CSE3063 – OBJECT ORIENTED SOFTWARE DESIGN

PROJECT 1 – ITERATION 2

REQUIREMENT ANALYSIS DESIGN

Project Name

Monopoly Game Simulation

Stakeholders

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Vision

In this project we are developing Monopoly game simulation with providing parameters (number of players, player names, starting amount, goSquare amount, number of tax squares, tax amount of tax square, number of gotoJail squares, getting out from jail amount , number of tax cards, tax card amount, number of luck cards, luck card amount , number of goToJail cards, number of card squares, locations and purchase amount of those locations) from the user. The game shows the status of each player's actions and status to the system user.

Scope

Monopoly is a board game. In this game, players roll two six-sided dice to move around the game board, buying and trading properties and developing them with houses and hotels. Players collect rent from their opponents, with the goal being to drive them into bankruptcy. Money can also be gained or lost through tax squares.

System Constraints

• It is a simulation game that will be run as a console application.

• It can be run on any device that has Java IDE installed.

• There should be at least 2, at max 8 players.

• The status of each player's actions will be provided to the system user at each iteration.

-Before the dice rolls: Cycle count, turn count, player name, current location and current money printed to the screen.

-After the dice rolls: Dice values, total dice value, current location after move, current money after move printed to the screen.

Rules

- -There are minimum 2, maximum 8 players.
- -After the first dice rolling, players are ordered by their dice values.
- -Every player starts to the game with the given amount of money.
- -If player's current location is a tax square, then she/he has to pay the tax amount to the bank.
- -If player's current location is a utility square and not owned, then player can buy that location if her/his current money, two times greater than the purchase of that location.
- -If the current location is owned by another player, then the player who visits that location has to pay the rent amount to the owner player.
- -If player visits a go to jail square or directly jail square, then she/he has to move to the jail square. Player can go out from the jail with paying the jail amount, rolling equal dices or waiting 3 turns.
- -There are card squares and 3 types of cards. If a player takes a luck card then earns the amount of the card. If it is a tax card, then pays the tax amount and if it is a jail card then moves to jail.

- -If player completes the 40 squared stage and passes from the go square then she/he earns go square amount of money.

- Player lefts the game when she/he is out of money or bankrupt.

Glossary of Terms

- Bank: It is for keeping money and spending among players when needed according to rules.

- Cards: There are 3 types of cards:

-GoToJailCard: Moves the player directly to jail square.
-LuckCard: Player earns money.
-TaxCard: Player pays money.

- Dices: Two equal sized cubes, which is used for generating random numbers between 1 and 12 total.

- Game board: The board game is played on that contains 40 squares.

- Money: Numbers representing amount each player has and to decide who win or lose at the end of the game.

- Piece: An object each player has, which can be car, hat, horse etc. and is to show where he/she is on the board.

- Player: A simulated person who plays the game.

- Square: The places on the board which shows properties, players will move on them.

-CardSquare: Player picks a card if visits a card square.
-GoSquare: First square of the board. If the player finishes the 40 squared stage, then increases her/his money by goSquare amount.
-GoToJailSquare: Player directly goes to jail square.
-JailSquare: Player can not get out from the jail if doesn't supply the necessary conditions.
-TaxSquare: If the player comes to a tax square, then she/he has to pay that tax amount to the bank.
-UtilitySquare: Player either can buy the location or pays the rent amount to the owner.

Use Cases

There is only one use case in this system simulation:

Use case: Play monopoly game

Actors: User, system

1-User starts a new game.

2-User enters paramaters requited (player number, player names, initial player money esc.)

3-The simulation begins and informs user about players' info.

Step3 is repeated until the game simulation ends (only one player left and others are bankrupted) .

References

https://www.wikizeroo.org/index.php?q=aHR0cHM6Ly9lbi53aWtpcGVkaWEub3JnL3dpa2kvTW9ub3BvbHlfKGdhbWUp