

## **Advanced wireless industrial automation system based on Bluetooth**

The project mainly aims in designing completely automated switch board with the help of Bluetooth and a LCD to control the high voltage industrial equipment and also provide a user friendly environment of the user to operate the devices effectively.

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 industrial 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, which takes the input from the user (either through PC or mobile phone) and provides the same to the microcontroller. The output module is LCD and the devices to be controlled. Here the microcontroller receives the input from 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 LCD. The Microcontroller is programmed using Embedded C programming.

### **Features:**

1. Bluetooth based user-friendly interfacing.
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.
2. Interfacing Bluetooth and microcontroller.
3. Embedded C programming.
4. Conversion of AC supply to DC supply.
5. Design of PCB.
6. LCD interfacing.

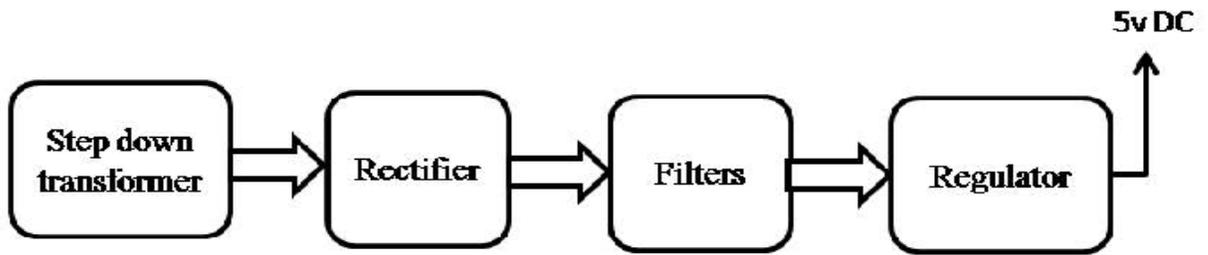
**The major building blocks of this project are:**

1. Regulated Power Supply.
2. Microcontroller.
3. LCD with driver.
4. Microcontroller.
5. Crystal Oscillator.
6. LED indicators.
7. Relay and Triac.

**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:

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