Bilkent University

Department of Computer Engineering

CS 319 - Object-Oriented Software Engineering

Project Final Iteration 1

Settlers of Catan

Group 1D

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1. Introduction

After the design and analysis stages of the project, we decided to start implementation of it. We had already decided that we used IntelliJ for IDE and commit the codes directly to github via IntelliJ. Before the implementation part, we worked on how we connect our github accounts to IntelliJ. After that we directly started to coding the classes by using our class diagram from the first design report. We share the coding part as GUI, implementation of functions and instances. We mostly done the menu part and main game screen. Moreover, we implemented the functions as we expected that it will work after we merge all the code. However, we are still working on the merging of the classes with the GUI parts of the project. Logic of the game are mostly complete, however, it is not completely done yet. We still have some missing parts. For example, the numbers are fix for the map, however, the numbers should have given randomly. Also, we didn't have the docks yet. We expect that we will complete the project for the second final iteration.

2. Design Changes

For the low level design part we use our class diagram to implement the code. We strict out our classes and we did not need to add or delete any classes from the diagram. However, we have to add new attributes and new functions to our classes. As an example, we add createInitialCardStack() function to our game manager. The function stores development cards to the stack. The reason why we store them in stack is that when a player buys a development card, he/she has to buy it from the top of the deck.

Moreover, we decided that game will strictly play with four players instead of playing with three or four players option.

Implemented Functionalities:

- User interface for game's introduction and start game pages.
- Implemented the frames of game grid, trade and players' properties.
- Transitions between different frames.
- Basic game model with connections between classes.
- Management of system without the unimplemented functionalities explained above.

3. Lessons Learnt

We learn how to design and analyse any project before the implementation which is a part of forward engineering. Think about the classes, methods and instances is the hardest part for us because before the implementation everything was being abstract to us and sometimes we cannot find all the logic before writing the code. Moreover, we learnt to work as a team. For the logic and thinking parts we generally do it with all participants of the team. It is important for the learning and understand the logic of the project. Otherwise, it would be really hard to connect all seperate ideas. Only after the analysis and design of the project, we do the work sharing for the implementation part as filling the functions and GUI of the game. Also, we learn new things like connecting an IDE with the GitHub accounts.

4. User's Guide

4.1 System Requirements and Installation:

Settlers of Catan game is executable and it will have .exe extension. Game will be a desktop application.

4.2 How to Use

How to Play

“How to play” button in the menu screen direct user to how to play screen. IN that screen game is explained in detailed to the users. It is recommended to read this part for the users that are not familiar with the game.

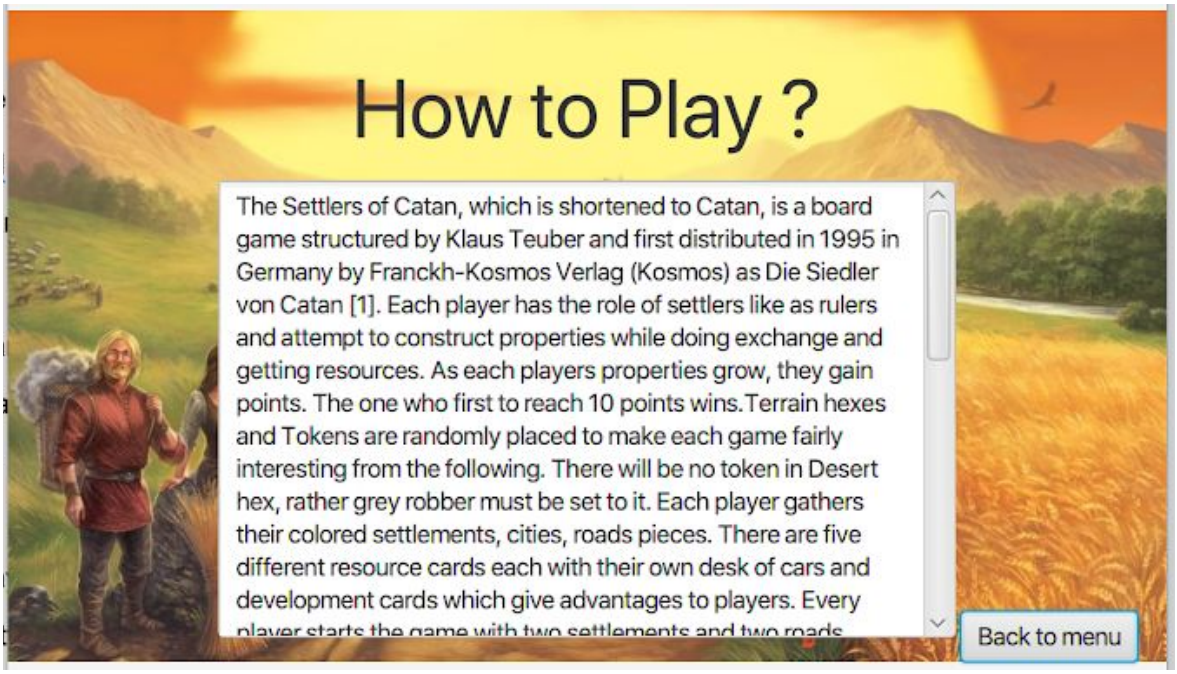

Figure 1: How to play frame

Start the Game

When user clicks “Play Game” button from the menu screen, it will direct the players to the name selection screen. Players will write their names and then after they press the “Start Game” button. Game will start.

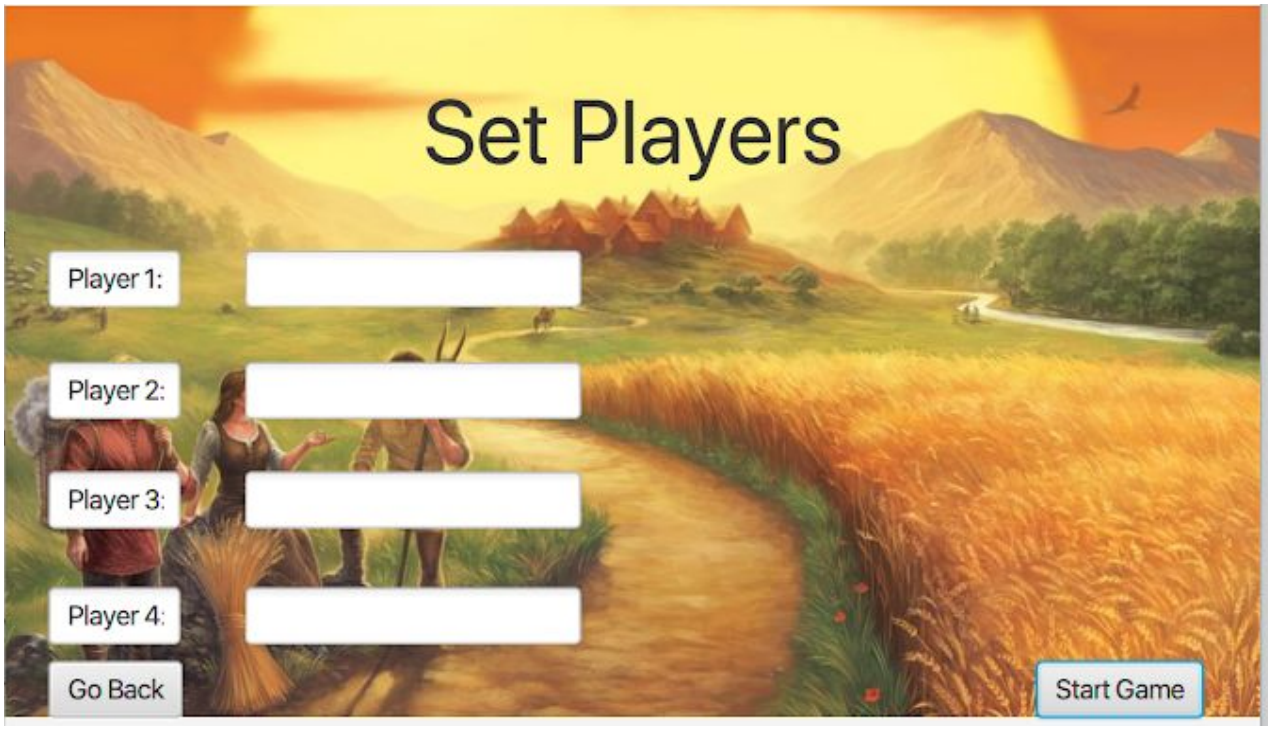

Figure 2: Player name entry frame

Play the Game

After starting the game players are directed to the main game area. Players start the game with two settlements and two roads. The game is turn based.Every player build their buildings to the map.In other turns, every player will roll dice and decide what they have to do in their turns like buy a development card, buy any building or trade processes. After that user clicks the “End Turn” button and give his/her turn to the other player. Players gain victory points when they satisfy conditions like building road or having the longest road ...etc. Any of the players that reaches the ten victory points wins the game and game will end.

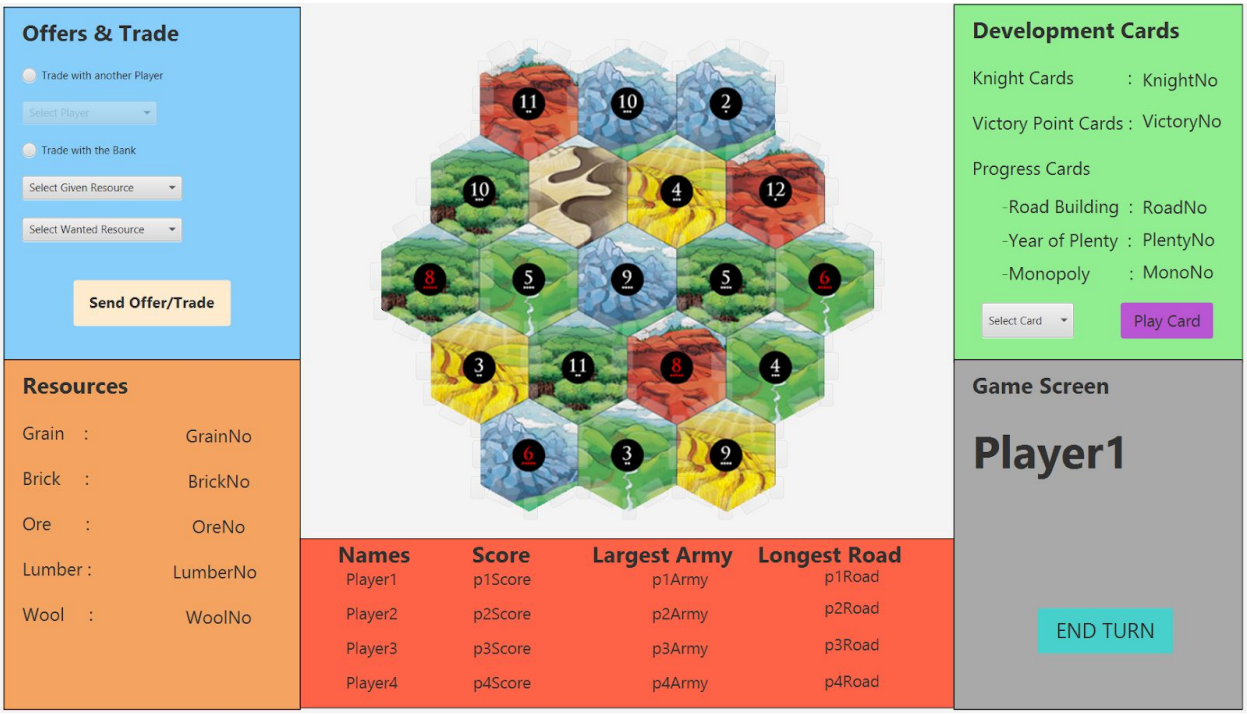

Figure 3: Game grid and information frames