**Project Design Phase-II**

**Technology Stack (Architecture & Stack)**

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| Date | 1 July 2025 |
| Team ID | LTVIP2025TMID50223 |
| Project Name | Visualization Tool For Electric Vehicle Charge And Range Analysis |
| Maximum Marks | 4 Marks |

**Technical Architecture:**

**Table-1 : Components & Technologies:**

| **S.No** | **Component** | **Description** | **Technology** |
| --- | --- | --- | --- |
| 1 | User Interface | Web-based interaction with embedded dashboards | HTML, CSS, Bootstrap |
| 2 | Application Logic-1 | Frontend logic for page routing, layout | JavaScript |
| 3 | Application Logic-2 | No custom NLP/ML logic (not applicable) | N/A |
| 4 | Application Logic-3 | No chatbot service used | N/A |
| 5 | Database | Stores raw EV datasets | MySQL / Google Sheets |
| 6 | Cloud Database | Optional cloud-based dataset storage | Google Drive (or Tableau Public) |
| 7 | File Storage | Dataset files (CSV/Excel) used for Tableau import | Local File System / Google Drive |
| 8 | External API-1 | (Optional) Vehicle info or charge station data | Google Maps API (if integrated later) |
| 9 | External API-2 | N/A | N/A |
| 10 | Machine Learning Model | Not used in current scope | N/A |
| 11 | Infrastructure | Application runs locally or on simple web hosting | Localhost, GitHub Pages, Netlify |

**Table-2: Application Characteristics:**

| **S.No** | **Characteristics** | **Description** | **Technology** |
| --- | --- | --- | --- |
| 1 | Open-Source Frameworks | HTML, Bootstrap (CSS), JavaScript libraries for frontend | Bootstrap, jQuery |
| 2 | Security Implementations | No login, minimal security; could use HTTPS, content security policy (CSP) | Basic Web Security Best Practices |
| 3 | Scalable Architecture | Web + Tableau is scalable via modular dashboards and external hosting | 3-tier (Frontend - Tableau - Data Source) |
| 4 | Availability | Hosted on Tableau Public + Static Web Hosting platforms | Tableau Public, Netlify/GitHub Pages |
| 5 | Performance | Static frontend ensures fast loading; Tableau handles rendering | Tableau CDN, Local Caching in Browser |