UNIVERSITY OF PLYMOUTH

PUSL2021 Computing Group Project

Street light monitoring system

Project Proposal

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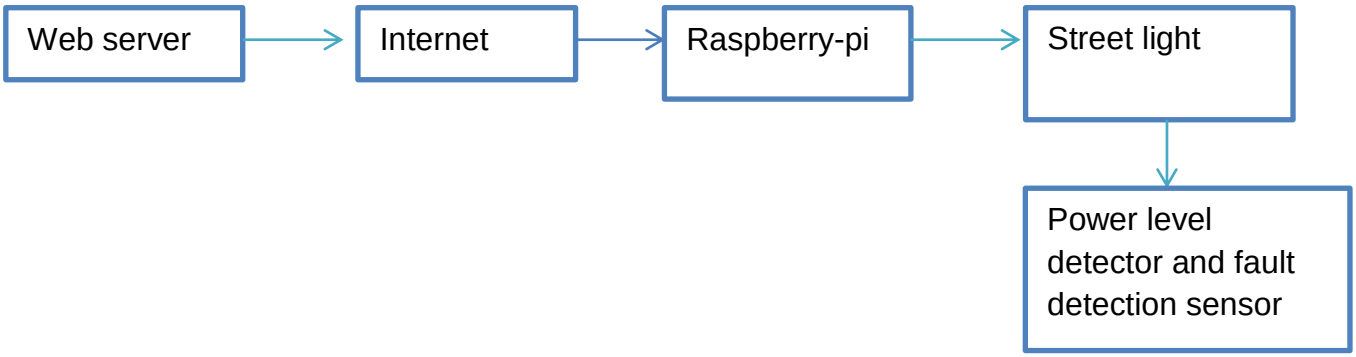
Introduction.

Iot is a network of physical devices that allows the devices to communicate with each other.Iot allows remote sensing and control over the devices. Internet of things using raspberry-pi to make street light more efficient, safe and also affordable.

Street lights are the most important part and cautions need to any institution ,city ,municipality using night times The unfortunate thing is that ,everybody utilize the outcomes of the street light ,but too much cost and maintenance makes the traditional street light are not efficient. From traditional system, nowadays we are working towards a smart street light system, were it is connected through the internet. This new system increases efficiency, safety and low wastage of energy.

Existing street light monitoring and controlling system focuses on reducing power consumption and fault detections without considering the traffic rate. If considers daily power usage, faulty things happening in environment. The existing system architecture is shown in below figure.



- In the street light environment, regular routine works will happen. Additional to routine regular works, the sensor integrated with street light will be detected the power level and faulty things.
- All the activities that happening will be transferred to the web server through internet. This digital data store in database for future analysis.
- The normal level power level will be stored in the database. If incoming digital power data is mismatched from the normal power level, then this data will be used to control the power level, then this data will be used to control power level I the street light.
- Similarly faulty activities also notified in the user interface for the future action by the responsible persons.

Project objectives

- Reduce cost-:

Most of the times we can see in evening also street light are switched on. But in this proposed system we can automatically switch ON/OFF the street lights. From this system we can save our cost without waste the energy.

- Support expansions and scalability:-

One of our main objectives was to prepare a system that will support expansion. The existing one was not flexible enough to modify or expand.
But using our proposed system it is easy for us to keep information as well as old data.

- To save the power:-

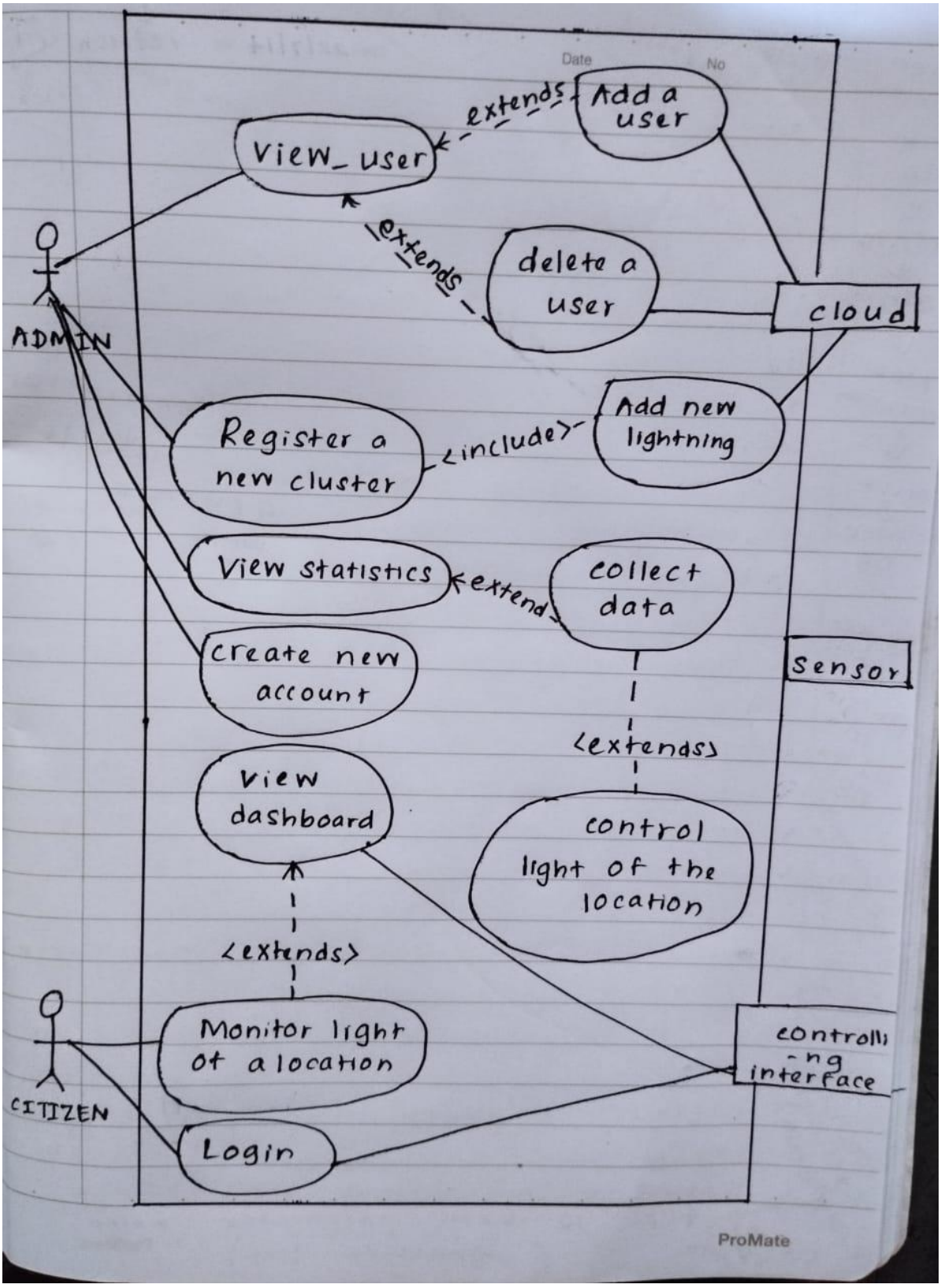
The main aim behind making an automation street light system is to save the power. As the light turns OFF/ON according to the requirement it saves the power.

- Reduce manpower:-

This proposed system will helps to include less number of employees. If we manually doing this, large number of employees and effort will be reduce.

Target users

- Use case diagram.



Application features and description.

1) More security and safety.

2) The Street Light Control System offers a quick and easy solution for new or existing street light networks.
3) Efficient budget management.
4) Real time monitoring-Reduced operating cost will save millions of money on maintenance
5) Rapidly increasing price of electricity – Dimming & scheduling will help to lower electricity expenses
6) Smart grid integration.

Time frame

		September	October	November	December	January	February	March	April
2	Project title disscussion								
3	Finalizing plans.								
4	Build prototype.								
5	Build model								
6	programming								
7	Testing								
8	maintaining								
9	final project and report submission								