**LITERATURE SURVEY**

**STUDY OF SIMILAR WORKS**

1. EXISTING SYSTEM

Street light is poorly designed and inadequately maintained, there are large number of burned out lamps which leads to insecurity. There is a complaint register in every zonal office street light section. It is being maintained by the line inspector. The complaint received from public, councilors and corporation officials either over phone is in person being recorded in the complaint register. The complaint thus entered is being handed over to the fieldwork man so as to rectify the complaints, the field staff will have the rounds in the respective areas twice in a week and the complaints about non\_burning are also being attended then and there. But this is not the immediate remedy on complaints and has many disadvantages like the repair work takes days/even months instead of taking few hours which results in delay, telephone line may be busy, sometimes no response.

Disadvantage of Existing System

* Manual Switching off/on of Street Lights
* More Energy Consumption
* High Expense
* More Manpower

1. PROPOSED SYSTEM

Existing methods like registering the complaint, switching on/off the light manually is time consuming & requires man power. The new method automatic ON/OFF and fault detection without human intervention is easier when compared to the existing system.Our proposed system consists of smart street lights that have external light sensing that automatically turns on at desired intensity based on amount of lighting needed. The system also allows the controller/monitoring person to check estimate power consumptions as per current intensity of light as well as predict monthly power consumption. Also each of the unit has load sensing functionality that allows it to detect if the light has a fault. It then automatically flags that light is faulty and this data is sent over to the IOT monitoring system so that action can be taken to fix it. The proposed system also aim to achieve individual faults repaired within few working hours instead of taking days/even months’ time spent in current system where a staff actually goes on “light patrols” six/eight times a year to check for such faulty lamps. Generally, they rely on residents or other municipal employees to report active lights (in other words, faulty street lights). The system is also provided with dim and bright technology with help of Motion Detection sensors so that the consumption of energy can be reduced and increase the life time of street lights.

Advantages of Proposed System

* Auto Switching of Lights
* Maintenance Cost Reduction
* Reduction in Co2 Emission
* Reduction in Light pollution
* Wireless Communication
* Energy Saving
* Reduction of manpower

**SYSTEM STUDY**

**FEASIBILITY ANALYSIS**

The feasibility study concern with the considerations made to verify whether the system fit to be developed in all terms. Main objective of feasibility study is to test the technical, social and economic feasibility of developing a system. This is done before developing a system. This is done by investigating the existing system in the area under investigation and generating ideas about the new system. The feasibility study to be conducted for this project involves:

* Technical Feasibility
* Operational Feasibility
* Economic Feasibility
* Behavioral Feasibility

**Technical Feasibility**

The system must be evaluated from the technical view point first. The assessment of this feasibility must be based on an outline design of the system requirement in terms of input, output, programs, procedure and staff. Having identified the outline of the system, the investigation must go on to suggest the type of equipment, required method of developing the system, and the method of running the system.

The existing system uses Switch ON/OFF technique while ‘Smart Street Light System’ is developed by using front end as Embedded C and back end as Bling database. It is technically feasible and has lots of features. It is currently implemented in the windows 10 platform. But it is also feasible to work in the Linux platform. We use the Embedded IOT (GUI) which is a package and environment manager, which use channels without using command line commands. It also includes different kinds of hardware sensors like LDR, PIR, and Current sensor. The main reason to prefer Embedded C language is that because it has long history of making devices do what people need and it also simpler tools to allow these programmers to write code without plugging into low level hardware. And also it simple to embed programs to micro controllers and needs only short period of time to execute operations.

**Operational Feasibility**

It is mainly related to human organizational and political aspects. This test of feasibility asks if the system will work when it is developed and implemented. It also measures how well a proposed system solves the problems, and takes advantage of the opportunities identified during scope definition and how it satisfies the requirements identified in the requirements analysis phase of system development.

There is no difficulty in implementing the system. The ‘Smart Street Light Controlling and Monitoring’ is effective and user friendly. To ensure success, desired operational outcomes must be imparted during design and development. These include such design-dependent parameters such as reliability, maintainability, supportability, usability and others.

**Economic Feasibility**

In the economic feasibility the development cost of the system is evaluated weighting it against the ultimate benefit derived from the new system. It is found that the benefit, from the new system would be more than the cost and time involved in its development. This project ‘Smart Street Light Controlling and Monitoring’ is economically feasible because IDE used for developing the software is free of cost.

The proposed system uses Embedded C as the front end which is a free and open source software therefore it can be downloaded easily from the internet. Also, the Embedded GUI and all the other datasets are downloaded from the internet with free of cost. And some hardware objects are bought online which has limited cost and long term life.

**Behavioral Feasibility**

The behavioral feasibility depends upon whether the system performed in the expected way or not. Behavioral Feasibility study is a test of system proposal according to it workability, impact on organization, ability to meet user’s need and effective use of resources. However, a feasibility study provides a useful starting point for full analysis. ‘Smart Street Light Controlling and Monitoring’ is behaviorally feasible because of the effective use of the resources and also the system satisfies user needs and is user friendly.

The database used will increase the systems performance and makes is more effective. The user will be able to identify the faulty light and monthly power consumption.

REQUIREMENTS

**HARDWARE SPECIFICATION**

Atmega Microcontroller

Wi-Fi Module

Current Sensor

LDR Sensor

LCD Display

Crystal Oscillator

Resistors

Capacitors

Transistors

Cables and Connectors Diodes

PCB and Breadboards

LED

Transformer/Adapter

Push Buttons

Switch

IC Sockets

**SOFTWARE SPECIFICATION**

Arduino Compiler

Programming Language C