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

Date	31 January 3035
Team ID	LTVIP2025TMID20763
Project Name	Plugging-into-the-Future-An-Exploration-of-Electricity-Consumption-Patterns-Using-Tableau
Maximum Marks	4 Marks

Technical Architecture:

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

Example: Order processing during pandemics for offline mode

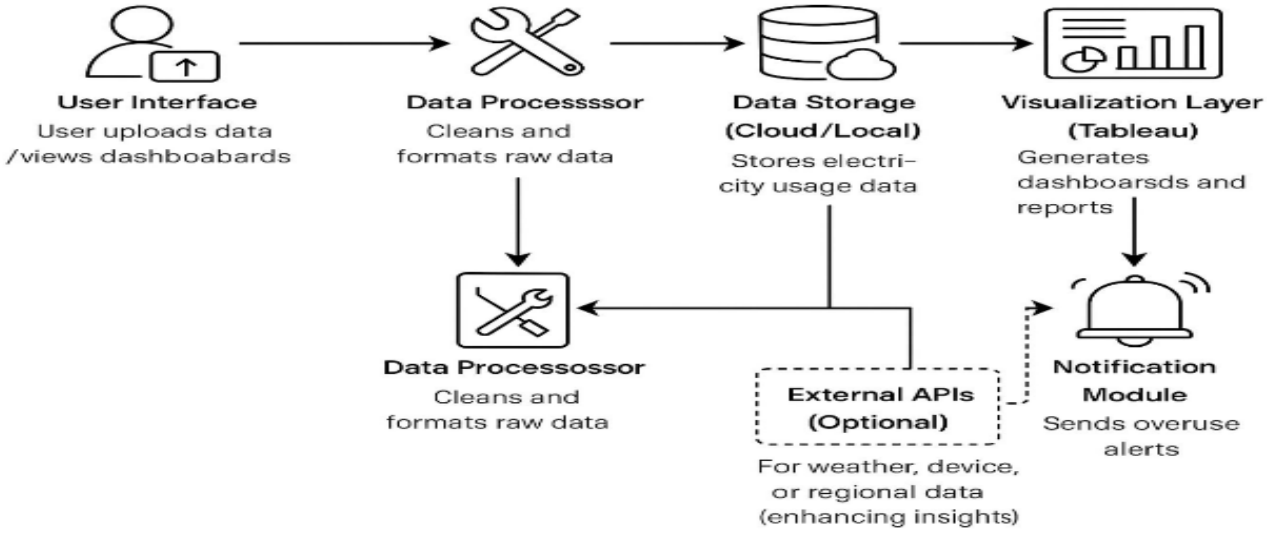

Table-1 : Components & Technologies:

S.No	Component	Description	Technology
1.	User Interface	Upload files, interact with dashboard	Tableau Public, HTML/CSS (embedded)
2.	Application Logic-1	Data Cleaning & Preprocessing	Python (Pandas, NumPy)
3.	Application Logic-2	Load data to Tableau	Tableau Extract API, CSV Connector
4.	Database	Data Storage	PostgreSQL / Google Sheets / AWS RDS
5.	Cloud Database	File and dashboard hosting	Google Drive / AWS S3 / Azure Storage
6.	External API(optional)	Weather or smart grid data	OpenWeather API / Smart Meter APIs
7.	Notification Service	Alert generation for abnormal usage	Python Script + SMTP / Twilio API

Table-2: Application Characteristics:

S.No	Characteristics	Description	Technology
1.	Open-Source Frameworks	Based on open-source platforms for flexibility	Python, Tableau Public
2.	Security Implementations	Secure data access with user-level permissions	Encrypted Upload, OAuth (if any)
3.	Scalable Architecture	Can handle large data uploads and dashboard scaling	Tableau Server / Cloud Infra
4.	Availability	Dashboard accessible 24/7 via embedded or hosted service	Tableau Public, Cloud Hosting
5.	Performance	Fast loading dashboards and real-time filters	Optimized extracts in Tableau