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

Date	31 January 3035
Team ID	
Project Name	SmartResume Generator: Customized Resumes for Every Opportunity
Maximum Marks	4 Marks

Technical Architecture:

The technical architecture of the AI-powered resume builder is designed to ensure efficiency, scalability, and user-friendliness. Below is the architectural overview and the technology stack categorized into components and application characteristics.

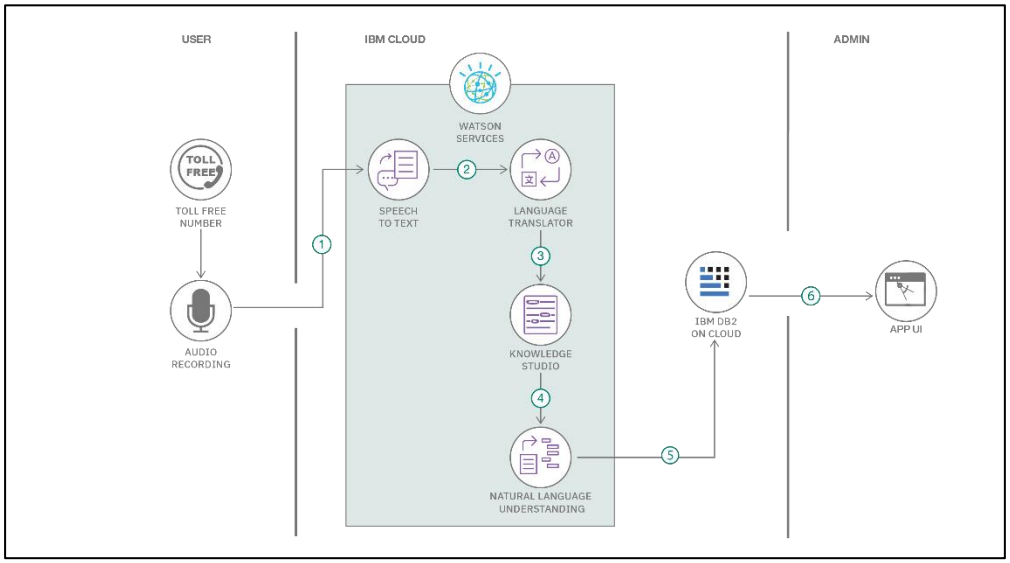

Table-1 : Components & Technologies:

S. No.	Component	Description	Technology
1	User Interface	Web-based interface to allow users to interact with the application.	Streamlit, HTML, CSS, Bootstrap
2	Application Logic-1	Logic for processing user input and validating data.	Python
3	Application Logic-2	Logic for AI-driven resume content generation.	Google Gemini-1.5-pro API
4	Database	Storage for temporary user inputs during processing.	SQLite (lightweight temporary DB)
5	File Storage	Manage downloaded resume files (PDF/DOCX).	Local storage/File system
6	External API-1	Integration with generative AI for text generation.	Google Generative AI API
7	External API-2	(Optional) Spell-checking and grammar validation for user inputs.	Grammarly API
8	Machine Learning Model	Generate contextual resume content.	Google Generative AI Model
9	Infrastructure (Cloud)	Hosting and deployment of the application.	AWS EC2, AWS S3

Table-2: Application Characteristics:

S. No.	Characteristics	Description	Technology
1	Open-Source Frameworks	Frameworks used for UI and backend.	Streamlit, Python
2	Security Implementations	Secure handling of sensitive data (e.g., API keys).	Environment Variables, HTTPS Encryption
3	Scalable Architecture	Scalable to handle concurrent users.	Microservices-based architecture
4	Availability	High availability ensured through distributed servers and cloud deployment.	AWS Load Balancer, Auto-Scaling
5	Performance	Optimized for fast resume generation (under 5 seconds per request).	Caching, Lightweight Templates