

Software Development Report
CSC 221: Programming II: Fall 2023
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GUI Lab: Tic Tac Toe Game

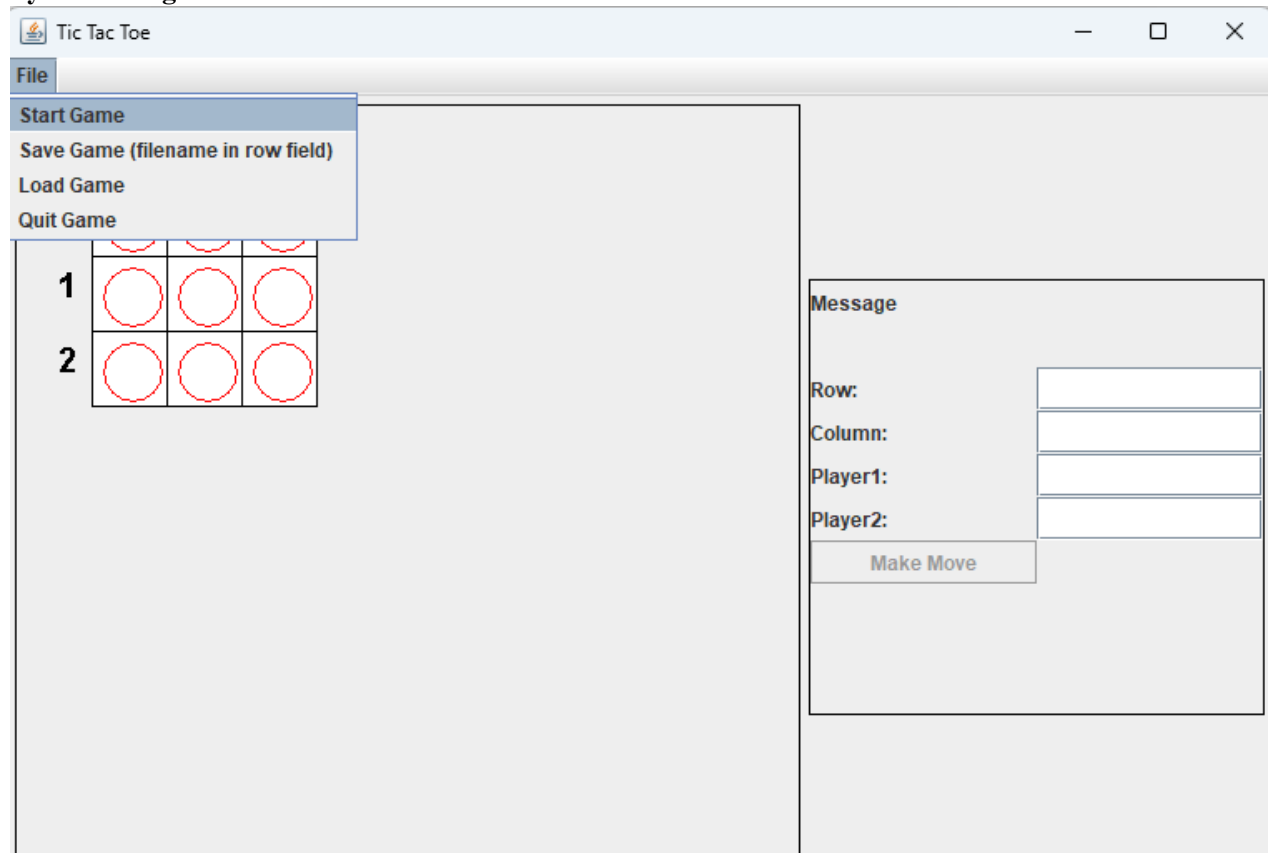
Problem Summary

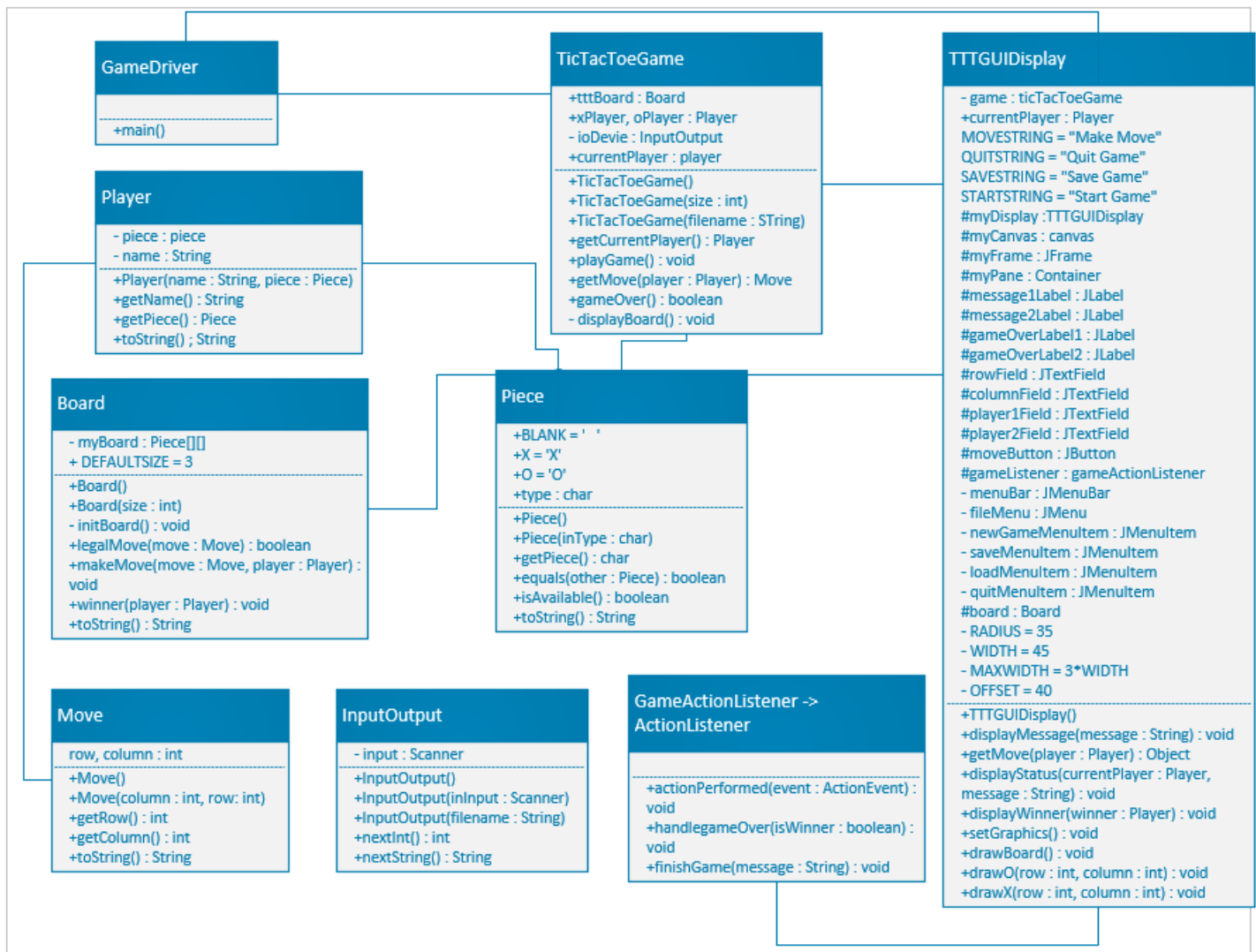
The program is to create a GUI TicTacToe game using the previous TicTacToe text-based game. The game allows two players to take turns making moves on a standard 3x3 game board (or other size if desired) until one player wins by forming a line of their symbol ('X' or 'O') horizontally, vertically, or diagonally, or the game ends in a tie when the board is full

Implementation Requirement

- Run GameDrive
- Provide the names of both players when asked by using the console text fields.
- Open menu and press the Start Game.
- Insert row and column in the text boxes to make a move.
- First player is always going to be X.
- Win by placing 3 Xs or Os in a row vertically, horizontally or vertically.

System Design



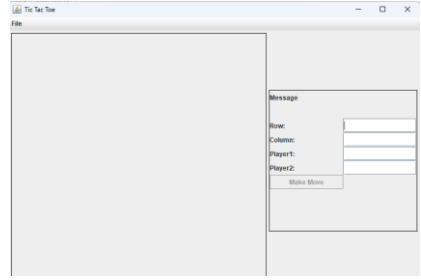
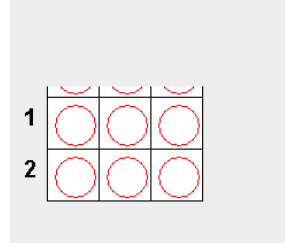


Execution Instructions

- Compile all the Java files: TicTacToe.java, Piece.java, Player.java, Board.java, Move.java, InputOutput.java, TTTGUIDisplay.java, and GameDrive.java
- Run the GameDrive class that has the main() method.
- Once in the GUI display, go to the menu, and under “File”, click on “Start Game” and start playing by assigning rows and columns through the text boxes.

Testing Report

Since the program did not work after starting the game, I did a hypothetical testing report including what tests I would have done in case the program worked correctly, beginning at Test number 3.

Name	Description	Input	Expected Output	Actual Output	Pass?
Test1	Start GUI with player names	⌚⌚■⚡What is the name of the X player? a ⌚⌚■⚡What is the name of the O player? b	GUI displayed		No
Test2	Start board	Menu -> file -> start game	Blank board		No
Test3	First move	1,1 to play at the middle box after creating the game	X in the middle box of the board		
Test4	Second player's turn	Play 2,2 with second Player to make sure O works too, registering the move	O in bottom right board		
Test5	Win vertically	Make the required moves for one of the players to win with a vertical line	Player X/O wins!		
Test6	Win horizontally	Make the required moves for one of the players to win with a horizontal line	Player X/O wins!		
Test7	Win diagonally	Make the necessary moves for one of the players to win with a diagonal line	Player X/O wins!		
Test8	Test draw	Fill in the board without any of the players winning	Draw!		

Time Spent

In my Software Development Report I estimated this project to take me around 12 hours total for code, testing, and SDR, and it ended up taking me 13/14.

Outside Resources used

Microsoft Visio to do the UML

StackOverflow to understand
GUI better

Security Report

Using code from someone else can be dangerous, but I trust Dr. Bareiss doesn't have bad intentions.

Ethical Report

Ethical use: Can be used for entertainment. Unethical Use: In an exaggerated point of view it could cause addiction like all games can at some point.

Future Improvements

- Being able to play the game.
- Finishing some methods that are not done.
- Displaying the players' names.
- Giving utility to the menu and buttons, not only to Play Game.

Lessons Learned

- Buttons, Labels, and Text fields in Java.
- Not leaving a major part of the program for the days before (again) and even less if there's also an exam the same day as the due date.

Improvements of Work

TicTacToe is played through a GUI instead of by text.