

## Bluetooth Based Wireless Device Control for Industrial Automization

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### ABSTRACT:

In this project we have an electrical load i.e fan and light that can be operated through triac using microcontroller. A DC motor is also connected through H-bridge this is to access the room door/ locker door from a distant place. In extension to the project in some Industries we have different types of loads at different locations.

We can control all loads at a time from one place (control room) without connecting any physical wire between loads and control room. In this project we are using Bluetooth module for communication Android phone as our remote, controller, and some discrete components.

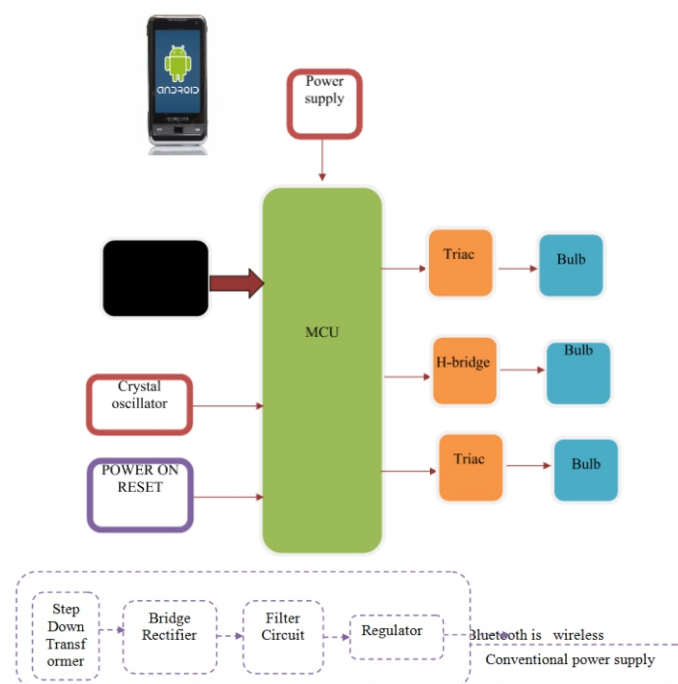
### Introduction:

Now-a-days all electrical devices in industry are controlled manually but in industry so many electrical devices are there. To control all electrical devices we need lot of "MAN POWER" if manpower increases maintenance cost also increases; this is one of the drawbacks of industry. So to avoid such type of drawback we need some WIRELESS controlling systems. One of wireless communication system is Bluetooth communication system.

That is why we have selected Bluetooth. This is not only used in industry but also used in Domestic Purpose as home appliances controlling using Bluetooth remote, some persons who are unable to walk to switch board such type of persons need this type of project and also elder people can control the speed of the fan with remote, without moving away from their place.

Remote operation is achieved by any smart-phone/Tablet etc., with Android OS, upon a GUI (Graphical User Interface) based touch screen operation. This project is based on the android application, android application sends command through Bluetooth.

### BLOCK DIAGRAM:

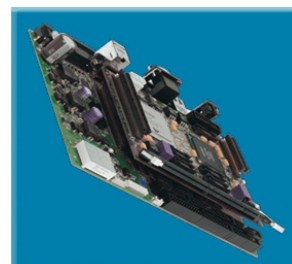


wavelength radio waves in the ISM band from 2.4 to 2.485 GHz) from fixed and mobile devices, building personal area networks (PANs).

### Power supply:

This project uses regulated 5V, 750mA power supply. 7805 three terminal voltage regulator is used for voltage regulation. Bridge type full wave rectifier is used to rectify the ac out put of secondary of 230/12V step down transformer.

### ARM PROCESSOR



## ARM7TDMI Processor Core:

- Current low-end ARM core for applications like digital mobile phones

- TDMI

oT: Thumb, 16-bit compressed instruction set

oD: on-chip Debug support, enabling the processor to halt in response to a debug request

oM: enhanced Multiplier, yield a full 64-bit result, high performance

oI: Embedded ICE hardware

- Von Neumann architecture

## I. Software requirements

### A. Keil compiler:

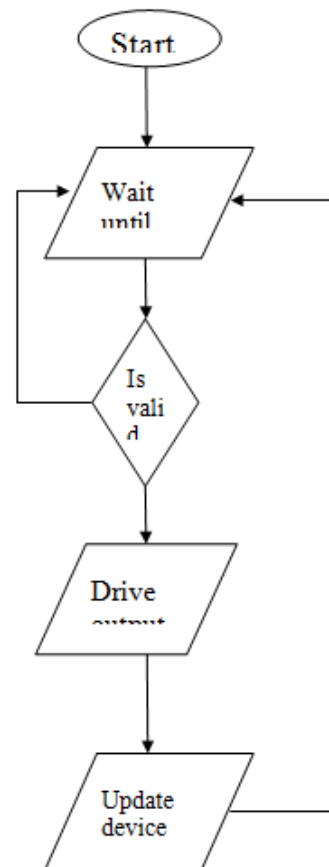
Keil compiler is a software used where the machine language code is written and compiled. After compilation, the machine source code is converted into hex code which is to be dumped into the microcontroller for further processing. Keil compiler also supports C language code.

### B. Proload:

Proload is a software which accepts only hex files. Once the machine code is converted into hex code, that hex code has to be dumped into the microcontroller placed in the programmer kit and this is done by the Proload. Programmer kit contains a microcontroller on it other than the one which is to be programmed.

This microcontroller has a program in it written in such a way that it accepts the hex file from the keil compiler and dumps this hex file into the microcontroller which is to be programmed.

## 3.2 Program Flowchart:



## 4.1 Conclusion:

The objective of the paper is to realize the Smart Living, more specifically the home lighting, fan, door control system using Bluetooth technology. The system has been successfully designed and prototyped to monitor and control. The microchip is used to assist gathering status of the appliance and provides interface to control the appliance. The Bluetooth module sends and receives commands from the Bluetooth-enabled phone and RFCOMM protocol is used in communication among Bluetooth devices. Android system JDK is used to develop the system, which is proved to be very efficient and convenient. It is concluded that Smart Living will gradually turn into areality that consumers can control their home remotely and wirelessly.

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