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

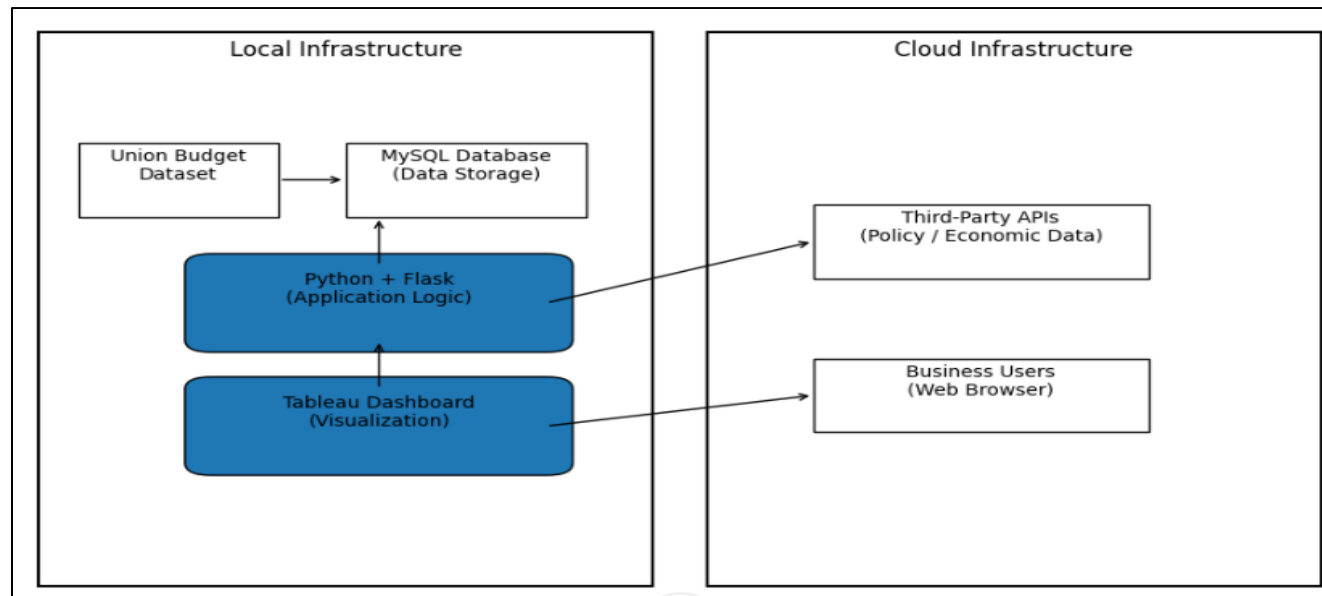| Date	7 February 2026
Team ID	LTVIP2026TMIDS77691
Project Name	Empowering India: Analysing the Evolution of Union Budget Allocations for Sustainable Growth
Maximum Marks	4 Marks

Technical Architecture:

Table-1 : Components & Technologies:

S.No	Component	Description	Technology
1.	User Interface	Web UI (Dashboard embedded in browser)	HTML, CSS, JavaScript
2.	Application Logic-1	Data processing, filtering healthcare ministries, dashboard integration	Python(flask)
3.	Application Logic-2	Data preparation and transformation	Tableau Prep / Python scripts
4.	Application Logic-3	Dashboard visualization and reporting	Tableau Dashboard (Embedded)
5.	Database	Structured budget allocation dataset storage	MySQL
6.	Cloud Database	-	-
7.	File Storage	-	-
8.	External API-1	-	-
9.	External API-2	-	-
10.	Machine Learning Model	-	-
11.	Infrastructure (Server / Cloud)	Application deployed on local development environment	Flask development server, MySQL local instance.

Table-2: Application Characteristics:

S.No	Characteristics	Description	Technology
1.	Open-Source Frameworks	Web application framework and visualization integration used for analytics application	Web application framework and visualization integration used for analytics application
2.	Security Implementations	Python Flask, MySQL, Tableau Public / Tableau Desktop	Flask authentication, MySQL user access control
3.	Scalable Architecture	Application follows a modular multi-tier architecture separating data layer, application layer, and visualization layer allowing future scaling to cloud deployment	3-Tier Architecture (Database – Application – Presentation)
4.	Availability	Application can be deployed on local server or cloud infrastructure ensuring accessibility through web interface	Flask server deployment / Cloud hosting (future ready)
5.	Performance	Efficient SQL queries, dataset preprocessing, and optimized dashboard visualizations to ensure faster response time and smooth dashboard interaction	MySQL query optimization, Tableau optimized extracts