Project Design Phase-II
Technology Stack (Architecture & Stack)

Date	11 May 2023
Team ID	NM2023TMID11913
Project Name	Al enabled car parking using OpenCV

Technical Architecture:

The Deliverable shall include the architectural diagram as below and the information as per the table1 & table 2

Al enabled car parking using OpenCV:

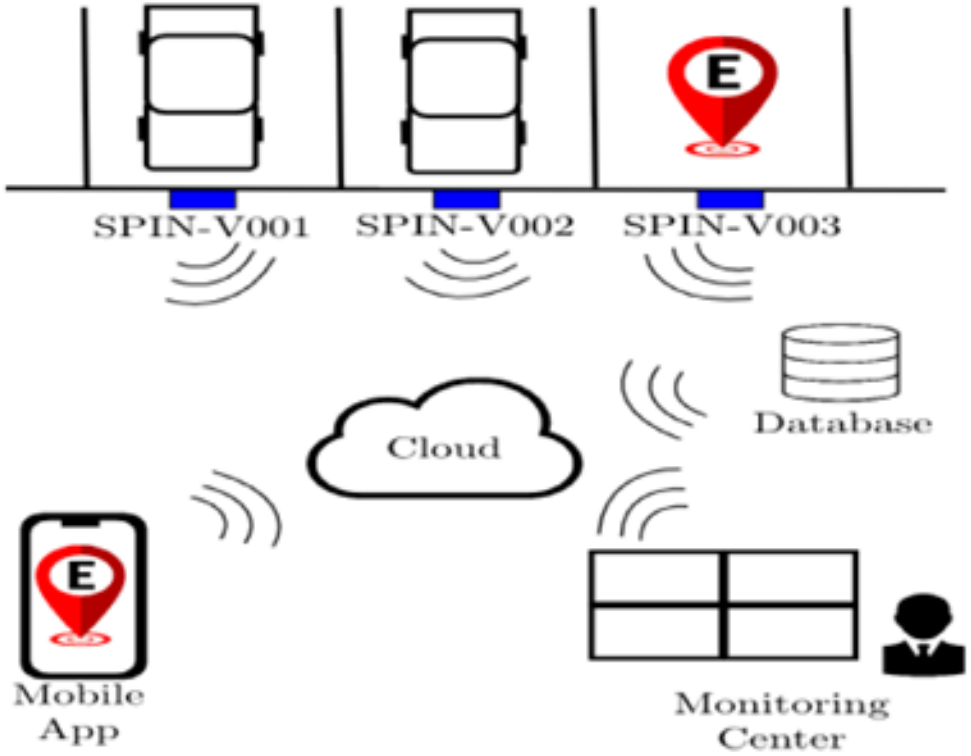

Table-1 : Components & Technologies:

S.No	Component	Description	Technology
1.	User Interface	How user interacts with application e.g. Web UI	HTML, CSS, py-flask
2.	Application Logic-1	Logic for a process in the application	Java / Python
3.	File Storage	File storage requirements	IBM Block Storage or Other Storage Service or Local Filesystem
4.	External API-1	Purpose of External API used in the application	IBM Weather API, etc.
5.	Machine Learning Model	Purpose of Machine Learning Model	Object Recognition Model, etc.
6.	Infrastructure (Server / Cloud)	Application Deployment on Local System	Local

Table-2: Application Characteristics:

S.No	Characteristics	Description	Technology
1.	Open-Source Frameworks	Car Detection,OpenCV Parking Lot,Parking Detection,Smart Parking,OpenALPR	Technology of Opensource framework
2.	Security Implementations	OpenCV provides a range of tools and techniques that can be used to implement security for AI-enabled car parking. By using a combination of object detection, face recognition, and license plate recognition techniques, you can ensure the safety of the parking lot and prevent any unauthorized access.	Encryptions, IAM Controls, OWASP etc.
3.	Scalable Architecture	AI-enabled car parking using OpenCV involves designing a system that can handle an increasing	Open CV Technology used

S.No	Characteristics	Description	Technology
		number of cars without compromising on performance.	
4.	Availability	developing an AL enabled car parking system using OpenCV requires expertise in computer vision, image processing, and machine learning. However, with the right expertise and resources, it is possible to develop a robust and reliable system that can accurately detect available parking spaces in real-time.	Object detection Technology used
5.	Performance	developing an AL-enabled car parking system using OpenCV requires expertise in computer vision, machine learning, and software development. However, with the right tools and knowledge, it is possible to create an efficient and convenient car parking solution.	Intel processor used