

Project Design Phase-II
Data Flow Diagram & User Stories

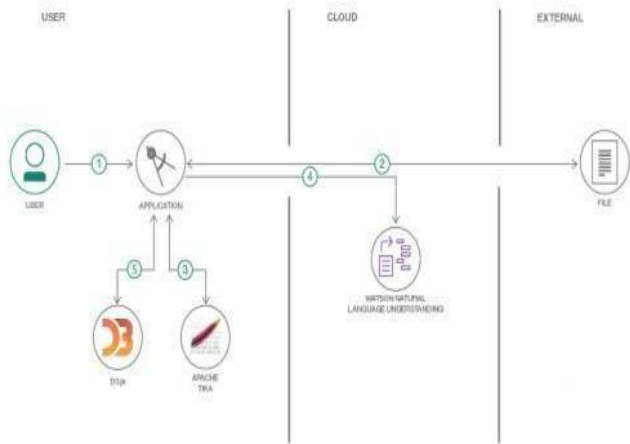
Date	18 February 2026
Team ID	LTVIP2026TMIDS24188
Project Name	Visualization Tool for Electric Vehicle Charge and Range Analysis
Maximum Marks	4 Marks

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.

Example: DFD Level 0 (Industry Standard)

Flow



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- ```
graph TD; ChargeData[Charge Data] -- "charge and range data" --> EVVisualization[EV Visualization]; ChargeData --> ProcessData[Process Data]; ProcessData -- "charge and range data" --> VisualizationTool[Visualization Tool]; ProcessData -- "vehicle parameters" --> VehicleData[Vehicle Data]; ProcessData -- "charge and range data" --> StoreData[Store Data]; VehicleData -- "Store data" --> StoreData; StoreData -- "Get vehicle Data" --> VisualizationTool; VisualizationTool --> CollectFeedback[Collect feedback]; CollectFeedback -- "inquiries" --> EVVisualization; CollectFeedback -- "inquiries" --> User[User]; User -- "vehicle parameters" --> StoreData;
```
- The flowchart illustrates the system architecture for an EV charging station. It features several interconnected components: Charge Data, EV Visualization, Visualization Tool, Process Data, Collect feedback, Store Data, Vehicle Data, and User. The flow of data and control is as follows: Charge Data feeds into EV Visualization (via 'charge and range data') and Process Data. Process Data feeds into the Visualization Tool (via 'charge and range data'), Vehicle Data (via 'vehicle parameters'), and Store Data (via 'charge and range data'). Vehicle Data feeds into Store Data (via 'Store data'). Store Data feeds into the Visualization Tool (via 'Get vehicle Data') and the User (via 'vehicle parameters'). The Visualization Tool feeds into Collect feedback. Collect feedback feeds into EV Visualization (via 'inquiries') and the User (via 'inquiries'). The User feeds into Store Data (via 'vehicle parameters').

## 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 | Release  |
|---------------------------|-------------------------------|-------------------|--------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------|----------|----------|
| EV Owner<br>(Mobile user) | Account Management            | USN-1             | As an EV user, I want to register and log in to the app to securely access personalized features | User can create an account and sign in using valid credentials                                 | High     | Sprint-1 |
|                           | Map Visualization             | USN-2             | As a user, I want to view a map showing nearby charging stations and range zones                 | Map loads with charging station icons and vehicle range overlay                                | High     | Sprint-1 |
|                           | Vehicle Charge Analysis       | USN-3             | As a user, I want to input my vehicle's battery level and get real-time range estimates          | System provides accurate range estimates based on battery and driving data                     | Low      | Sprint-2 |
|                           | Charging History              | USN-4             | As a user, I want to view my previous charging sessions and performance reports                  | App displays historical charts and statistics about past charges                               | Medium   | Sprint-2 |
| Admin                     | Data Management               | USN-5             | As an admin, I want to upload and manage station data across different locations                 | Admin panel shows options to add/update station information                                    | High     | Sprint-1 |
|                           | User Monitoring               | USN-6             | As an admin, I want to monitor system usage and user activity for improvement tracking           | Dashboard reports include session logs and activity summaries                                  | Medium   | Sprint-3 |
| Data Analyst              | Reporting Module              | USN-7             | As an analyst, I want to generate customized reports based on station usage and range patterns   | As an analyst, I want to generate customized reports based on station usage and range patterns | Medium   | Sprint-3 |
| Guest User                | Demo Access                   | USN-8             | As a guest, I want to explore the tool in demo mode without signing up                           | Demo mode provides limited but working sample visualizations                                   | Low      | Sprint-2 |

