Project Design Phase-II
Technology Stack (Architecture & Stack)

Date	25 January 2025
Team ID	LTVIP2025TMID47396
Project Name	Visualizing Housing Market Trends: An Analysis of Sale Prices and Features using Tableau
Maximum Marks	4 Marks

Technical Architecture:

The project uses a client-analytics deployment pattern. Users interact with Tableau dashboards that are created using a cleaned CSV dataset of housing data. The project follows a cloud-enabled structure where data is processed locally and visualized through Tableau Public.

) Table-1: Components & Technologies

S.No	Component	Description	Technology
1	User Interface	How user interacts with application	Tableau Public Dashboard
2	Application Logic-1	Data preprocessing	Python (Pandas, NumPy)
3	Application Logic-2	Visualization logic setup	Tableau
4	Application Logic-3	N/A	N/A
5	Database	Structured CSV data	Local CSV File
6	Cloud Database	(Optional - for hosted dashboards)	Google Sheets or Tableau Cloud
7	File Storage	Stores housing dataset file	Local File System
8	External API-1	For location-based filtering (optional enhancement)	Google Maps API
9	External API-2	N/A	—

S.No	Component	Description	Technology
10	Machine Learning	Optional: future extension to predict housing prices	Regression model in Python
11	Infrastructure	Tableau hosted dashboard, optional local processing	Local Machine + Tableau Public

) Table-2: Application Characteristics

S.No	Characteristics	Description	Technology
1	Open-Source Frameworks	Python libraries used for data processing	Pandas, NumPy
2	Security Implementations	Access control via Tableau links, no personal data stored	Tableau Public Privacy Settings
3	Scalable Architecture	Can scale by adding cloud DB, APIs, ML integration	Modular (Data + Viz separation)
4	Availability	Hosted on Tableau Public – 24x7 access	Tableau Cloud
5	Performance	Optimized dashboard loading with clean datasets	Preprocessed CSV + Tableau