

**Design Document**  
**1203 Team 2**  
**TicTacToe Game**

**TEAM RESPONSIBILITIES**

Kaitlin White

- playerNames
- saveScores
- Design document
- Debug and testing

Erik Sterdt

- Get menu
- Main
- Design document
- Debug and testing
- communications

Luke Bowler

- getMoves
- displayBoard
- checkWinner
- Design Document
- Debug and testing

Allison Abbott

- displayScores
- sortPlayers
- Design Document
- Debug and Testing

**TIMELINE**

(12/02/2020 - 12/06/2020) Wednesday to Sunday - write functions and get code set up for testing

(12/04/2020) Friday - Skeleton is finished

(12/07/2020) Monday - Code is complete and ready for testing and debugging

(12/09/2020) Wednesday - Turn in final product

## **FUNCTIONS**

main()

Functionality: set up the board, ask for player names, initiate and display the game when asked, show the scores when asked, or exit the game when asked.

int getMenu()

Input Parameters: none

Returned Output: Integer

Functionality: displays options for the user to pick from, returns the choice to the main function

1. Display scores. 2. New Game. 0. EXIT

void displayBoard()

Input Parameters: array of the board

Returned Output none

Functionality: display the board with the updated moves

char playerNames()

Input parameters: char userInput, empty char array

Returned Output: char array of name

Functionality: gets user input for player name and stores name as a string in array.

int checkWinner()

Input parameters: array of the board

Return Output: number correlating to who or if someone has won. 0. Nobody has won. 1. Player 1 has won. 2. Player 2 has won. 3. Board is full, it's a tie.

Functionality: Check for a winner

Void getMoves()

Input parameters: player X or O, array of the board.

Returned output: none

Functionality: Get's a move from the current player and either updates the board or states it is an invalid space.

Void saveScores()

Input parameters: int score, FILE pointer

Returned output: none

Functionality: gets the number corresponding to the winner of the game, updates score count for winner and saves to the file.

Void displayScores()

Input parameters: FILE pointer

Returned output: none

Functionality: Displays scores when function is called

Void sortPlayers()

Input: FILE pointer, recent player array

Returned output: none

Functionality: Opens the file of players and scores, adds the recent players and scores to the list, and saves the top ten back to the file.