



GROUP 10  
IT



# TIC TAC TECH

## USER MANUAL

WELCOME TO OUR PRODUCT

# Welcome Message

Welcome to the Tic-Tac-Toe Game! This game, designed using an Arduino Mega and ESP32, features 9 LED-lit boxes, an LCD screen, 2 RFID readers, and IR sensors in each box. The game offers an engaging and aesthetic experience with customizable LED colors and various game modes.

Moreover ,This gaming box contains a led strip around the box.That can be switched manually using a switch.



**Options**

**Enter**

**ON/OFF**

**ILLUMINATION**

**Reset**



# Setup



## Mounting

Securely hang the game box on the wall using appropriate hardware

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## Power On

Connect the power supply.

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## Initialization

Upon powering up, the LCD screen will display "Welcome to Tic-Tac-Toe!"

# Game Modes

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## 01 Single Easy Mode

Play against a simple AI.

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## 02 Single Hard Mode

Challenge yourself against a more difficult AI.

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## 03 Double RFID Mode

Two players use RFID cards to take turns. There are 2 rfid readers that the user can use to verify their identity.

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## 04 Double No RFID Mode

Two players take turns without using RFID cards. Here, RFID is not required to play the game.

# How to Play



## 01 Select the color

Select the color to play the game. The 2 players have to select a color before playing the game.



## 02 Select the game mode

Select the game mode using the control buttons and confirm your choice. For Double RFID Mode, scan your RFID card to begin.

## Selecting a Box

## 03

Player 1 brings their hand near a box; the corresponding LED will light up with the selected color. The LED color will change to indicate Player 1 or Player 2's mark. Player 2 repeats the process.





## 04 Winning the Game

The game continues until one player gets three marks in a row (horizontally, vertically, or diagonally). The LCD screen will display "Player X Wins!" or "Player O Wins!" accordingly.



## 05 Draw Condition

If all 9 boxes are filled and no player has three marks in a row, the game ends in a draw.

## Restarting the Game

## 06

To start a new game, press the 'Restart' button.



# Safety Precautions

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**Handle all electronic components with care.**

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**Avoid exposing the game to water or extreme temperatures.**

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**Disconnect the power supply before making any hardware adjustments.**

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**Use this device indoors only. Outdoor usage may cause damage or malfunction.**

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# Customization

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- LED Colors: Players can select their preferred colors using the control buttons before starting the game.
- LED Strip Illumination: The LED strip around the game box can be manually switched on or off, providing an aesthetic enhancement to the environment.



**The End..**