BILKENT UNIVERSITY
DEPARTMENT OF COMPUTER ENGINEERING

CS319 - Object-Oriented Software Engineering

Project Name: Seven Wonders

Final Report

Group No: 2G
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1. Introduction

After the UML diagrams were finished, we started working on the implementation phase. To implement the game we checked out some online versions of the game. However, these online versions were all multiplayer but in our version of the game we decided to make it a single player game with bots. At our group meetings we decided some different tasks and assigned each group member to some of these tasks. To be able to code in sync we started using GitHub.

2. Work Allocation

- Göktuğ Öztürkcan
    - Prepared Activity and State diagrams.
    - Card Class made UI made for cards.
    - UI for trade made.
    - Contributed on Game Over page UI.
    - Contributed to bot.

- Ahmet Berk Eren
    - Prepared Subsystem Decomposition, Subsystem Services, Class Diagram and use Case Diagram.
    - Main page, Options page, setName page, Game page made and their UI implemented
    - Created the skeleton code out of UML diagrams and implemented basic functionalities like building cards, building wonders, selling cards, checking resources, making trade, distributing wonders, gaining benefit.
    - Implemented some special functionalities like choosing a card from stake, Copying a guild from neighbors, building a card free.
    - Save and load game implemented.
    - Story and Ally mode made.
    - Battle sound and game music implemented.

- Safa Alperen Oruç
    - Prepared Use Case diagram, its textual representation and User Interface Mockups.
    - How to play page and Credits page made.
    - Age ended scenes, story scenes made.
    - Contributed on Game Over Screen.
    - Contributed to bot.

- ○ Contributed to UI.
- ○ Designed Demo videos, images, gifs.

- ● Ömer Faruk Oflaz
  - ○ Contributed to analysis and design reports
  - ○ Had javadoc comments
  - ○ Implemented cards
  - ○ Implemented story mode name setting screen
  - ○ Contributed to UI

- ● Deniz Doğanay
  - ○ Prepared Sequence diagrams.
  - ○ Implemented Pause Menu, pause and mute buttons in game screen.
  - ○ Method for making battles.
  - ○ Indicator for completed milestones on wonder boards and free-to-build cards.

3. Lessons Learnt

Since we started designing the game in our heads with UML diagrams before starting to code it made our lives in the coding stage much easier. Even though the making of the UML diagrams were costly in time after they were done the coding part becomes much easier. Also we realised how important GitHub or a tool like GitHub is in projects multiple people work on. By the methods we learnt in CS319 we saw how important communication is in a group project.These methods Also showed us that dividing the problems into different smaller problems and assigning people with different skills to problems they can solve better is really important in a group project.

4. User's Guide

4.1 System Requirements

Seven Wonders requires Java Runtime Environment (JRE) installed on the user's operating system. It does not require an internet connection, since it is an offline digital version of the board game.

Keyboard is needed for the user to set their nickname, although "Player 1" nickname is given to the player by default. Therefore, it is not mandatory. Likewise, speakers or headphones are needed for the user to listen to game music and FX, although it is not mandatory. Mouse is required to play the game. A small disk space of 30 MB in the Local Disk should be enough to download and run the game.

4.2 How to Use

In the main menu; player can choose to start a new game, go to how to play page, go to the options page, or quit.

4.2.1 Start Game

When "Start Game" is clicked from main menu; a screen from which the user can change their nickname and choose side A or B of their wonder card comes up. The user is free to use the default nickname given to them, or set their own one. The user can select to start the game or go to the main menu from here.
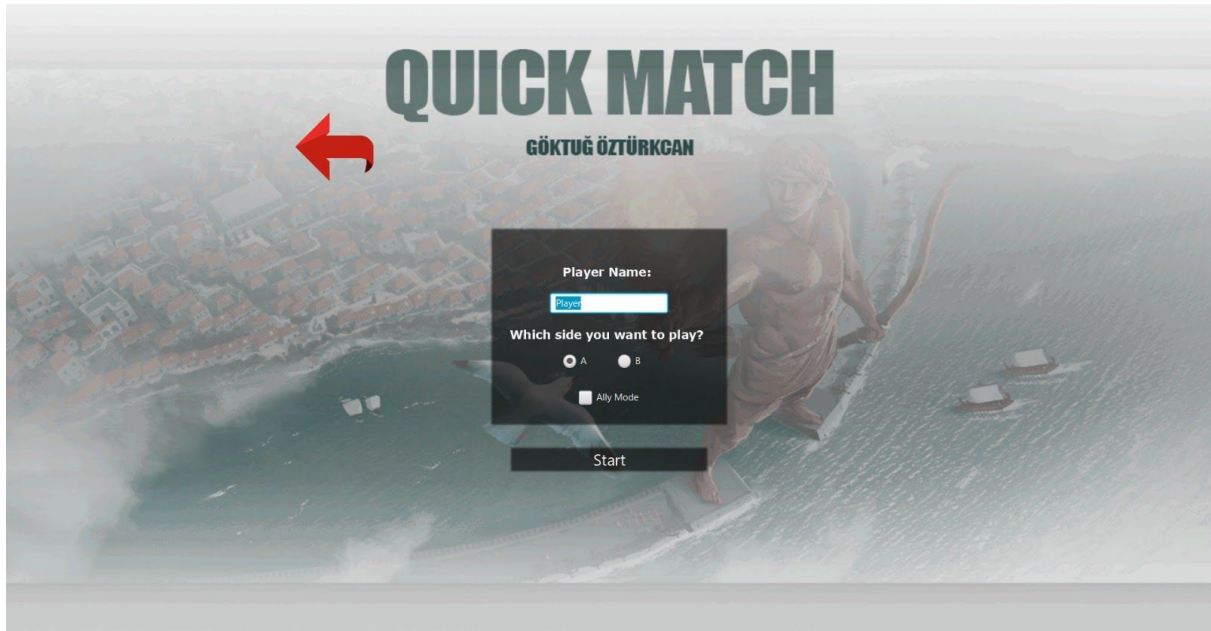
4.2.2 Pause

While the game is going on; the user can click "Pause" to access Settings and How to Play pages without ending the current game, or the user can simply Quit the game too, from here. On the pause screen, the user can click "Resume" to continue playing the game, where they left off.

4.2.3 Options

When "Options" is clicked from main menu; a screen from which the user can enable and disable audio, or go to main menu comes up.
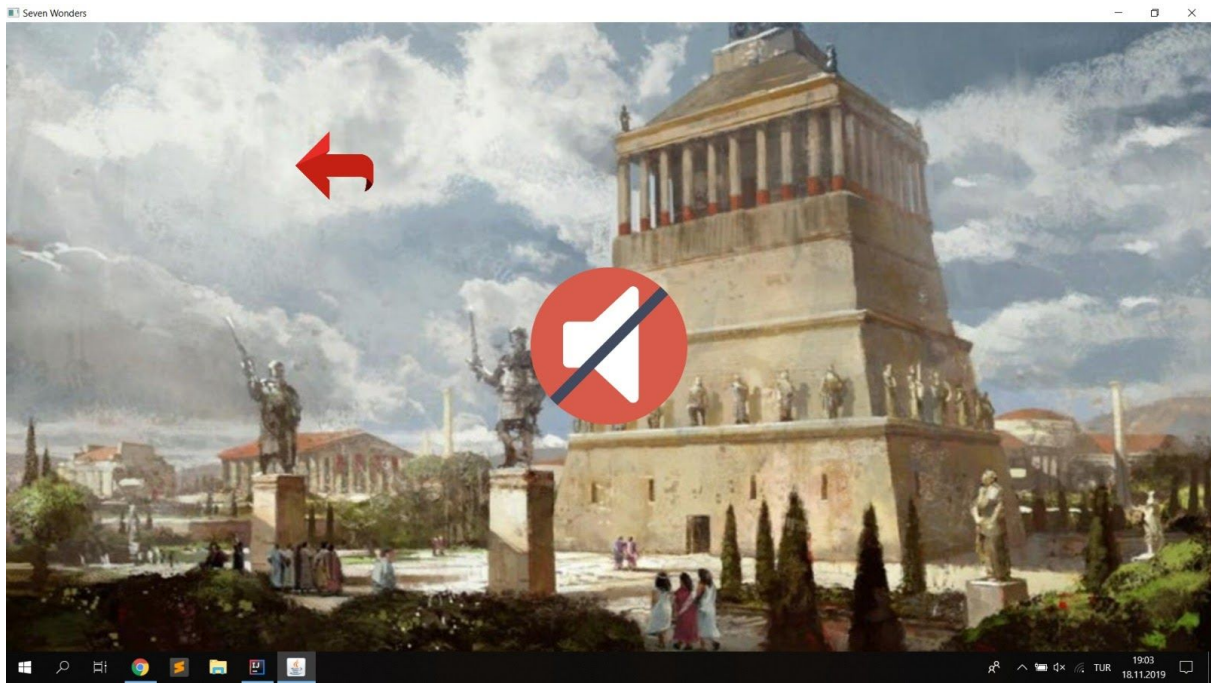
4.2.4 How to Play

When "How to Play" is clicked from main menu; a screen from which the user can learn about the game mechanics and features comes up. This page is detailed with information enough such that even a user who does not have experience about board games would learn to play Seven Wonders.
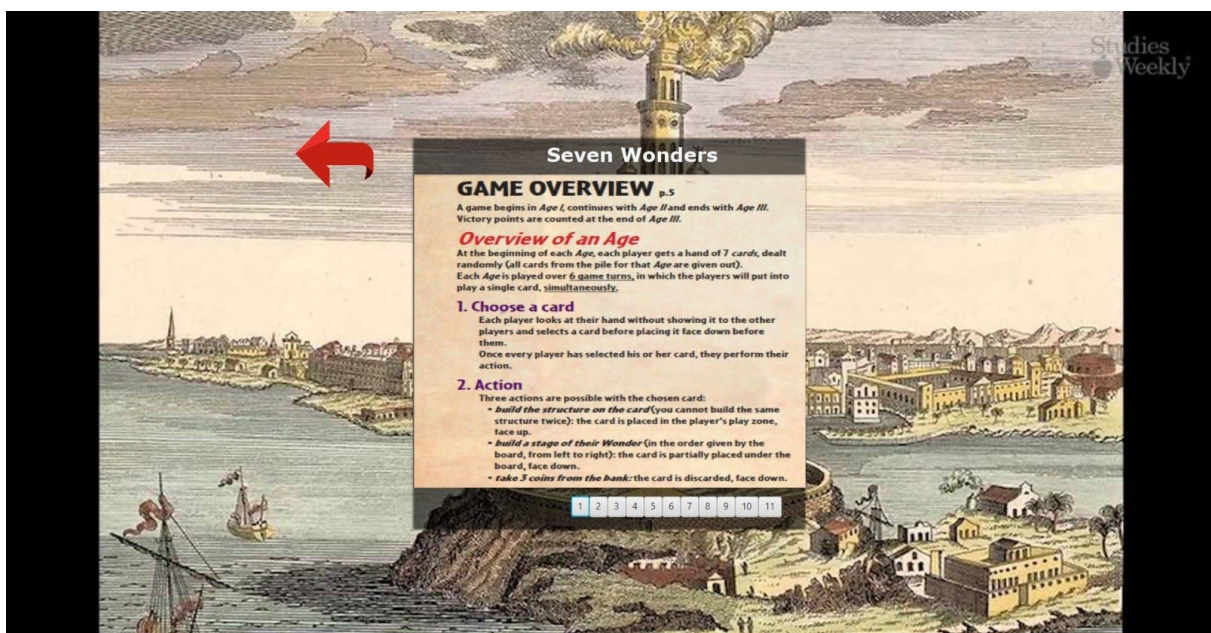
4.2.5 Quit

The user can quit the game directly from main menu, by clicking "Quit", before starting a game, or they can quit the game from the Pause page, by clicking "Quit", if they have started a game.

4.3 How to Play Seven Wonders

The purpose of the game is to have the most victory points at the end of Age III.The user should select side A or B of the wonders first, and optionally change their nickname. After the game starts and wonders, cards and coins are distributed, the user should click their desired option of using the card, selling the card, or placing the card on wonder, after hovering the mouse on the card. After clicking any of these, one turn is completed and the remaining hand in front of the user passes to the player on the right, and the remaining hand from the player on the left passes to the player. After 6 turns of playing, the battles between the user and the player to the left and right, namely 2 seperate battles, are done and victory points depending on the winner is calculated and added to the total victory points of every player. Winners of the battles get plus victory points depending on the current Age, while the losers get minus points depending on the Age. After every age, a new deck of cards of the Age to be played is distributed along with coins. Completing Age III means the end of the game and winner is decided.
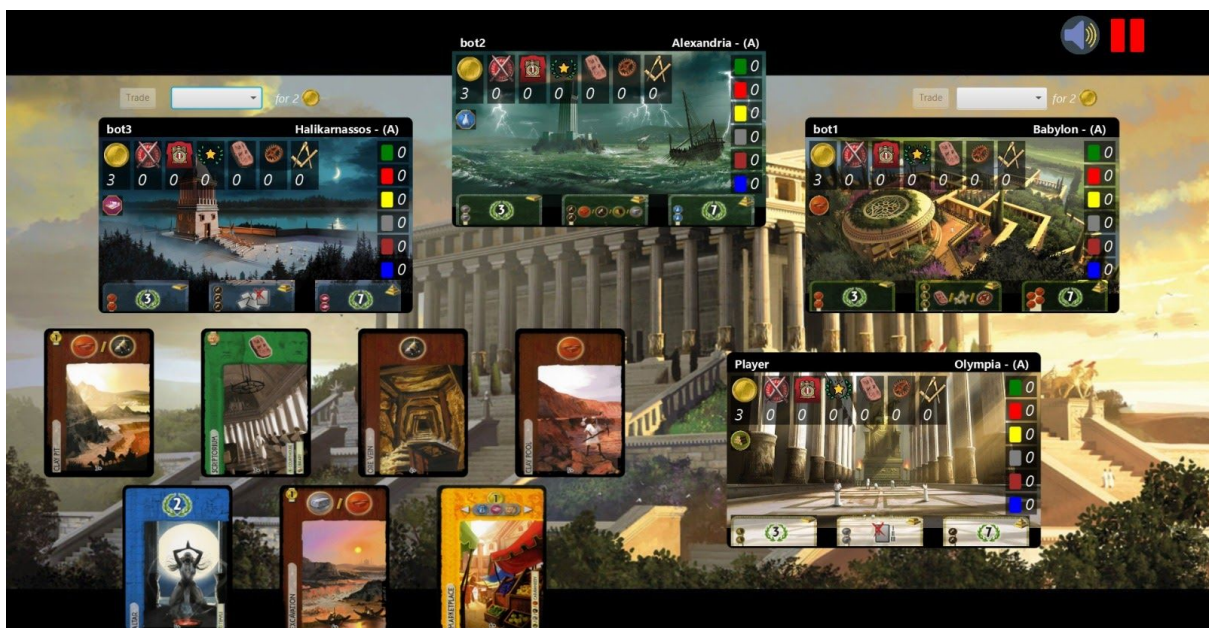
4.4 Installation

- Go to the link below to see the project and reports
https://github.com/ddgny/CS319-2G-SW
- Download and open the jar file