

# Manual for Beginners of Monopoly Game

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# 1 Preface

## 1.1 Brief Introduction to Monopoly Game

Monopoly is a multiplayer, economics-themed board game. Players roll two dice to move around the game board, buy and trade properties, and develop them by building houses and hotels. Players collect rent from opponents and aim to bankrupt them. Money can also be won or lost through *Casino* and *Tax Bureau* tiles. Players receive a salary every time they pass the “Go!!!” space and may end up in *Prison*, where they cannot move until they either pay to get out or roll three pairs of the same dice. There are many house rules, editions, spin-offs, and related media.

In this version of the game, there are four available seats for both computers and players. You can either watch the computers play against each other and make a distinction, play the game yourself and fall in love with it, or even leverage your skills to beat the computers in your own unique way. I can hardly wait! Let's START!!!

# 2 Installation and Setup

## 2.1 System Requirements

Platform: **Windows** (recommended), Linux, and macOS.

We've worked hard to make the game as cross-platform as possible. If your platform is modern enough to support a GNU compiler, you can download the Qt tools and compile the game according to your system.

## 2.2 Checking Integrity

SHA256 value:

The file structure is outlined in Appendix A for reference.

## 2.3 Launching and Updating

### 2.3.1 To Launch

Locate the file named “monopoly.exe” or “monopoly” (with an implicit “.exe” extension). Double-click the file to launch the main game.

### 2.3.2 To Update

All versions of the game can be found in this repository on GitHub<sup>1</sup>.

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<sup>1</sup>You may can not look into this repository. Only after the accomplishment of assignment, the repository will be set visible

## 3 Basic Controls and Interface

### 3.1 Controls

Before diving into the game, ensure that your mouse and keyboard are properly set up. We provide some pre-selected buttons for you; use the *Enter* key to confirm choices and the *Tab* key to navigate. A mouse or touchpad is also a great alternative.

### 3.2 User Interface

The main interfaces are as follows: “**Start**”, “**Character Configuration**”, and “**Game Main Body**”.

“**Start**” This page provides basic buttons for interaction. Here, you can find brief information about the game.

**Start** button begins a new game.

**Manual** button opens this manual.

**Close** button safely exits the game.

**About Us** button displays the license and copyright/copyleft details of the game.

“**Character Configuration**” This page allows you to choose roles (Computer or Player) and select a profile photo.

**Manual** button in the top-left corner performs the same function as on the previous page.

There are four controllable sections in the main part of this page. Select the **role** (computer or player) and **profile photo** (displayed below) **in order** (from left to right).

**Start** button in the bottom-right corner begins the main game once the total number of players and computers is **greater than 1**.

**Cancel** button in the bottom-right corner returns you to the previous page, where you can check additional information if needed.

“**Game Main Body**” This page is where you can play the game and compete freely. As a player, you can control your character, experience different states, beat your opponents, and win the game.

**Initialization** Each player starts with \$10,000 in the bank and is assigned a **color** in the information area at the corner of the screen. Each player’s **symbol** (e.g., “1P”, “2P”, “3P” or “4P”) will appear in their color and point to their current position. Your **current money amount** is displayed in the player information section in the four corners of the screen.

**Running the Game** On the main game screen, you will see a map in the **center** and player information in the **corners**. The symbols on the tiles indicate each player's **current position**. When it's your turn, the background of your avatar will change color to notify you. The tile colors correspond to the main color of each property.

**Rolling the Dice** There is a "Roll Dice" button in the **quasi-center** of the screen. When it's available, you can click to roll the dice. Your movement will be determined by the **total number** rolled. Luck plays a part! If you roll two of the same dice, you get another chance to roll and add the new number to your total. However, if you roll the same dice again, you will be sent to *Prison*. We track the dice numbers for both one of your early dices and the third dice to enforce this rule.

**Buying Tiles** If your dice roll lands you on a tile that can be developed and hasn't been built upon by others, you have the option to buy it! By choosing to **buy**, your cash will be **deducted** by the price of the tile, and you will **own** it. You can also **refuse** to buy the tile, in which case it will be **auctioned** to other players.

**Investment** If you land on a tile you own, you can **build** houses or upgrade them. There will bump a dialog to let you increase the level of your property. Pressing the **increment button** or **inputting** a reasonable integer number are both OK. By choosing to build a **house**, you will increase the rent that opponents must pay when they land on your property. If you upgrade the house to more than **level 5**, it will transform into a **hotel**. You will cost \$10,000 for the tile itself, and \$2,000 for upgrading each level of tile.

**Auction** As mentioned in the Buying Tiles section, if a property is buildable but not purchased by anyone, it will be **auctioned**. The one whose turn the auction is in will be highlighted just as Running the Game performed. During the auction, you can **bid** by pressing the **increment button** to raise the amount you are willing to pay, and pressing the **decrement button** to decrease the amount to find a more reasonable price. Finally, the **Bid!** button will fix your bid price. And the **Pass...** button will skip your turn. If no one else bids, you will win the tile. If no one bids at all, the opportunity is lost, and the tile will return to its original buildable state.

**Paying Rent** If you land on a tile owned by another player, you must **pay rent** based on the property's level and whether houses or hotels have been built on it. The more houses or hotels, the higher the rent. Rent also increases if the owner possesses other properties of the same color. The rent rates are listed in Appendix B.

**Sale and Sacrifice** If you find yourself unable to afford a payment, you can **sell** or **sacrifice** one of your properties. You can sell them to the bank, but only for **half price**. You can only sell the whole property with houses and hotel together, and the available tiles will be displayed on your screen.

**Prison** You can end up in *Prison* in two ways: by rolling three of the same dice or by landing on the *Prison* tile. While in prison, you get three chances to roll two dice. If you roll a matching pair, you will be **freed** and can move to the new position based on the total number of your roll. If you fail to roll a pair, your turn will be skipped. You will end up being skipped for 3 turns if you have not meet the condition.

**Tax Bureau** Landing on the *Tax Bureau* tile will require you to pay a tax, which is 10% of your current balance.

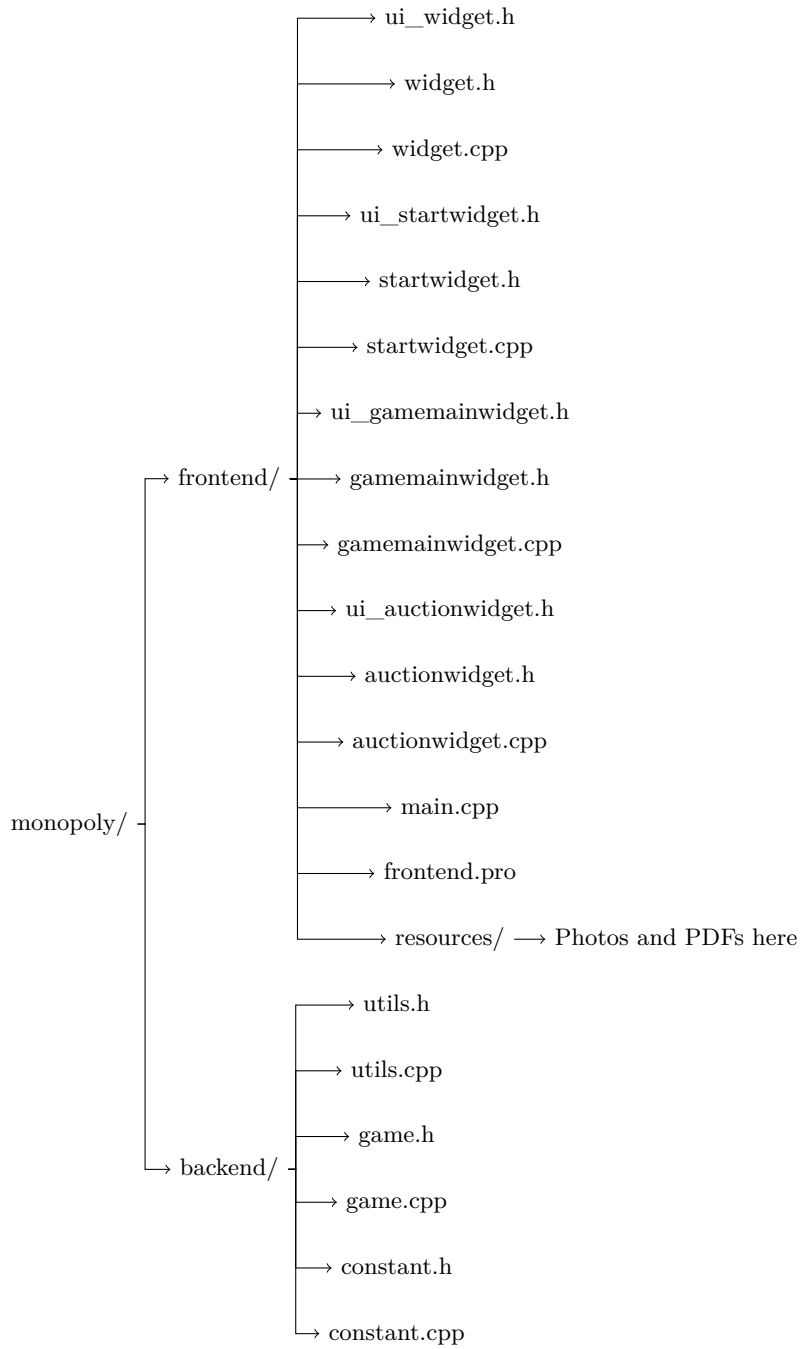
**Casino** When you land on the *Casino* tile, random events will occur. These events are detailed in Appendix C.

**GO!!** Don't worry about running out of money in a short while. You will receive a \$2500 bonus whenever you pass the *GO!!* tile.

**End of Game** The game ends when a player can no longer afford any payments and is declared "bankrupt". This player can no longer participate in the game. The last remaining player wins the game. **GAME OVER.**

## A Appendix A: File Structure

This is the file structure of source code.



## B Appendix B: Rent Rate

Table 1: Rent Rate

Rent Rate	0	1	2	...	n
Property Level	0	1	2	...	n
Plain Tile	1	1.2	1.4	...	$1.2^n$
House Level 1	2	2.4	2.8	...	$2 \times 1.2^n$
House Level 2	3	3.6	4.3	...	$3 \times 1.2^n$
House Level 3	5	6	7.2	...	$5 \times 1.2^n$
House Level 4	8	9.6	11.5	...	$8 \times 1.2^n$
House Level 5	11	13.2	15.8	...	$11 \times 1.2^n$
Hotel	16	19.2	23	...	$16 \times 1.2^n$

<sup>1</sup> truncate to one decimal place

## C Appendix C: Random Events

- Random Destruction: Your whole tile will be randomly chosen and destroyed in this event;
- Random Earn: Your money will be doubled for your luck;
- Teleport to *Prison*: You will be prisoned. Poor you.
- Teleport to *GO*: You will earn one more home reward.
- Teleport to *Tax Bureau*: You will be asked for another tax.

## D Appendix D: House Template

The house level templates are shown here for you to check the current level. The owner of the properties is performed by the same color as the symbol (1P to 4P) and also as the color in player information blocks at corners. This manual provides all house levels of only Player #1. You can find the differences in game in person.

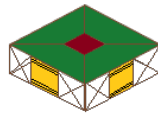


Figure 1: The Tile Image (The owner 1P is implied in the middle box of tile)

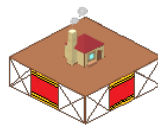


Figure 2: The House Level 1 Image (The owner 1P is implied in the both sides box of scaffold)



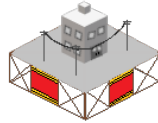


Figure 3: The House Level 2 Image (The owner 1P is implied in the both sides box of scaffold)

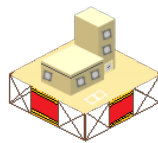


Figure 4: The House Level 3 Image (The owner 1P is implied in the both sides box of scaffold)



Figure 5: The House Level 4 Image (The owner 1P is implied in the both sides box of scaffold)

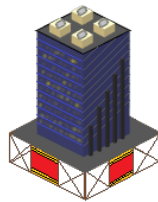


Figure 6: The House Level 5 Image (The owner 1P is implied in the both sides box of scaffold)



Figure 7: The Hotel Image (The owner 1P is implied in the both sides box of scaffold)