



TCP2201

Object Oriented Analysis and Design

Talabia Chess

Tutorial 11 Group 23

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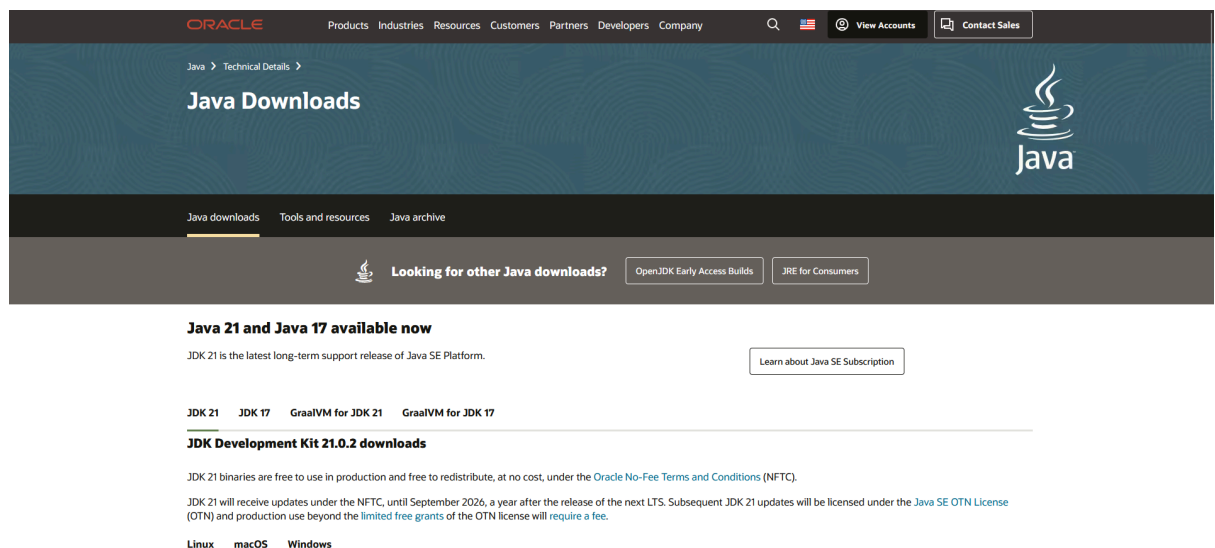
1. Compile and run instructions

Disclaimer

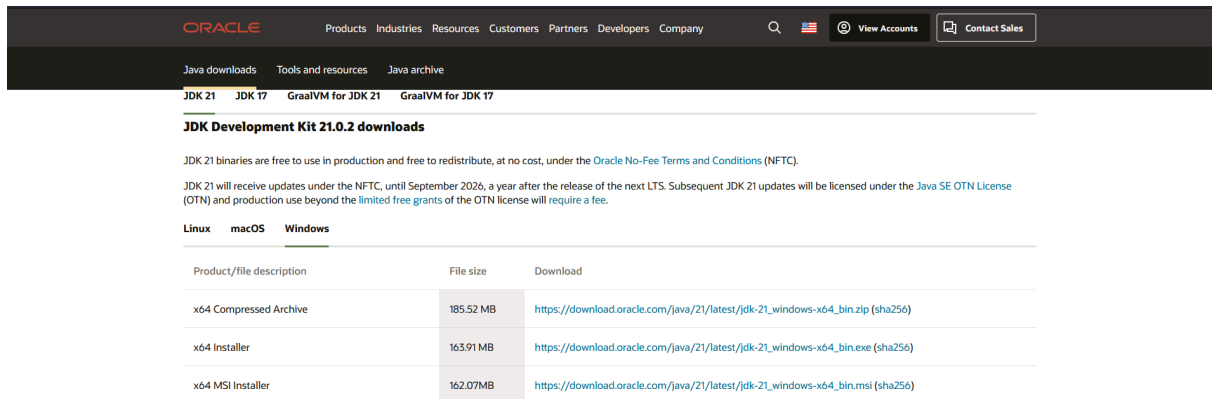
This program is only for Window/Mac.

Instruction to use this program

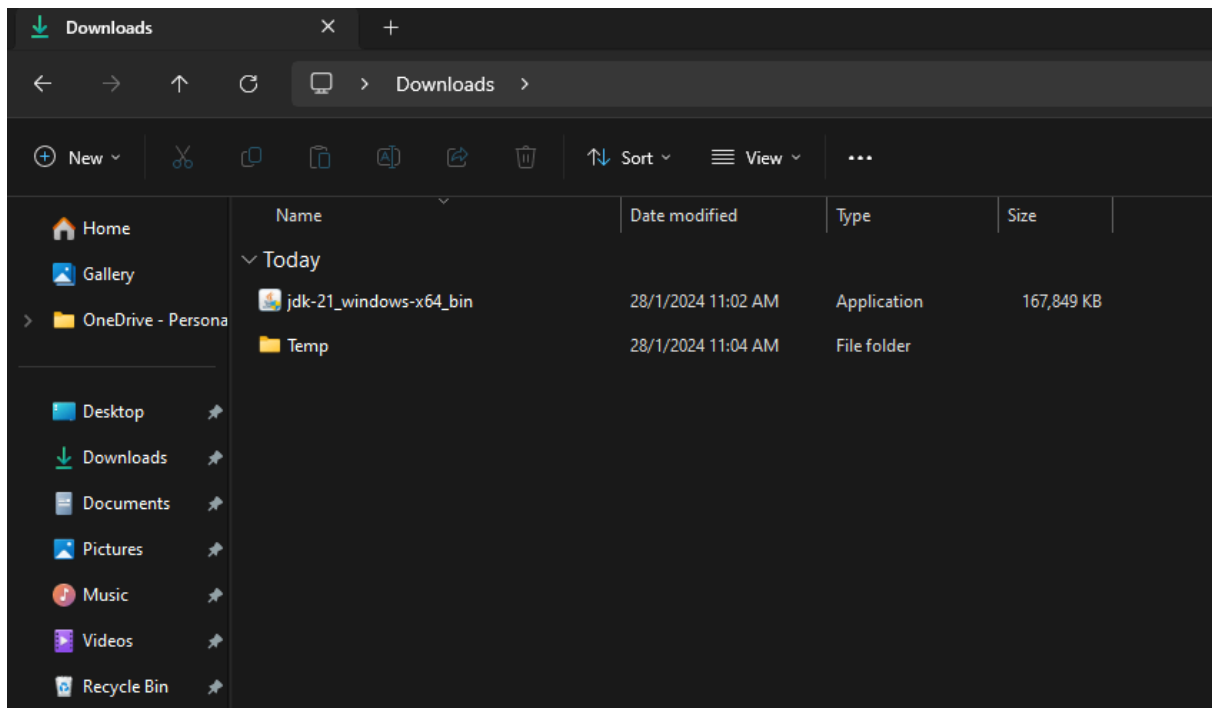
- 1) The user is required to download the source code from this link.
- 2) The user will need to install Java (The language that is used to run the program). The Java can be downloaded from here
<https://www.oracle.com/java/technologies/downloads/#jdk21-windows>
- 3) The user will then be directed to this website.



- 4) The user will then need to click the windows buttons as you can see in the bottom left on the picture above.



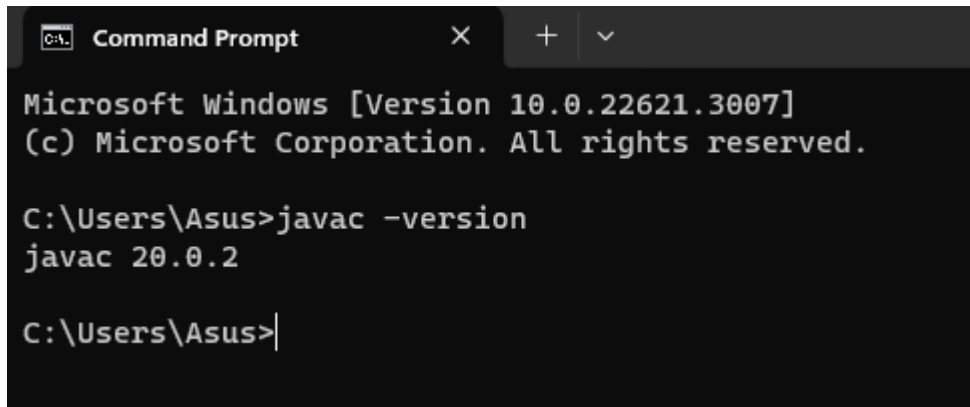
- 5) The user then needs to press the download link of the java language. (The x64 installer is more preferable)
- 6) After clicking the link the download of the file will start.
- 7) After the download is complete, the user will need to go to the download in the window explorer of their pc to download the language (Java).



- 8) Double click on the installer, then the installation will start.

- 9) After the installation is completed, the user can use the command prompt to check the version of their java language. Using this command “**javac -version**”

(“” does not need to type out) (No need to capitalise letters) . In the example, the Java version is 20.0.2.

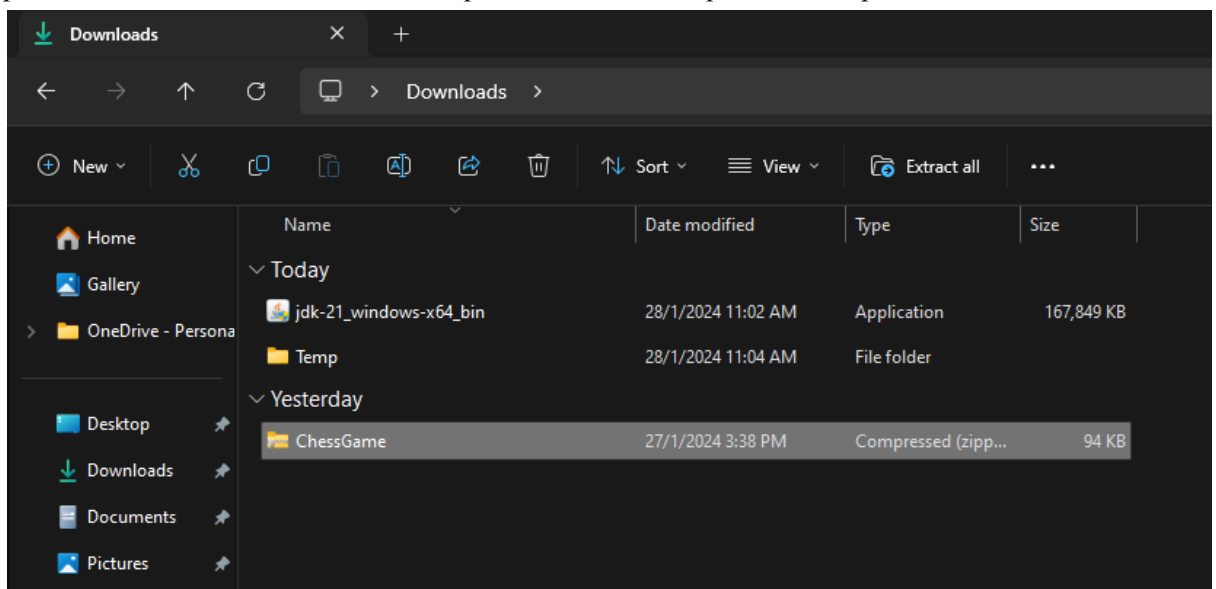


```
Microsoft Windows [Version 10.0.22621.3007]
(c) Microsoft Corporation. All rights reserved.

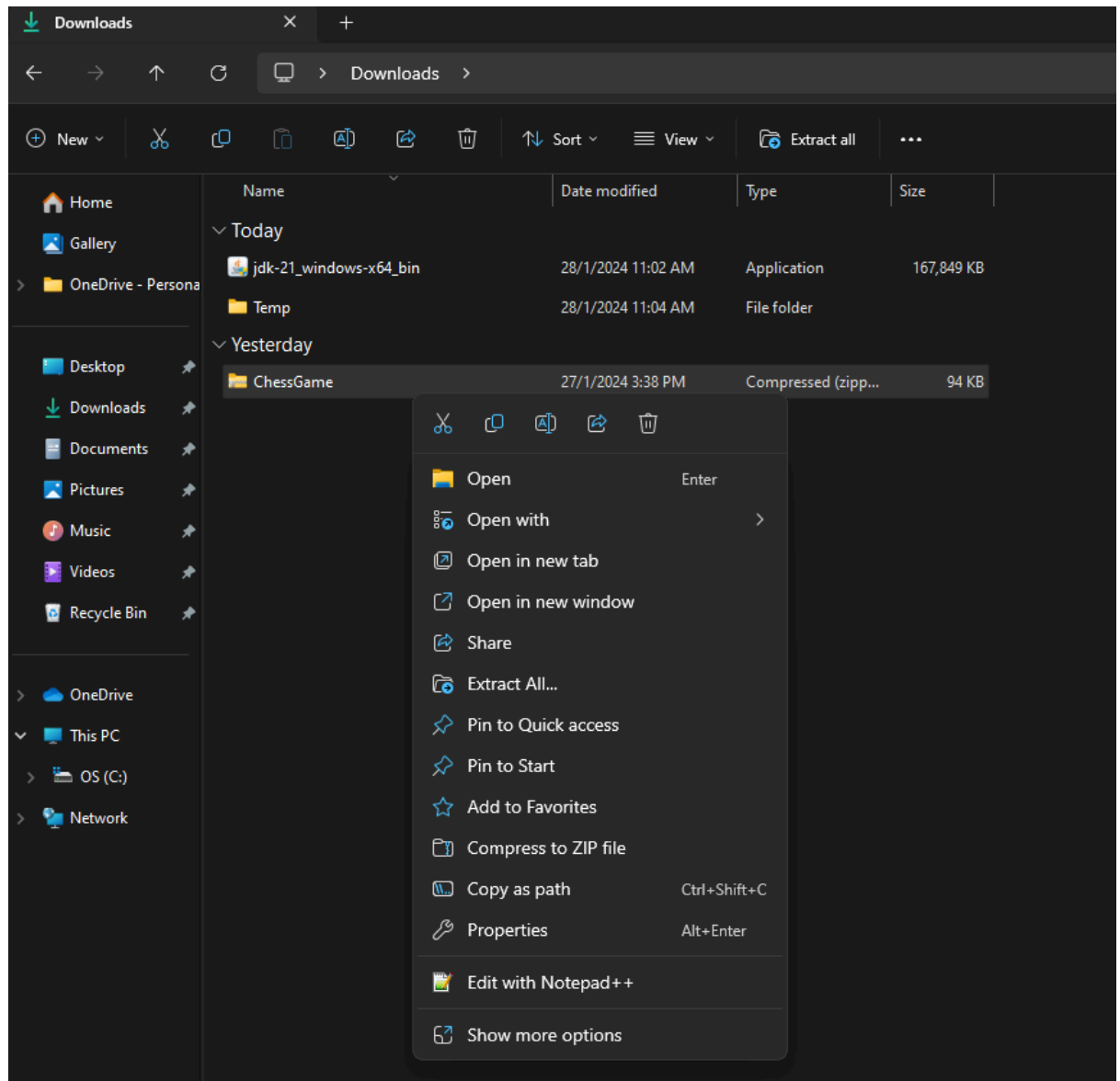
C:\Users\Asus>javac -version
javac 20.0.2

C:\Users\Asus>|
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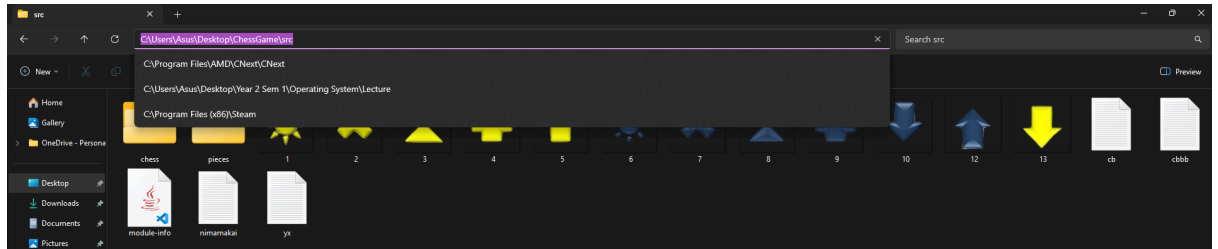
- 10) The installed Java code will also be in the download of the window explorer of the user pc. The code downloaded will be in a zip file. The user is required to unzip the folder.



11) By pressing extract all, the folder will be extracted.

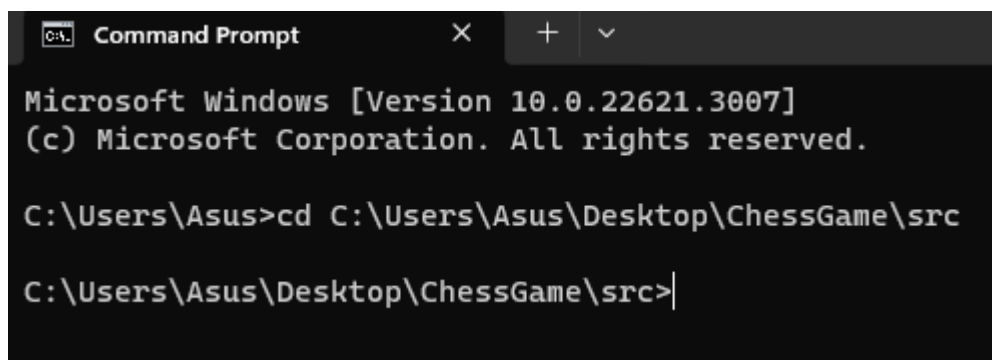


- 12) In this example, the Java code is placed on my desktop.
- 13) The user will need to know where the code is being placed. The user can know where the code is placed by doing this. The user will be required to open the file and open the folder until it reaches the folder src.



- 14) The user is then required to copy the directory as shown above.
- 15) To run the code, the user is required to open the command prompt again.
- 16) The user will then need to key in **"cd" (" " does not need to type out)**
(**No need to capitalise letters**) and then paste the directory that has been copied before. The directory in this example is

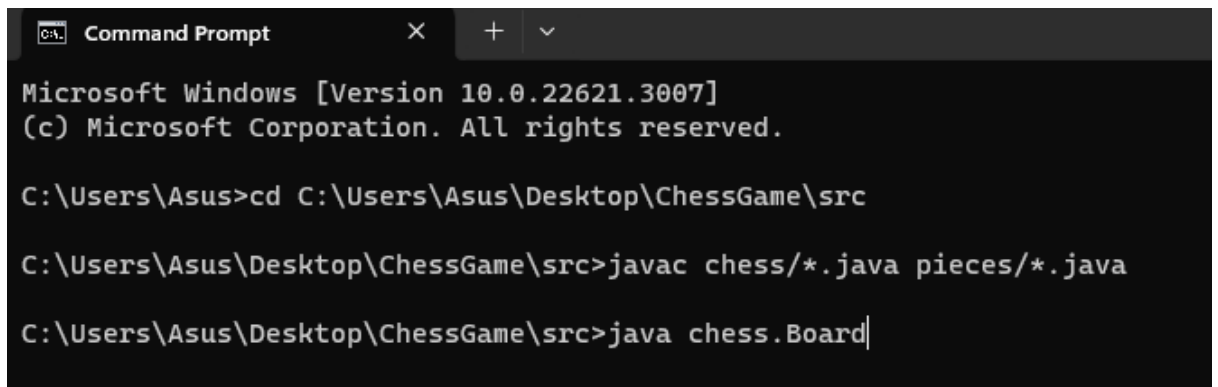
"C:\Users\Asus\Desktop\ChessGame\src" (" " does not need to type out)



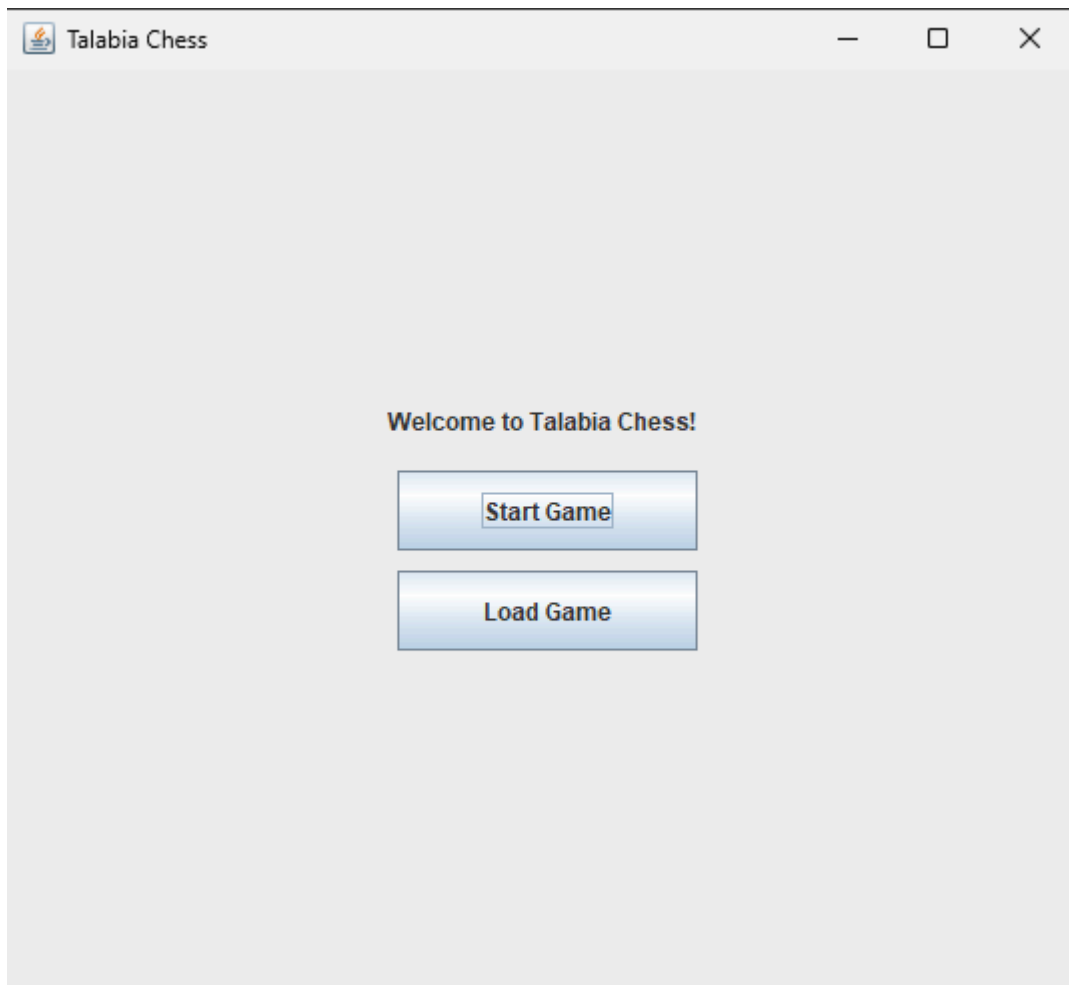
- 17) The user is now redirected to the place where the code is located.
- 18) To run the code, the user is required to type in the following code.

"javac chess/*.java pieces/*.java " and " java chess.Board "

(" " does not need to type out) (the B in the java chess.Board need to capitalise)

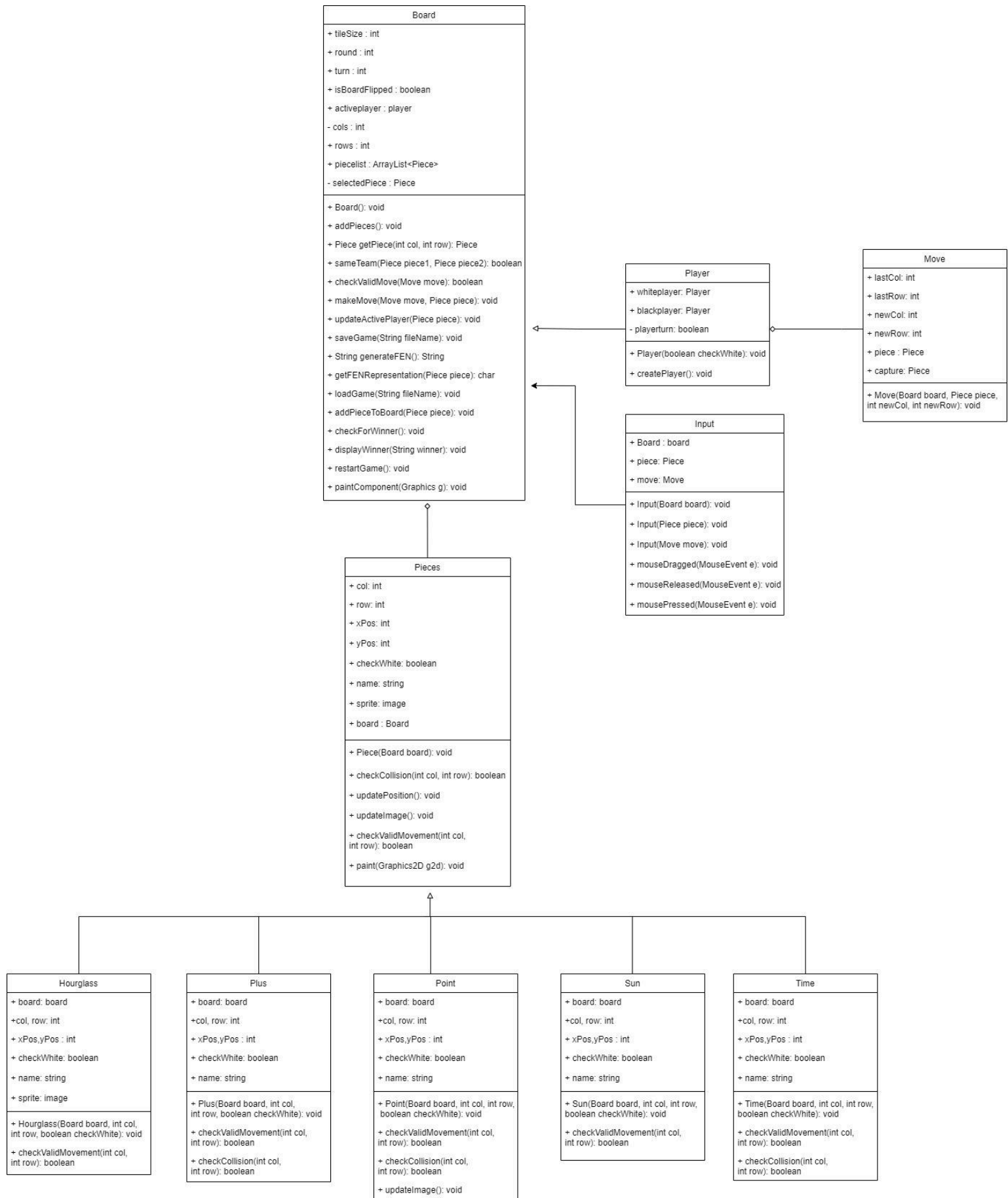


19) After entering both of the codes, the talabia chess game interface will pop up.

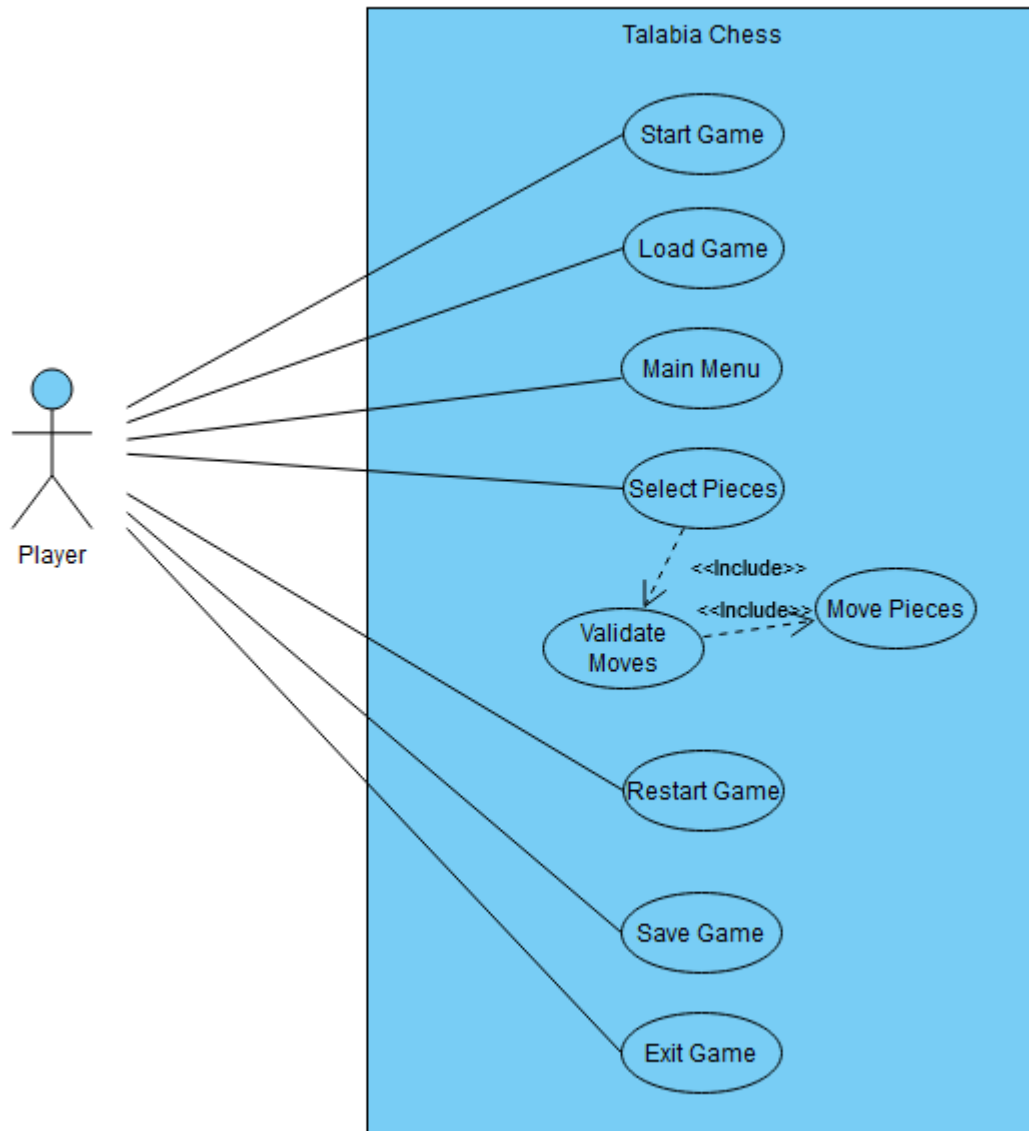


20) Welcome to the Talabia Chess and enjoy the game.

2. UML Class diagram



3. Use Case Diagram

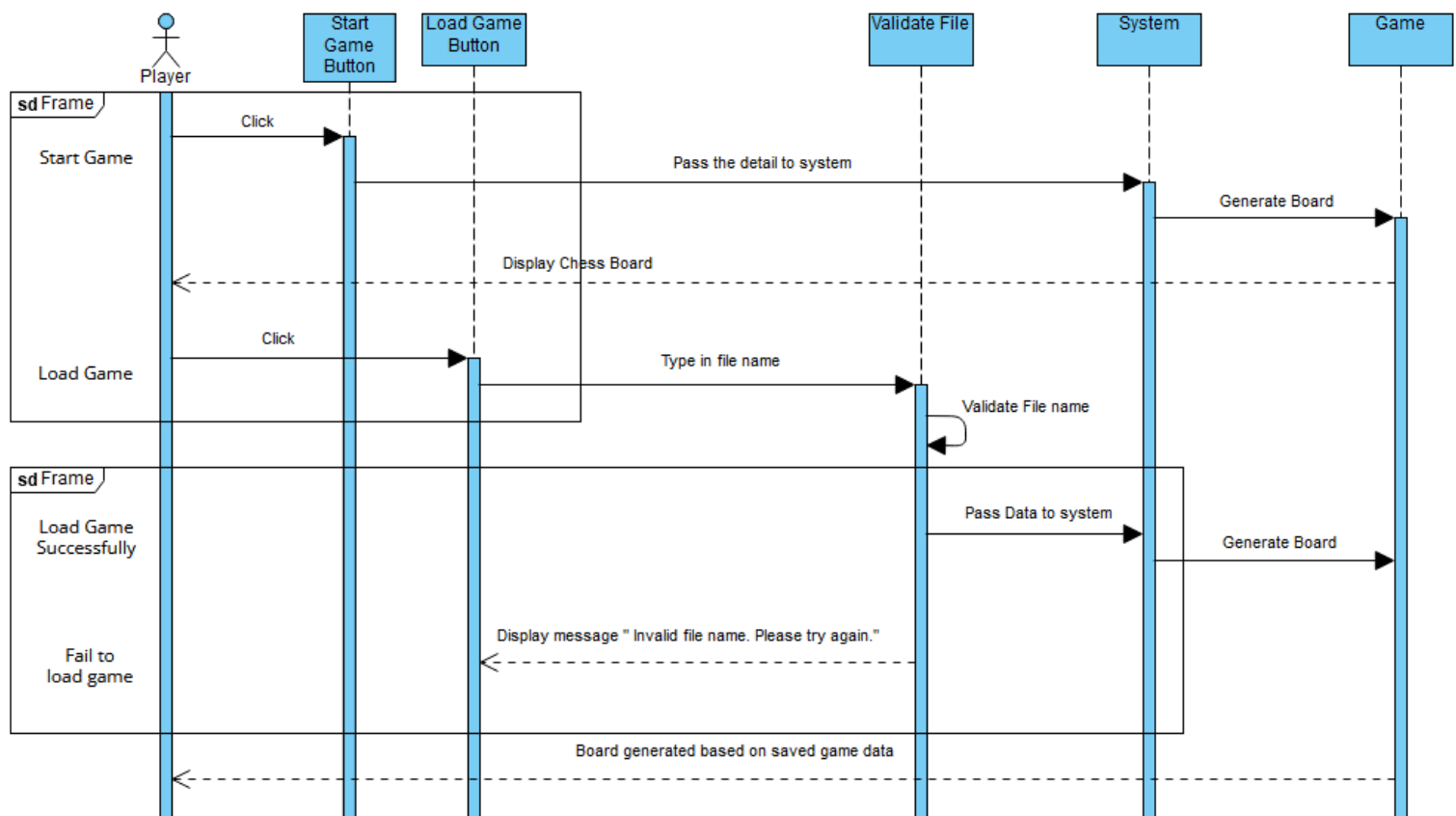


Use Case	Description
Start Game	This is to allow users to start a new talabia chess game.
Load Game	This allows the user to load the game saved by the user to resume playing the match.
Main Menu	This is the main menu of the system. This allows users to select to start a new game or load a game from the previous game.
Select Pieces	This is to allow the user to select the pieces that the user wanted to move. The system will then validate if the move is valid or invalid. If the move is valid, the user will successfully move the piece to the designated area while if it's not, the piece will not move to the designated area.
Restart Game	This is a pop up menu after the user has won or lost the game.
Save Game	This is to allow users to save their game before exiting the program.
Exit Game	This is to allow the user to quit the game.

4. Sequence Diagrams

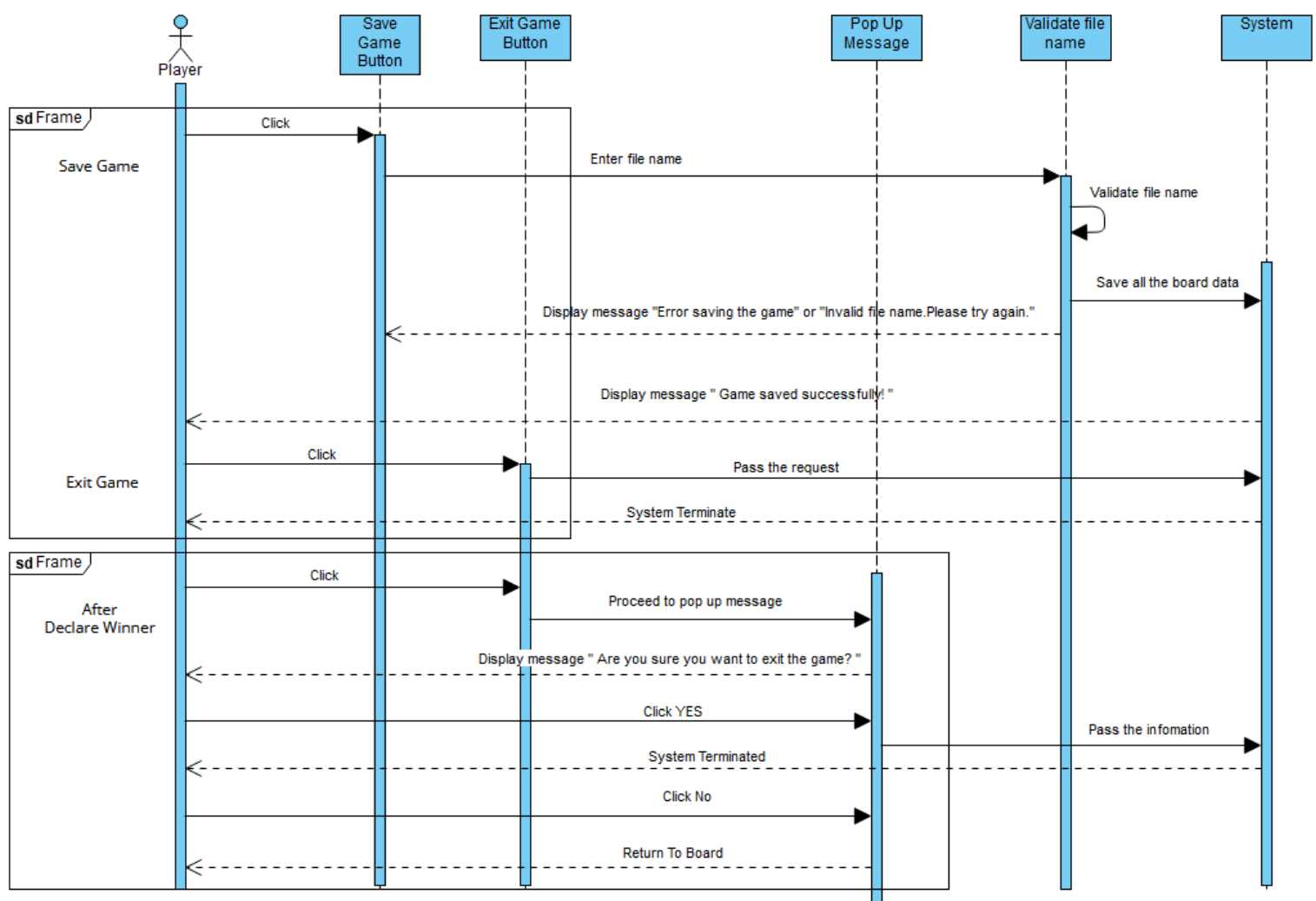
4.1 Main Page

This is the main page of the program. There are 2 options to let the user to pick. The user can either select the start game button or the load game button. If the user selected the start game button, the system will generate a new chess board to let the user play. On the other hand, if the user clicks the load game button, the user will need to type in the file name of the saved game data. If the user typed in the wrong file name, it will display the message “Invalid file name. Please try again.”. If the user types in the correct file name, the system will generate a board according to the saved game data to allow the user to continue game play.



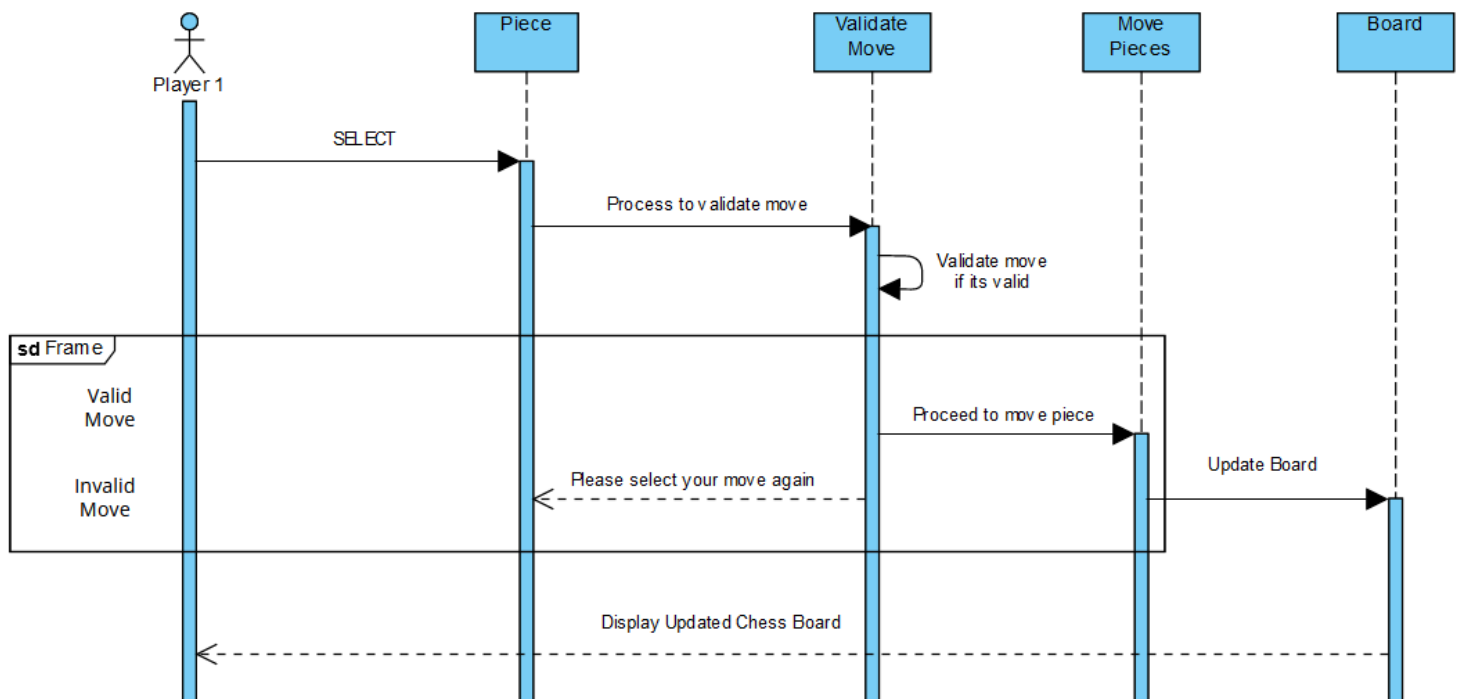
4.2 Main Menu

The main menu of this program has 2 buttons, The first button is save game and the other button is exit game button. The save button is to allow the user to save the game data that allow user to continue playing the game at another time. The user will only required to type in the name of the file to save the file. On the other hand, the exit button will terminate the game if the user haven't start the game yet. If the user has won or lost the game, the moment they click exit game, there will be a pop up menu that state "Are you sure you want to exit the game?" If the user clicks **YES**, the program will be terminated while **NO** will return to the board.



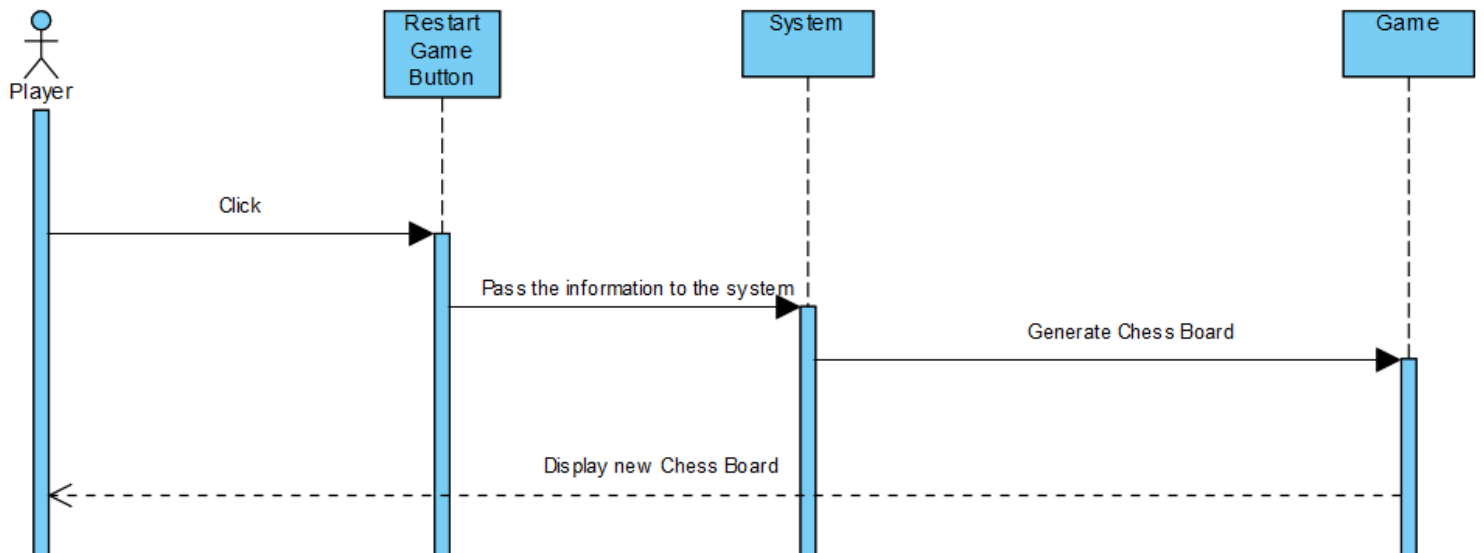
4.3 Select Piece

This is when the player selects pieces in game. The player selects the pieces from the board. The system will then display the available move of the selected piece. The player can only place the pieces into the available places only.



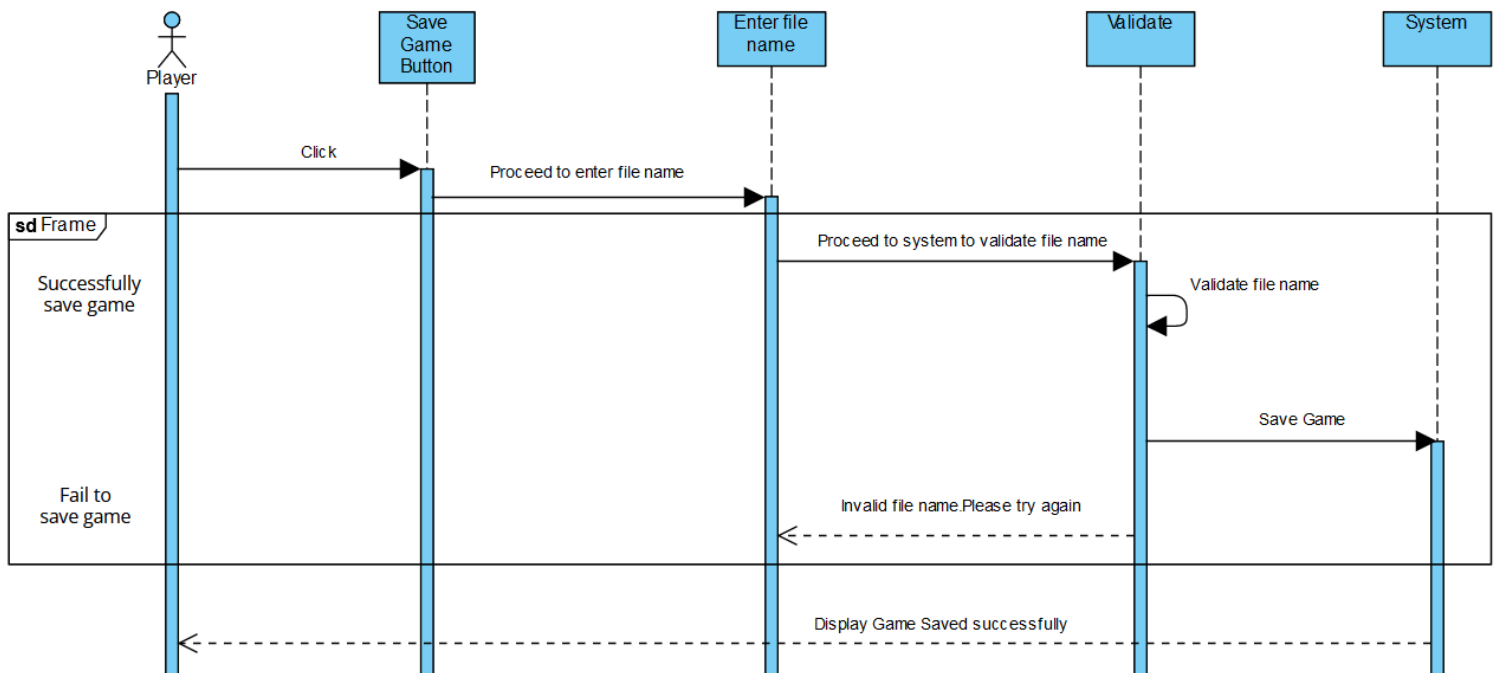
4.4 Restart Game

This is the restart game page. This page can only occur when the game is over, which is when either side of the player has been declared as the winner of the match. When the user clicks the restart game button, the system will generate a new board that allows the player to start a new game.



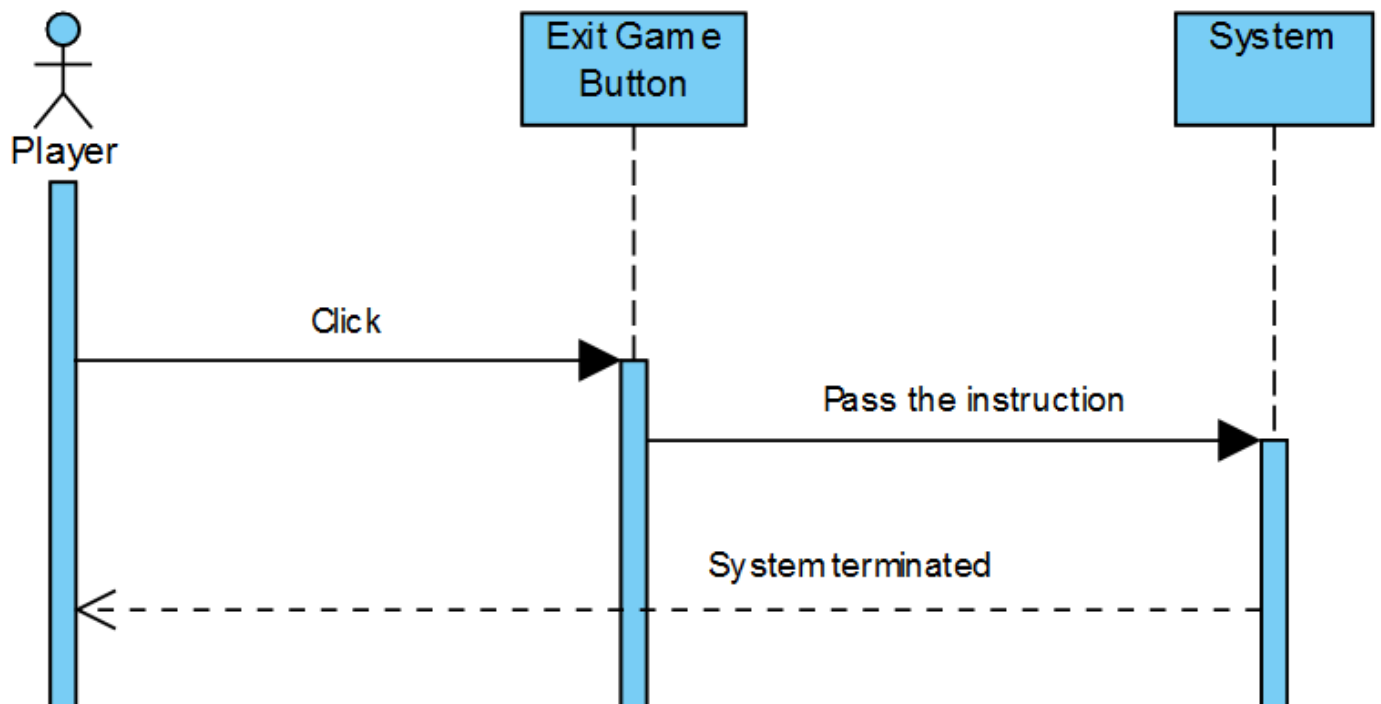
4.5 Save Game

This is the save game page. After clicking the save game button, the user is then required to type in the desired file name for the saved gameplay file name. After typing in the file name, the system will validate the file name. If the file name is invalid, the system will display an error message “ Invalid file name.Please try again.” On the other hand, if the file name is valid,the system will display the message “ Game saved successfully. “.



4.6 Exit Game

This is the exit game page. If the user clicks the exit game button, the system will directly shut down the whole program. This is only valid if the user did not start the game yet.



5. User Documentation

Introduction

The goal of the board game Talabia Chess, which is played by two players, black and yellow, each managing an army of chess pieces, is to checkmate the opponent's Sun piece. This chess game is played on a board size of 7x6.

In this user manual, we will provide a step-by-step guide on how to play our Talabia Chess.

5.1 Start Game

After you run the java code, the system will show you the main page which provides two options.

Option 1 : Start Game (click to start a new game)

Option 2 : Load Game (click to load a saved game by entering the file name)

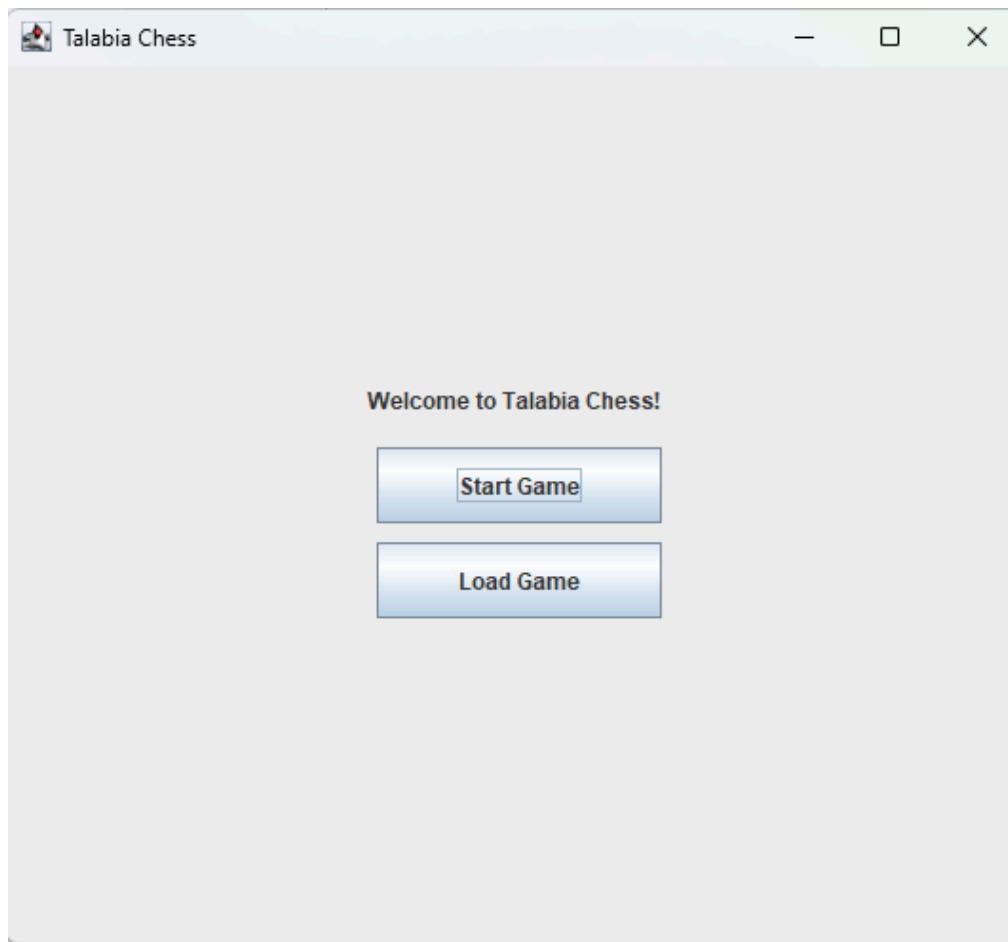


Figure 1 : Display the main page of the program.

5.2 GamePlay

5.2.1 GameBoard Display

After clicking a 'Start Game' button ,it leads to the appearance of a game board.

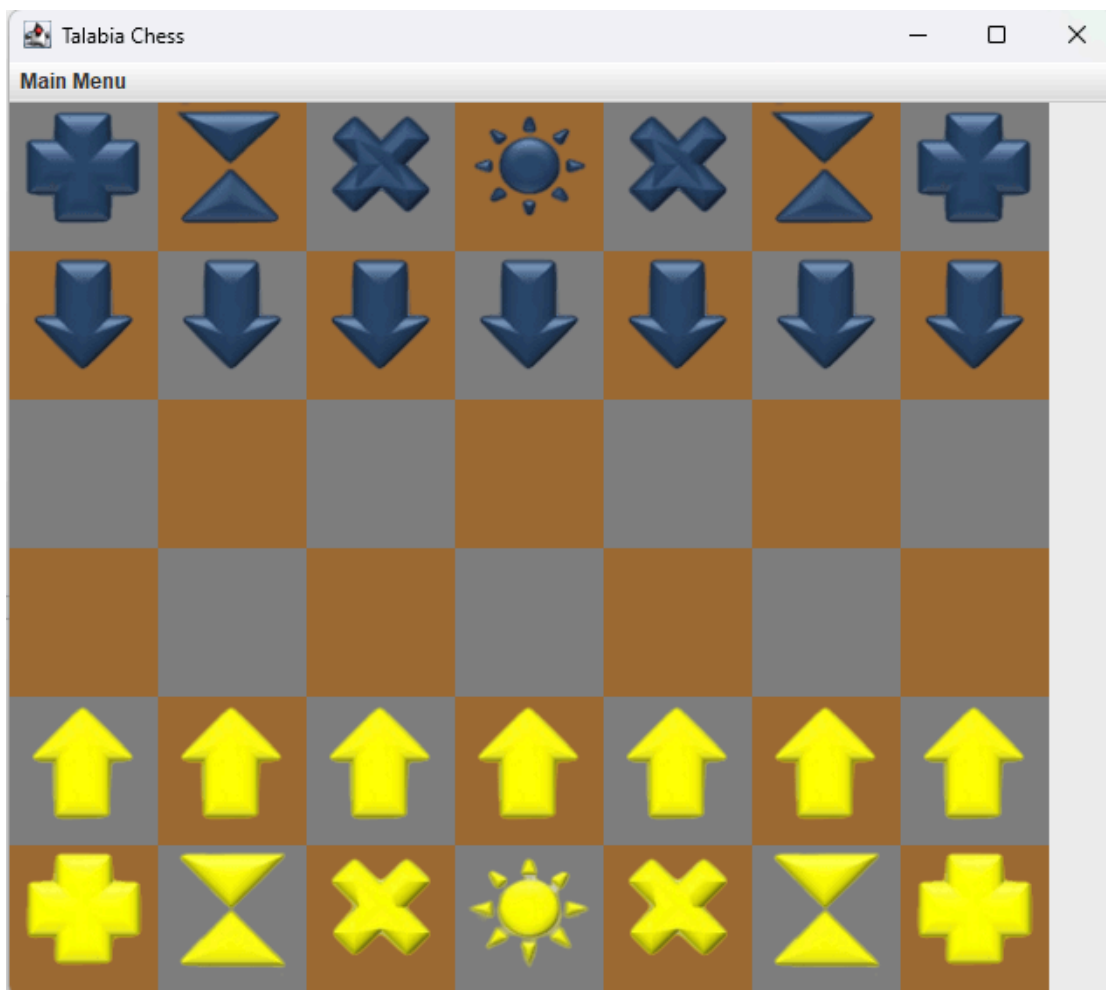


Figure 2 : Game Board Display (7x6 Board size)

5.2.2 Rules

In order to let the player think of a strategy on his own , let me explain the rules to you.

The figure shows you the moving pattern of each piece. Furthermore, the board allows every rotation after each player makes his/her move. Plus pieces will transform to Time pieces and Time pieces will transform to Plus pieces after 2 turns (counting one yellow move and one blue move as one turn). Point changes its direction when it reaches the opponent's final row. Player wins the game after capturing the Sun.







	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.

Figure 3 : Moving Pattern of Each Piece

5.2.3 Controls

To select a piece, click on the piece which you intend to move. Drag and drop the piece on the available green box. Drop the piece outside the green box is prohibited. You will be able to capture the opponent's piece whenever the piece that you selected shows the green box on the opponent's piece. After sun is captured , a pop-up window will pop up which allows the player to restart the game or exit the game.

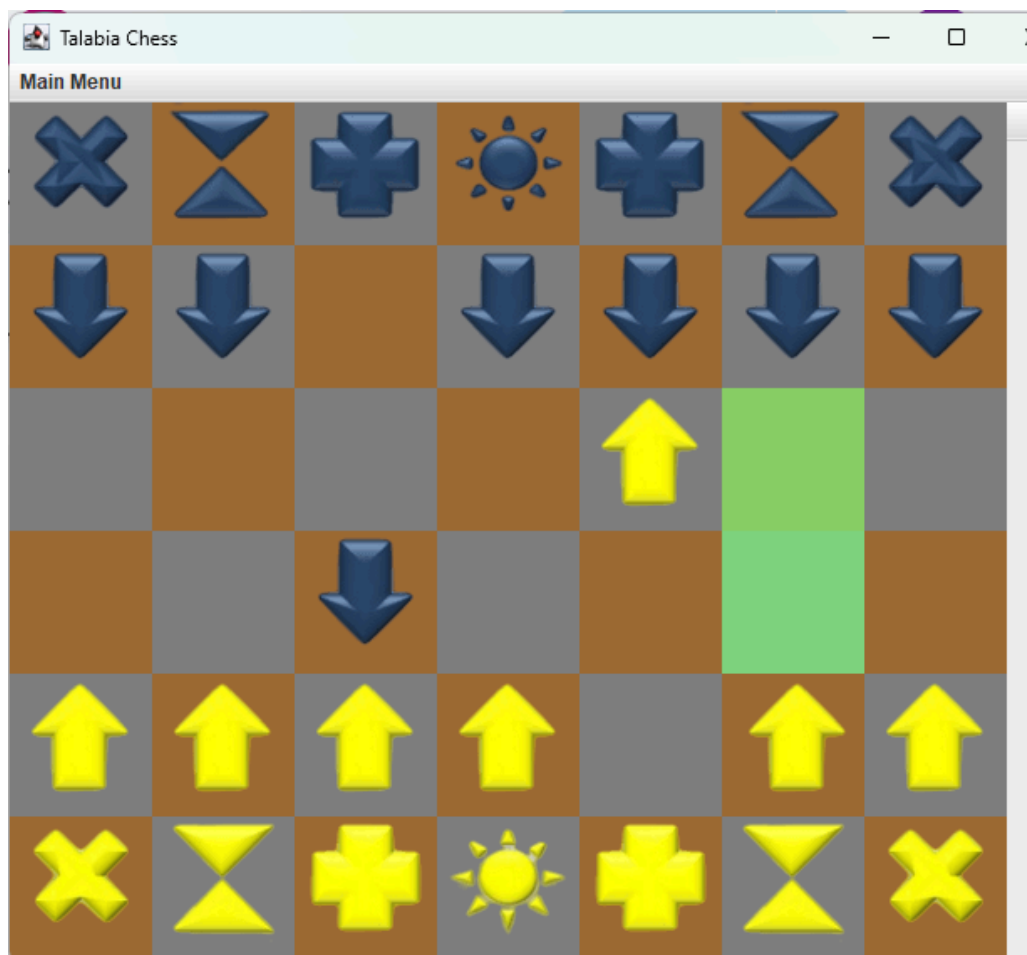


Figure 4: Movement of selected piece

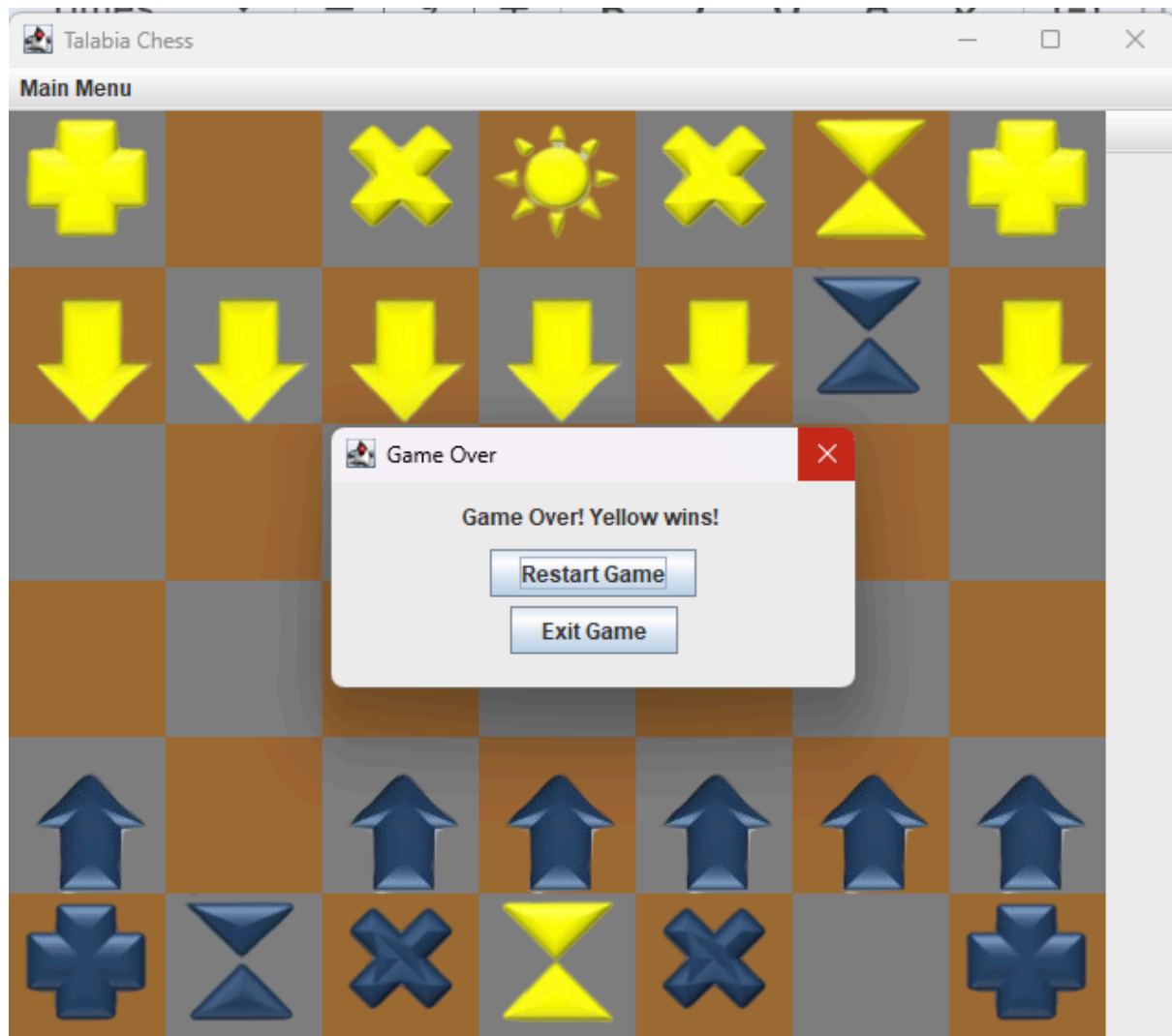


Figure 5 : Restart Game sun is captured

5.3 Main Menu

The main menu of Talabia chess shows 2 options during the game which is Save Game and Exit

Save Game - save the current game state in a text file.

Exit - quits the game after clicking on that button.

The Main Menu is located at the top left of the frame. After clicking it, two options appear.

