BHARATI VIDYAPEETH DEEMED UNIVERSITY
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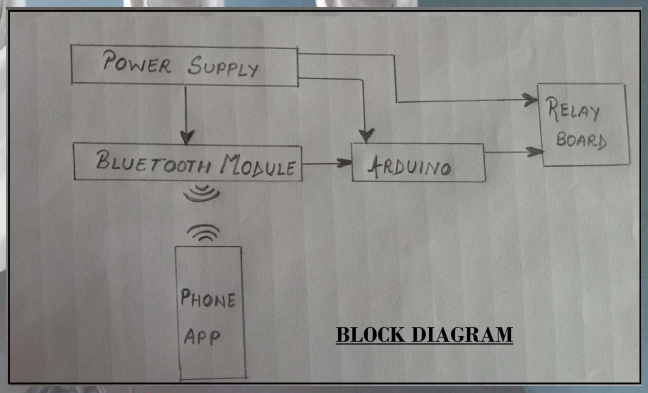
PROYECTO – NATIONAL LEVEL PROJCET EXHIBITION COMPITITION

HOME AUTOMATION

ABSTRACT

•In this project Bluetooth technology is combined with household electronics to get a smart home.
•It is an example of android application technology.
•This project shows the role of various engineering fields such as information technology and electronics & communication in making our life more convenient.
•Here we have designed a kit that can be used for controlling AC loads (household lights, fans etc) from android phone by using Arduino as microcontroller.
•Remote operation is achieved by any smart phone/ tablet etc, with android OS, upon a GUI (graphical user interface) based touch screen operation

BLOCK DIAGRAM/ ARCHITECTURE



BLOCK DIAGRAM

INTRODUCTION

- The project comprises of four main parts:

1. Power Supply Board
2. Arduino UNO R3 as Microcontroller
3. Relay board
4. Android Application

- The power supply board provides a 12v and a 5v output. 12v for the relay board and 5v to power the Arduino. It consists of a Step down transformer, a rectifier-filter circuit and a voltage regulator IC

- We have used Arduino UNO R3 as our microcontroller which receives signals from the Bluetooth receiver, interprets them and decides which household load to turn ON or OFF.

- The Relay Board is responsible of controlling the household appliances according to the instructions given by the Arduino. It consists of five 12v relays acting as five channels of this project which means our device is capable of handling 5 household devices at a time.

- The Android Application used for controlling this device is "Bluetooth Electronics" which can easily be found on play store. It is a highly customizable app which is easy to use and implement.

RESULT

From this project we were able to control five light bulbs operating on mains voltage through our Android Smartphone.

When the switch corresponding to the channel 1 on the smartphone is set to ON state, the bulb corresponding to Channel 1(Blue Bulb) is lit.

Similar results were obtained on other four channels as well.

Hence, we conclude that the aim of our project to control household appliances with a smartphone via Bluetooth is accomplished.

REFERENCES

Guidelines and help for this project has been taken from
www.instructables.com
www.arduino.cc
www.youtube.com

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