

“HOME APPLIANCE CONTROL USING ANDROID APP”

Under the Supervision of Mr. GULSHAN KATARA

INTRODUCTION

The "smart house" technology is one realization of home automation ideals using a specific set of technologies. It's a house that has highly advanced automatic systems for lighting, fan, bulb, Air Conditioner control, Refrigerator, security, appliances, and many other functions. Our project controls electrical loads by making use of an android application. The proposed system is used to control electrical loads based on the Bluetooth input signal received from the android device. It becomes difficult to keep operating electrical switches manually each time by elderly and handicapped people.

This project has integration of Android mobile technology and embedded system. Android mobile user has to install an application on his mobile handset to control the devices. Then he/she can give command using the buttons on that application. For this you have to turn on the Bluetooth on mobile, so the main wireless controlling technique used in this project is Bluetooth technology. Bluetooth receiver will be connected to the project. This Bluetooth device is connected to the circuit which has a decoder. It sends out a code for respective command sent by user. Then the respective device connected to the circuit will be turned on or off depending on the command given. For example: Turn on fan, Turn off fan, Turn on bulb Turn off bulb etc. Such that by giving commands from mobile you can control home appliances.

The android device may be any android based phone or tab having an android OS. An ARDUINO UNO is used in this system. The Bluetooth receiver is interfaced with microcontroller in order to accept the commands and then react accordingly. It operates the loads through a set of relays using a relay driver IC. Relays are used between loads and the control unit. We have introduced design and implementation of a low cost, flexible and wireless solution to the home automation. The system is secured for access from any user or intruder. The users are expected to acquire pairing password for the Arduino BT and the cell phone to access the home appliances. This adds a protection from unauthorized users. This system can be used as a test bed for any appliances that requires on-off switching applications without any internet connection.

The full functionality of the home automation system was tested and the wireless communication between the cell phone and Arduino BT was found to be limited to <50m in a concreted building and maximum of 100m range was reported to be applicable in an open range.



PHOTOS OF GROUP MEMBERS

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| <p>ASHISH KUMAR</p> | <p>BHUNESHWAR NIRMALKAR</p> | <p>KARAN SINGH</p> | <p>SANDEEP KUMAR</p> |

FINAL YEAR ELECTRICAL DEPARTMENT REC BANDA.