

DEVELOPMENT OF ZIGBEE BASED STREET LIGHT SYSTEM

The purpose of this project is to control the street light using Zigbee based remote control. This project consists of a Zigbee based remote control system that transmits the wireless signals according to the button being pressed on the remote Microcontroller and Zigbee based keypad.

ZigBee is a wireless technology developed as an open global standard to address the unique needs of low-cost, low-power, wireless sensor networks. Zigbee is the set of specs built around the [IEEE](#) 802.15.4 wireless protocol.

As Zigbee is the upcoming technology in wireless field, we had tried to demonstrate its way of functionality and various aspects like kinds, advantages and disadvantages using a small application of controlling the any kind of electronic devices and machines. The Zigbee technology is broadly adopted for bulk and fast data transmission over a dedicated channel.

This project consists of a Zigbee based remote control system that transmits the wireless signals according to the button being pressed to the remote Microcontroller at street lights. The data received will be fed as input to Microcontroller. The controller processes the data and acts accordingly on the street lights. Also other than Switching ON and OFF the Microcontroller, the intensity of lights can also be increased/decreased. The micro controller is also interfaced with few LED indicators to provide the health status of the device.

Features:

1. Wireless Remote control of the street light.
2. Provide a good energy conservation system with PWM input.

The major building blocks of this project are:

1. Regulated Power Supply.
2. Microcontroller.
3. Zigbee Module.
4. Reset.
5. Crystal oscillator.
6. Street Light.
7. LED Indicators.

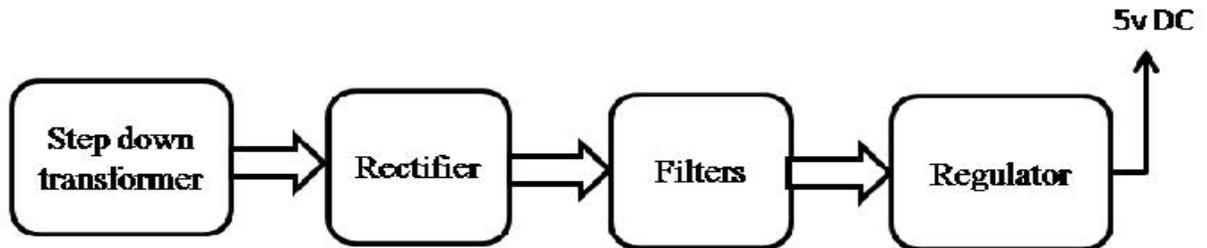
The project focuses on the following learning's:

1. Zigbee technology.
2. Remote control designing.
3. Embedded C programming.
4. PCB designing.
5. PWM (Pulse Width Modulation).

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.

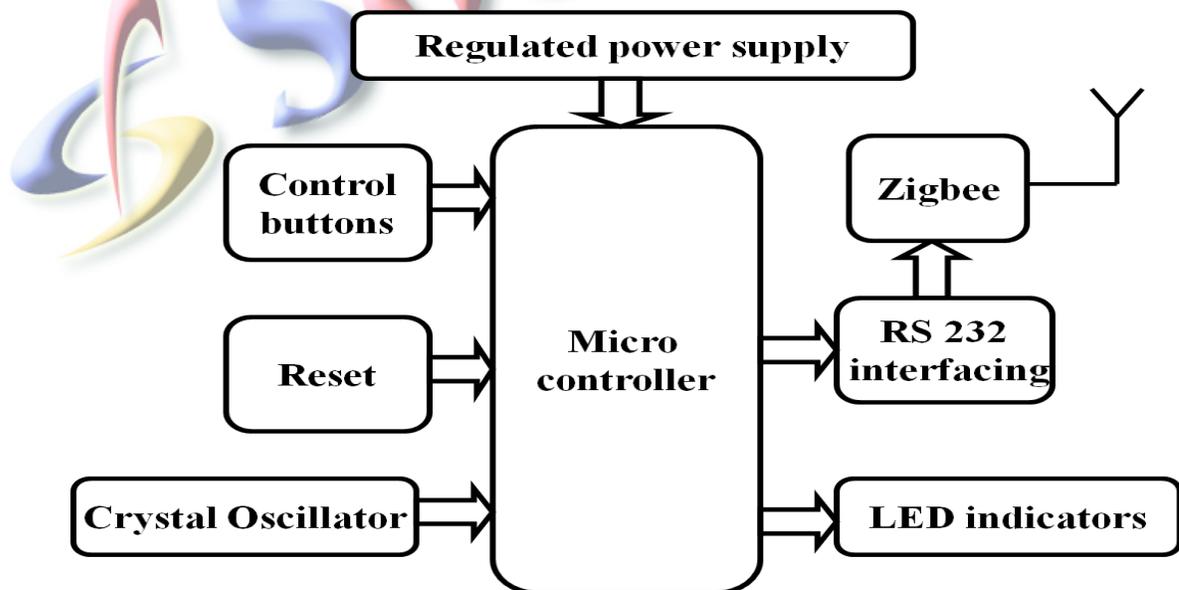
Regulated Power Supply:



Block diagram:

Development of Zigbee based street light

1. Transmitter



Development of Zigbee based street light

2. Receiver

