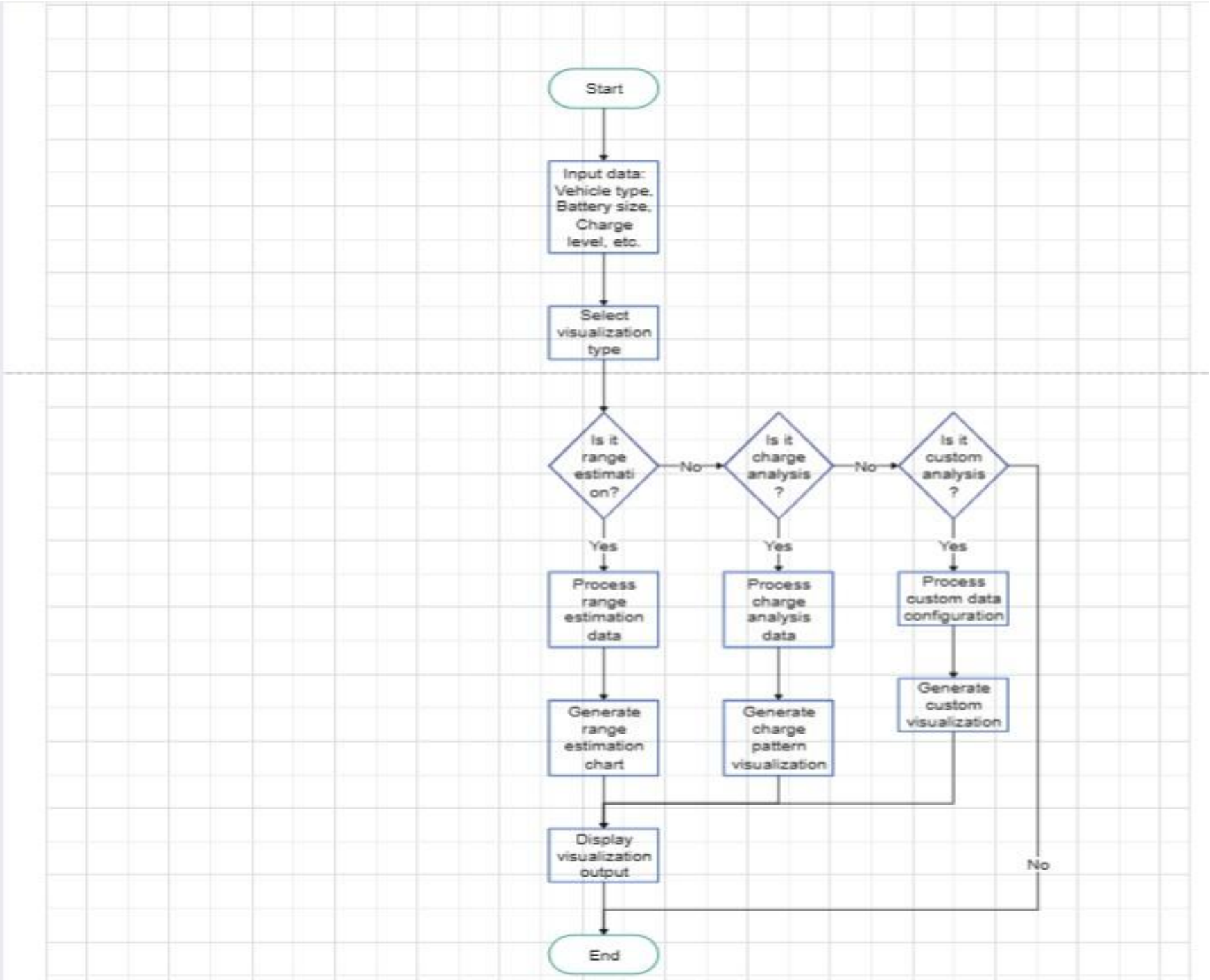
Project Design Phase-II
Data Flow Diagram & User Stories

Date	31 January 2025
Team ID	LTVIP2025TMID52074
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.


Start
Input data: Vehicle type, Battery size, Charge level, etc.
Select visualization type
Is it range estimation?
No
Is it charge analysis ?
No
Is it custom analysis ?
Yes
Process range estimation data
Generate range estimation chart
Yes
Process charge analysis data
Generate charge pattern visualization
Yes
Process custom data configuration
Generate custom visualization
Display visualization output
No
End

User Stories

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

Electric Vehicle Dashboard – User Stories

User Type	Functional Requirement (Epic)	User Story Number	User Story / Task	Acceptance Criteria	Priority	Release
Customer (Public EV User)	Dashboard Access	USN-1	As a user, I can view interactive EV insights for range, cost, and charging station availability	Dashboard loads with region filters, visualizations, and model comparison	High	Sprint-1
	Mobile Optimization	USN-2	As a user, I can access the dashboard on my phone/tablet comfortably	Layout adapts across screen sizes and maintains interactivity	High	Sprint-2
	Real-Time Location Search	USN-3	As a user, I can search for the nearest charging station	Location search returns list and map pins within 1–5 km range	Medium	Sprint-3
Data Analyst	Range vs Cost Analysis	USN-4	As an analyst, I can compare EV models based on price vs range	Visual scatterplots load model specs from ElectricCarData_Clean.csv	High	Sprint-1
	Efficiency Benchmarking	USN-5	As an analyst, I want to identify most efficient EV brands by Wh/km	Energy consumption data is ranked and filtered per brand	Medium	Sprint-2
	Charger Infrastructure Analysis	USN-6	As an analyst, I can view the distribution of chargers by region and power level	Station data from electric_vehicle_charging_station_list.csv is mapped/filtered	High	Sprint-2
Developer (Web App)	Dashboard Integration	USN-7	As a developer, I can embed Tableau dashboards within a Flask application	iframe renders embedded story cleanly with responsive layout	High	Sprint-1
	Deployment	USN-8	As a developer, I can deploy the dashboard using GitHub + Render pipeline	Web app is accessible via public link with up-to-date visuals	High	Sprint-2
Admin/Planner	Storytelling Dashboard	USN-9	As a planner, I want to walk through EV trends with user personas (e.g., city commuter, long-range driver)	Tableau story dashboard shows model profiles, pricing segments, and charger fit	Medium	Sprint-3
Admin/Planner	Decision Insights Export	USN-10	As a planner, I want to export regional summaries of adoption/cost/trends to PDF or report	Export function allows download of filtered insights per dashboard selection	Medium	Sprint-3
Researcher	Predictive Modelling (Optional)	USN-11	As a researcher, I want to forecast EV growth trends based on pricing, range, charger density	Forecast model overlays trendlines using filtered dashboard input	Low	Sprint-4