Project Design Phase-I
Solution Architecture

Date	05-05-2023
Team ID	Au513220106312
Project Name	AI enabled car parking using openCV
Maximum Marks	4 Marks

Solution Architecture:

1. Camera equipment: High-resolution cameras are placed throughout the parking lot to photograph cars.

2. Image processing: Camera inputs are analyzed using OpenCV to detect the location, orientation and other characteristics of the cars in the parking lot. Using computer vision algorithms, the system identifies free parking spaces and directs cars to them.

3. Machine Learning: The system uses machine learning algorithms to improve its accuracy over time and adapt to changing environmental conditions. This involves training the system on different types of cars and parking scenarios to improve its ability to accurately identify available spaces.

4. User interface: a user interface is provided for drivers to initiate the parking process. It can be a mobile application, a touch screen in the parking lot or another means of communication.

5. Background Services: Background services are responsible for system management, data storage and providing analysis and reporting to parking lots and administrators.

6. Maintenance and Support: To ensure that the system remains effective and efficient over time, ongoing maintenance and support services are provided. Overall, this solution architecture uses computer vision, machine learning and user interfaces to create a reliable and accurate system for directing cars to parking spaces.

Solution Architecture Diagram: