Project Design Phase-I
Proposed Solution Template

Date	06 May 2023
Team ID	NM2023TMID14436
Project Name	IoT based Weather Adaptive Street Lighting System

Proposed Solution Template:

Project team shall fill the following information in proposed solution template.

S.No.	Parameter	Description
1.	Problem Statement (Problem to be solved)	This article reports the development of a novel low-cost sensor node that focuses on the concept of automatic street light and fire detection system. In general, Public lighting in streets, city centers, squares and other public places etc. can account about 30% of the urban energy consumption. And also there is fire detection in street light which causes property damage. And if the street lights are turned on when no obstacle is found the power, electricity were waste. In this project we rectify the above three problems.
2.	Idea / Solution description	We are implementing three ideas: Firstly by using sensors we can detect when sunsets and sunrises are taking place according to that automatically the street lights will be switched on and off. Secondly if any fire accident occurs then the alert buzzer will be indicated to the control panel in centralized light. For a specific street light the alarm sound will be buzzed. Thirdly whenever the obstacle passes through any street light the particular portion of light will be turned on. By implementing these three ideas there will be reduction of electricity wastage and the people will be able to save if any accidents occurs. So that many lives can also be saved because the help will be reached to the incident spot earlier and faster. The buzzer in the centralized light will alert the nearby people so that they will do the needful. Street Lighting helps to reduce night-time crashes by improving visibility
3.	Novelty / Uniqueness	Each street light is equipped with an outdoor lamp controller, internet of things device, and/ or sensors. A smart street light automatically regulates the light intensity based on sunset/ sunrise times, daily schedule, human presence, traffic, and/ or weather situation.

4.	Social Impact / Customer Satisfaction	Streetlights are one of the most important public infrastructures in our cities. They provide safety for pedestrians and drivers, create a sense of order and cleanliness, promote economic development, and improve the quality of life.
5.	Business Model (Revenue Model)	Subscriptions and partnerships: By partnering with other technology players in the space, a smart street lighting system could offer additional features or products to customers in exchange for a monthly subscription fee. This could include connecting the street lights with home automation networks, offering Wi-Fi access, or integration with other local software platforms. Advertising: One of the most obvious revenue sources for a smart street light system is to leverage street light displays for digital advertising. This could involve broadcasting local information, advertising special offers from local businesses, or selling display time to companies who wish to broadcast their corporate message.
6.	Scalability of the Solution	The scalability of a smart street light system largely depends on the system that supports it. If the system is designed with expansion in mind, it will be able to scale up easily. Usually, expansion includes elements such as the number of street lights, new features, additional programs, or additional features that can be incorporated into the system. For example, a system that uses sensors to detect and adjust street light brightness in response to the environment will require a more sophisticated system than one that simply turns lights on and off at certain times. Systems that are designed to support more than just street light functionality can also support scalability. For example, some systems integrate with other IoT devices, allowing for additional expansion of the system to include TV streams, public parking sensors, automated trash collection, and more.