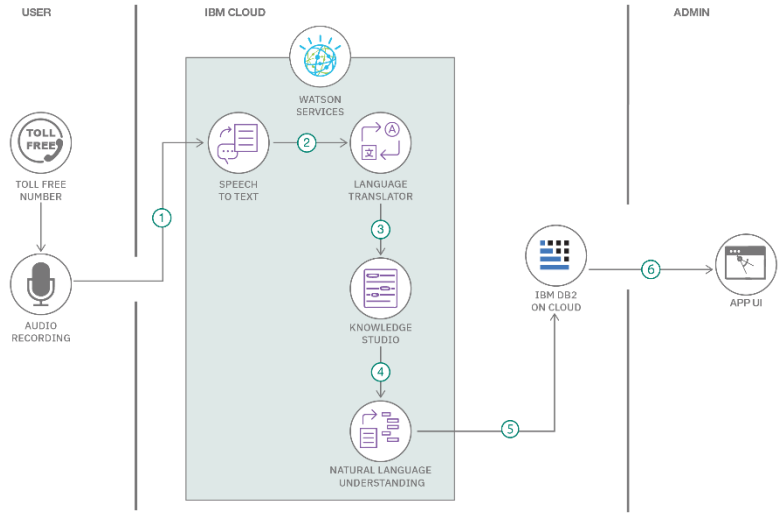
Project Design Phase-II
Technology Stack (Architecture & Stack)

Date	31 January 3035
Team ID	LTVIP2025TMID47517
Project Name	Strategic Product Placement 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



Guidelines:

- Include all the processes (As an application logic / Technology Block)
- Provide infrastructural demarcation (Local / Cloud)
- Indicate external interfaces (third party API's etc.)
- Indicate Data Storage components / services
- Indicate interface to machine learning models (if applicable)

Table-1 : Components & Technologies:

S.No	Component	Description	Technology / Tool
1. 1	**User Interface**	Interface to view dashboard and interact with visuals	**Tableau Public / Tableau Desktop**
2. 2	**Application Logic-1**	Data preprocessing and transformation	**Python (Pandas)**, Tableau prep tools
3. 3	**Application Logic-2**	Creating calculated fields and data filters	**Tableau Calculated Fields**
4. 4	**Application Logic-3**	Visualization logic and chart rendering	**Tableau Visualization Engine**
5. 5	**Database**	Local storage of CSV dataset	**Flat File (.CSV)**
6. 6	**Cloud Database**	(Optional) Hosting dataset on cloud for Tableau Cloud usage	**Google Sheets / Tableau Cloud**
7. 7	**File Storage**	Where source dataset is stored before uploading to Tableau	**Local Filesystem / Google Drive**
8. 8	**External API-1**	Not used (N/A for this dashboard)	N/A
9. 9	**External API-2**	Not used	N/A
10. 10	**Machine Learning Model**	Not used in current scope	N/A
11. 11	**Infrastructure**	System used for dashboard design and publishing	**Local (Windows/MacOS)** / Tableau Public

Table-2: Application Characteristics:

S.No	Characteristics	Description	Technology / Tool
1. 1	**Open-Source Frameworks**	Tableau Public is free to use; Python libraries used for preprocessing	**Tableau Public**, **Pandas**
2. 2	**Security Implementations**	Local file privacy maintained; Tableau public link access can be controlled	**Google Drive Permissions**, Tableau's sharing controls
3. 3	**Scalable Architecture**	Tableau dashboards can be extended with additional datasets and new visuals	**3-Tier Design (Data → Logic → UI)**
4. 4	**Availability**	Tableau dashboards are highly available via Tableau Public or Cloud links	**Tableau Public**, **Google Drive**
5. 5	**Performance**	Dashboards optimized by reducing unused fields, applying filters carefully, and using extracts	**Tableau Extract Engine**, **Preprocessed CSVs**