

Vision:

We envision a text-based, fun Monopoly game with simple user interface, which is based on object-oriented design. This project shall improve our skillset of object-oriented coding and analyzing. This game aims to provide classic Monopoly features in a simpler fashion with a bit of a complexity without overwhelming the player.

Problem Statement

We, as students, want to strengthen our object-oriented analysis, design and coding skills as well as achieve the goal of receiving good grades. Since projects have a good portion of the class' grading percentage, we are aiming to create a project with mutual satisfaction on both sides.

Scope

The Monopoly game will provide the following functionalities:

- * To offer players the ability to experience the game in a more flexible environment
- * Min. 2 players up to 8
- * Ability for players to be able to buy properties
- * Ability for players to build houses & hotels
- * Ability for players to draw chance and community cards
- * Ability for players to receive and pay rents

System Constraints

- * Will run within a command line without GUI therefore requires no graphical components
- * Will use random decision making therefore requires no inputs

Stakeholders:

Murat Can Ganiz (Boss)

Berna Altinel (Boss)

Kadir Hızarcı (Analyst/Programmer)

Muratcan Ünsal (Analyst/Programmer)

Ömer Faruk Çakı (Analyst/Programmer)

Cem Güleç (Analyst/Programmer)

Glossary of terms:

Player: A participant of the game. Each player starts with equal amount of money. Player rolls the dice and moves only forward determined by the sum of their numbers.

Bank: Holds unlimited money and gradually exchanges property and cash with players.

Board: Place where the players can move. Board has 40 squares which represents different types of options. Board has a starting square which is named "GO" that gathers all the players at the beginning of the game.

Dice: Decides how many squares a player will move. Dice is rolled for each time a player has a turn.

Houses & Hotels: Improvements on a set of property of the same color. Each time a house is built rent income of that property increases. There can be a maximum of 4 houses built on a property. A player cannot have houses on a property more than with a margin of 1 compared to other properties of the same color. Hotels are an improvement on houses and can only be built after 4 houses.

Chance & Community Cards: If a player lands on a chance or community card square, the player picks a random card and complies with whatever is written on it.

Property Cards: Can be bought by a player, if vacant, when landed on. Provides rent income if another player lands on the bought property. Each property belongs to a color group except public corporation cards.

Use cases

Players connects to the Monopoly game

Actors: Players

Precondition: None

1. Board is created
2. Players connect to the game
3. The move order is being decided by rolling the dice
4. Game starts
5. According to the number rolled from the dice, game decides the order of players' turns.
6. Player with the first turn rolls dice.

Alternatives

6a. If the player lands on a property that isn't bought

1. Player may or may not buy it

6b. If the player lands on chance or community card square, player draws a card.

1. Player has to do what the card says, whether it is good or bad

6c. If the player lands on the jail square

1. Player gets in the jail and has to comply with jail rules

6d. If the player travels through all 40 squares and comes back to the starting point

1. Player gets a certain amount of money