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**Tic Tac Toe Game**



Version Number:

Team Members :

Team No:

Module: Model Based System Engineering

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| **Ver. Rel. No.** | **Release Date** | **Prepared. By** | **Reviewed By** | **Approved By** | **Remarks/Revision Details** |
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**Document History**

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**Project Name:** Tic Tac Toe Game

**Company Name:** L&T Technology Services

**Track:** B

**Program Language**: C language

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**Problem Statement:**

The project consist of developing and implementing a computer program that plays TIC TAC TOE game against another player. The developed system will reduce manual work that is for playing a game you have not to carry a pen or a pencil and a few sheets of papers on your pocket all the time. The system can able to provide any no. of repetitions and keep the record of the total wins and loss.

**Description:**

Program a two-person game of Tic -Tac- Toe. The game is played on a three by three board. Each player has a marker. One player has an ‘X’, the other an ‘O’. Players alternate turns to place their marker on the board. The first player to get three in a row either diagonally, horizontally, or vertically, wins the games. In the event all squares are taken on the board without a winner then it is a tie. The program should set up the game by asking for the names of the players. Player one should be assigned an ‘X’ as their marker, player two should be assigned the ‘O’. After the game has been completed, the program should congratulate the winner by name. The players should then have the option to play again. If they decide to play again, then the program should keep track of the number of times each player has won and display that information at the end of each game. You may not assume that any input the user provides you is initially valid. If the information provided by the user at any stage of the program is invalid, the program should reprompt until valid information is provided.

**Requirements Gathering:**

* Development tools – code::blocks.
* Programming Languages – C language.
* Maximum high definition.
* Design whole system with efficient manner.

**Testing:**

Once source code has been generated, software must be tested to uncover and correct as many errors as possible before delivery to customer. Our goal is to design a series of test cases that have a high likelihood of finding errors. To uncover the residual errors software techniques are used. This techniques provide systematic guidance for designing test that

* Exercise  the internal logic of software components and
* Exercise the input and output domains of the program to uncover errors in program function, behaviour and performance.

**Testing Methodologies:**

* **Unit Testing:**

Since this is a game which may have various forms of user input, it would be nearly impossible to test every possible user combination. However, testing functionality and likely user scenarios should be our overall goal of testing Tic Tac Toe. Unit testing focuses verification effort on the smallest unit of software design- the software component or module. The unit test is white box oriented. The unit testing is Implemented in every module of this project by giving correct manual input to the system, the input data are stored in the database and can be retrieved.

**Expected Results:**

To check validity of the board whether it is valid or invalid. If any of the player has successfully done any of the five end game results than it will show that the respective player has won the game and it will store the results to count number of games won by the player if more than one game is played by them. For that after displaying the result it will give an option whether to play the game again and if yes it will reset the board.