**PLANNING FINAL PROJECT**

Tic-Tac-Toe Game

A simple game for two-players in which they take turns to complete a row, a column or a diagonal with symbol ‘O’ or ‘X’ in 3x3 table.

Player 1 will be marked as ‘X’

Player 2 will be marked as ‘O’

1 2 3

4 5 6

7 8 9

**Process:**

1. First players choose number between 1-9. The chosen number will be marked as ‘X’.
2. Next, second player choose number between 1-9 but cannot be the same number as the Player 1 before.
3. Do it alternately until one of the player win by making the marks in order (horizontally, vertically, or diagonally).
4. If the board already full and none of the players achieve the goal, the game is draw.

**Hierarchy Chart**

Decide to play again or quit

(bool playAgaian)

Check if win/decide the winner

(bool check)

Check if draw

(bool isBoardFilled)

Game flow

(void gameplay (int playerPlay))

Board Layout

(void boardGame)

**Tic Tac Toe**

**Game**

**(class TIcTacToe)**

Instruction

(void instruction)

Welcome Message / Menu

(bool menu)

**Board Game**

**Header**

**Process**

**Journal:**

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| **No** | **Date** | **Improvement** |
| 1 | October 6th | On this date I started to create the description and the process of the game. I planned the display of the game, how the game will look like. Next update, I will start to code the display and think the winner criteria. |
| 2 | October 13th | On this update, I made the display by *cout* multiples of dash (-) and straight line (|) as the 3 x 3 board. Also, I used an array named *boardNumber* size = 9 to hold the board number from 1 to 9. For example, board number 1 is placed in row 1 column 1, board number 2 is in row 1 column 2 and so on. |
| 3 | October 20th | In this progress I updated my hierarchy chart and explain briefly what functions I will use. Next, I added algorithms that players are able to mark their chosen number. Lets say, if player1 choose number 1 *boardNumber[0*] will be marked as ‘X’ or player2 choose number 5 *boardNumber[4]* will be markes as ‘O’. Also, I added function *bool check()* to validate winners. The objective of this game is to make three marks in a row. For example, horizontally: board number 1, 2 and 3 are marked by one player or |
| 4 | October 27th |  |