Sri Lanka Institute of Advanced Technological Education

(SLIATE)

Project Proposal

Title

Arduino Based Smart Home System

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Topic

1. Introduction

Home automation is becoming more and more popular these day. Smart Lighting is a crucial part of home automation. Most smart lighting systems for homes are expensive and complex. A smart light switch to replace ordinary light switch has been conceptually designed. An easy to install, smart lighting system is the goal of this project. The system will keep track of the patterns in which light are used, and use those pattern for application such as having light ready for user before they get home. The system will be controlled by a smart phone application the internet Wi-Fi. The proto type designed in this project, will fit into a standard light switch box, be safe to install, and be controllable on a user. Interface panel, or form a smart phone application.

2. Background and Motivation

Home automation has been a trend since the 1980's with the introduction of networking, home automation has become much more practical. Smart lighting is a key component for upcoming traits in society. There exist many version of smart lighting that come in various forms (bulbs, hubs, switches) that are commonly controlled smart phone.

The motivation for developing smart home systems comes from many reasons, but most prominent are convenience, security, energy management, Connectivity. Smart Home systems are one of the newer areas of research that have not been fully integrated into our society.

3. Problem in brief

The current system has many problems. For this project, the team must create an easy to install smart system for controlling home lighting. With conventional lights, it is not possible to control home lights from a distance, or know the status of home light from out of the house. It is a challenge to control high voltage light from a sensitive controller board. Lighting system that learn the patterns in which home light are used do not. A significant amount of energy is wasted when lights are left on in unoccupied room.

4. Aims and Objectives

4.1 Aims

Aim of our project is to develop a Smart home System for identified problems in the current waste Management process and implement with IT Solutions & provide for developing this project Smart home system can helps to maintain the light and etc.

4.2 Objectives

Objective is to improve the quality of life and convenience in the home, as well as residents' safety and security. Smart home applications also often ensure more efficient use of energy.

- A smartphone or tablet are best suited for controlling and monitoring the devices
- A wireless network is modern, convenient and elegant, but transmission.
- Are all the devices Lights connected using the same wireless Standard
- Light is easy to hand
- It is easier to save electricity

5. Proposed Solution

5.1 The Design

The proposed system will be designed using Arduino IDE, Mit App Invetter

5.2 The main users

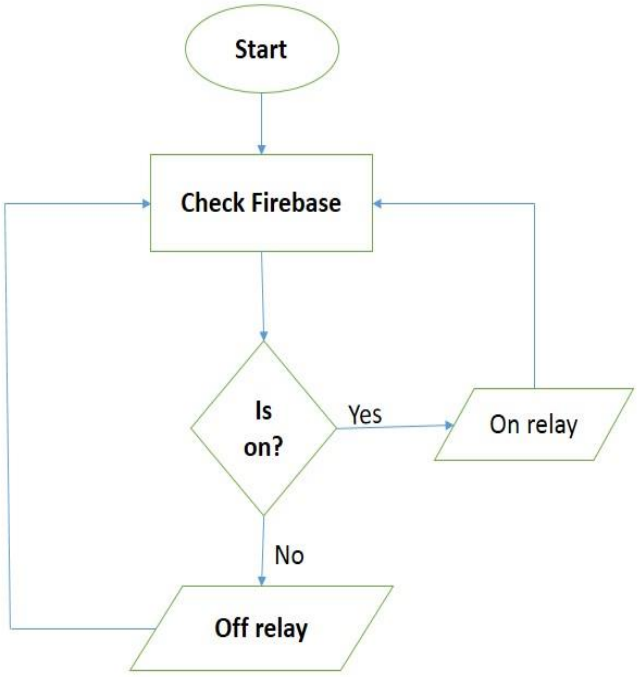
The activites of the main users of proposed sytem home members and Administator,

5.3 Their activites

Their avtivites are system light on,off system maintion, update their sytem.

The activities of the main users of the proposed sytem.

6. Block Diagram (Flow chart)



7. Resource Requirements

The Smart home system will be developing using the following Requirements

System Requirement

- Pc or Laptop with minimum core 2 duo processor
- Minimum 1Gb Space in Hard disk
- Minimum 2Gb Ram

Software Requirement

- Arduino IDE
- Mit App Invetter (Online Appliction)

Hardware Requirements

- Node mc 2, IC 705,330 Resistor
- Relay, BNC Transistor, LED, Power Jack

8. Reference

- https://create.arduino.cc/projecthub/ahmedyassin/control-your-light-system-using-smart-phone-3463b9
- https://m.youtube.com/watch?v=7qiZ9Icl89Y#
- https://appinventor.mit.edu/
- https://youtu.be/pZWdFEzCZ P0
- https://en.m.wikipedia.org/wiki/NodeMCU
- https://nodemcu.readthedocs.io/en/master/
- https://youtu.be/pLvqh57T3s4