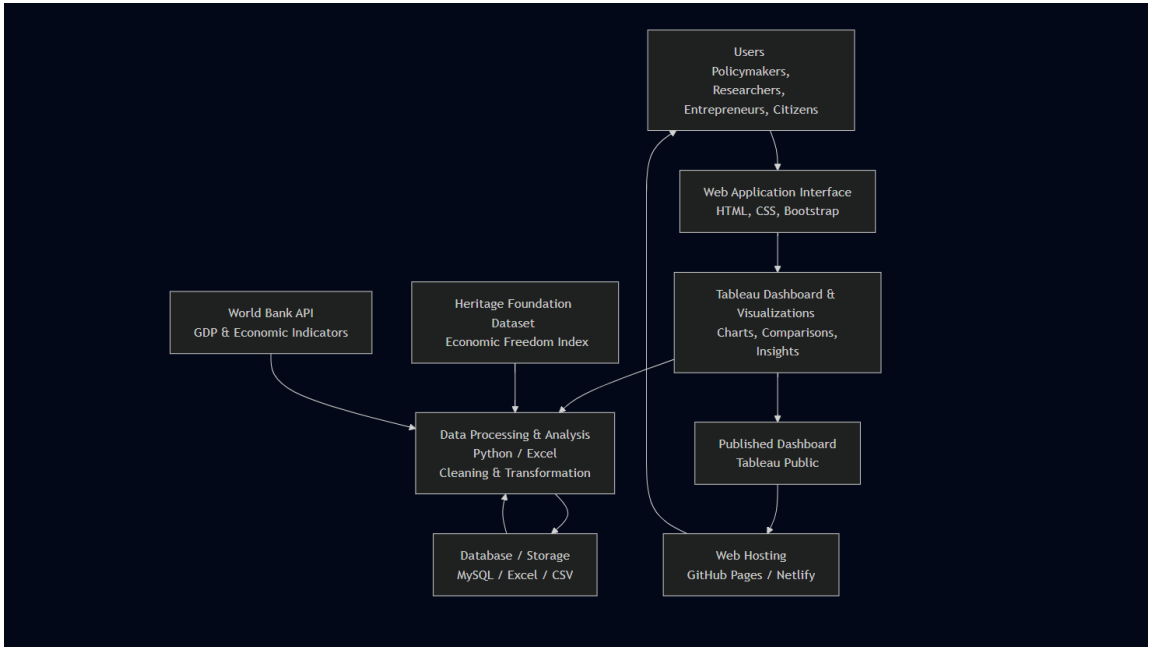
Project Design Phase-II
Technology Stack (Architecture & Stack)

Date	17 February 2026
Team ID	LTVIP2026TMIDS87045
Project Name	Measuring the Pulse of Prosperity: An Index of Economic Freedom Analysis
Maximum Marks	4 Marks

Technical Architecture:

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



Application Components

S.No	Component	Description	Technology
1	Data Collection	Collect economic freedom & economic indicators	Heritage Foundation Dataset, World Bank Data
2	Application Logic-1	Data cleaning & preprocessing	Python (Pandas, NumPy)
3	Application Logic-2	Data analysis & comparison	Python / Excel
4	Application Logic-3	Visualization & dashboard creation	Tableau Desktop
5	Database	Store structured economic data	MySQL / Excel / CSV
6	Cloud Database	Cloud storage (optional)	Google Drive / OneDrive / AWS RDS
7	File Storage	Store datasets & reports	Local filesystem / Cloud storage

8	External API-1	Global economic indicators	World Bank API
9	External API-2	Economic freedom & financial metrics	Heritage Foundation Data
10	Machine Learning Model *(Optional)*	Predict economic trends (future scope)	Python ML (Scikit-learn)
11	Infrastructure	Hosting & deployment	Local System / GitHub Pages / Netlify

Table-1: Architecture Characteristics

S.No	Characteristics	Description	Technology
1	Open-Source Frameworks	Tools used for analysis & web development	Python, Pandas, Tableau Public, Bootstrap
2	Security Implementations	Secure access & data integrity	HTTPS, basic authentication, secure hosting
3	Scalable Architecture	Supports adding new countries & datasets	Modular design, Tableau data refresh
4	Availability	Accessible anytime via internet	Tableau Public + Web Hosting (Netlify/GitHub Pages)

Table-2: Application Characteristics

S.No	Characteristics	Description	Technology
5	Performance	Fast loading dashboards & efficient data handling	Tableau optimized extracts, caching, lightweight web design

Deployment Architecture

Local Deployment

- Data processing on local system
- Tableau dashboards created locally
- Web pages developed using HTML & Bootstrap

Cloud Deployment

- Dashboards published to Tableau Public
- Web app hosted via GitHub Pages / Netlify
- Shareable public access links

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-2d20c9fda90d