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CMPT 220L – 204

Professor Arias

17/20

Are you creating a GUI?

Project Milestone

For my final project, I decided to do something that may seem rather simple, but a project that will be a good start for me. The main goal of this project for me is to develop a multiplayer Tic-Tac-Toe game in Java using classes, functions, OOP, and UML.

The goal of this project for me is to be able to fully start and finish a project. I've heard and also now believe that being able to finish a project and mastering is more important than aiming to do something really complicating and not finish it. My goal for this project is to be able to finish the game and try to add features that will make the game more complex. This milestone aims to show what is required for the project and what each method requires and does.

My project will contain two classes: TicTacToe class and a Board class. The class TicTacToe contains the main method for the game. In the TicTacToe class, a new game object will be created, the game board will be displayed every time a player makes a move, it will ask for user's input for position while game is still playing, and most importantly, it will check the winner. Overall, the TicTacToe class will allows users to play the game. All of the actions in the TicTacToe class that is required to play the game will be defined in the Board class. The board class consists of two private data fields. One date field is a two-dimensional array that is required for the game board and the other data field is a Boolean to check whether or not the game is still playing. The Board class has several methods. The constructor of the Board class creates a 3x3 board and then initializes the board with empty spaces. Then there is a method to display the board, which uses two loops, one for the row and one for the column. Then the next method

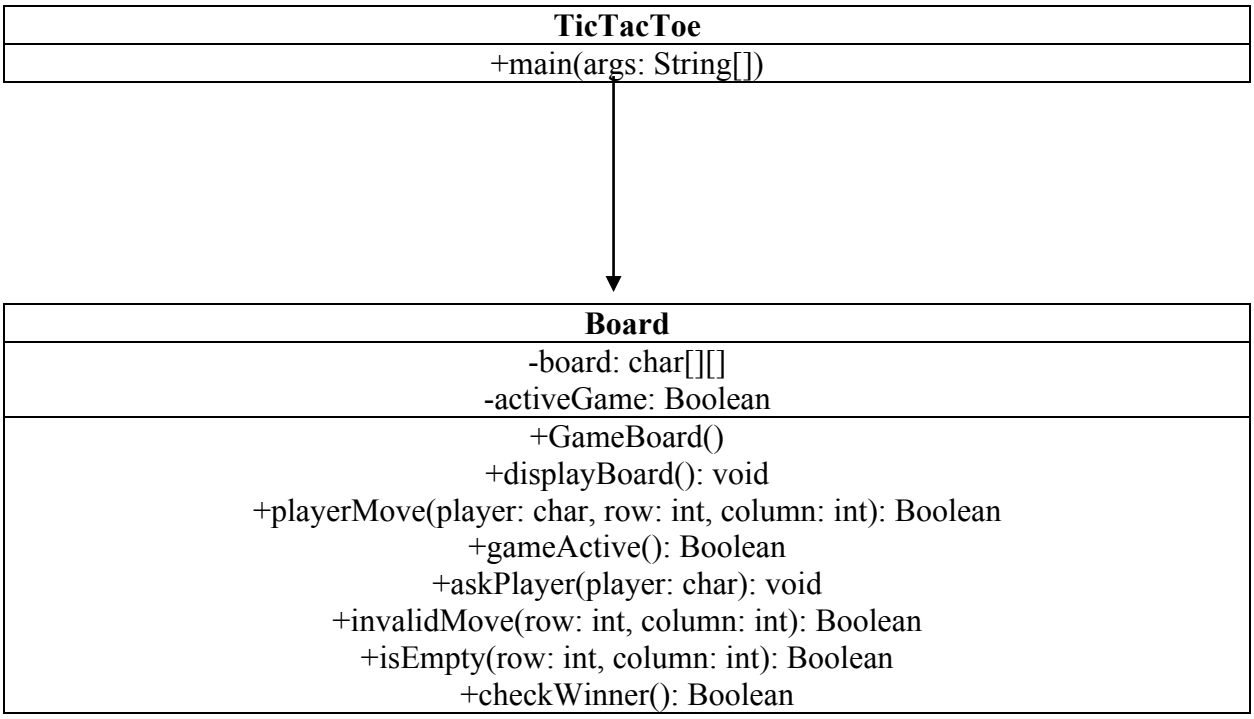
would be to validate if the positive/move player chose is allowed. This method would require the char of the player ('X' or 'O'), and the position of row and column (1-3). One thing to note here is that computers read starting from zero but players will start reading the board from 1. This method checks if the position chosen is empty and then will set it to whatever player's character is. Then we have a method that checks if the game is still playing while no one wins and they did not run out of space. The next method is to ask the user for the position of where they would want to place their X or O by asking them to pick a row & column. This method validates the input and the call the method that makes the move. There is also a method that checks whether or not the move is valid and a method that will check if the position is empty. This is because if the position isn't empty, the move will not be valid and this will not allow the player to make that move. Lastly the most important part of the game is to check whether or not there is a winner. The last method checks to see if there are 3 X's or 3 O's in a row, and if this is true then there will be a winner.

The way the game tic-tac-toe works is quite simple in the sense that is has rules that are quite straightforward, meaning other coders that develop a tic-tac-toe game will have similar way of approaching it. I feel like what makes the code unique is by adding features that go beyond the game, and I aim to add features if I can do it on time. I could possibly make it so that the game does not just end by playing once, but the game goes on until five games, and players play the best of five. This will also mean that features like score will be added. I also found something online called a Super Tic-Tac-Toe. This game is played with a 3x3 grid of tic-tac-toe board, meaning the player can choose any of the 81 squares.[1] This will definitely be a big challenge for me and I would try my best to see if I can implement this from what we have learned in class.

[1] https://www.quora.com/Whats-the-best-hack-edit-to-make-the-boring-Tic-Tac-Toe-game-more-interesting

Overall, this project should allow me to not only create a multiplayer game that allows two users to play a game of tic-tac-toe, it will also help me use the things we learned in class, like classes, functions, OOP, and UML, to create a new project and finish it.

UML Diagram



Keep the sections with titles specified in the project description.