Property Tycoon

Team Number: 5

Team Member:

Abdullayev, Elchin

Meftouh, Ishak

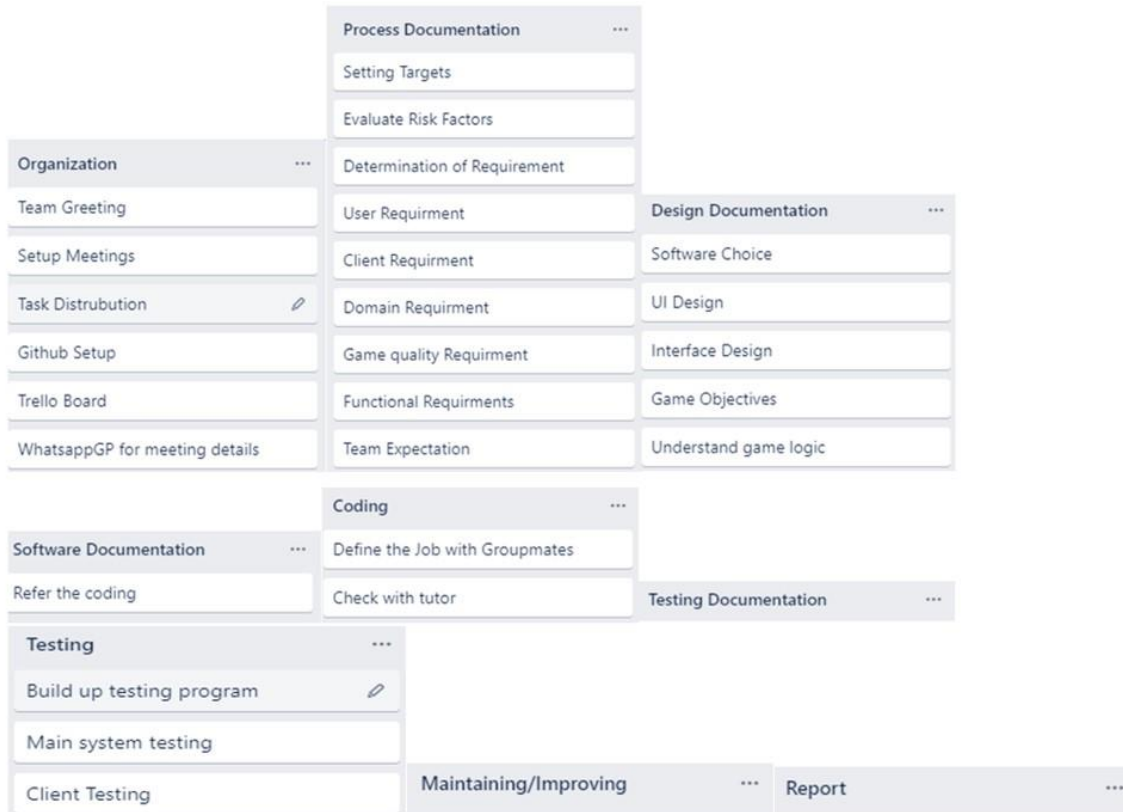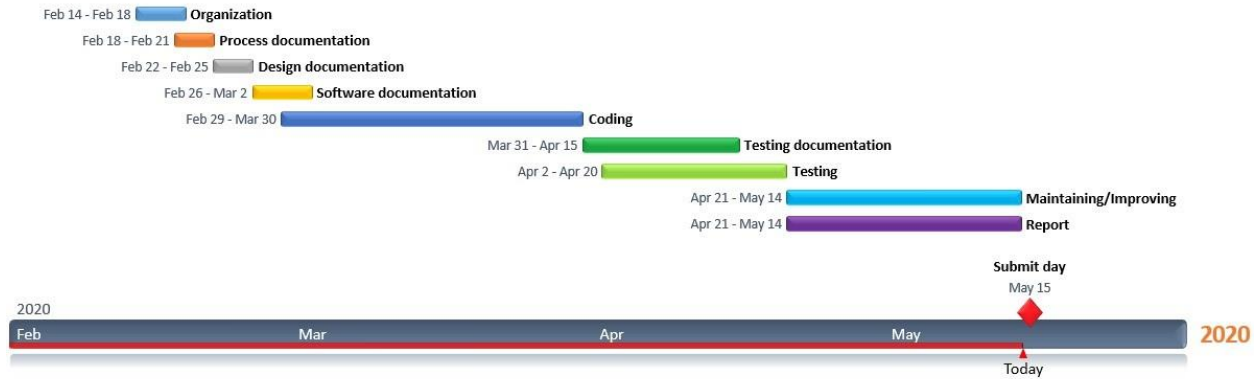Yeung, Yue Hin Gerry

Li, Jiaying

Yan, Guohao

Github: https://github.com/CarlAcount/Game

Planning

GANTT Chart

PERT Chart

https://github.com/CarlAcount/Game/blob/master/doc/Planning/318dfb76-40fc-4012-b7cf-6430f17a7487.jpg

Analysis of requirement.
Game requirement

	Requirement	Explanation
1	The game must have two different modes "full game" and "abridged version"	''The game can be played in two versions:'' '' The full game: In the full version, the game is played until there is only one player left and all other players have retired from the game due to bankruptcy, or because they have decided to leave the game with the agreement of the other players. In the latter case, all of the player's property and funds are returned to, and become the property of, the bank. '' ''The abridged game: In the abridged version, a time limit is agreed at the outset by all players. When the time limit is reached, and the players have all taken the same number of turns, the game ends. Each player then calculated the value of their game assets. The player with the greatest value of game assets is declared the winner''
2	The full game mode finishes when only one player is left.	"game is played until there is only one player left"
3	If a player want to leave the game their assets will go to the bank.	"They have decided to leave the game with the agreement of the other players. In the latter case, all of the player's property and funds are returned to, and become the property of, the bank."

4	The abridged version has a limited time, players will agree on it at the beginning of the game.	"In the abridged version, a time limit is agreed at the outset by all players."

5	The winner in abridged version will be determined by asset value	"The player with the greatest value of game assets is declared the winner."
6	Players starts with £1,500	"At the outset of the game, each player has £1,500 in cash
7	Payer receives £200 if they pass go.	"When a player passes Go, they receive £200 from the bank."
8	If rent cannot be payed, player must sell assets till the rent price is affordable.	"If a player is unable to pay the rent for a property they have landed on, they must sell game assets to make good on the rent."

9	If there are houses on a property, a player that lands on the property must pay the corresponding price for the number of houses on the property.	"If a property is improved with houses or hotels, then the rent to be paid is as shown on the card.

10	Player can sell property back to the bank for its original card value if no houses are present.	"If a player needs to raise funds, they can sell a property back to the bank for its original value."
11	If a player lands on a property, and the owner own all the street, the rent get doubled.	"If a player owns all of the properties in a colour coded group, but the properties are otherwise not developed further with houses and hotels, then the rent due is doubled."

12	If a player land on free parking, they get money of the unclaimed fines of players on parking square.	"When a player lands on free parking, they collect all of the funds currently on the free parking space."
13	£50 fine is payed to get out of jail.	"If a player is sent to the jail, they may pay £50 to be released from jail."
14	A player's assets are calculated by: • Cash • Property value (Original set card purchase value, not auctioned price) • Mortgaged property	"In the abridged version, the value of a player's assets is calculated by adding up: • Cash held • The value of properties as shown on the game card, unless the property is mortgaged, in which case the value is half the value shown on the game card • The value of houses and hotels purchased for each property. • 'Get out of jail free' and any other card items have no cash value."
	value (half of original value) • Houses and hotels at original price • Get out of jail free cards	

15	The bank has a huge amount of money that we can say its unlimited.	"The bank has a total of £50,000 cash
16	Houses/properties must be paid upfront.	"All assets procured from the bank must be paid for in cash. The bank does not provide credit.

System requirements :

1	Runnable on both Mac and windows.	"The electronic version should be for desktop machines, and ideally should be playable on both Mac and PCs. If this is difficult, then PC development should be preferred."
2	App version can be developed in the future.	"There are no plans for a mobile version at this stage."

Dice requirements:

	Requirement	Explanation/Quote
1	The player can roll again if the dice rolled are the same number.	"If a player throws a double, then they take another turn. If a player throws another double at the third turn, then they 'go to jail' When a player goes to jail, they go directly and do not pass Go."
2	If this occurs multiple times at the third time payer will go directly to jail.	"If a player throws a double, then they take another turn. If a player throws another double at the third turn, then they 'go to jail'. When a player goes to jail, they go directly and do not pass Go."
3	After a turn a player may choose to buy houses/hotels for their property, given that they own the whole street. This cannot be done at any other time.	"When a player has finished moving their token, and has completed any property purchase activity, they have the option to buy houses and hotels to improve their properties."
4	The two used dice must be fair.	"The dice used in the game must be fair with each dice have an equal probability of landing on one of its six sides."

Design documentation

Github link**:**

https://github.com/CarlAcount/Game/tree/master/doc/Design_Documentation

Java documentation

Github link**:**

https://github.com/CarlAcount/Game/tree/master/doc/software_Documentation/javadoc

User Guide

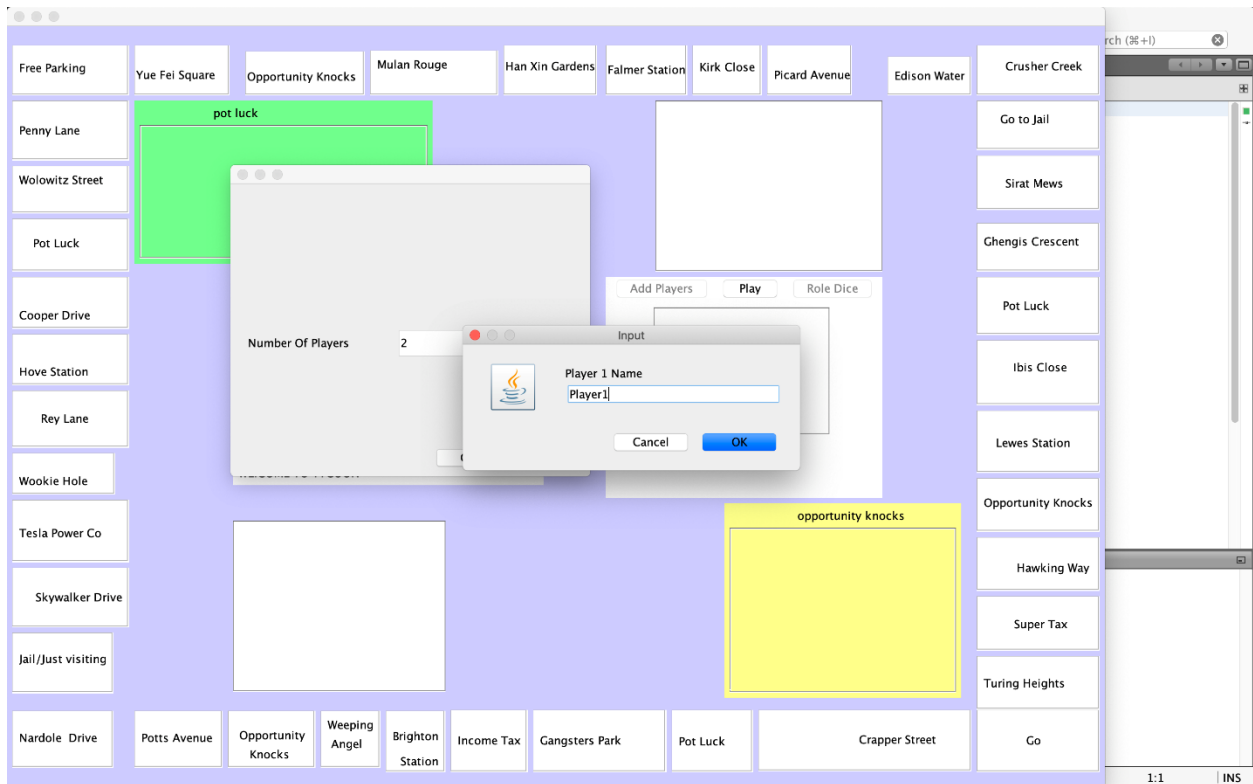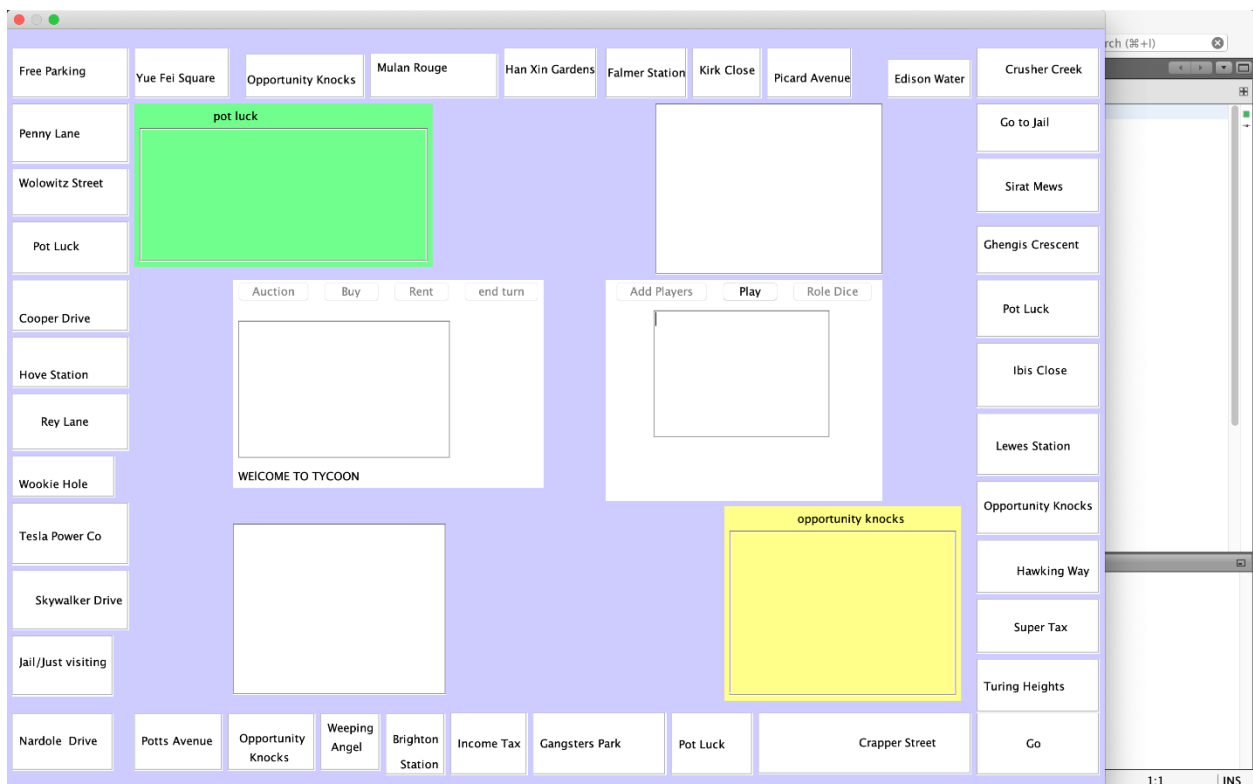Run Main.java in the Game project
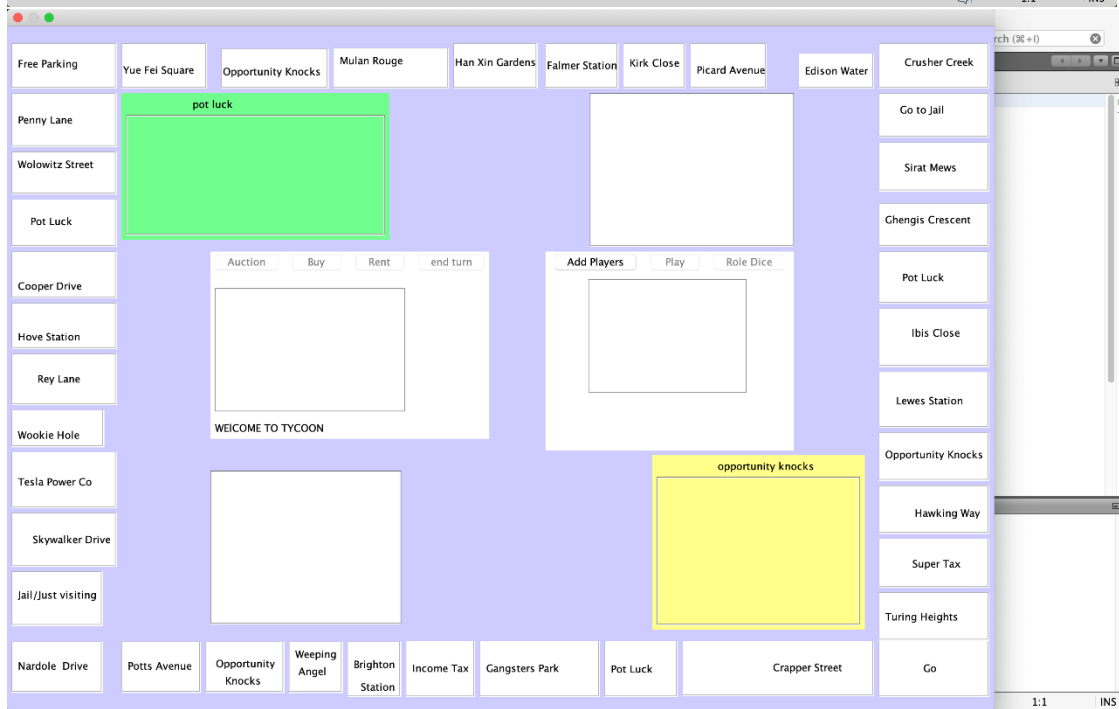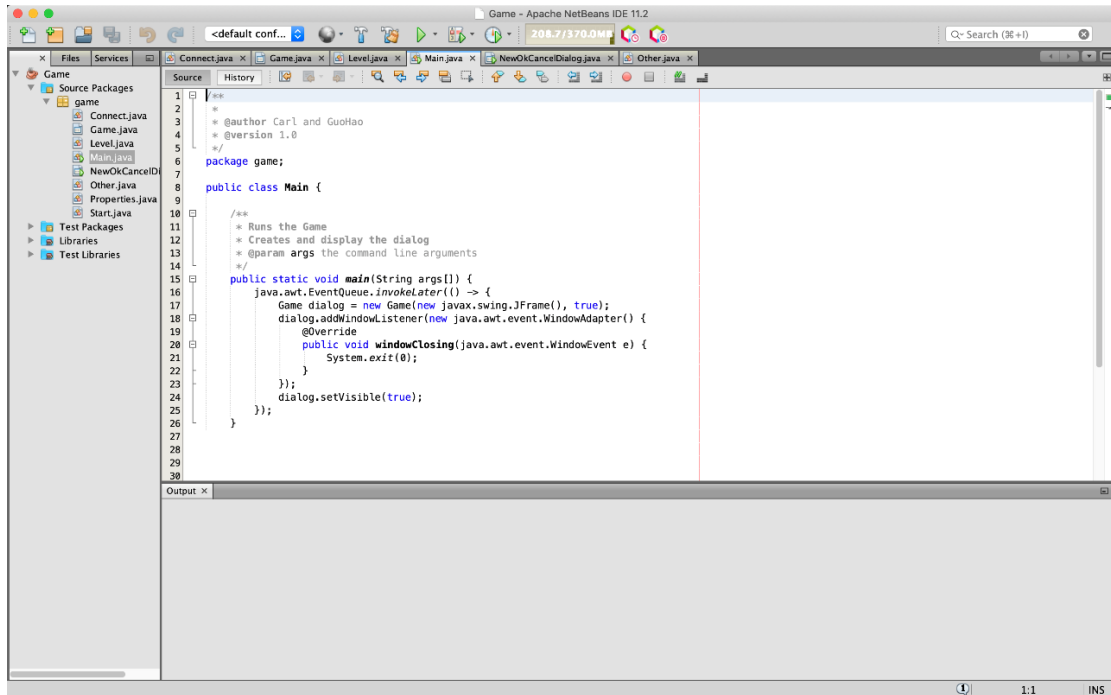
Click Add Players button
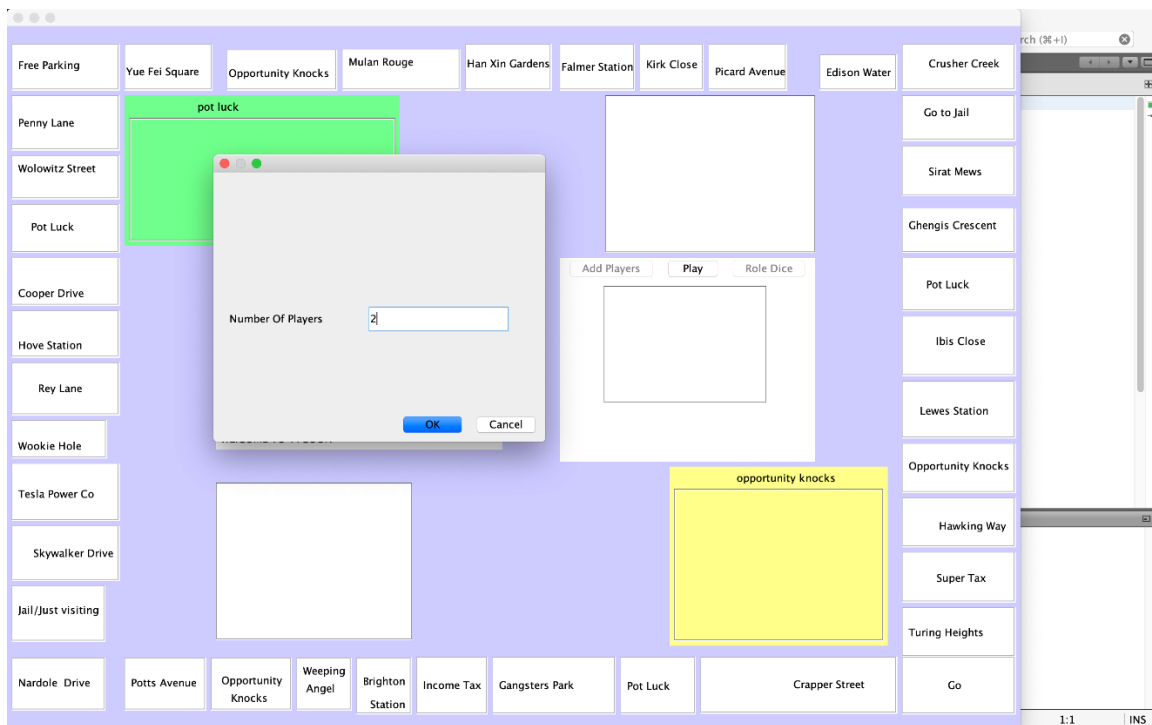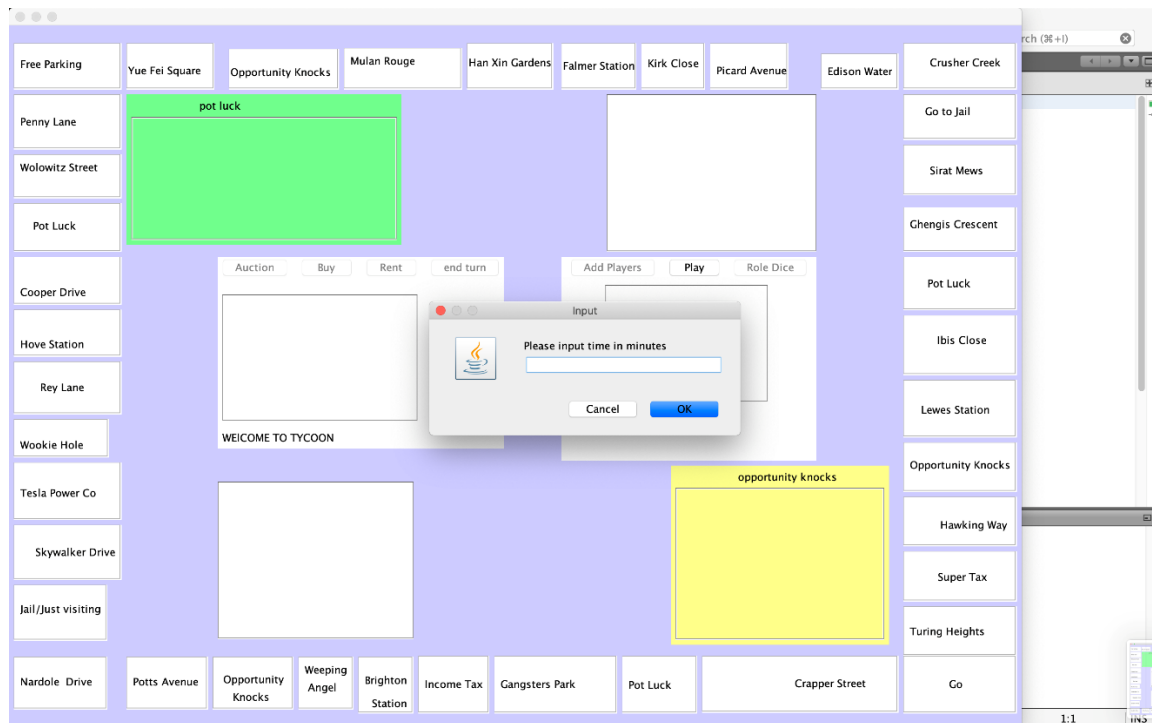

Input the number of player and click OK
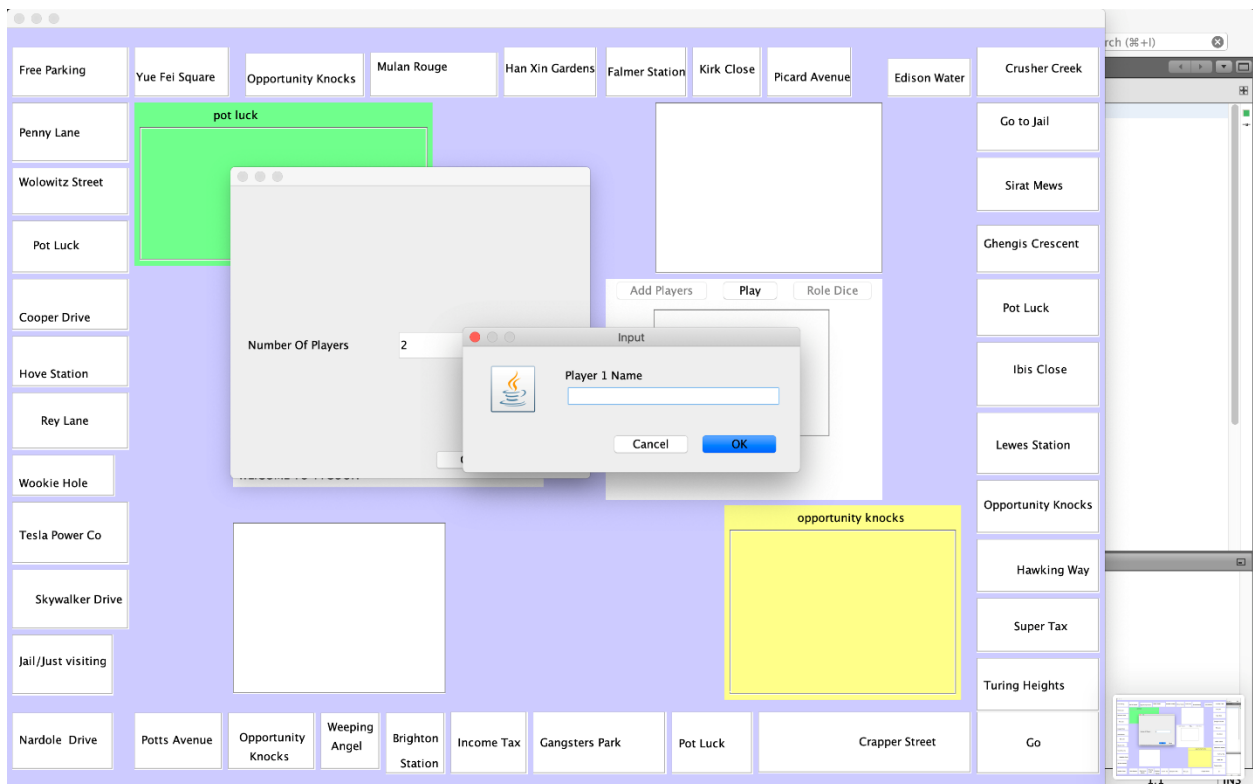
Enter the player's name in turn. For example, Player1 and Player2

The player's name has been saved, and then you need to click the Play button

After clicking the Play button, the program will prompt the user to enter the game time. The game will end after one of the players wins the game or the game time is exhausted.
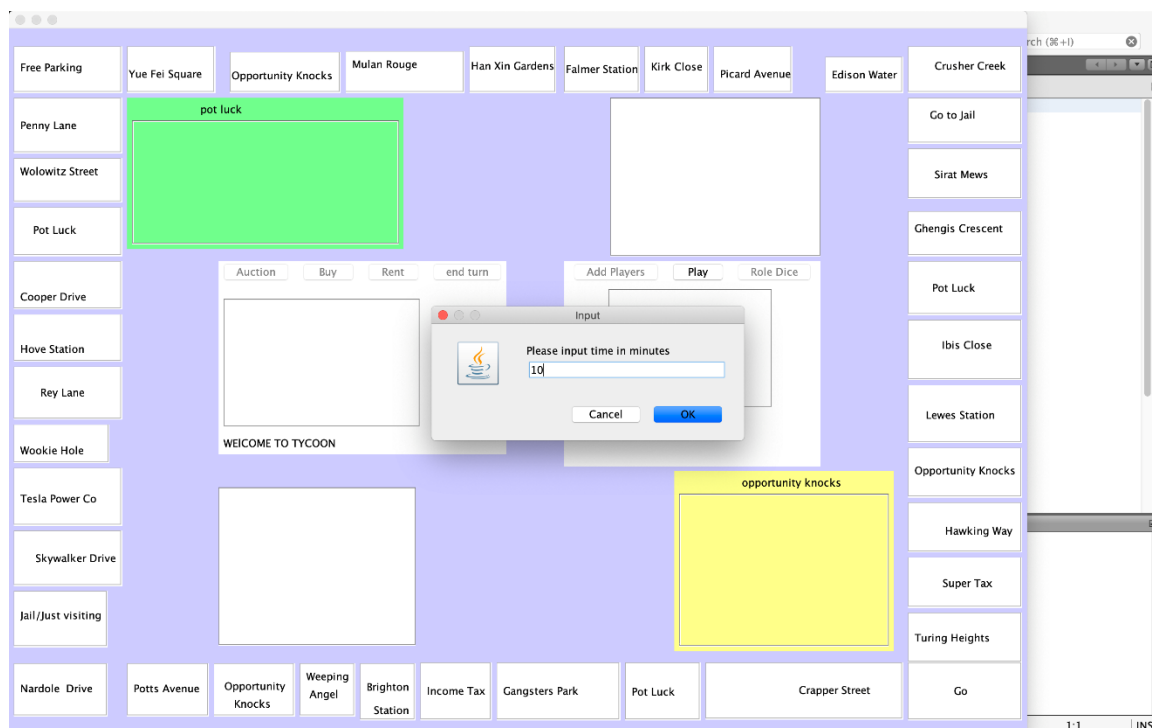
Now that the game is set up, the user can see the player amount and player list on the game interface. The green box in the upper left corner displays descriptive information when the player draws a lucky card. The yellow box in the lower right corner displays the description information of the opportunity card in the box when the player draws the opportunity card. The box in the lower left corner will display street information in the box when the mouse is moved to the street.
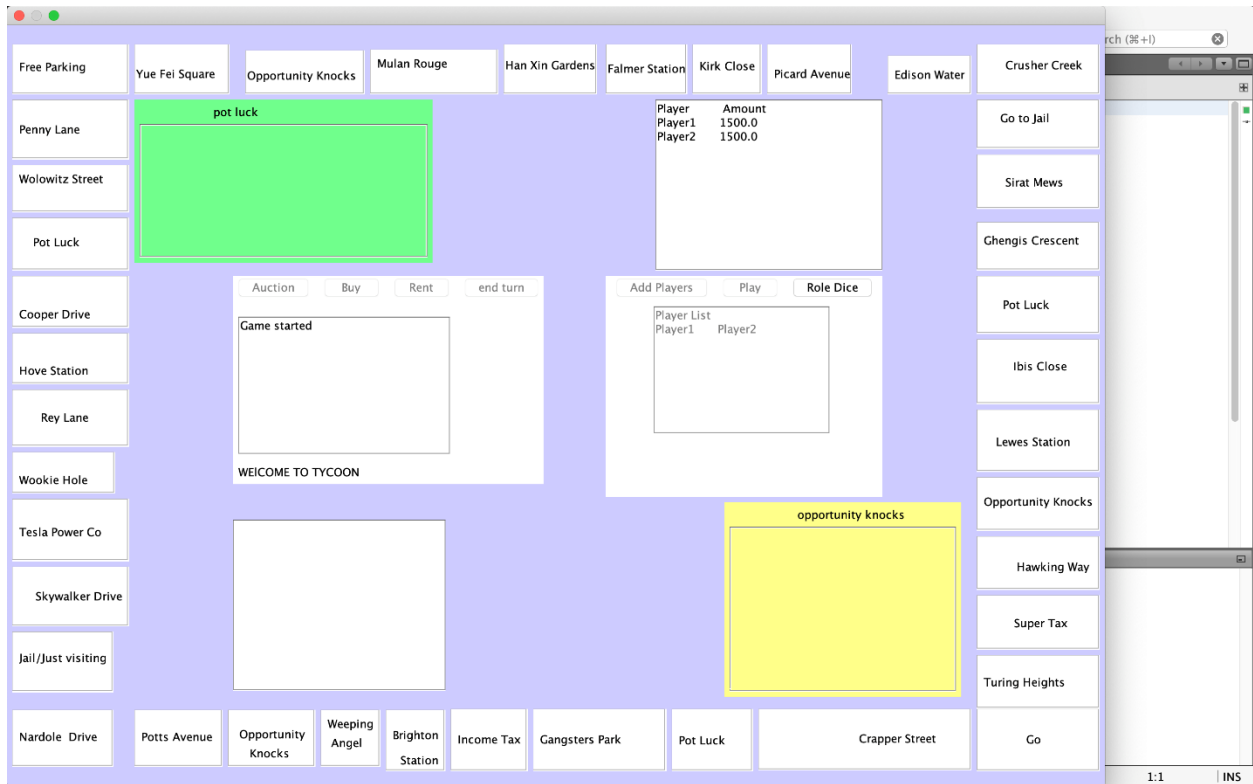
Now, click Role Dice button, the game will assign the order in which the players roll the dice according to the order in which they enter. The result of the dice is displayed in the box on the left of the player list. When the player walks across the street, the street will change to green.
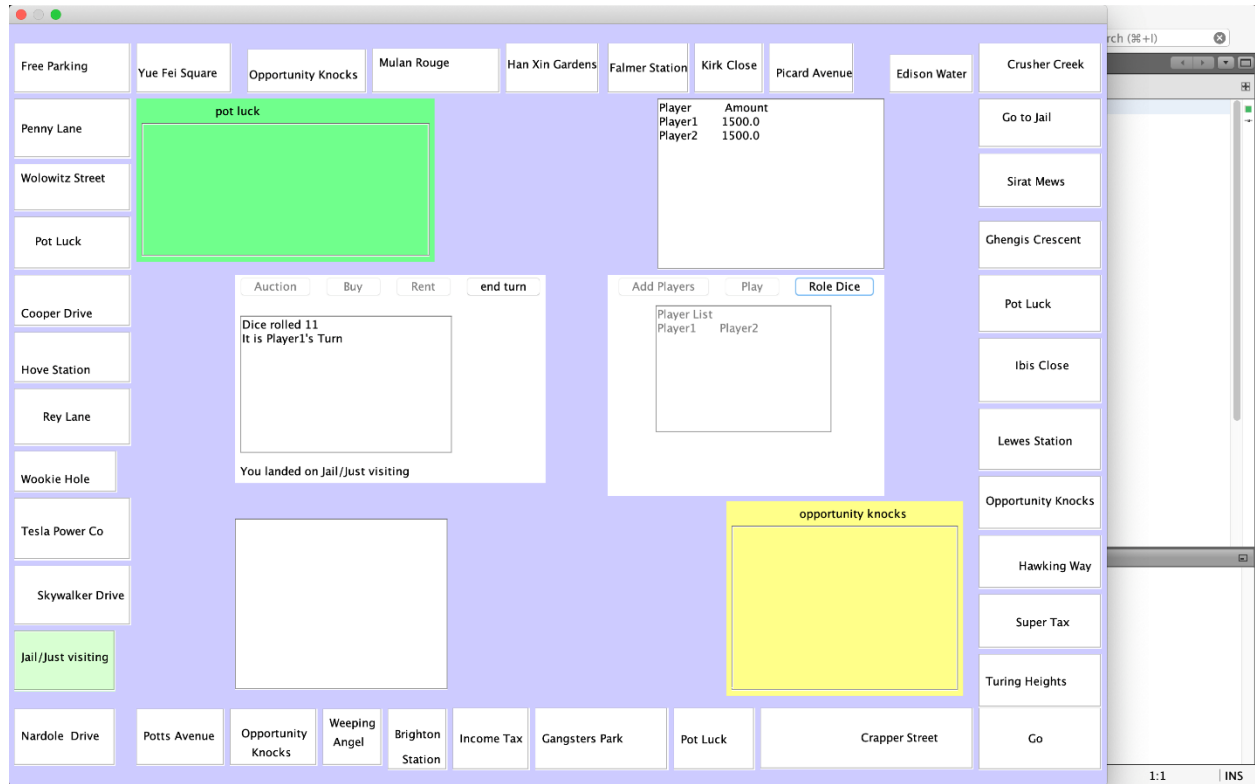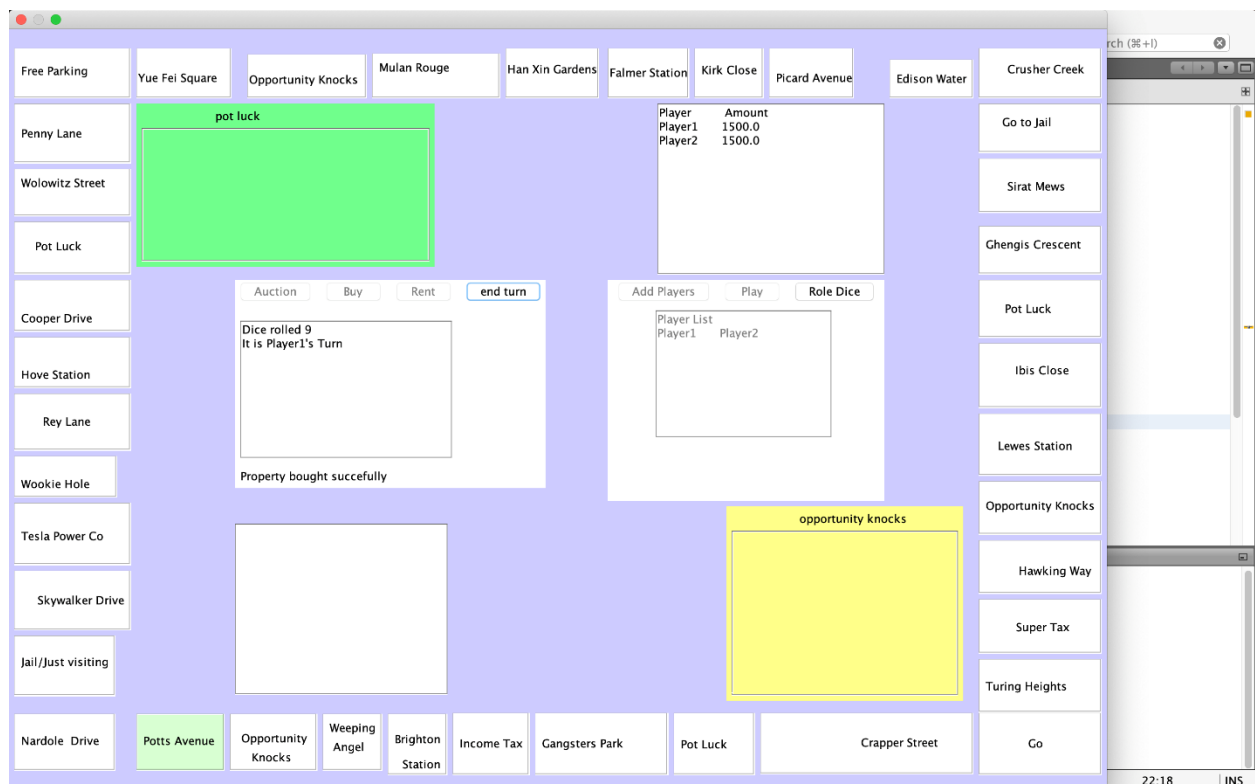
Property on the map can be auctioned off and the person with the high price gets the property.
Click Auction button

The information about the end of the auction will be displayed below the button,
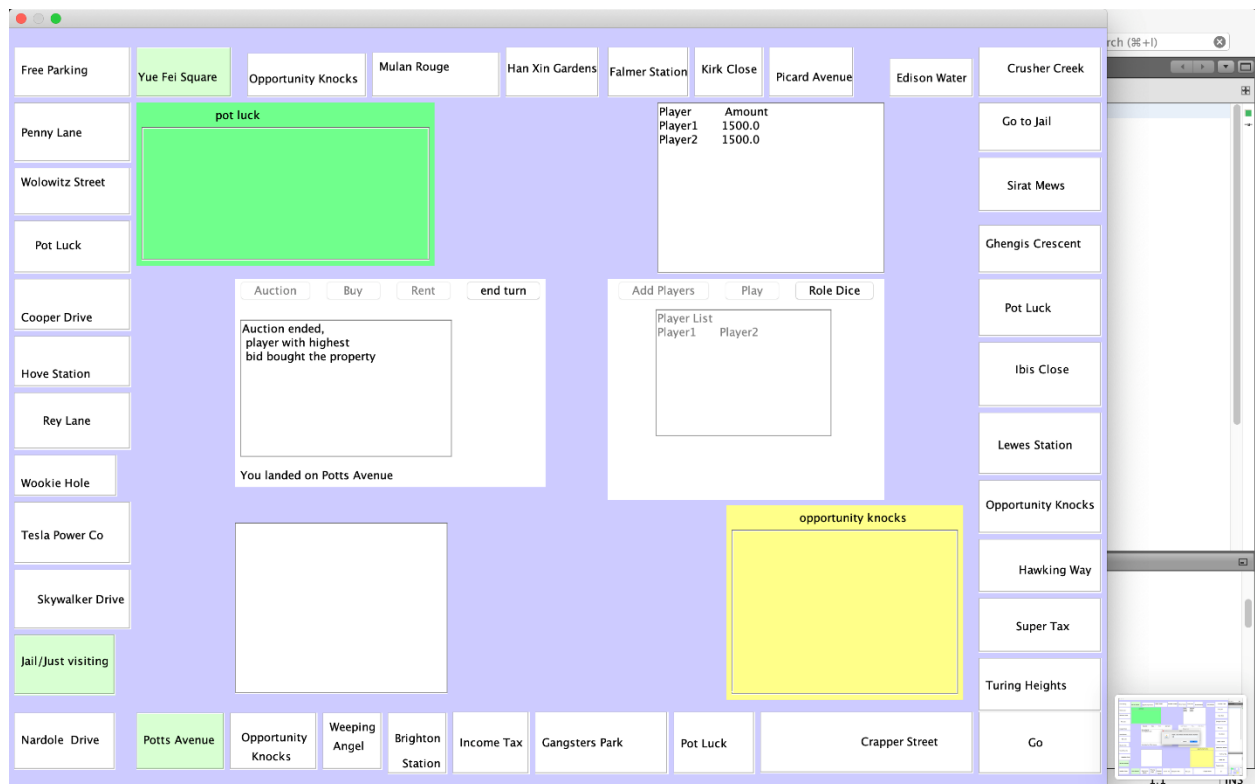
Map property can be purchased. The purchase success will be displayed at the bottom of the box.

Property on the map can be rented. The results of the rental will be displayed at the bottom of the button box.

In the end, time did not run out but since there were players who won the game, the game ended. End of game is shown as the button on the program does not work.

Report

GUI Development

Unity3D for GUI

In order to enhance the enjoyment and playability of the game. We want to create a better looking and more practical GUI through unity3D and javaFx. We aim to create better board and better functions to achieve this.

Feedback

For the continuous improvement and progress of the game, we would create a website and put the website link on the software. This website is used to receive user comments and feedback.

To do this, the webpage would have a webpage display board. Users can upload images, provide messages and even some codes. Through these we will continue to improve the program.

Online multiplayer

We would like this game can be played online by multiple people. So that users can play on windows platform over WAN. This will make it easier for users to play.

To do this, we would run the game through the game platform steam to achieve Online multiplayer.

Peer Marking

Abdullayev, Elchin : 18

Meftouh, Ishak : 18

Yeung, Yue Hin Gerry : 18

Li, Jiaying : 23

Yan, Guohao : 23