**Project Proposal**

**Digital Logic Design**



**Submitted By:**

Abdul Ahad

22-CS-071

**Submitted to:**

Engr. Bushra Fiaz

**Department of Computer Science,**

**HITEC University, Taxila**

**Title: Tic Tac Toe Game using Digital Logic Design**

**Team Members:**

* Abdul Ahad (Registration Number: 22-CS-071)
* Muhammad Zain Ali (Registration Number: 22-CS-015)
* Muhammad Afzal (Registration Number: 22-CS-035)
* Faisal Khan (Registration Number: 22-CS-039)

**Introduction:**

Our project aims to design and implement a Tic Tac Toe Game using Digital Logic Design concepts. The game consists of 9 input pins arranged in a 3 by 3 grid to form the board. Each of these pins can be 0 or 1, indicating which player has that cell in the board. The game will be played by two players, and each player's move will be indicated by their respective LEDs. The game will detect who has won and light up the corresponding LED.

**Objectives:**

* To design and implement a Tic Tac Toe Game using Digital Logic Design concepts.
* To use logic gates and other components to complete the circuit.
* To develop a working prototype that can be demonstrated.

**Methodology:**

The following methodology will be followed to complete the project:

* Design the circuit diagram using Logisim.
* Implement the circuit diagram using digital logic design concepts.
* Test the circuit to ensure that it is functioning correctly.
* Build the prototype of the game using the circuit.
* Demonstrate the game and present the results.

**Expected Outcomes:**

* A fully functional Tic Tac Toe Game using Digital Logic Design.
* A prototype of the game that can be demonstrated.
* A report documenting the project's design, implementation, and outcomes.
* A presentation showcasing the Tic Tac Toe Game and its features.

**Conclusion:**

This project provides an opportunity for us to apply the digital logic design concepts learned in class to a real-world problem. We aim to design and implement a Tic Tac Toe Game that can be played by two players and that can detect who has won. Through this project, we will develop our skills in digital logic design, circuit implementation, and project management.