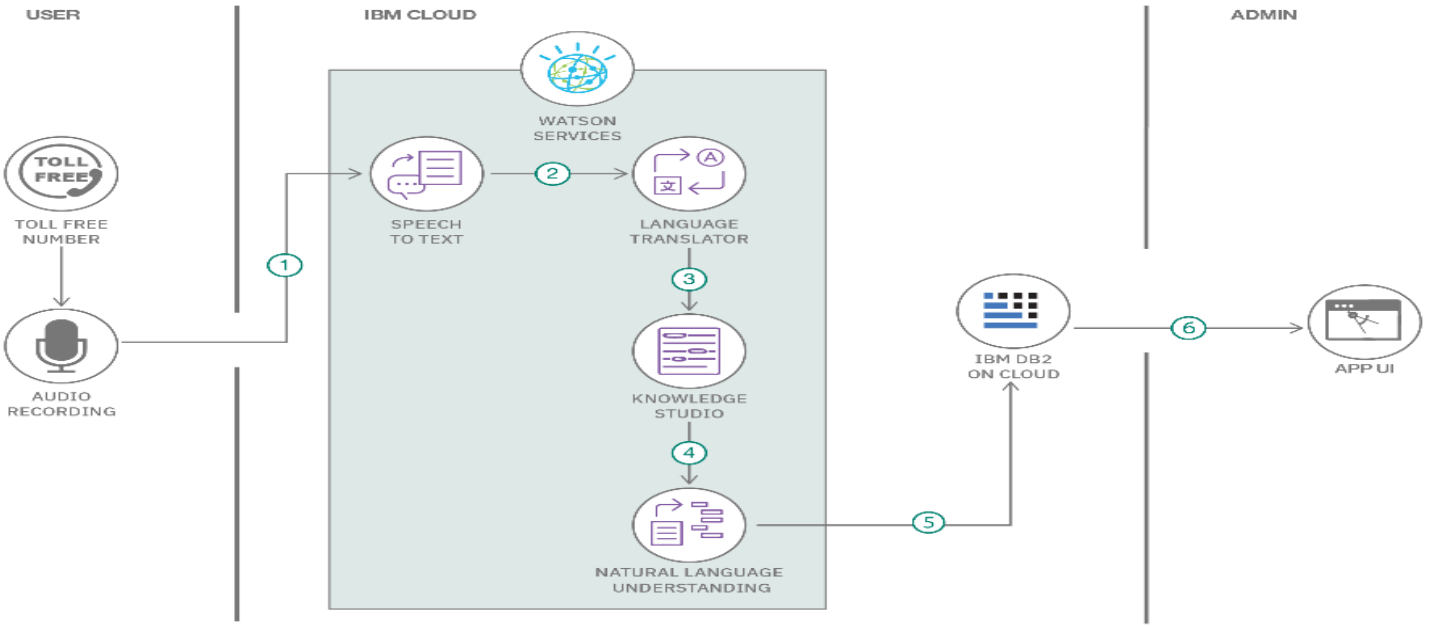
Project Design Phase-II
Technology Stack (Architecture & Stack)

Date	20 June 2025
Team ID	LTVIP2025TMID48991
Project Name	ToyCraft Tales: Tableau's Vision into Toy Manufacturer Data
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



ToyCraft_Tales : Tableau's vision into manufacturer data

Table-1 : Components & Technologies:

S.No	Component	Description	Technology
1	User Interface	Web UI where user accesses Home, Dashboard, Story, Charts through ngrok public URL	HTML, CSS, Bootstrap, Jinja2 Templates (Flask)
2	Application Logic-1	Handles form submissions, email validation, user navigation between pages	Python (Flask Framework)
3	Application Logic-2	Sends welcome emails to valid emails using SMTP service	Python smtplib / Flask-Mail
4	Application Logic-3	Embeds Tableau dashboards, charts, and stories in web UI	Tableau Public embed, Flask integration
5	Database	Stores contact form data (name, email, phone); MySQL setup for structured data	MySQL
6	Cloud Database	Not applicable — data is stored in local or hosted MySQL (can be cloud MySQL if deployed on cloud later)	(Optional: AWS RDS / Azure MySQL / Google Cloud SQL)
7	File Storage	No file storage requirement — data is structured in DB and visualizations are embedded	N/A
8	External API-1	Not applicable in current scope	N/A
9	External API-2	Not applicable in current scope	N/A
10	Machine Learning Model	Not applicable — no ML models in current scope	N/A
11	Infrastructure (Server / Cloud)	Local Flask server exposed via ngrok tunnel for public access. Could be deployed on cloud (optional).	Local: Flask + ngrok; Cloud: AWS EC2 / Heroku / GCP (if migrated)

Table-2: Application Characteristics:

S.No	Characteristics	Description	Technology
1	Open-Source Frameworks	Flask (Python web framework), Bootstrap for styling, MySQL	Flask, Bootstrap, MySQL
2	Security Implementations	Basic form input validation, email validation, could add HTTPS via ngrok / server config, optional JWT for sessions	Email validation, Flask form validation, ngrok HTTPS tunnel
3	Scalable Architecture	Can be scaled to microservices (Flask APIs + separate Tableau embed + DB service) or 3-tier architecture	Flask app + DB tier + Tableau as presentation tier
4	Availability	Currently dependent on Flask + ngrok uptime; can improve via cloud deployment and load balancer in future	ngrok tunnel; cloud options: AWS/GCP/Heroku with load balancer
5	Performance	Designed for small-medium user load; performance could be optimized with caching (Flask-Caching) and CDN for static assets	Flask server, Tableau Public (visual loads), potential CDN for static files