BLUETOOTH BASED SECURITY ENABLED POWERED DEVICES CONTROL SYSTEM

The project mainly aims in designing completely automated powered devices control with the help of Bluetooth technology and a graphical LCD to display the status of the devices and also provides a user friendly environment to operate the devices effectively. It majorly aims in providing a reliable system for illiterates and old people who finds difficulty in operating few high end devices like AC, water heaters etc.

Automation is the most frequently spelled term in the field of electronics. The hunger for automation brought many revolutions in the existing technologies. These had greater importance than any other technologies due to its user-friendly nature. These can be used as a replacement of the existing switches in home which produces sparks and also results in fire accidents in few situations. Considering the advantages of Bluetooth an advanced automation system was developed to control the devices.

The device consists of a microcontroller, which is interfaced with the input and output modules, the controller acts as an intermediate medium between both of them. So the controller can be termed as a control unit. The input module is nothing but a Bluetooth module, which takes the input from the user's mobile phone with Bluetooth features and provides the same to the microcontroller. The output module is graphical LCD and the devices to be controlled. Here the microcontroller receives the input from the Bluetooth and switches the device with respect to the input. The controller also takes the responsibility to display the status of the individual devices on the graphical LCD. The Microcontroller is programmed using Embedded C language.

Features:

1. Bluetooth based user-friendly operation.
2. Low power consumption.
3. Controls high and low voltage devices.
4. Long life.
5. Highly sensitive.

This project provides exposure to the following technologies:

1. Bluetooth technology.
2. Mobile with Bluetooth interfacing with microcontroller.
3. Embedded C programming for microcontroller.
4. Design of PCB.
5. Graphical LCD interfacing to Microcontroller.

The major building blocks of this project are:

1. Regulated power supply.
2. Microcontroller.
3. Bluetooth module.
4. Graphical LCD with driver.
5. Crystal oscillator.
6. Reset.
7. LED indicators.
8. Relay with driver (interfacing Circuit).
9. Triac with driver (interfacing Circuit).

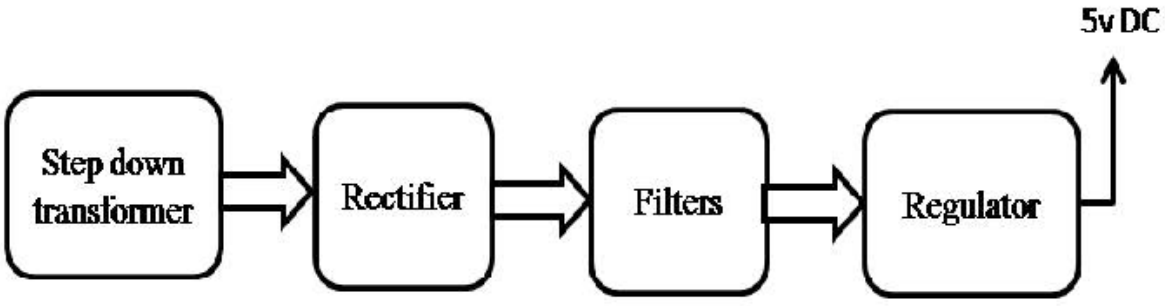
Applications:

1. In industrial environment where combustibles are used.
2. For house hold automations.

Software's used:

1. PIC-C compiler for Embedded C programming.
2. PIC kit 2 programmer for dumping code into Micro controller.
3. Express SCH for Circuit design.
4. Proteus for hardware simulation.

Regulated power supply:



Block diagram: