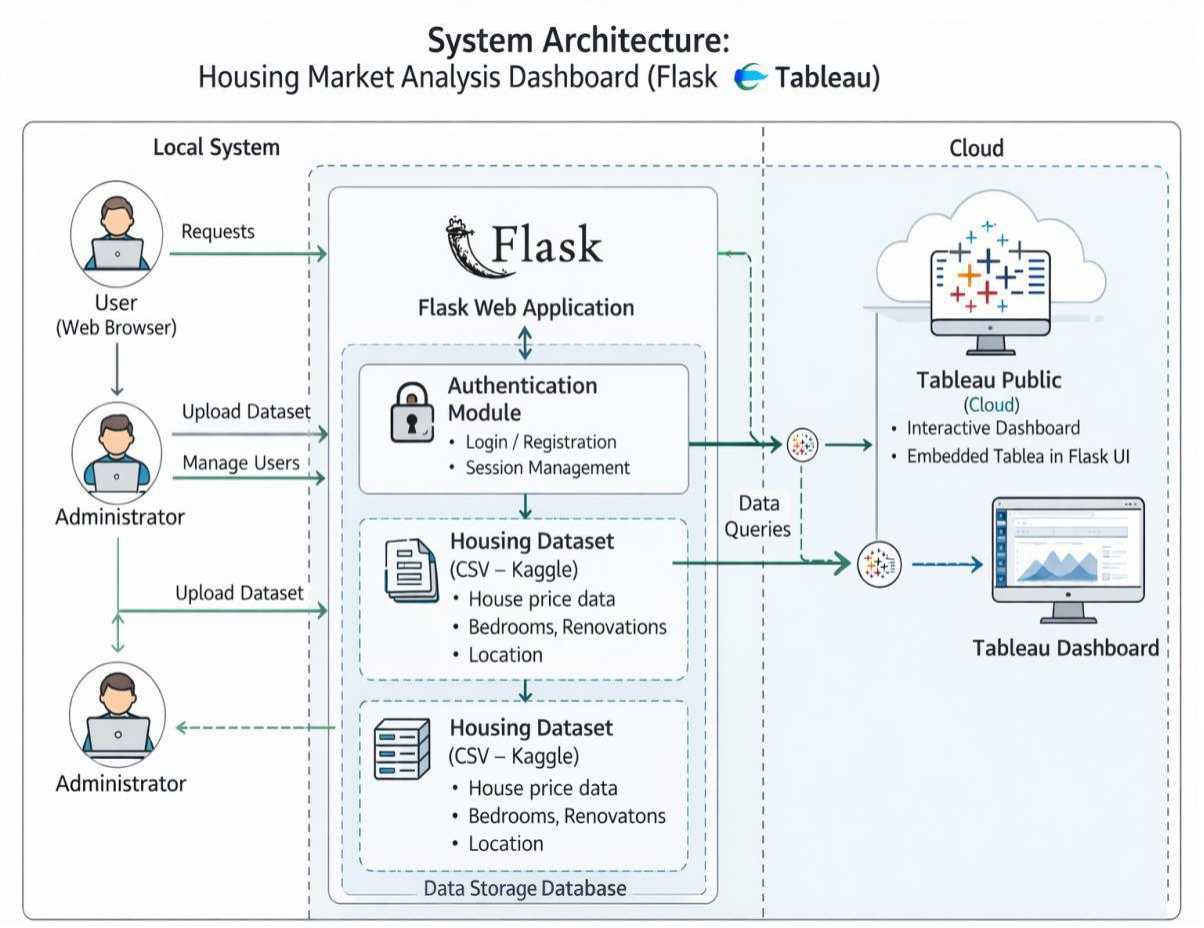
Project

Design Phase-II Technology Stack (Architecture's Stack)

Date	20 February 2026
Team ID	LTVIP2026TMIDS82725
Project Name	**Plugging into the future:** **An exploration of electricity consumption pattern using tableau**
Maximum Marks	4 Marks

Reference: https://developer.ibm.com/patterns/ai-powered-backend-system-for-order-processing-during-pandemics/



S.No	Component	Description	Technology
1	User Interface	Web interface where users log in and view dashboards	HTML, CSS, Bootstrap
2	Application Logic-1	Handles login, routing, and request processing	Python (Flask)
3	Application Logic-2	Data filtering and processing	Python(pandas)
4	Application Logic-3	Embeds and displays interactive dashboards	Tableau Public
5	Database	Stores login credentials	SQlite
6	Cloud Database	Not used in this project	Not applicable
7	File Storage	Stores electricity dataset CSV files	Local file system
8	External API-1	Dashboard visualization service	Tableau Public
9	External API-2	Optional Gmail authentication	Google OAuth API
10	Machine Learning Model	Not implemented in this version	Not applicable
11	Infrastructure (Server / Cloud)	Local execution with dashboard connectivity	Local flask server+ tableau

Table-2: Application Characteristics:

S.No	Characteristics	Description	Technology
1	Open-Source Frameworks	Backend development framework	Flask (Python)
2	Security Implementations	Login protection, hashing, sessions	Flask Session, Werkzeug
3	Scalable Architecture	Modular structure for future expansion	Flask Architecture
4	Availability	Accessible while server is active	Local/ Cloud Hosting
5	Performance	Fast dashboard rendering & filtering	Pandas + Tableau

References:

https://c4model.com/

https://developer.ibm.com/patterns/online-order-processing-system-during-pandemic/

https://www.ibm.com/cloud/architecture

https://aws.amazon.com/architecture

https://medium.com/the-internal-startup/how-to-draw-useful-technical-architecture-diagrams-2d20cGfdaG0d