Green University of Bangladesh
Department of Computer Science and Engineering (CSE)
Faculty of Sciences and Engineering
Semester: (Spring, Year:2024), B.Sc. in CSE (Day/Eve)

LAB PROJECT PROPOSAL
Course Title: Artificial Intelligence Lab
Course Code: CSE 316   Section: 211 D3

Student Details

	Name	ID
1.	Nahim Uddin	211902019

Submission Date: 24/03/2024
Course Teacher's Name: Priyanka Roy

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1. **TITLE OF THE PROJECT PROPOSAL**
   The purpose of this project is to develop a **Connect Four game** implemented in Python, enhanced with artificial intelligence (AI) capabilities to enable the computer player to make intelligent moves against a human player. Connect Four is a classic two-player game in which players take turns dropping colored discs into a grid with the goal of connecting four of their own discs in a row, column, or diagonal before their opponent does.

2. **PROBLEM DOMAIN & MOTIVATIONS**
   - To develop a Connect Four game using Python and integrating artificial intelligence components.
   - To create a Challenging and Engaging Experience.
   - To enhance strategic thinking by allowing the AI to develop decision-making skills within a well-defined environment like Connect Four.
   - To explore AI techniques like minimax, alpha-beta pruning, and potentially machine learning, using Connect Four as a platform for experimentation.
   - To create a challenging and engaging experience for players by providing an AI opponent that adapts to skill level and offers a fun learning opportunity.

3. **OBJECTIVES/AIMS**
   - To develop a functional Connect Four game engine using Python.
   - To implement an AI algorithm to provide intelligent gameplay for the computer opponent.
   - Allow for user interaction through a graphical user interface (GUI) for a seamless gaming experience.
   - T provides options for players to choose difficulty levels and game modes.

4. **TOOLS & TECHNOLOGIES**
   - Python
   - PyCharm
   - Git and GitHub
   - AI Libraries

5. **CONCLUSION**
   The development of a Connect Four game using Python and artificial intelligence presents an exciting opportunity to combine classic gameplay with modern technology. By implementing AI capabilities, the project aims to provide an engaging and challenging gaming experience for players of all skill levels.
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