A Project/Dissertation Review-1 Report

on

Smart Street Light System

Submitted in partial fulfillment of
the requirement for the award ofthe
degree of

CSE with AI & ML

(Established under Galgotias University Uttar Pradesh Act No. 14 of 2011)

Under The
Supervision of
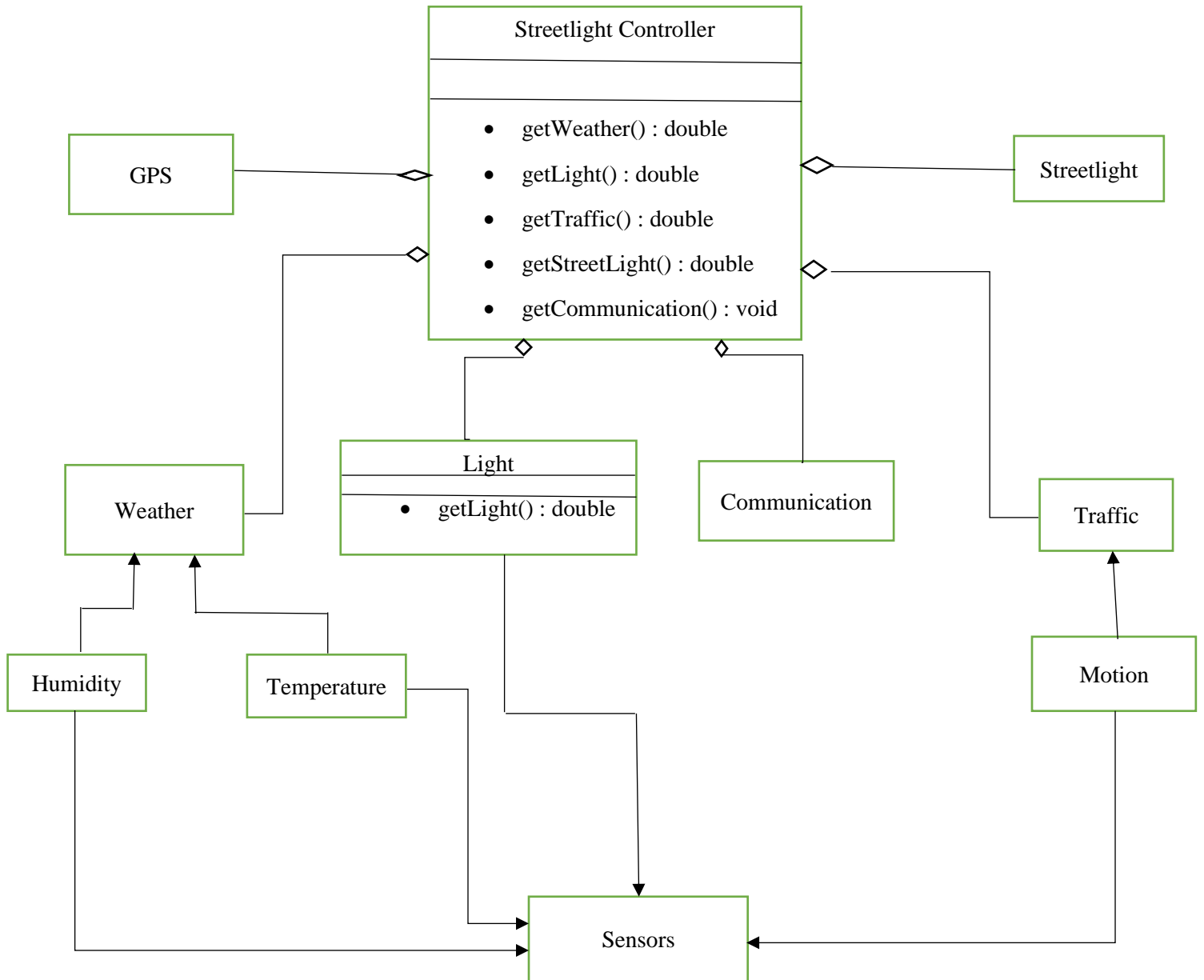**Dr. Ram Bhushan**

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SCHOOL OF COMPUTING SCIENCE AND ENGINEERING
DEPARTMENT OF COMPUTER SCIENCE AND
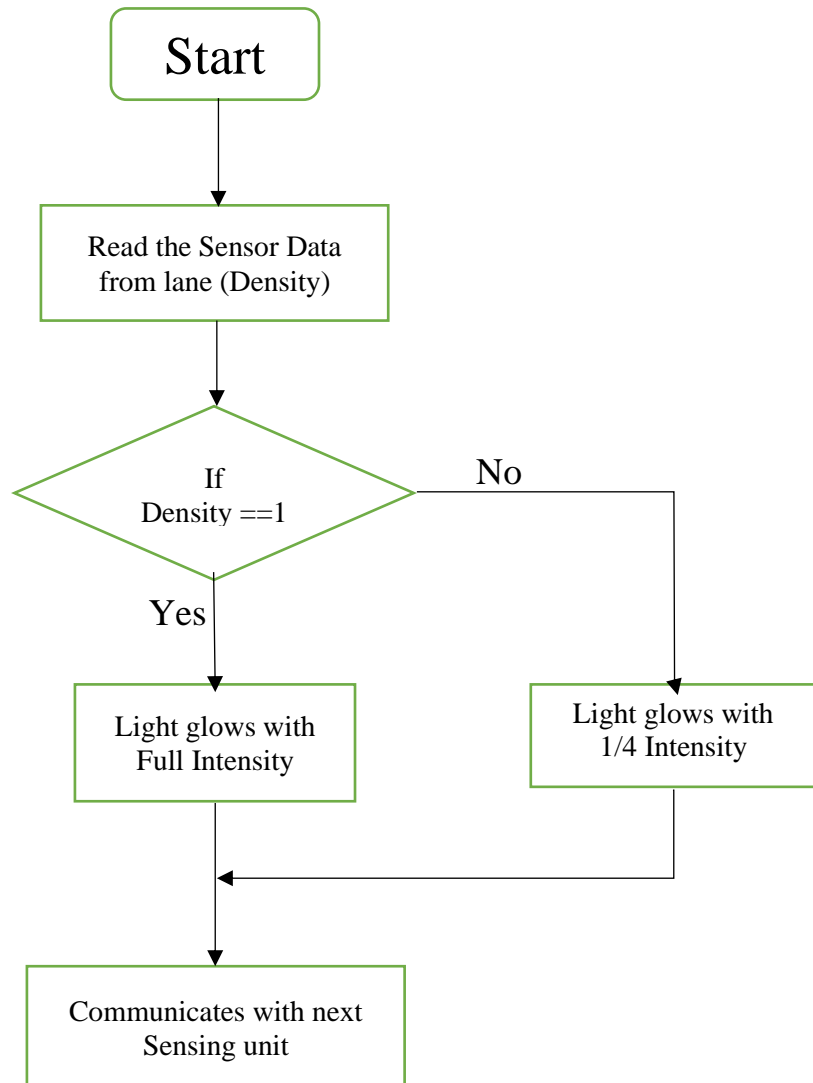**ENGINEERING GALGOTIAS UNIVERSITY, GREATER**
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Table of Contents

UML DESIGN

Streetlight Controller

- getWeather() : double
- getLight() : double
- getTraffic() : double
- getStreetLight() : double
- getCommunication() : void

GPS

Streetlight

Weather

Light

- getLight() : double

Communication

Traffic

Humidity

Temperature

Motion

Sensors

Data flow Diagram

```
                    ┌─────────────┐
                    │    Start    │
                    └─────────────┘
                           │
                           ▼
                  ┌──────────────────┐
                  │ Read the Sensor  │
                  │   Data from lane │
                  │    (Density)     │
                  └──────────────────┘
                           │
                           ▼
                       ╱───────╲
                      ╱   If     ╲       No
                     ╱ Density ==1 ╲─────────────┐
                      ╲           ╱              │
                       ╲─────────╱               │
                           │                     │
                         Yes                     │
                           │                     ▼
                           ▼            ┌──────────────────┐
                  ┌──────────────────┐  │ Light glows with │
                  │ Light glows with │  │  1/4 Intensity   │
                  │  Full Intensity  │  └──────────────────┘
                  └──────────────────┘           │
                           │◄────────────────────┘
                           ▼
                  ┌──────────────────┐
                  │ Communicates with│
                  │ next Sensing unit│
                  └──────────────────┘
```

Abstract

- **Existing Problem:-** Basically the existing model only focuses on one aspects but our model focuses on different view like traffic control, parking control, crime detection and prevention, reduced energy cost, optimized maintenance, etc.

- **Proposed Solution:-** The two sensors, LDR (light dependent resistor) and a IR sensor, the role of these sensors in the project is to detects the intensity of atmospheric light and accordingly the street lights will switched on and also when detects an object coming towards the street light and it sends the message to the serially connected street lights through the cloud so that every street light in the particular serial will be automatically switched on.

- **Tools and Technology used:-** We would be using AIML and embedded system code with some LDR sensor,ESP8266 NodeMCU, infrared sensor.

- **Result and Output:-** We will be able to provide with simple and fast model that will be able to solve max to max problem faced.

- **Conclusion and Future Scope:-** In future we would be trying to make sure that we would update with the future knowledge of the market at the era.

CHAPTER-1

Introduction

1.1 Introduction

Automation systems have the advantage over the manual systems because it increases the productivity, efficiency and reliability, and minimizes the usage of resources to save energy, and reduce the operating cost etc. These automation systems play an essential role in the term "smart home" to make our daily life more comfortable, and to facilitate users from ceiling fans to ovens, and in other applications. Among all exciting applications, streetlights play a vital role in our environment and also play a critical role in providing light for safety during night-time travel.

The main objective of the project is to develop a smart street light system which reduces the consumption of electricity by using effective ways. Smart street lights are effective and extremely dependable. The two sensors, LDR (light dependent resistor) and an IR sensor, the role of these sensors in the project is to detects the intensity of atmospheric light and accordingly the street lights will switched on and also when detects an object coming towards the street light and it sends the message to the serially connected street lights through the cloud so that every street light in the particular serial will be automatically switched on.

1.2 Formulation of Problem

Basically the existing model only focuses on one aspect but our model will deal on different aspects like traffic control, parking control, crime detection and prevention, reduced energy cost, optimized maintenance, etc.

1.2.1 Tool and Technology Used

We are planning to use the AIML and embedded system code with some raw material like LDR sensor, ESP8266 NodeMCU, infrared sensor, LED, battery.

CHAPTER-2
Literature Survey

Literature review is an assignment of previous task done by some authors and collection of information or data from research papers published in journals to progress our task. It is a way through which we can find new ideas, concept. There arelot of literatures published before on the same task; some papers are taken into consideration from which idea of the project is taken.

B. K. Subramanya worked on intelligent wireless street light control and monitoring system, which integrates new technologies, offering ease of maintenance and energy savings. Using solar panel at the lamp post. By using LDR it is possible to save some more power and energy, and also we can monitored and controlled the street lights using GUI application, which shows the status of the lights in street or highway lighting systems.

P. Nithya, in their work on Design of Wireless Framework for Energy Efficient Street Light Automation suggested an Intelligent management of the lamp posts by sending data to a central station by ZigBee wireless communication. With the suggested system, maintenance can be easily and efficiently planned from the central station, allowing additional savings. Srikanth M et al. [4], in their work on ZigBee Based Remote Control Automatic Street Light System. This streetlight control system helps in energy savings, detection of faulty lights and maintenance time and increase in life span of system.

Anila Devi, worked on GSM Based Remote Control System of High Efficiency Intelligent Street Lighting System Using AZigbee Network of Devices and Sensor. New intelligent and smart street light system is designed with wireless technology for maintenance and network of

sensors for controlling. In which, they used high efficiency LED lamp which consumes less energy with high life time and which are supplied with renewable energy of solar panels.

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