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

Date	
Team ID	LTVIP2025TMID59126
Project Name	Visualizing Housing Market Trends: An Analysis of Sale Prices and Features using Tableau
Maximum Marks	4 Marks

Technical Architecture:

The Deliverable include's the architectural diagram as below and the information as per the table1 & table 2

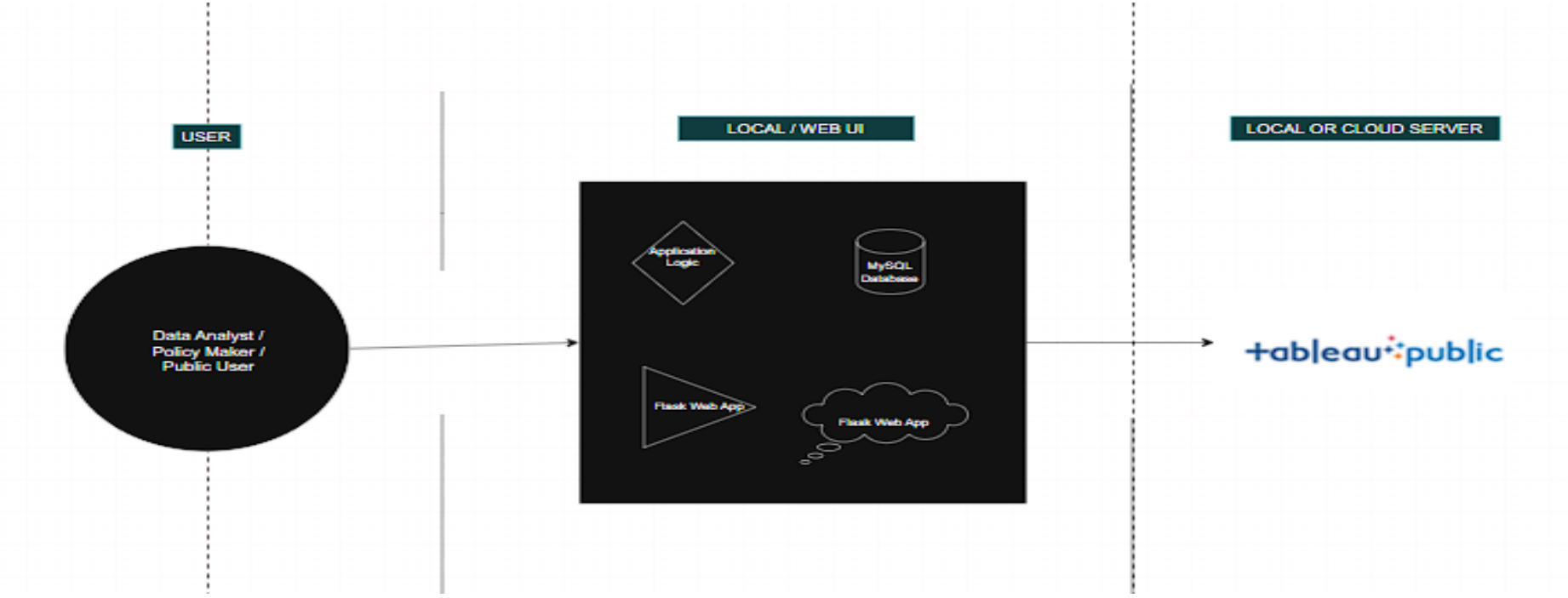

Table-1 : Components & Technologies :

S.No	Component	Description	Technology
1	User Interface	Web interface to interact with dashboard	HTML, CSS, JavaScript, Flask
2	Application Logic-1	Data preprocessing and transformation	Python (Pandas, NumPy)
3	Application Logic-2	Connecting database with Tableau	MySQL Connector, SQLAlchemy
4	Application Logic-3	Dashboard and Story creation using visualizations	Tableau Desktop / Tableau Public
5	Database	visualizing house market dataset	MySQL
6	Cloud Database	Optional cloud hosting for shared access	AWS RDS or Google Cloud SQL
7	File Storage	Store raw datasets and exports	Local Filesystem / Google Drive
8	External API-1	Embedding Tableau Public dashboard	Tableau Public Share/Embed API
9	External API-2	Not applicable for this project	—
10	Machine Learning Model	(Optional) Forecasting electricity usage	Prophet (by Facebook), Scikit-learn
11	Infrastructure	Hosting the Flask web app and dashboard	Localhost / PythonAnywhere / Heroku

Table-2: Application Characteristics:

S.No	Characteristics	Description	Technology
1	Open-Source Frameworks	Python, Flask, Pandas, MySQL, Tableau Public	Flask, Pandas, MySQL
2	Security Implementations	Dashboard visibility control via Tableau Public, secure file storage	Tableau Public sharing settings, Flask routes
3	Scalable Architecture	Modular design; easy to add new visualizations and filters	2-Tier Architecture (Frontend + Backend)
4	Availability	Can be deployed on cloud platforms for 24/7 availability	Heroku, AWS, PythonAnywhere
5	Performance	Pre-processed data in MySQL; responsive filters in Tableau	SQL indexing, Filter optimization