

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

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| Date | 16 February 2026 |
| Team ID | LTVIP2026TMIDS62105 |
| Project Name | ToyCraft Tales: Tableau's Vision into Toy Manufacturer Data |
| Maximum Marks | 4 Marks |

Technical Architecture:

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)

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

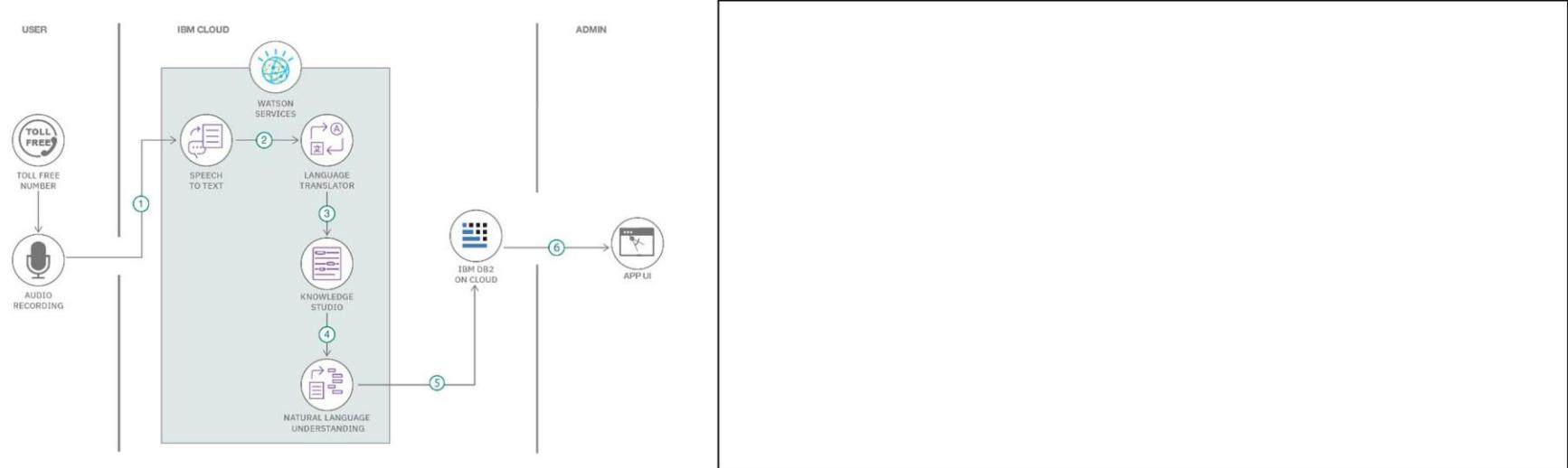


Table-1 : Components & Technologies:

| S.No | Component | Description | Technology / Tool |
|------|------------------------|---|--|
| 1 | User Interface | Interface to view dashboard and interact with visuals | Tableau Public / Tableau Desktop |
| 2 | Application Logic-1 | Data preprocessing and transformation | Python (Pandas), Tableau prep tools |
| 3 | Application Logic-2 | Creating calculated fields and data filters | Tableau Calculated Fields |
| 4 | Application Logic-3 | Visualization logic and chart rendering | Tableau Visualization Engine |
| 5 | Database | Local storage of CSV dataset | Flat File (.CSV) |
| 6 | Cloud Database | (Optional) Hosting dataset on cloud for Tableau Cloud usage | Google Sheets / Tableau Cloud |
| 7 | File Storage | Where source dataset is stored before uploading to Tableau | Local Filesystem / Google Drive |
| 8 | External API-1 | Not used (N/A for this dashboard) | N/A |
| 9 | External API-2 | Not used | N/A |
| 10 | Machine Learning Model | Not used in current scope | N/A |
| 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 | Open-Source Frameworks | Tableau Public is free to use; Python libraries used for preprocessing | Tableau Public, Pandas |
| 2 | Security Implementations | Local file privacy maintained; Tableau public link access can be controlled | Google Drive Permissions, Tableau's sharing controls |
| 3 | Scalable Architecture | Tableau dashboards can be extended with additional datasets and new visuals | 3-Tier Design (Data → Logic → UI) |
| 4 | Availability | Tableau dashboards are highly available via Tableau Public or Cloud links | Tableau Public, Google Drive |
| 5 | Performance | Dashboards optimized by reducing unused fields, applying filters carefully, and using extracts | Tableau Extract Engine, Preprocessed CSVs |