the reels during a spin.

A favorite bonus round of slot machine enthusiasts is the Once Around Bonus. In this bonus, a player token starts at Go and Mr. Monopoly rolls the dice to move the token around the board. Instead of the player paying for properties, taxes, utilities, etc., the game pays the player based on the type of space the player lands on. When the player reaches or passes Go, the bonus round is over and the player collects his winnings.

As part of this project we implement the logic for the Once Around Bonus game.

[Rules of the Game](#)

The Monopoly board used for the Once Around Bonus game looks like the following:



The bonus round proceeds as follows:

1. At the start of the bonus round, the player's token is at Go.
2. Two six-sided dice are rolled and the total of the dice is the number of spaces the player's token is moved. For example, if the dice are 2 and 3, the token is moved 5 spaces from Go to Reading Railroad.
3. Based on the type of space the player lands on, the following could occur:
 - a. Property spaces, railroads, utilities, Income Tax, Luxury Tax, and Go spaces all pay some number of credits based on the rules for that space, detailed below.
 - b. Landing on Chance or Community Chest results in some random action that could pay the player credits, move the token back three spaces, go to the Just Visiting/Jail space, etc.
4. Steps 2 and 3 are repeated until the player passes Go. When the player passes Go, the player is awarded 200 extra credits and the bonus round ends.
5. The player is then awarded the sum total of all credits awarded during all of the player's rolls.

Rules for Spaces

Property Spaces

The spaces with the colored bar in the top of the space is a property space (for example, Mediterranean Avenue). The property spaces pay the player an amount of credits based on the table below:

Name	Credits
Mediterranean Avenue	60
Baltic Avenue	60
Oriental Avenue	100
Vermont Avenue	100
Connecticut Avenue	120
St. Charles Place	140
States Avenue	140
Virginia Avenue	160
St. James Place	180
Tennessee Avenue	180
New York Avenue	200
Kentucky Avenue	220
Indiana Avenue	220
Illinois Avenue	240
Atlantic Avenue	260
Ventnor Avenue	260
Marvin Gardens	280
Pacific Avenue	300
North Carolina Avenue	300
Pennsylvania Avenue	320
Park Place	350
Boardwalk	400

Railroads

The railroad spaces on the board are Reading Railroad, Pennsylvania Railroad, B&O Railroad and Short Line Railroad. When the player lands on a railroad space the first time, the player is paid 200 credits. However, the second time the player lands on a railroad space, the player is paid 400 credits. The third time, the player is paid 600 credits for landing on the space. The fourth time, the very lucky player is paid 800 credits for landing on the last railroad space which is Short Line.

Income Tax, Luxury Tax

Landing on either the Income Tax or Luxury Tax spaces pays the player the following credits, based on the space landed:

Name	Credits
Income Tax	200
Luxury Tax	100

Electric Company, Water Works

When the player lands on these utility spaces, the player is awarded the number specified in the table below for the space times the total of the roll of two six sided dice. For example, if the player lands on Electric Company and rolls 2 and 4 the player is awarded 40 credits.

Name	Multiplier
Electric Company	5x
Water Works	10x

Go To Jail

When the player lands on this space, the player's token is moved back to the Just Visiting/In Jail space. The player does not pass the Go space when this happens so the player does not win 200 credits. Play proceeds as normal after the player token is moved.

Just Visiting/In Jail, Free Parking

These spaces do not pay the player any credits nor do they move the player token. Play proceeds as normal after landing on these spaces.

Chance

When the player lands on Chance, the player draws a random Chance card from the available Chance cards below. The player could win credits or move to another spot on the board. Here are the Chance cards available:

- "Go directly to Jail" – The player token moves directly to Just Visiting/In Jail. The player does not pass Go nor does the player collect 200 credits. Play proceeds normally.
- "Bank pays you dividend of 50 credits" – The player is awarded 50 credits. Play proceeds normally.
- "Go back 3 spaces" – The player is moved back three spaces. Play proceeds normally.
- "You have won a crossword competition. Collect 10 credits." – The player is awarded 10 credits. Play proceeds normally.
- "You have been elected Chairman of the Board. Collect 100 credits." – The player is awarded 100 credits. Play proceeds normally.

Community Chest

When the player lands on Community Chest, the player draws a random Community Chest card from the available Community Chest cards below. The player could win credits or move to another spot on the board. Here are the Community Chest cards available:

- “Bank error in your favor. Collect 200 credits” – The player is awarded 200 credits. Play proceeds normally.
- “From sale of stock, you get 50 credits.” – The player is awarded 50 credits. Play proceeds normally.
- “Go directly to Jail” – The player token moves directly to Just Visiting/In Jail. The player does not pass Go nor does the player collect 200 credits. Play proceeds normally.
- “Holiday Fund matures. Receive 100 credits.” – The player is awarded 100 credits. Play proceeds normally.
- “Income tax refund. Collect 20 credits” – The player is awarded 20 credits. Play proceeds normally. Go Landing on Go pays the player 200 credits and the bonus round is complete.