Project Design Phase-II
Solution Requirements (Functional & Non-functional)

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

Functional Requirements:

Following are the functional requirements of the proposed solution.

FR No.	Functional Requirement (Epic)	Sub Requirement (Story / Sub-Task)
FR-1	User Registration	After capturing the user's photo, you can use OpenCV for image processing, which includes cropping the image, resizing the image, and converting the image to grayscale.
FR-2	User Registration	This will be used to create a profile image for the user.
FR-3	User Confirmation	This can be a simple web-based form or a mobile application that allows users to enter their personal information, such as name, email address, phone number, and license plate number.
FR-4	User Confirmation	Once the user has submitted the registration form and their photo has been processed using OpenCV, you can save their information and profile image to a database.

Non-functional Requirements:

Following are the non-functional requirements of the proposed solution.

FR No.	Non-Functional Requirement	Description
NFR-1	**Usability**	it will be important for developers and manufacturers to continue to improve the accuracy and reliability of AI-enabled car parking systems, while also ensuring that they are accessible and affordable for all drivers.
NFR-2	**Security**	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.
NFR-3	**Reliability**	while OpenCV can be a useful tool for improving the reliability of car parking systems, developers need to take care to ensure that the system is accurate and reliable under all conditions.
NFR-4	**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.
NFR-5	**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.
NFR-6	**Scalability**	scalability for AI-enabled car parking using OpenCV involves designing a system that can handle an increasing number of cars without compromising on performance. This can be achieved by optimizing the algorithms, using cloud-based architectures, implementing distributed processing, and real-time monitoring.