

AUTOMATED LIGHT INTENSITY BASED ON WEATHER CONDITIONS IN PUBLIC PLACES

J.Sujatha , K.Mounika , P.Akshitha

Under the esteemed guidance of

Ms. D Sangeetha

Assistant Professor



Bachelor of Technology

Department of Information Technology

BVRIT HYDERABAD College of Engineering for Women

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Abstract

- The Automated public lighting challenges of energy wastage in public lighting during daylight hours and the critical role of weather conditions in influencing visibility and safety.
- This systems proposes the implementation of centrally controlled Automated Public Lighting systems utilizing IoT sensors for optimized illumination and energy monitoring.
- It highlights the significance of efficient maintenance through IoT-based real-time monitoring and dynamic light intensity adjustment based on weather conditions to reduce operating costs and enhance system reliability.



Introduction

- Automated public lighting employs sensors and software to dynamically control streetlights based on real-time data, distinguishing it from manual operation.
- This project saves energy and costs up to 50 percent compared to traditional methods and It improves safety by providing better illumination, helping deter crime and enhancing security in communities.



Problem Statement

- Existing public lighting systems waste energy and are inefficient.
- Weather conditions affect visibility and safety, but current systems do not adjust accordingly.
- Manual maintenance inspections are slow and lead to extended downtime.
- Automated Light intensity based on weather conditions in public places system results real-time control, energy savings, and quick defect identification.

Existing Method

- The existing system of smart street lights relies on manual switching, with some areas employing timer controls for activation.
- However, these methods often lead to lights being unnecessarily illuminated during daytime hours, resulting in energy wastage.
- Additionally, the lack of centralized control and real-time monitoring hinders the system's ability to adapt to changing natural light conditions and gather precise data on energy consumption.



Proposed Method

- The proposed Automated public lighting system, that are centrally controlled by IOT would facilitate dynamical adjustment of intensity based on weather conditions and provide a record of the consumption.
- Maintenance of public lighting systems is crucial, IoT-based Automated public lighting systems offer real-time monitoring and quicker defect identification, minimizing downtime and enhancing system reliability by using communication and network sensors.
- This would dramatically result in lower operating costs and would aid in low downtime of failed lighting systems as the defective locations can be identified.

SDG and its Impact

- Automated light intensity system contributes to SDG goal 11 by improving the quality of life through increased safety, reduced energy waste, and enhanced infrastructure management.
- They help create more inclusive, resilient, and sustainable cities and communities.



References

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Thank you