

## Project Title: IOT BASED SMART HOME AUTOMATION WITH INTEGRATED VOICE CONTROL

### Abstract

The home automation system allows controlling of home appliances by using voice commands by recognizing input speech. The home automation system is implemented wirelessly. The electrical appliances such as fans, light, switches, light sensors, current sensors are integrated in a system which then connected to microcontroller which act as within the home to control and perform the user commands

### Objective

This project is primarily concerned with the programmed control of light or whatever other home machines, control of door and home security through android mobiles or web application using the internet as communication protocol interfaces and Arduino as processing unit.

### Introduction

A smart home is one that incorporates advanced sensing and automation systems to provide the inhabitants with monitoring and control regardless of whether they are inside or outside the home. A smart home may have controls for lighting, temperature, multi-media, security, window and door operations, as well as many other functions

### Methodology

We have designed the model in such a way that it can be kept at a safe place inside the house. All programming and components installation are done and tested inside the laboratory and in home. There are a lot of components and wires that we have used for the system. This is done in the easiest and lowest cost possible. However, the system is flexible and can be customized by the user.

### Project Picture



### Results

Home Appliances can be switched on/off using the mobile application and voice command. Sensors are working properly and responding correctly.

### Conclusions

The project in general has been very successful. The software produced for the project is functionally correct, reasonably robust, and usable. The project has met the entire General and Non-Functional Requirements stated in Section 2, and in addition, has been implemented in a modular fashion, which can be easily modified or rewritten at a later stage

### References

[www.arduino.cc](http://www.arduino.cc)  
[www.github.com](http://www.github.com)  
[www.adafruit.com](http://www.adafruit.com)  
[www.electronicshub.org](http://www.electronicshub.org)

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