Project Design Phase-I
Proposed Solution Template

Date	05 May 2023
Team ID	NM2023TMID10688
Project Name	AI Enable Car Parking Using Open CV
Maximum Marks	2 Marks

Proposed Solution Template:

S.No.	Parameter	Description
1.	Problem Statement (Problem to be solved)	The goal of Open CV-based AI-enabled automobile parking is to create a system that uses computer vision to track parking locations and identify open spots. Through the use of image processing, artificial intelligence, and character segmentation, the system should be able to recognise parking spaces and determine whether or not they are occupied. The intention is to give cars access to real-time information about parking spots that are open, which can ease traffic and save time.
2.	Idea / Solution description	by keeping an eye on parking spots and spotting empty ones using computer vision. For the purpose of giving drivers real-time information on available parking spots, the system will be able to recognise parking spaces and decide whether they are occupied or vacant using image processing, artificial intelligence, and character segmentation.
3.	Novelty / Uniqueness	By automate the parking process by identifying vacant parking spaces and giving drivers real-time information on available parking spots is what makes the AI-enabled automobile parking system utilising Open CV special. The technology can minimise the pressure of locating a parking space in busy places and lessen traffic congestion brought on by drivers circling around in search of open spots.
4.	Social Impact / Customer Satisfaction	By making it easier to discover a parking space in congested regions and decreasing traffic congestion brought on by cars turning around in search of empty spots, the AI-enabled auto parking system employing Open CV can significantly improve society. The programme can lessen the aggravation brought on by a lack of parking places and help drivers have a better overall parking experience. By decreasing the amount of time that vehicles spend hunting for parking spaces, the technology can also assist lower carbon emissions. Overall, by enhancing the parking experience for drivers, reducing traffic congestion, and promoting sustainable transportation, the AI-enabled car parking system using Open CV can have a positive social impact.
5.	Business Model (Revenue Model)	The pay-per-use or subscription-based business model or revenue model of the Open CV-based AI-enabled auto parking system is both possible. The system can charge users for parking spaces based on how long they stay in them or it can give a monthly or yearly subscription that allows for unrestricted use. By offering drivers real-time information on available parking spaces via a mobile application or website, the system can potentially generate income. Additionally, the system has the ability to charge users of the parking spaces for value-added services like car washes, charging, or auto repairs.

6.	Scalability of the Solution	Scalable and adaptable, the Open CV-based AI-powered car parking system can be used in a variety of parking lots, including those at malls, airports, hotels, and other public parking areas. The technology is simple to integrate with current parking management systems, increasing its efficiency and dependability. The system can also be altered to suit the unique requirements of various parking lots, including the quantity of parking spaces, the design of the parking lot, and the permitted types of cars. It is a scalable solution that can be used to multiple parking lots and tailored to satisfy the individual requirements of diverse customers.