

IOT Based Automation for Illumination of Worship

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Abstract -Today Automatic frameworks are being favored and involved over manual frameworks. The first and most obvious advantage of our system is satisfaction, comfort and convenience with the help of IOT Based Automation for Illumination of Worship. The system deals with automating device like lamp and light the environment with peace and joy. Analog data is maintained by relay module and consisting an interface to put led and lamp on and off As the system replaces oils from the lamp the losses conducted through fire is no more .Easily can be operated by a single user .

Key Words:Automation,IOT,Relay, lamp.

1.INTRODUCTION

This document shows the project "IoT based automation for illumination of worship", we are utilizing IOT based automation for lamp and LEDs and Interface module for user to interact with the system in a smooth and sufficient manner.

Home automation system is growing rapidly they are used to provide comfort, convenience, quality of life and security for residents. Nowadays, most home automation systems are used to provide ease to elderly and disabled people and they reduce the human labor in the production of services and goods [3-4]. Home automation system can be designed and developed by using a single controller which has the ability to control and monitor different interconnected appliances such as power plugs, lights, temperature and humidity sensors, smoke, gas and fire detectors as well as emergency and security systems [1]. One of the greatest advantage of home automation system is that it can be controlled and managed easily from an array of devices such as smartphone, tablet, desktop and laptop [2]. Rajeev Piyare presented a home control and monitoring system based on the internet of things (IoT) technology [5].

2.Literature survey:

- [1] C. Felix and I. Jacob Raglend, "Home automation using GSM," Signal Processing, Communication, Computing and Networking Technologies (ICSCCN), 2011 International Conference on, Thuckafay, 2011, pp. 15-19.
 - ❖ Home automation system can be designed and developed by using a single controller which has the ability to control and monitor different interconnected appliances such as power plugs, lights, temperature and humidity sensors, smoke, gas

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- [2] R. A. Ramlee, M. A. Othman, M. H. Leong, M. M. Ismail and S. S. S.Ranjit, "Smart home system using android application," Information and Communication Technology (ICoCT), 2013 International Conference of, Bandung, 2013, pp. 277-280.
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- [5] R. Piyare, "Internet of things: ubiquitous home control and monitoring system using android based smart phone", International Journal of Internet of Things, vol. 2, no. 1, pp. 5-11, 2013
 - ❖ Rajeev Piyare presented a home control and monitoring system based on the internet of things (IoT) technology.

3. Implementation Details:

A.PROPOSED METHOD:

In our Project, "IoT based automation for illumination of worship" the method is based on IOT in which the whole circuit is fixed out in under supervision by taking safety precautions.

Arduino Editor enabled the Code to be uploaded in the ARDUINO module through this followed to the Relay module, which converts analog signal to digital signal. The software which develops the GUI is known as pycharm. As like the whole code is in python we are recommended to use it is for user to interact with the system in a smooth and sufficient manner. As in events, seminars it becomes difficult to wire up all the multiple leds in many switches so to avoid its limitation we are implementing one single solution over it by our project,

“IoT based automation for illumination of worship”. Also the oils and ghee we use in our Lamps traditionally since our ancient times is also been saved. With one click start strategy is implemented in our project.

B.ALGORITHM:

- Step 0: start
- Step 1: connect the connection as
Relay -----to----- arduino’s
Vcc -----> 5v
Gnd -----> gnd
Input-----> 13
- Step 2: connect the as per given and
Upload the arduino’s code in arduino’s software for system to be worked.
Pycharm is used to develop a user interface with on, off and exit button.
Then on the main switch (analog supply).
- Step 3: once step 2 is done we are ready to operate the circuit.
- Step 4: now when we click the on button led will start to glow. Same for vice-versa
- Step 5: if bulb does not glows repeat the process from step 2 once again.
- Step 6: stop

C.ARCHTECTURE:

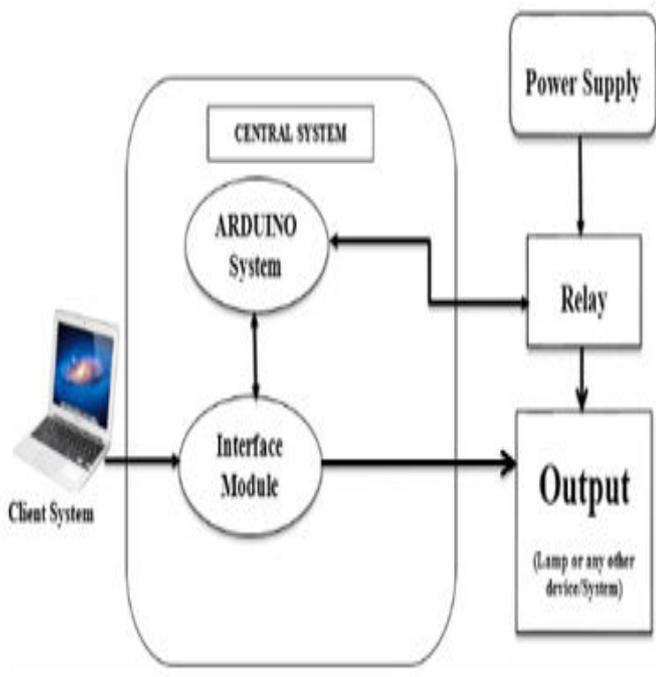


Fig. Architecture of IoT based illumination system

D.CONTROL FLOW DIAGRAM:

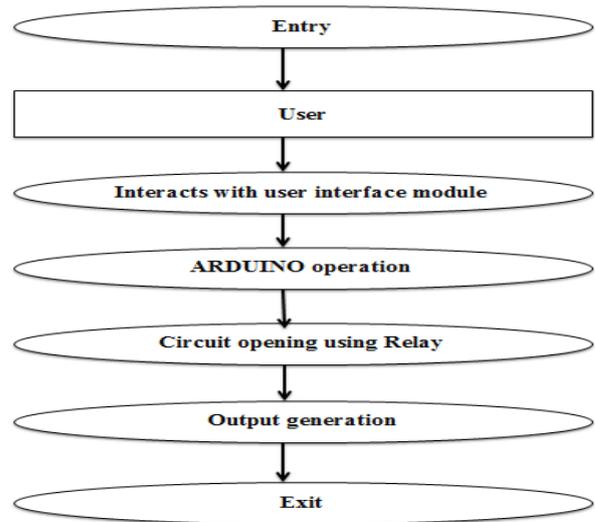


Fig. Control flow diagram of IoT based illumination system

E.Modules:

1.Hardware Module

- Arduino uno r3:
 - The ArduinoUNOR3 is an open-source microcontroller board based on the removable, dual-inline-package (dip) atmega328 avr microcontroller. Microchip atmega328p microcontroller and developed by arduino. Single channel relay / 1 channel relay module - for SCM household appliance control 5v.
- Detect the module complies with international safety standards, the load region and the control area isolation trench. The signal input with signal common terminal will start with regular conduction. . The control dc or ac signal, you can control 220v ac load. There is a normally open and one normally closed contact blue kf301 terminals to the control line is more convenient, humidity and temperature
- Jumper wire:
 - A jump wire (also known as jumper wire, or jumper) is an electrical wire, or group of them in a cable, with a pin or connector at each end (or sometimes without them – simply "tinned"), which is normally used to interconnect the components of a breadboard or other prototype or test circuit, internally or with other equipment or components, without soldering.

2.Software Module

- Pycharm editor :
 - Pycharm is designed by programmers, for programmers, to provide all the tools we need. The gutter shows line numbers and annotations. The editor consists of the following areas: The scrollbar shows

errors and warnings in the current file. Breadcrumbs help you navigate inside the code in the current file. The pycharm editor is the main part of the IDE that you use to create, read and modify code. Pycharm knows everything about your code. Save time while pycharm takes care of the routine. Rely on it for intelligent code completion, on-the-fly error checking and quick-fixes, easy project navigation, and much more. Focus on the bigger things and embrace the keyboard-centric approach to get the most of pycharm's many productivity features.

- Arduino editor:
 - It runs on operating system like Windows, Mac OS X, and Linux. The open-source arduino Software (IDE) makes it easy and simple to write code and upload it to the board. The environment is written in language like C,C++ and based on Processing and other open-source software.

4. CONCLUSIONS

This paper focuses on different process of operating or controlling electrical and electronic appliances remotely with the help of arduino with low power consumption. As per the literature survey done, there is the need for this system that combines both low power consumption monitoring various events and tracking various appliances automatically and hence it is difficult to put on and off all the lights at a time becomes time consuming so to have a one solution to it we have proposed this solution over that situation. Natural oils and ghee nowadays become very expensive so because of our project the oils are also been saved.

ACKNOWLEDGEMENT

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