TIC-TAC-TOE APP

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About

We developed a Tic Tac Toe game with an interactive graphical user interface to deliver the classic Tic Tac Toe experience. The game allows users to compete against a computer opponent, aiming to get three of their symbols in a row on a 3x3 grid. The first to align three symbols horizontally, vertically, or diagonally wins. This project is not only accessible for players of all ages, but also a great way for us to showcase our skills and put our learning into practice through a familiar game.

Initial Diagram Final Diagram Game GameApp Char symbol +Button[][] buttons Array[] +Game game +Computer computer startGame() +Label statusLabel clearPriorGame() checkScore() +handleMove(int i, int j) continueGame() +computerMove() clearPriorGame() +restartGame() **GameApp** Game Computer +String Board[][] Button1() +String currentPlayerSym Button2() +String board[][] Computer Button3() +Boolean turn +startGame() symbol: char +String temp[][] Button4() +clearPriorGame() +Game game Button5() +placeMarker(int row, int col) getSymbol() Button6() +checkScore() +move() Button7() +nextPlayer() +game.placeMarker(x, y) Button8() +String[][] getBoard() +getCurrentPlayerSym() Button9()

Contribution Breakdown

Game Class

startGame() - initializes tic tac toe board and calls clearPriorGame()

clearPriorGame() - swaps all values of the board to null

placeMarker() - checks if a move is valid and returns bool

checkScore() - checks each row, column and diagonal for 3 in a row and returns a boolean

GameApp Class

Start() - contains all of the button initializers, Vbox, gridPane, and scene.

handleMove() - calls placeMarker() to put down the move, checks if it was a winning move with checkScore(), and changes the turn with nextPlayer()

computerMove() - updates the board with the latest computer move

restartGame() - clears the board and returns to the starting state

Computer Class

move() - the board goes through checks for each possible type of scenario and edge cases and when a move is found, it calls on placeMarker() to confirm the move

Now, time for demonstration!

THANK YOU!