Project Design Phase-I
Proposed Solution Template

Date	07 May 2023
Team ID	NMIoT05EN
Project Name	IOT Based Street Quality Identification 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)	The current state of our roads and streets can have a significant impact on the safety, comfort, and overall quality of life for individuals and communities. Unfortunately, identifying which areas require maintenance or repair can be a challenging and time-consuming task. Therefore, there is a need for a street quality identification system that can quickly and accurately identify areas in need of maintenance or repair. The objective of the system is to automatically identify and classify street quality based on factors such as cracks, potholes, surface roughness, and other defects. The system should be able to analyze data from multiple sources, such as images and sensor data collected by vehicles or other equipment, and provide real-time updates on the condition of the streets.
2.	Idea / Solution description	The idea and solution of Street quality identification is it often involves the use of sensors to measure various parameters such as roughness, texture, and skid resistance. These sensors can be embedded in the road surface or mounted on vehicles to provide real-time data.By using machine learning algorithms, it is possible to analyze the sensor data and identify patterns that can indicate the overall quality of the street. This can help to identify areas that require maintenance or repairs.By using machine learning algorithms, it is possible to analyze the sensor data and identify patterns that can indicate the overall quality of the street. This can help to identify areas that require maintenance or repairs.
3.	Novelty / Uniqueness	The novelty and uniqueness of a Street quality identification system is that it uses data from sensors embedded in the road to monitor traffic patterns, road conditions, and other variables .It can also provide real-time information about road quality and traffic flow, which can help cities and municipalities make more informed decisions about road maintenance and construction. It uses mobile apps

		or other tools to allow users to report potholes, cracks, or other issues with the road. By aggregating this data, these systems can provide a comprehensive view of road quality across an entire city or region.
4.	Social Impact / Customer Satisfaction	A Street Quality Identification System can have a positive social impact by improving safety and security on the streets, while also reducing accidents that are occuring during to the poor quality of streets.From a customer satisfaction perspective, identifying and addressing street quality issues can improve the experience of drivers, cyclists, and pedestrians who use the streets. People are more likely to be satisfied with their community when they can move around easily and safely. When streets are well-maintained, it can also make people feel like their tax dollars are being put to good use.
5.	Business Model (Revenue Model)	A Street Quality Identification system can generate revenue by offering a service to municipalities or other government agencies that are responsible for maintaining and improving roads and infrastructure. Additionally the company could use a combination of data collection techniques, including surveys, sensor data, and crowdsourcing, to gather information on road conditions and identify areas that need repair or improvement. The company could then provide this information to local governments, who could use it to prioritize and plan road maintenance and repair projects.The company could generate revenue by charging a fee for its services or by entering into contracts with municipalities or other government agencies.
6.	Scalability of the Solution	The Street Quality Identification system is scalable in size and scope, making it suitable for implementation in cities and urban areas of varying sizes. Its modular design allows for the addition or removal of components, enabling the system to be easily expanded or downsized as needed. Furthermore, the cloud-based technology used in the system makes it scalable in terms of management and maintenance, as it can be remotely monitored and controlled from a central location. The scalability of the Street Quality Identification and Detection system makes it a versatile solution that can be adapted to meet the needs of various communities and regions.