

# Street Light Automation

## **Team Members:**

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## **Project Idea:**

With an increase of development in India, there exists a growing demand for public amenities such as development of safe and secure roads, to do this, management of the street lighting is an important task. Manual activation of these streetlights may cause problems as it may lead to accidents if not maintained properly in case of any human error, furthermore, light levels vary across the entire length of the street or road and may lead to wastage of electricity or ineffective lighting if not done properly. The Automation of streetlights aims to address these problems, among others.

## **Parameters Measured:**

- Natural Light Intensity
- Patterns of Sunrise and Sunset

## **Components Required:**

- LDR Sensors
- LEDs
- Jumper Cables
- ESP32 Module
- Connecting Wires
- Transistors 2222A
- Resistors 1kiloohm
- Energy Sources (Batteries of voltage 9V, 5V, etc.)
- Breadboards

## **Summary:**

The proposed system consists of an LDR sensor module which detects the current intensity of light. We can create thresholds for the intensity of light at which the streetlights should activate depending on the conditions such as mornings, evenings, cloudy and/or rainy days. The light intensity values measured by the sensor can be collected and used to predict the sunset/ sunrise timings, frequency of clouds appearing/ rain days where light levels may be low. This data will be posted to a server.