Project Design Phase-II
Data Flow Diagram & User Stories

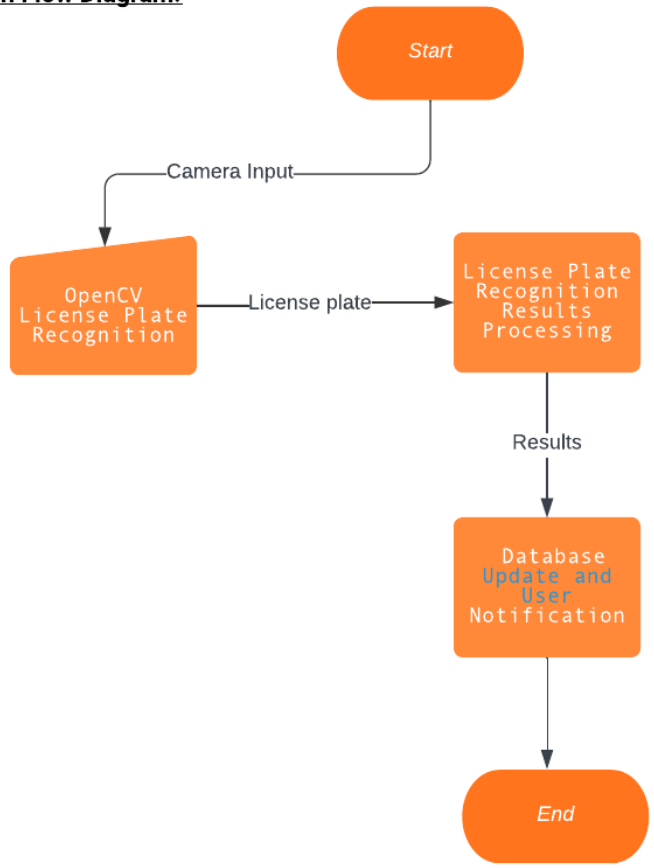
Date	07/MAY/2023
Team ID	IBM--18527-1682584903
Project Name	AI Enabled Car Parking Using OpenCv
Maximum Marks	4 Marks

Data Flow Diagrams:

A Data Flow Diagram (DFD) is a traditional visual representation of the information flows within a system. A neat and clear DFD can depict the right amount of the system requirement graphically. It shows how data enters and leaves the system, what changes the information, and where data is stored.

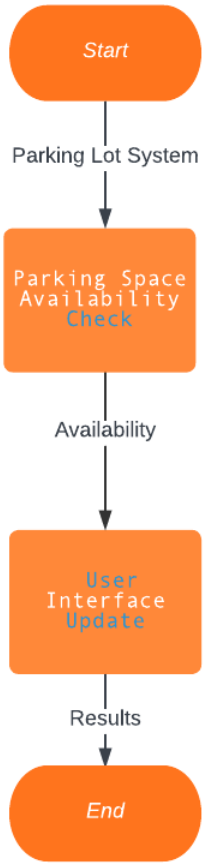
Flow Diagrams:-

License Plate Recognition Flow Diagram:



AJAY KUMAR
May 8, 2023 10:56 PM

Parking Space Availability Flow Diagram:



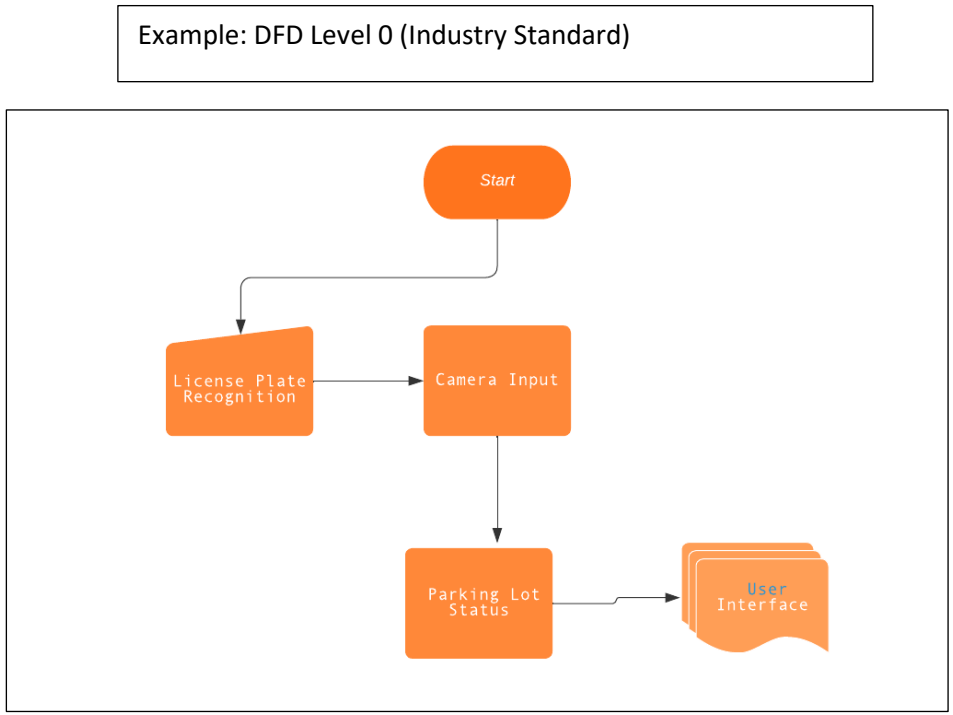
AJAY KUMAR
May 8, 2023 10:56 PM

Description:

1. The License Plate Recognition flow diagram shows the process of recognizing a license plate and updating the database and user notification systems with the results.
2. The Parking Space Availability flow diagram shows how the availability of parking spaces is checked and updated in real-time on the user interface.

These flow diagrams can be used as a guide for the implementation of an AI-enabled car parking system using OpenCV. The License Plate Recognition flow diagram illustrates how the camera input is processed by OpenCV to recognize license plates, and how the resulting information is stored in a database and used to notify users. The Parking Space Availability flow diagram shows how the availability of parking spaces is checked and updated in real-time on the user interface.

Example: DFD Level 0 (Industry Standard) diagram



Description: (DFD Level 0 (Industry Standard)

The Level 0 DFD provides a high-level view of the system and shows the main processes that occur. The main processes are:

1. License Plate Recognition: This process is responsible for recognizing the license plate of a car entering or leaving the parking lot using OpenCV.
2. Parking Lot Status: This process is responsible for updating the status of parking spaces in the parking lot based on the license plate recognition results.
3. User Interface: This process is responsible for displaying the parking lot status to users in real-time.

The Level 0 DFD also shows the entities involved in the system, which are the camera input and the parking lot status database. Overall, this DFD provides a clear and concise representation of the system and its main processes, making it an industry-standard diagram that can be used for communication and documentation purposes.

User Stories

Use the below template to list all the user stories for the product.

User Type	Functional Requirement (Epic)	User Story Number	User Story / Task	Acceptance criteria	Priority	Team Member
Driver	License Plate Recognition	USN-1	As a driver, I want the system to recognize my license plate when I enter or leave the parking lot, so that I can easily park and retrieve my car without any issues.	• The system should be able to accurately recognize the license plate of the driver's car. • The recognition process should be fast and efficient. • The driver should be notified of the license plate recognition result. • The system should update the parking lot status based on the license plate recognition result.	High	AJAYKUMAR A (Team leader) (Developer)
Administrator	Parking Lot Status	USN-2	As an administrator, I want to be able to view the real-time status of the parking lot, so that I can manage the parking lot efficiently and effectively.	• The system should display the number of available and occupied parking spaces. • The parking lot status should be updated in real-time. • The administrator should be able to view the parking lot status from a computer or mobile device	High	VIGNESHKUMAR S (Developer)
Driver	User Interface	USN-3	As a driver, I want to be able to view the parking lot status in real-time, so that I can	• The system should display the number of	Medium	SURYAPRAKASH M

User Type	Functional Requirement (Epic)	User Story Number	User Story / Task	Acceptance criteria	Priority	Team Member
			find an available parking space easily and quickly.	available and occupied parking spaces. • The parking lot status should be updated in real-time. • The driver should be able to view the parking lot status from a computer or mobile device.		
Administrator	Parking Lot Configuration	USN-4	As an administrator, I want to be able to configure the parking lot layout and the number of parking spaces, so that the system can accurately monitor and manage the parking lot.	• The system should allow the administrator to input the parking lot layout and the number of parking spaces for each area. • The system should be able to generate a parking lot map based on the configuration. • The administrator should be able to update the parking lot configuration at any time.	High	G. Naveen Kumar
Driver	Parking Guidance	USN-5	As a driver, I want the system to guide me to an available parking space, so that I can park my car quickly and easily.	• The system should display the location of available parking spaces on a parking lot map. • The system should guide the driver to an available parking space using visual or audio cues.	Medium	L.B. Sabareeswaran

User Type	Functional Requirement (Epic)	User Story Number	User Story / Task	Acceptance criteria	Priority	Team Member
				• The guidance should be accurate and easy to follow.		
Administrator	Reporting and Analytics		As an administrator, I want to be able to generate reports and analyze the parking lot usage, so that I can optimize the parking lot management and improve the overall user experience.	• The system should allow the administrator to generate reports on the parking lot occupancy, usage, and revenue. • The system should provide analytics on the parking lot usage and trends. • The reports and analytics should be easy to understand and use.	High	Data Analyst

These user stories can help to define the functionality and features of an AI-enabled car parking system using OpenCV, and they can be further refined and expanded as needed based on the requirements and feedback.

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Written and submit by.

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