



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

LAB PROJECT PROPOSAL

Course Title: Digital Logic Design Lab

Course Code: CSE 204

Section: 232_D3

Group Details

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Submission Date : 18-11-2024

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[For Teachers use only: **Don't Write Anything inside this box**]

Project Proposal Status

Marks:

Signature:

Comments:

Date:

TITLE OF THE PROJECT

Home Automation With IOT

Introduction

IOT-based home automation is a transformational technology that will integrate a wide array of intelligent devices and systems into making life easier, more efficient, and even safer. IOT-powered home automation helps users control lights, thermostats, and appliances from any distance via mobile applications or voice commands. This is the technology that will revolutionize living in homes, as one will be able to enjoy better comfort, save energy, and thus live a better life.

PROBLEM DOMAIN & MOTIVATIONS

The Problem Domain of this project–

- Energy wastage due to inefficient device usage.
- Limited accessibility for the elderly or differently-abled individuals.
- Lack of centralized control for multiple home devices.

The Motivations of this project –

- To create smart, interconnected systems that enhance convenience and energy efficiency.
- To enable real-time monitoring and control of home systems.
- To ensure better safety and security in residential spaces.
- To reduce the environmental impact by optimizing energy consumption.

OBJECTIVES/AIMS

In this project, learn about –

- Develop a robust and scalable IoT-based home automation system.
- Enable remote control and monitoring of appliances through a user-friendly interface.

- Implement energy optimization features like automated lighting and HVAC controls.
- Scalability to add more devices and sensors over time.

TOOLS & TECHNOLOGIES

Uses tools and technologies for the whole project –

- Microcontroller.
- Wi-Fi.
- Resistor.
- LED.
- C++ Programming, HTML, CSS, JavaScript

CONCLUSION

IoT-based home automation is transforming the way we live, offering a harmonious blend of convenience, security, and energy efficiency. By connecting devices and systems through a unified network, IoT enables smarter control over everyday tasks, saving time, reducing costs, and enhancing comfort. The ability to monitor and manage homes remotely empowers users with unprecedented flexibility and peace of mind. Moreover, the environmental benefits of IoT are significant, as these systems optimize energy usage and minimize waste, contributing to sustainable living. As technology evolves, features like AI-driven insights and predictive automation will further enhance the capabilities of smart homes, making them more adaptive to user needs and future challenges. In essence, IoT in home automation represents the future of modern living. Its potential to improve quality of life while addressing global issues like energy conservation ensures its place as a cornerstone of innovation. The integration of IoT into homes is not just an upgrade—it is a step toward building a more connected, efficient, and sustainable world.