

Home Automation System

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Abstract: The concept of Internet of Things (IoT) requires the seamless connectivity of millions of heterogeneous devices. In today's World, implementation of IoT based smart home has drawn a huge attraction and become a prominent area of research. This research work presents an approach for smart home automation using IoT that can be controlled wirelessly. Home automation system means monitoring and controlling of home appliances remotely using the concept of internet of things (IOT). In this method we use mobiles or computers to control the basic home appliance and make it function through the designed web page with internet connection/local area network (LAN) servers. This type of home is also known as smart home. The concept of applying automation in the sectors of housing is selling like hot cake. Western countries have welcomed the concept of automation into their homes with open arms. Our country is keeping up with the pace of modernization too. Different approaches to automating homes have been implemented. The best among this is home automation system using IOT. IOT provides the feasibility of operating the home automation system from anywhere around the world using internet. It reduces use of excessive or unnecessary human efforts and improves the standard of living of the people in our society.

INTRODUCTION

1. To make Door security automation system using Android application.
2. To make home automation system using GSM module through Android Application.
3. If guest mobile number matches then send pin using GSM module

I. LITERATURE SURVEY

1. Paper Name: Review and Performance Analysis on Wireless Smart Home and Home Automation using IoT

Author: Kabita Agarwal

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2. Paper Name: Smart Home Automation System Using Bluetooth Technology Author: Muhammad Asadullah, IEEE Student Member, **Khalil Ullah, IEEE Member**

Abstract: In this paper a low cost and user-friendly remote-controlled home automation system is presented using Arduino board, Bluetooth module, smartphone, ultrasonic sensor and moisture sensor. A smartphone application is used in the suggested system which allows the users to control up to 18 devices including home appliances and sensors using Bluetooth technology. Nowadays, most of conventional home automation systems are designed for special purposes while proposed system is a general-purpose home automation system. Which can easily be implement in existing home. The suggested system has more features than conventional home automation systems such as an ultrasonic sensor is used for water level detection and soil moisture sensor is use for automatic plant irrigation system. This paper also describes the hardware and software architecture of system, future work and scope. The proposed prototype of home automation system is implemented and tested on hardware and it gave the exact and expected results.

3. Paper Name: Home Automation in Client-Server Approach with User Notification along with Efficient Security Alerting system

Author: **Brundha S.M., Lakshmi P. and Santhanalakshmi S.**

Description: Internet of things(IoT) is evolving to a vast extent. It involves collaboration of different devices and ultimately achieving efficient home automation as one application. Some of the key challenges in adopting IoT for mainstream life style varies from device diversity, security, connected services of IoT devices to add newer use case value proposition. This paper proposes a Client-Server service and device friendly approach for Home automation. A typical home automation work-flow consists of 4 stages. Understanding the user environment by sensing, reporting the events to a centralized entity, centralized entity analyses and triggers the work-flow, workflow will execute and update user by any interactive channels or even exercise over a home device (actuating). The physical condition of the device can also be altered based on the user request. The Home automation can be made efficient by including security factor by alerting user about an unknown person in the house. This IoT project implements a Client-Server based home automation with intruder alert to the user mobile phone. The user can also retrieve the image of the person entered in to the home.

Block diagram of project

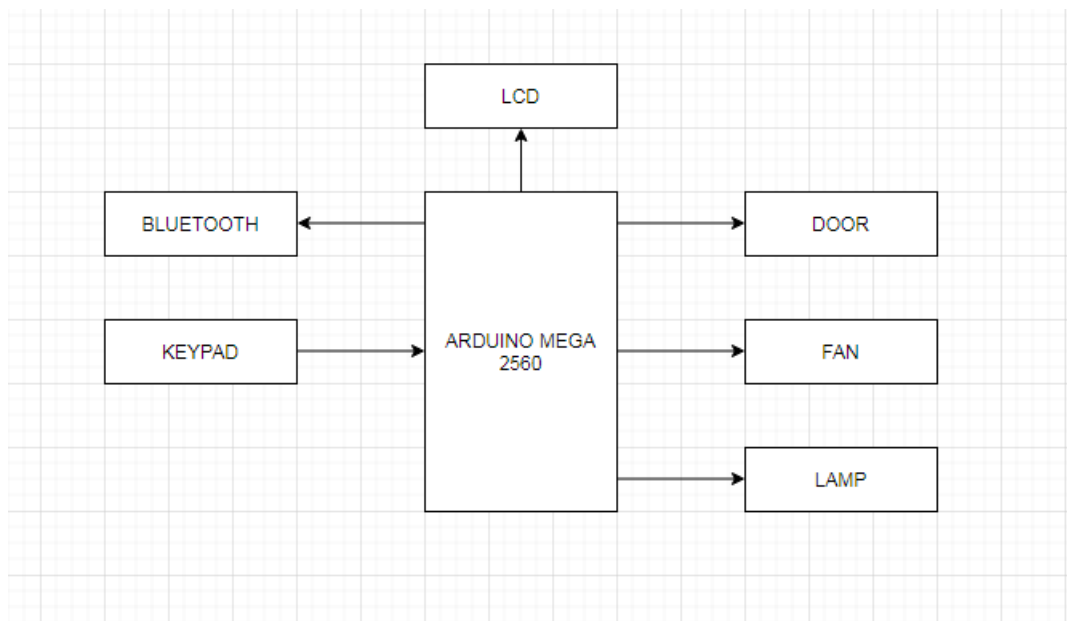


Figure 3.1: system Architecture

The main components of Home and Door Automation purpose are Atmega328, Bluetooth module, Motor driver, DC motor. Required Components:

1. Arduino uno
2. Motor driver circuit (IC – L293D)
3. bluetooth module
4. DC motor
5. L293d
6. Connecting wires
7. 9 volt battery
8. 100K 330k Resistor
9. 330K resistor
10. 0.122uf Cap
11. Mobile phone
12. LEDs
13. Ac lamp
14. 12v dc fan
15. 5v relay

Circuit diagram of project

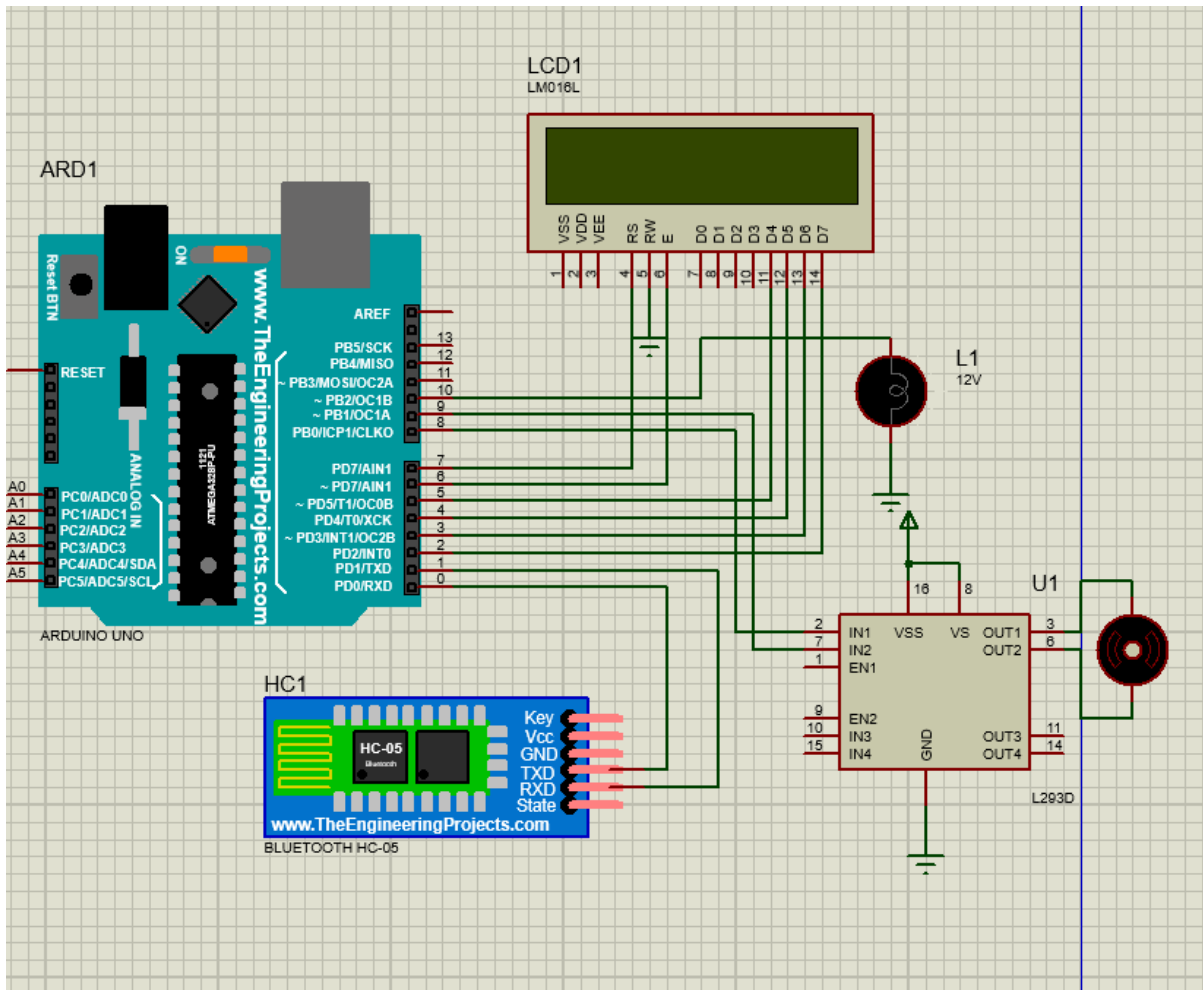
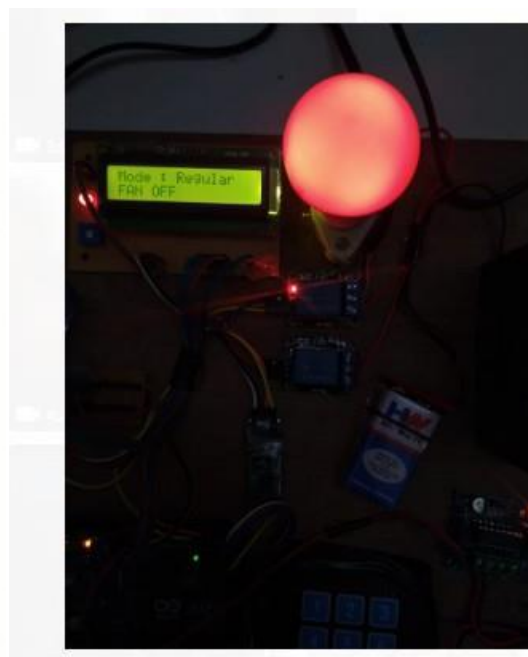
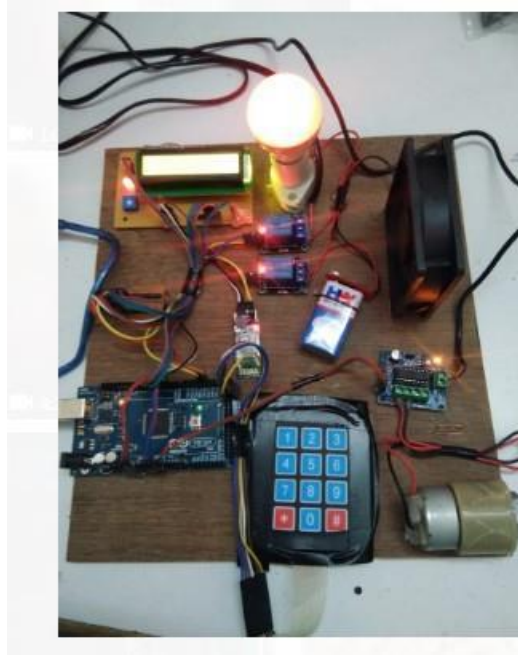


Figure 5.1: Circuit Diagram

EXPERIMENTAL RESULTS





CONCLUSION

Changing the way of the automated notifications by using the android application to make this system more professional. This system can be modelled into an IOT device by minor changes.

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