

**PROJECT REPORT ON**  
**HALFTONE CONTROL METHOD IN WHITE LIGHT LEDS BY USING AN EMBEDDED**  
**REMOTE CONTRLLER WITH ZIGBEE COMMUNICATION**

Submitted by

<b>SOWMYA SHETTIGAR</b>	<b>4PA08EC102</b>
<b>VINAYA KUMARI</b>	<b>4PA08EC116</b>
<b>SWATHI K.</b>	<b>4PA08EC107</b>
<b>REENA MARIA D'SOUZA</b>	<b>4PA08EC080</b>

As prescribed by visvesvaraya technological university in partial fulfilment of the requirements for the award of the degree of

**BACHELOR OF ENGINEERING**

**IN**

**ELECTRONICS AND COMMUNICATION ENGINEERING**

Under the guidance of

**Prof. Radhika H.**

Assistant professor, Department of Electronics and Communication



Department Of Electronics and Communication Engineering

**P.A. COLLEGE OF ENGINEERING**

**(Affiliated to Visvesvaraya Technological University & Recognized by AICTE)**

**Near Mangalore University, MANGALORE-574153, KARNATAKA**

**2011-2012**

## ABSTRACT

In the design of an automatic light controller which consists of two parts: an LED array with a control unit and ZigBee communication. The LED array includes both an LED array and a transmission controlled module. We use the halftone method to transform different LED array patterns into gray patterns and use those different halftone patterns to control the LED on/off which can adjust the LED light brightness, just like using PWM. We use ZigBee technology to send a brightness control signal as a distance measurement.

In the future lighting market the LED light, which has gradually become a major product, will be regarded as superior to the traditional electric light.

Power consumption, lifetime and environmental protection considerations the LED light has a better performance in both the lumen/watt, electricity saving and lifetime aspects. It can generate as much or more light while only using little electricity.

\*\*\*\*\*