



TCP2201
Object Oriented Analysis and Design

Trimester 2310

Talabia Chess

Group 25

Date: 29 January 2024

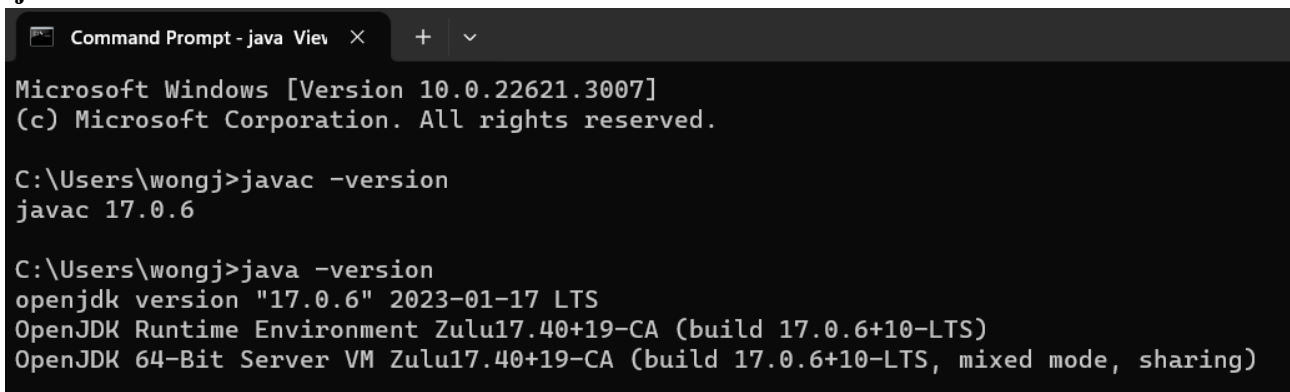
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1. Compile and run instructions

1. Download and install the latest version of the [Java Platform, Standard Edition Development Kit \(Java SE 6 Update 27\)](#). Note the installation directory for later—probably something like C:\Program Files\Java\jdk1.6.0_27\bin.
2. To make sure that Windows can find the Java compiler and interpreter:
 - a. Select *Start -> Computer -> System Properties -> Advanced system settings -> Environment Variables -> System variables -> PATH*.
[In Vista, select *Start -> My Computer -> Properties -> Advanced -> Environment Variables -> System variables -> PATH*.]
[In Windows XP, Select *Start -> Control Panel -> System -> Advanced -> Environment Variables -> System variables -> PATH*.]
 - b. Prepend **C:\Program Files\Java\jdk1.6.0_27\bin;** to the *beginning* of the PATH variable.
 - c. Click OK three times.
3. Launch the command prompt via *All Programs -> Accessories -> Command Prompt*. (If you already had a command prompt window open, close it and launch a new one.)
4. To check that you have the right version of Java installed, type “**javac -version**” then type “**java -version**”.

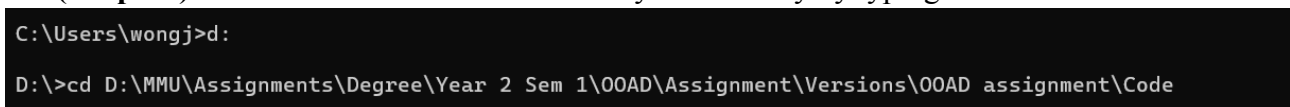


```
Command Prompt - java View  X  +  v
Microsoft Windows [Version 10.0.22621.3007]
(c) Microsoft Corporation. All rights reserved.

C:\Users\wongj>javac -version
javac 17.0.6

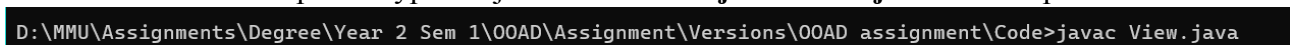
C:\Users\wongj>java -version
openjdk version "17.0.6" 2023-01-17 LTS
OpenJDK Runtime Environment Zulu17.40+19-CA (build 17.0.6+10-LTS)
OpenJDK 64-Bit Server VM Zulu17.40+19-CA (build 17.0.6+10-LTS, mixed mode, sharing)
```

5. From the Command Prompt, navigate to the directory containing your .java files by typing “**cd (file path)**”. Redirect to another disk directory if necessary by typing “**d:**” for disk D.






















```
C:\Users\wongj>d:
D:\>cd D:\MMU\Assignments\Degree\Year 2 Sem 1\00AD\Assignment\Versions\00AD assignment\Code
```

6. You will use the javac command to convert your Java program into a form more amenable for execution on a computer. Type the javac command “**javac View.java**” to compile it.



```
D:\MMU\Assignments\Degree\Year 2 Sem 1\00AD\Assignment\Versions\00AD assignment\Code>javac View.java
```

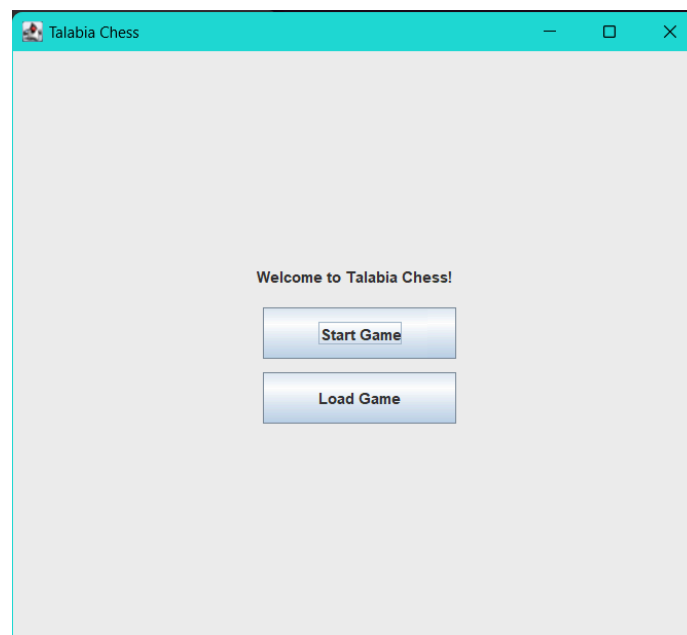
By doing this, all the .class files will be created.

 View	25/1/2024 3:41 PM	CLASS File	9 KB
 View\$6	25/1/2024 3:41 PM	CLASS File	1 KB
 View\$5	25/1/2024 3:41 PM	CLASS File	1 KB
 View\$4	25/1/2024 3:41 PM	CLASS File	1 KB
 View\$3	25/1/2024 3:41 PM	CLASS File	1 KB
 View\$2	25/1/2024 3:41 PM	CLASS File	2 KB
 View\$1	25/1/2024 3:41 PM	CLASS File	1 KB
 Time	25/1/2024 3:41 PM	CLASS File	1 KB
 Sun	25/1/2024 3:41 PM	CLASS File	2 KB
 Position	25/1/2024 3:41 PM	CLASS File	1 KB
 Point	25/1/2024 3:41 PM	CLASS File	2 KB
 Plus	25/1/2024 3:41 PM	CLASS File	2 KB
 Player	25/1/2024 3:41 PM	CLASS File	1 KB
 Piece	25/1/2024 3:41 PM	CLASS File	2 KB
 HourGlass	25/1/2024 3:41 PM	CLASS File	2 KB
 Control	25/1/2024 3:41 PM	CLASS File	7 KB
 Control\$2	25/1/2024 3:41 PM	CLASS File	1 KB
 Control\$1	25/1/2024 3:41 PM	CLASS File	1 KB
 Alliance	25/1/2024 3:41 PM	CLASS File	1 KB

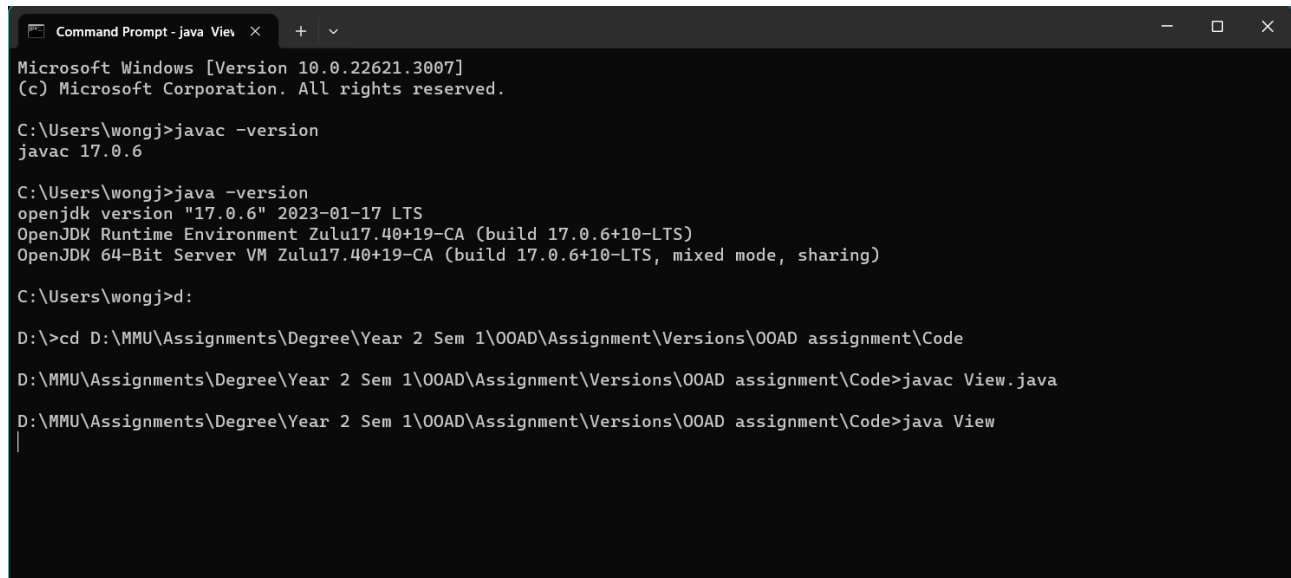
7. You will use the java command to execute your program. From the Command Prompt, type the java command “**java View**”.

```
D:\MMU\Assignments\Degree\Year 2 Sem 1\00AD\Assignment\Versions\00AD assignment\Code>java View
```

Then the GUI of the Talabia Chess will pop up as shown in the image below, and you can start playing.



The whole view from the command prompt:



```
Command Prompt - java View x + v
Microsoft Windows [Version 10.0.22621.3007]
(c) Microsoft Corporation. All rights reserved.

C:\Users\wongj>javac -version
javac 17.0.6

C:\Users\wongj>java -version
openjdk version "17.0.6" 2023-01-17 LTS
OpenJDK Runtime Environment Zulu17.40+19-CA (build 17.0.6+10-LTS)
OpenJDK 64-Bit Server VM Zulu17.40+19-CA (build 17.0.6+10-LTS, mixed mode, sharing)

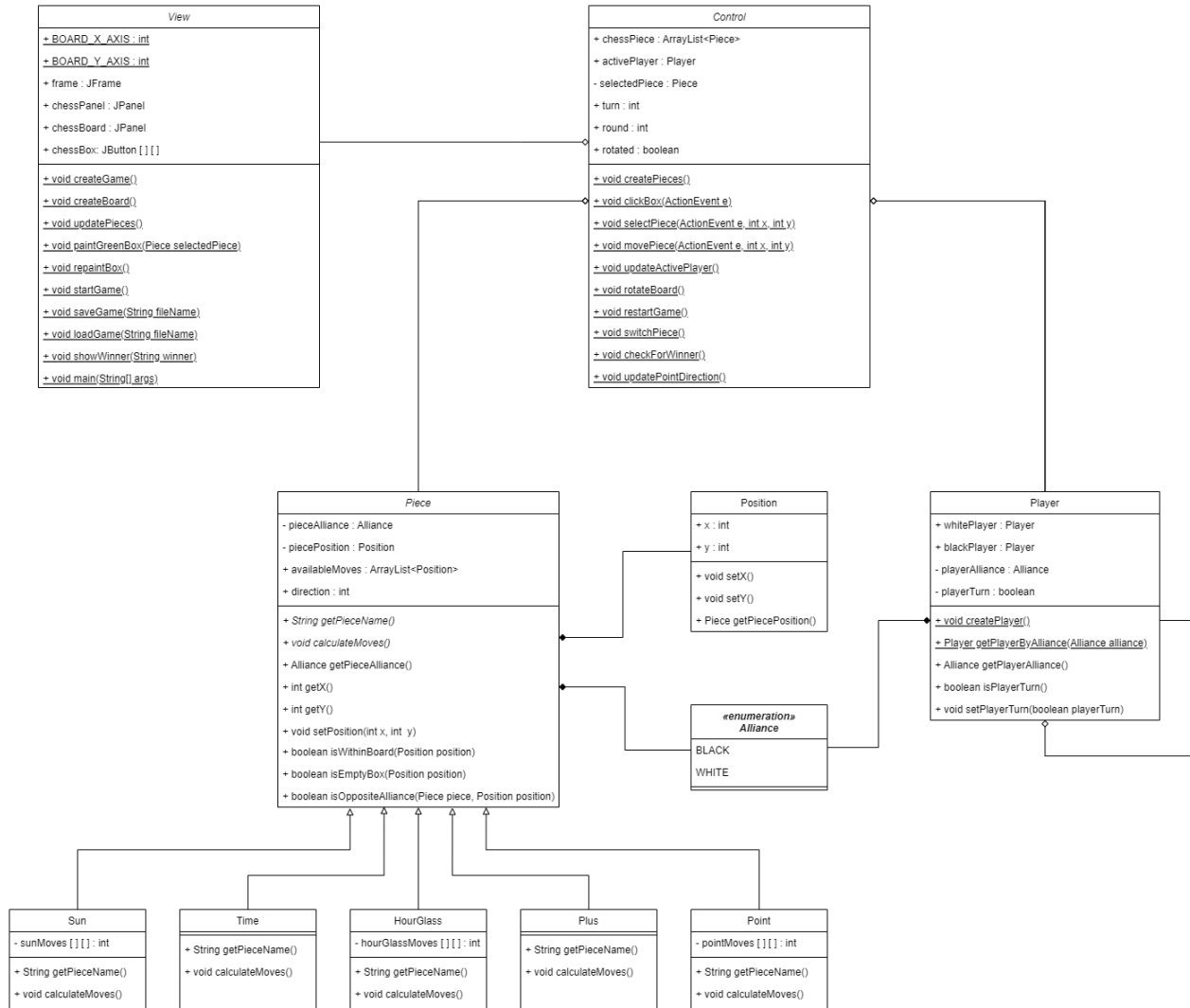
C:\Users\wongj>d:

D:\>cd D:\MMU\Assignments\Degree\Year 2 Sem 1\OOAD\Assignment\Versions\OOAD assignment\Code
D:\MMU\Assignments\Degree\Year 2 Sem 1\OOAD\Assignment\Versions\OOAD assignment\Code>javac View.java
D:\MMU\Assignments\Degree\Year 2 Sem 1\OOAD\Assignment\Versions\OOAD assignment\Code>java View
|
```

2. UML Class diagram

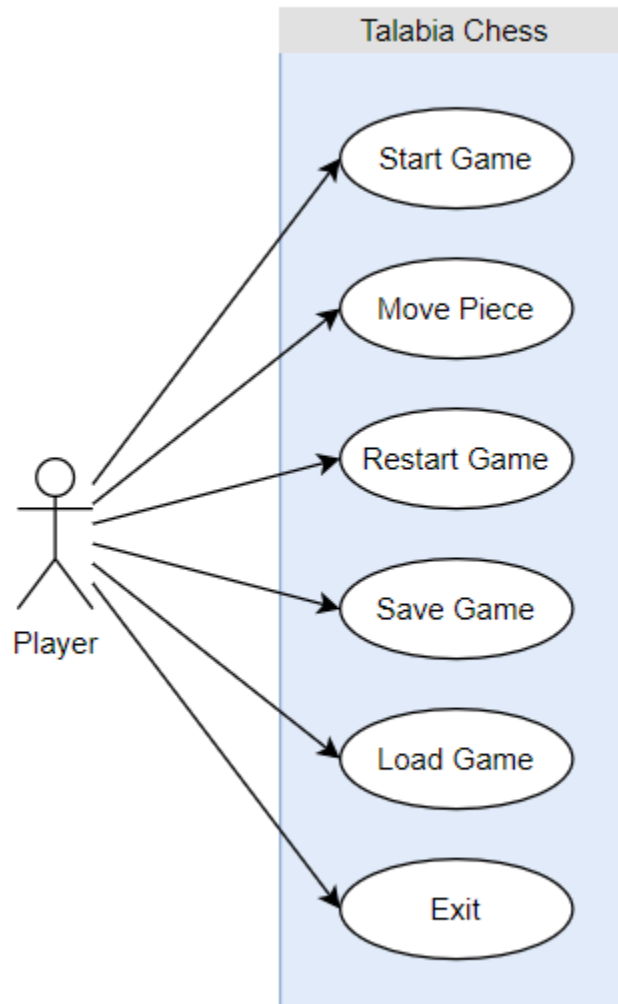
For full image:

https://drive.google.com/file/d/1bN6RPu4FkO7kMmrEsJ5LOm1Q8X-mYCg6/view?usp=drive_link



3. Use Case diagram

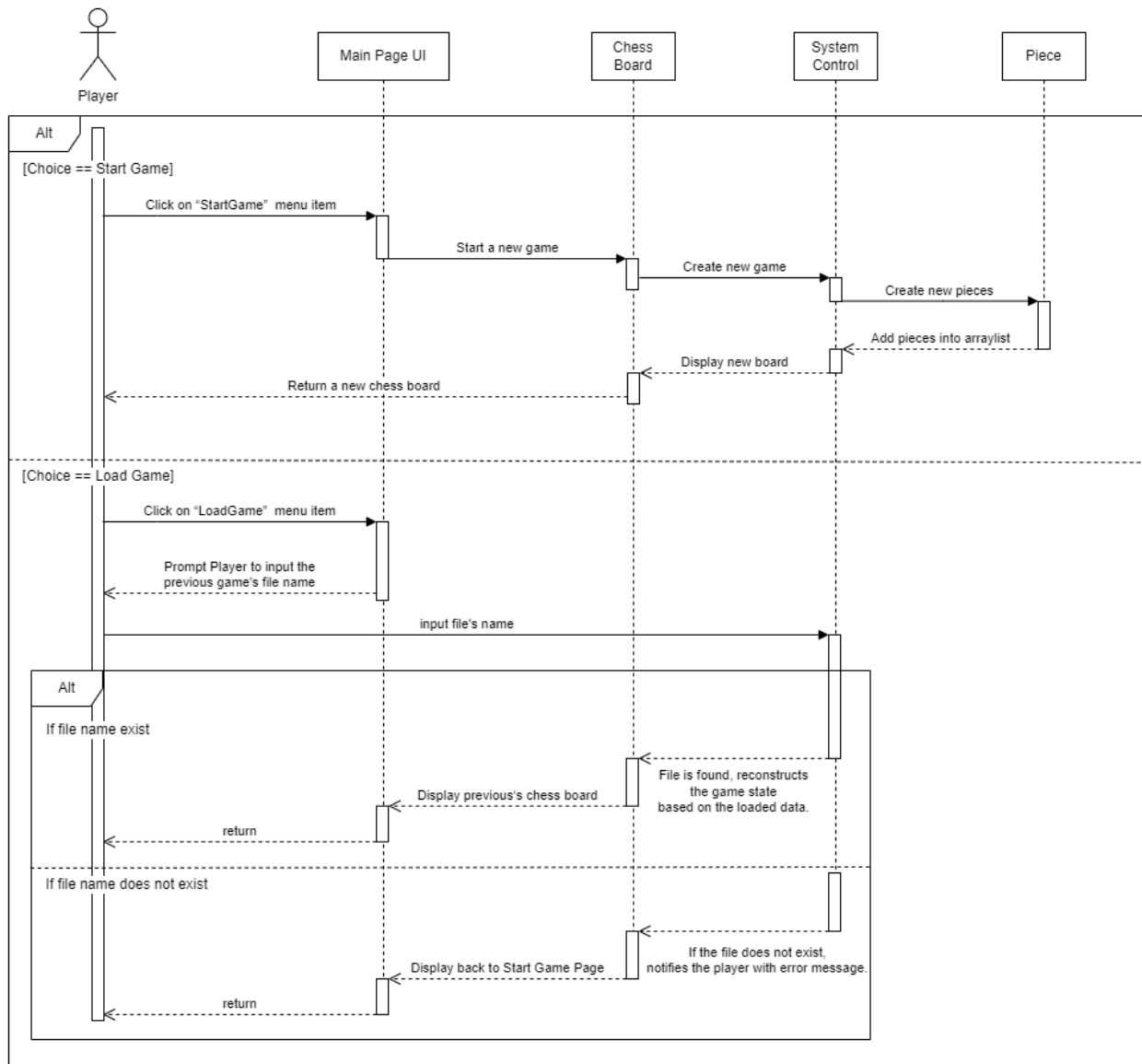
The application provides a comprehensive gaming experience with options like starting a new game or loading an existing one. Users can access the main menu, offering choices such as restarting, saving, and loading games, as well as exiting the application. The "Restart Game" option resets the chessboard, while "Save Game" and "Load Game" enable users to manage game states with specific filenames. Exiting the application is achieved through the "Exit" option.



4. Sequence diagrams

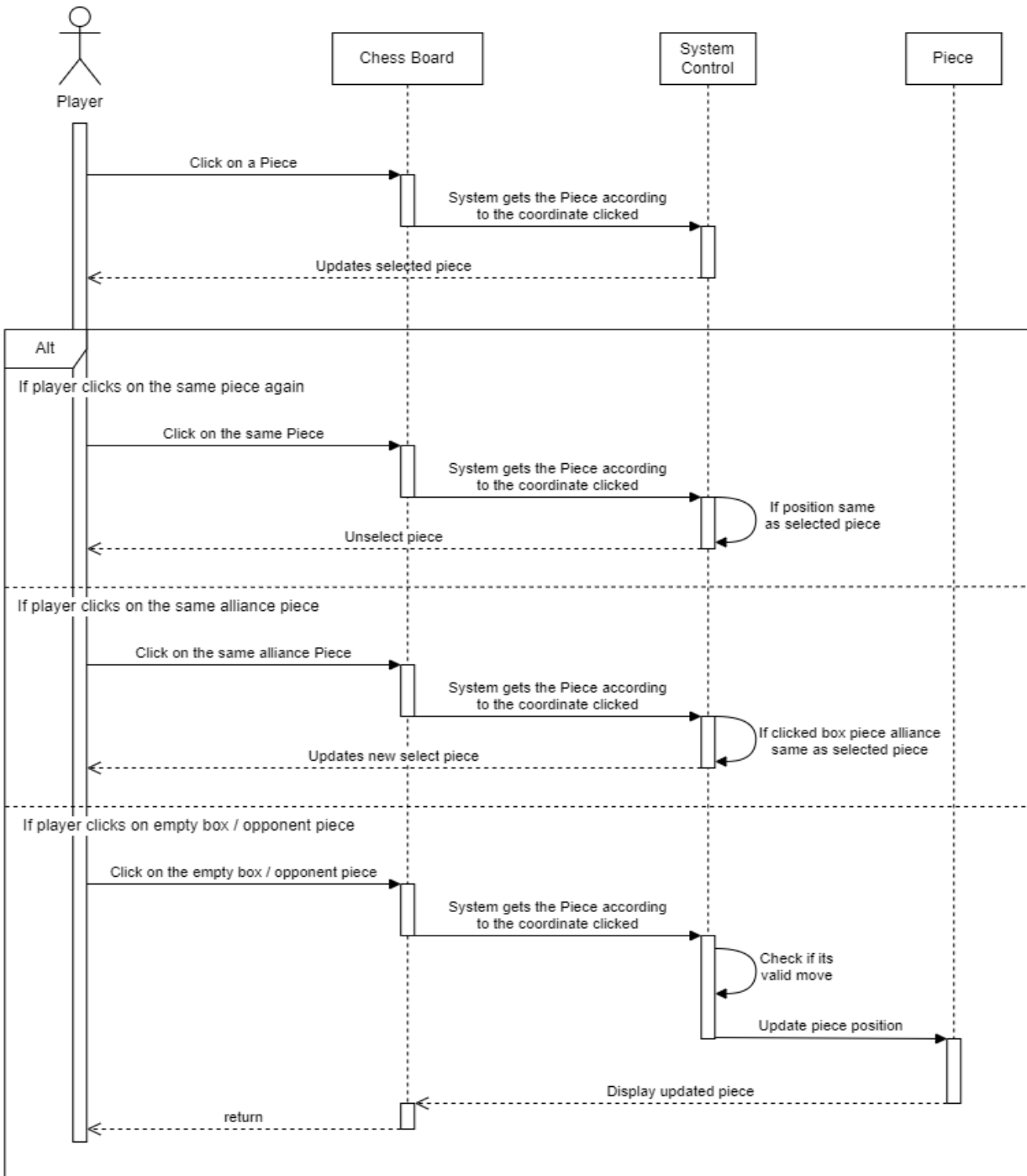
4.1 Main Page

The Main page of the Start Game feature serves as the entry point for users. It presents options to either start a new game or load an existing one. Users can click on "Start Game" to initiate a new chess match or choose "Load Game" to continue a previously saved game.



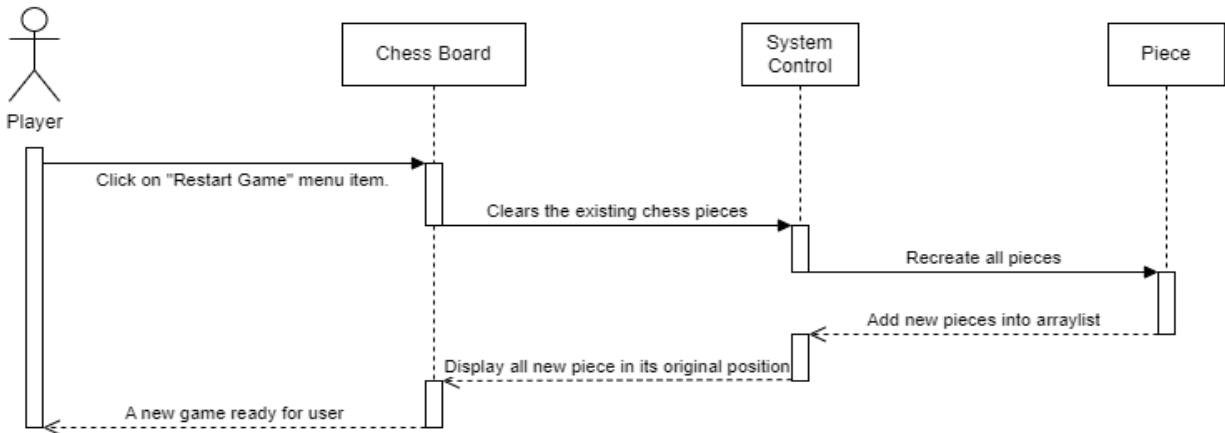
4.2 Move Pieces

The Move Piece functionality enhances user interaction with the chessboard by allowing them to select and move their pieces. Upon clicking a chess piece, the system displays green boxes representing its available moves on the board. Users can then choose a destination, and the selected piece is moved accordingly, adhering to standard chess gameplay rules.



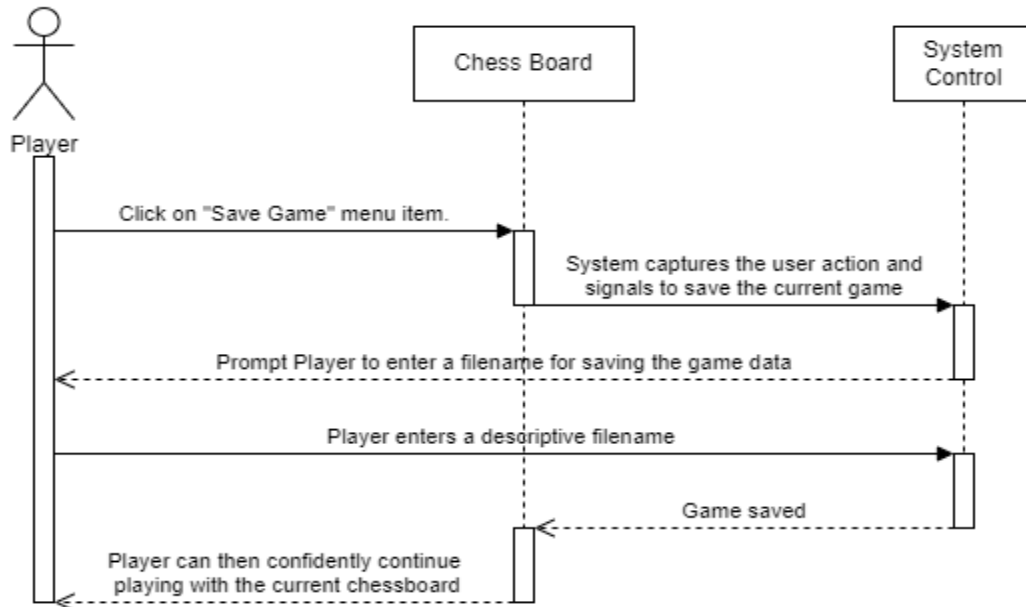
4.3 Restart Game

"Restart Game" button initiates a fresh gaming session, allowing players to reset the chessboard and start a new match with the default piece positions. This feature is useful for beginning a new game without closing and reopening the application.



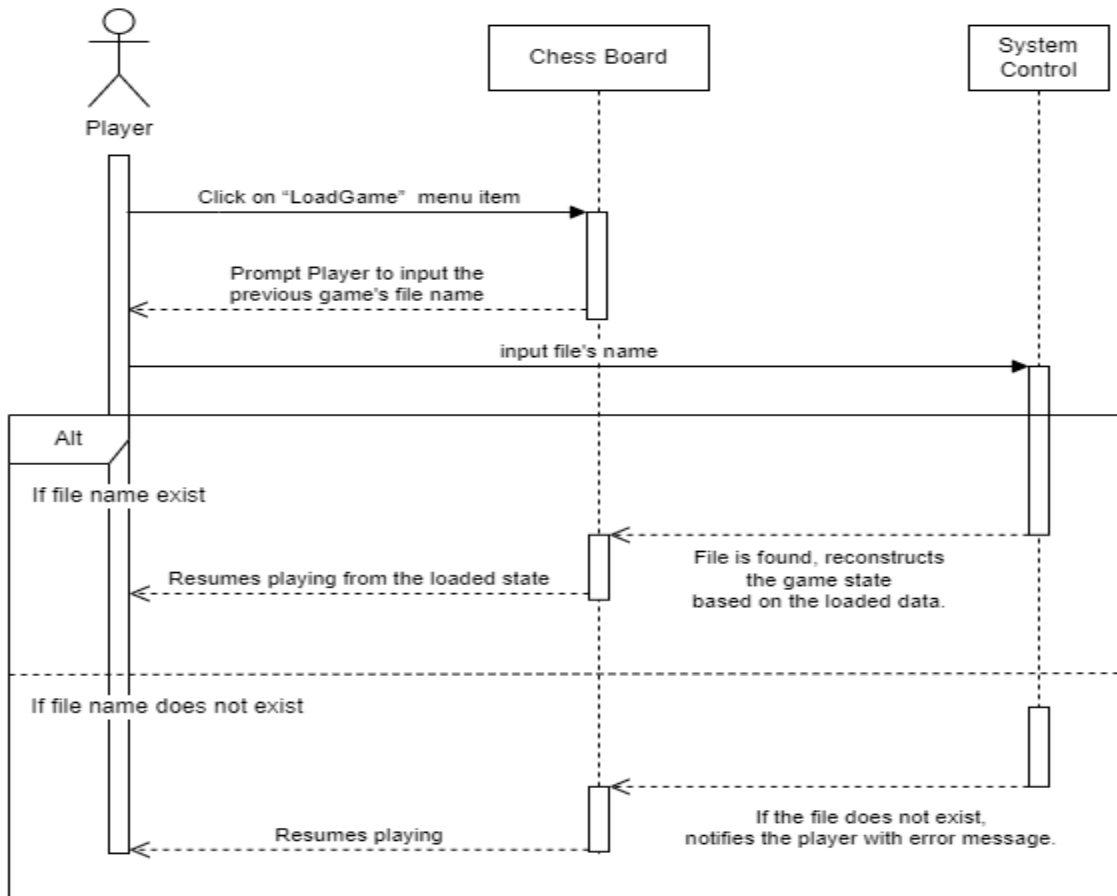
4.4 Save Game

"Save Game" button prompts the user to store the current state of the chessboard, including the round, turn, active player, piece positions, and board configuration, in a specified file. This allows players to resume the game later from the saved point.



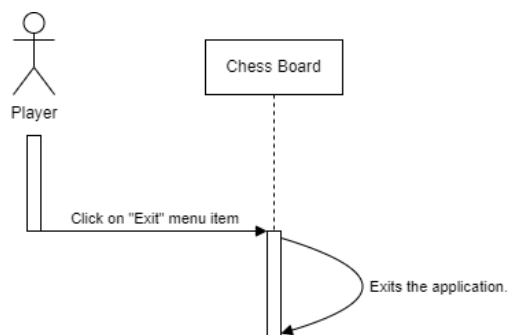
4.5 Load Game

"Load Game" button enables the user to retrieve a previously saved chessboard configuration by specifying the file name. It loads the saved data, restoring the game to the exact state when it was saved, including the round, turn, active player, and piece positions.



4.6 Exit Game

"Exit" button terminates the chess game, closing the application and ending the user's interaction with the program.



5. User Documentation

Introduction

Talabia Chess is a strategic two-player board game that involves moving pieces across a 7x6 chessboard. This user manual provides a step-by-step guide on how to use and play the Talabia Chess program.

5.1. Starting the Game

When you launch the Talabia Chess program, you'll be presented with the main page. Here, you have two options:

- Start Game : Click to initiate a new chess match.
- Load Game: Click to continue a previously saved game by entering the file name.

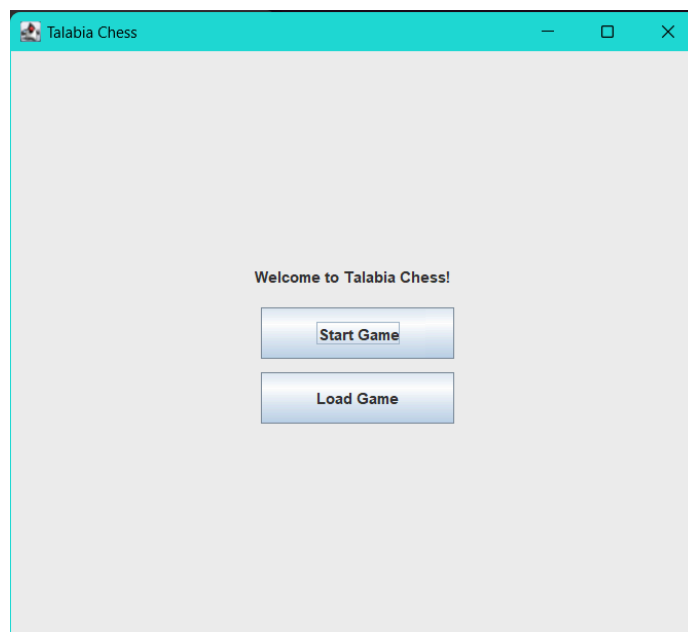








Figure 1: displays the start game page

5.2. Gameplay

5.2.1 Rules

In Talabia Chess, players navigate a 7x6 grid, making strategic moves by clicking on pieces. The board allows rotation, altering the perspective. Special pieces, like Plus transform into Time pieces when each player plays 2 turns and Point changes its direction when it reaches the opponent's back row. Players may win the game after capturing the Sun. The game provides an engaging experience with varied piece interactions, rotations, and victory scenarios.

	The Point piece can only move forward, 1 or 2 steps. If it reaches the end of the board, it turns around and starts heading back the other way. It cannot skip over other pieces.
	The Hourglass piece moves in a 3x2 L shape in any orientation  (kind of like the knight in standard chess.) This is the only piece that can skip over other pieces.
	The Time piece can only move diagonally but can go any distance. It cannot skip over other pieces.
	The Plus piece can move horizontally and vertically only but can go any distance. It cannot skip over other pieces.
	The Sun piece can move only one step in any direction. The game ends when the Sun is captured by the other side.

None of the pieces are allowed to skip over other pieces.

Figure 2: shows the moving pattern of each piece

5.2.2 Controls

To select a piece, click on the piece that you intend to move. After selecting a piece, it will display green boxes representing its available moves. If you changed your mind and wanted to select another piece instead, simply click on the current piece to unselect it and continue to click on the next piece that you wished to move. To move or capture an opponent's piece, click on whichever green box that has been displayed after selecting a piece.

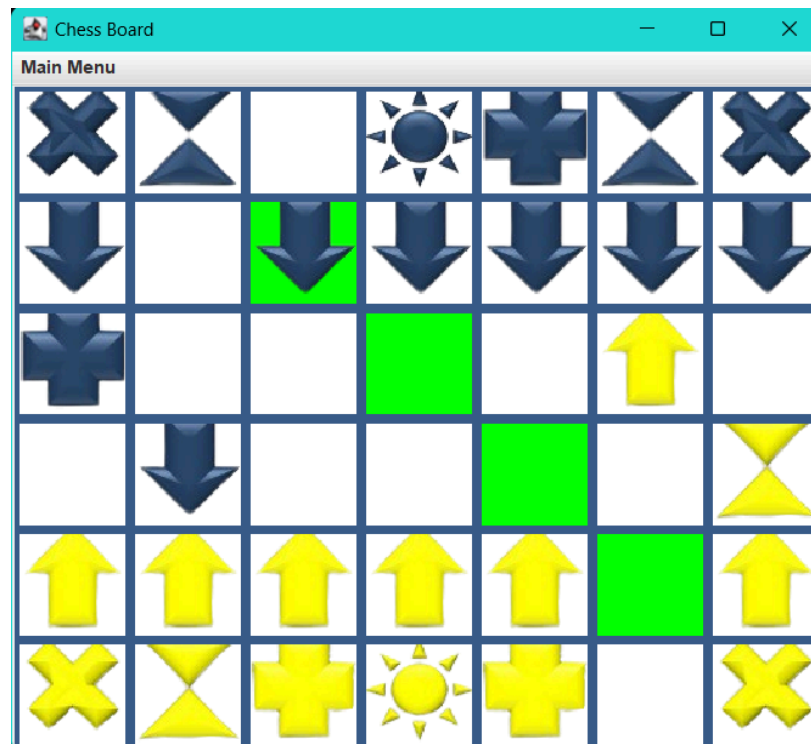


Figure 3: White Time piece is selected

5.3. Main Menu

The main menu of Talabia Chess offers essential options for users while they are playing the game, including restarting the game for a fresh match, saving the current progress, loading a saved game, and exiting the application to conclude the gaming session.

- Restart Game
 - Clicking "Restart Game" initiates a new gaming session.
 - The chessboard resets to the default piece positions, and a new match begins.
- Save Game
 - To save your current game progress:
 - Click "Save Game" in the Main Menu.
 - Enter a preferred file name.
 - Your game state, including piece positions and other details, will be saved in a text file.
- Load Game
 - To load a saved game:
 - Click "Load Game" in the Main Menu.
 - Enter the file name of the saved game.
 - The program will load the game, restoring it to the exact state when saved.
- Exit
 - Clicking "Exit" terminates the program, ending your interaction with Talabia Chess.

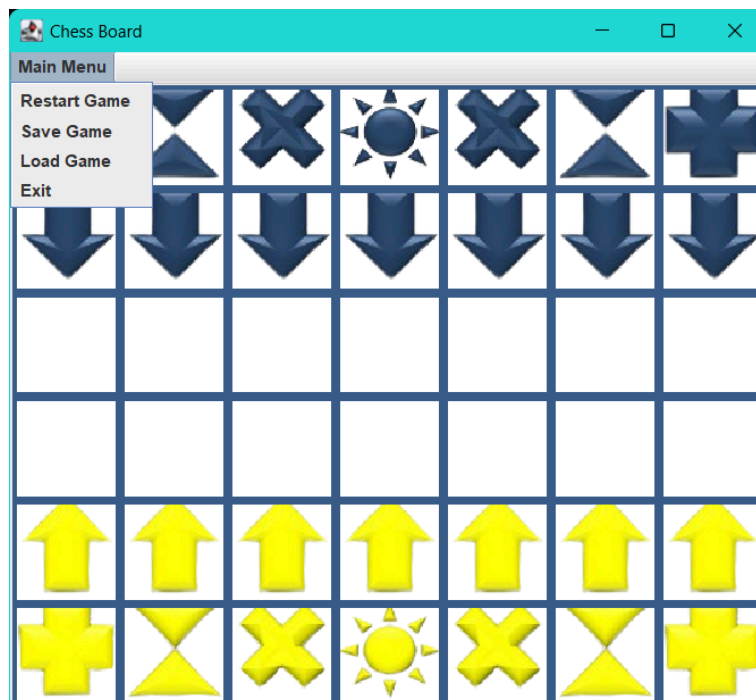


Figure 4: presents the main menu

The main menu is located at the top left. By clicking on the main menu, the menu items will be listed out.

5.4. Ending the Game

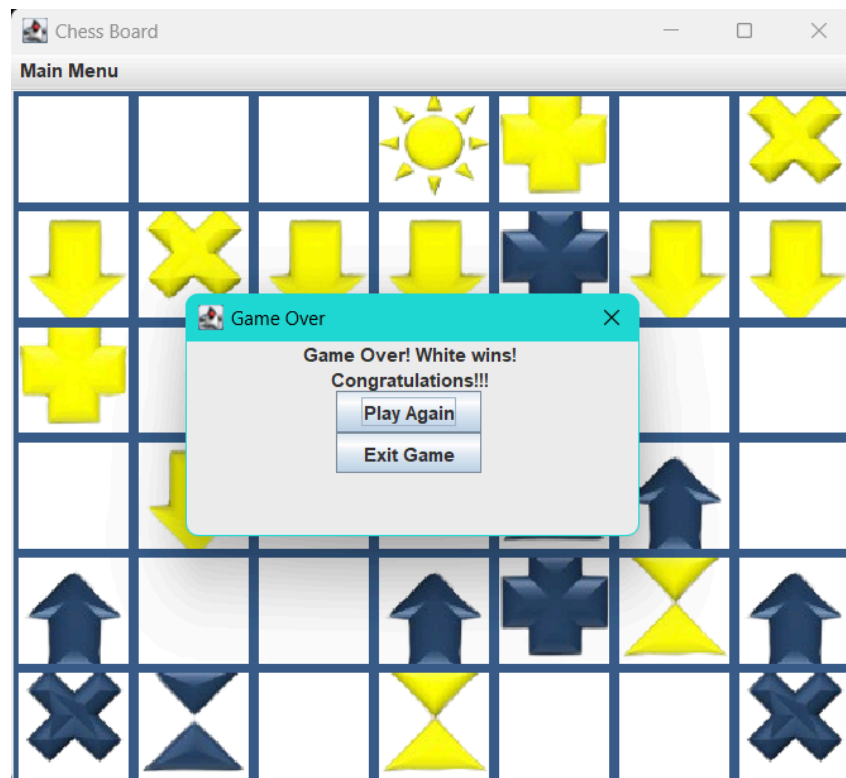


Figure 5: displays a pop up window when one player wins

The game concludes when a player accomplishes a specific victory condition, which involves capturing the Sun piece. A pop-up window will appear, indicating the winner. The window will display two buttons for Play Again and Exit Game.