BANGLADESH UNIVERSITY OF ENGINEERING AND TECHNOLOGY
DEPARTMENT OF ELECTRICAL AND ELECTRONIC ENGINEERING

EEE 304 (January 2023) **A2**
Digital Electronics Laboratory

Final Project Proposal

Section	A2
Group No	07
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Project Title	Tic Tac Toe Game Implementation using Digital Logic Circuits

1 Abstract

This project aims to implement the very popular turn-based game Tic Tac Toe using digital logic circuits By leveraging digital logic components and circuitry, this project offers a unique and interactive solution for playing Tic Tac Toe. The focus of the project is to develop a system that enables players to engage in the game, providing a challenging and enjoyable experience.

2 Background

Tic Tac Toe is a widely known game that involves two players taking turns to mark X or O symbols on a grid. The objective is to create a row, column, or diagonal line of three identical symbols. Traditional implementations of Tic Tac Toe rely on physical boards or software applications. This project seeks to create an electronic version of the game using digital logic circuits, offering a tangible and interactive gameplay experience.

3 Complexity Analysis

The implementation of the Tic Tac Toe game using digital logic circuits involves several complex engineering challenges. Firstly, designing the digital logic circuits to handle player input, grid representation, and winning condition checking requires careful circuit design and logical analysis. The system must accurately interpret player moves and update the grid state accordingly.

Additionally, ensuring proper gameplay mechanics, such as turn-based sequencing, symbol placement validation, and win condition detection, adds complexity to the circuit design. The project must incorporate logic circuits that facilitate fair gameplay and provide a seamless user experience.

Furthermore, the project requires the integration of user interfaces, such as buttons or switches, to enable player interaction. These interfaces must be designed to capture player inputs accurately and initiate appropriate actions within the logic circuits.

References

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