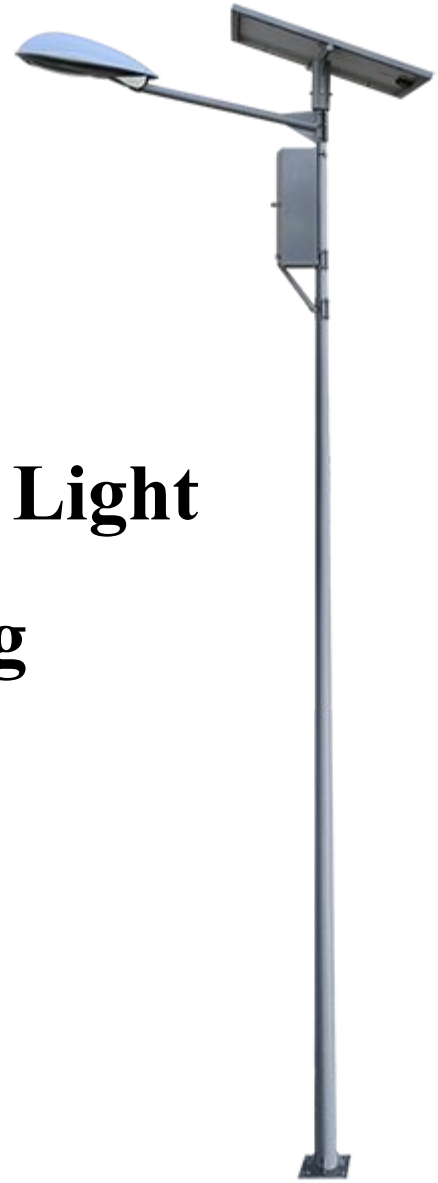
LAMPIONE

For Brighter Future



Centralized Monitoring System For Street Light

Fault Detection and Location Tracking

Team Member Details

Team Leader Name: M BARATH KUMAR

Branch : BE Stream : EEE Year : III

Team Member 1 Name: KARTHIK S L

Branch : BE Stream : EEE Year : III

Team Member 2 Name: RAMPAVITHRAN RP

Branch : B.Tech Stream : IT Year : III

Team Member 3 Name: NITHISH F R

Branch : B.tech Stream : IT Year : III

Team Mentor 1 Name: Ms. S. SHEEBA RACHEL (Assistant Professor , IT , Sri Sairam Engineering College)

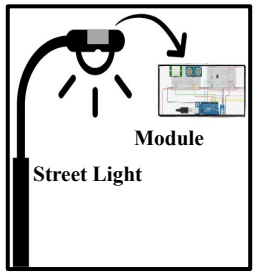
Category : Academic Expertise : AI, Deep Learning Domain Experience : 13 Years

Team Mentor 2 Name: Mr. J. JOHN PRATAP SINGH (Piping Manager, L&T Energy Hydrocarbon)

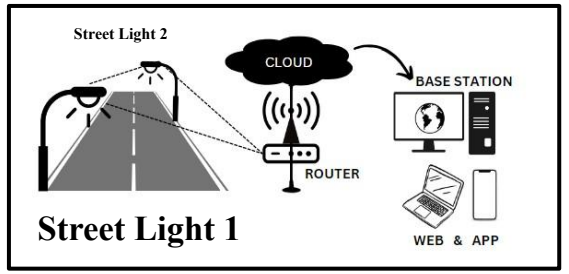
Category : Industry Expertise : AI, ML Domain Experience : 18 Years

IDEA APPROACH :

- Increasing street light faults due to higher numbers.
- Developing an automated fault detection system.
- Hardware includes sensors (LDR, motion, thermal, voltage, gas) and microcontrollers.
- Sensors identify faulty lights and send reports with GPS location.
- App detects faulty lights, provides defect details.
- Reports sent to EB personnel for quick repairs.

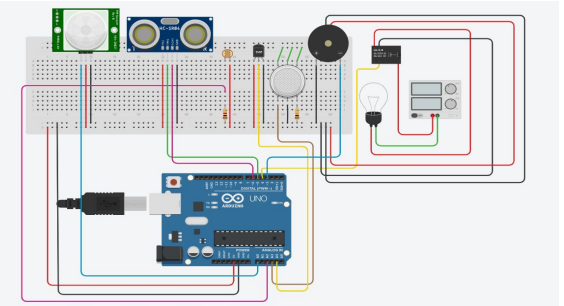


INTERNAL WORKING

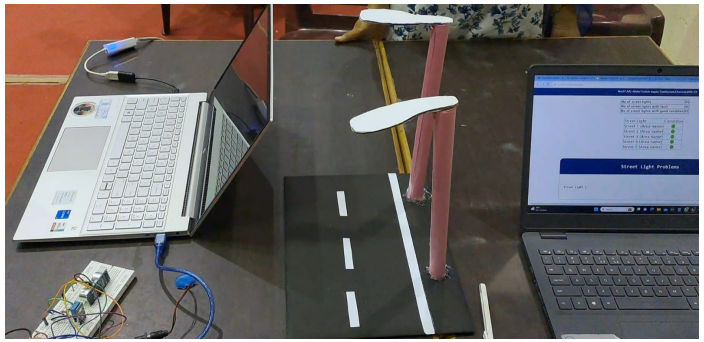


TARGET ENVIRONMENT SETUP

HARDWARE CIRCUIT



PROJECT SETUP

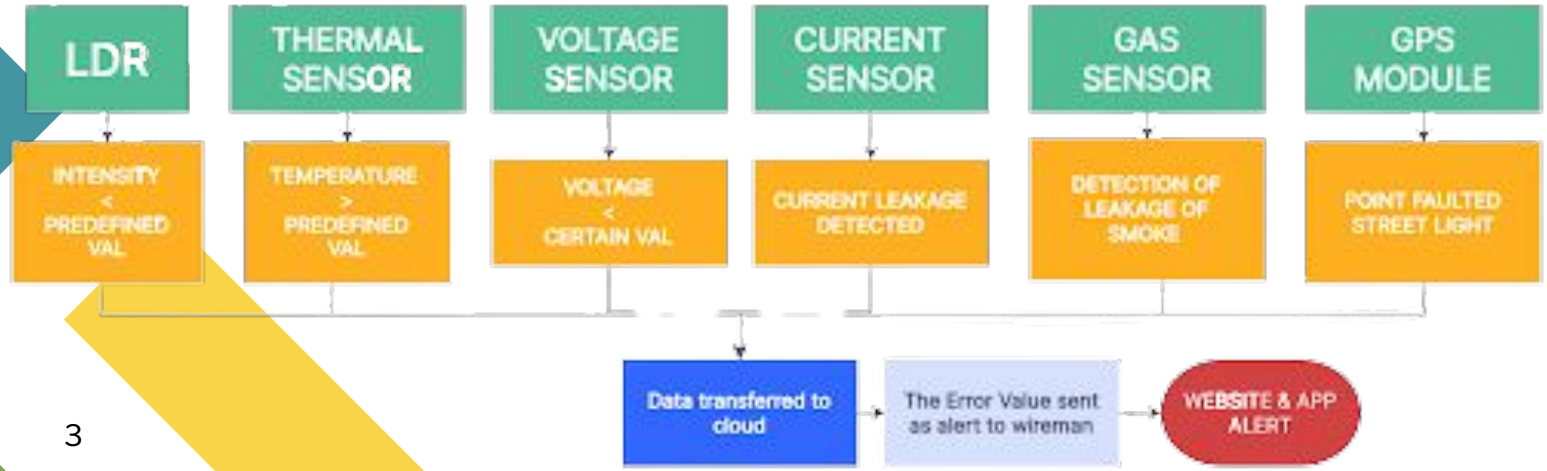


COMPLETION STATUS

85%

PROJECT LINK :
https://drive.google.com/file/d/1jCDarqossgmHzJ9pG2GggliwUuajGyet/view?usp=sharing

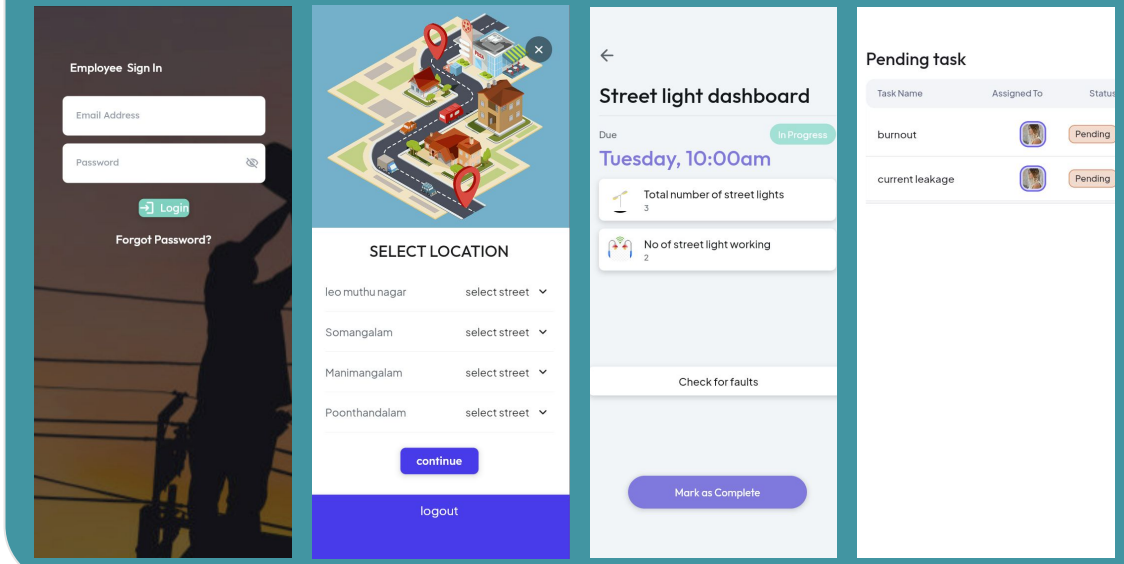
WORKFLOW DIAGRAM



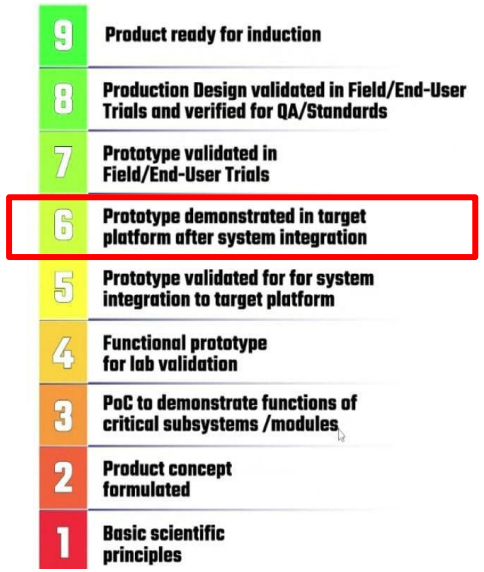
TECH STACK

- **HARDWARE**
  - Thermal Sensor
  - LDR
  - Current Sensor
  - Earth Leakage Relay
  - Flame Sensor
  - GPS Module
- **SOFTWARE**
  - Firebase
  - Visual Studio
  - Arduino Cloud

LAMPIONE APPLICATION



TECHNOLOGY READINESS LEVEL



USE CASE

- In Non functioning of lights
- In Current Leakage
- In Cable Breakage
- For Street Lights in rural and urban areas

DEPENDENCIES

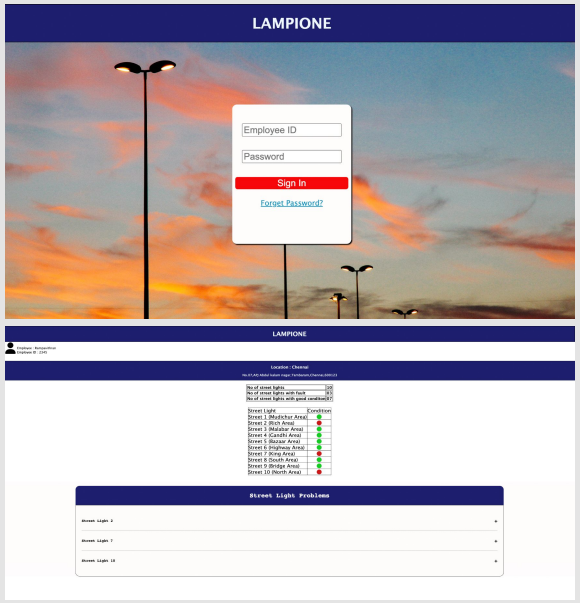
- Electrical sensors
- Power source
- Android application
- Location detection
- Data Management

SHOW STOPPERS

- Weak Internet connections
- Bugs (Minor)

COMPONENTS

- LDR
- Voltage sensor
- Thermal sensor
- current Sensor
- Gas Sensor
- Motion Sensor
- GPS Module



WEB APPLICATION INTERFACE

HARDWARE BRIEF :

LAMPIONE Hardware comprises of an Arduino UNO Wifi Module which acts as the CPU of the system. It senses the Street light Fault & location of the defected light through LDR,GPS MODULE, THERMAL SENSOR, VOLTAGE SENSOR, GAS SENSOR. All the sensed data are transferred to the Database through NodeMCU ESP8266 module in Arduino. They can be monitored through the LAMPIONE-Website by the authorities & also by the Public through LAMPIONE-APP.

SOFTWARE BRIEF :

LAMPIONE has dual monitoring site specifically designed for monitoring and detecting defect in street light . The website is made for the AUTHORITY and the application for the public to view the status of the defective street light and to raise questions.The APP as well as the website as a time duration of 96 hrs to repair the street light & they also specifies the type of defect