

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

Date	03 October 2022
Team ID	PNT2022TMID35525
Project Name	Project - AI based discourse for Banking Industry
Maximum Marks	4 Marks

Technical Architecture:

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

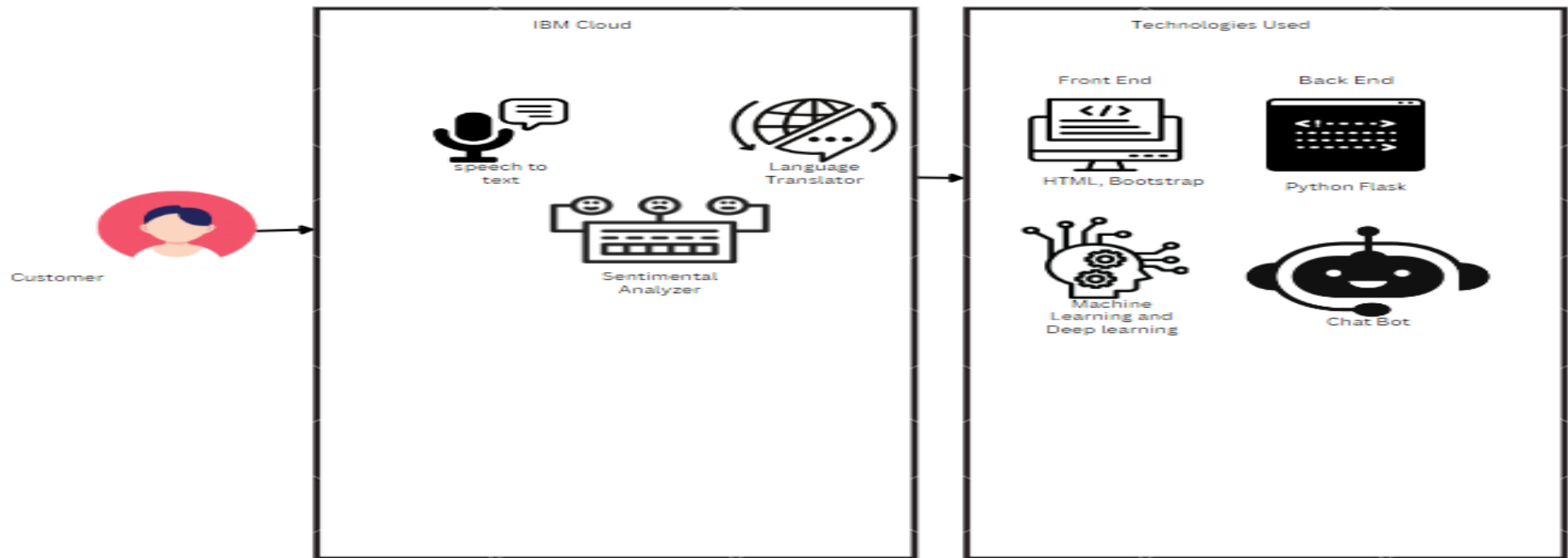


Table-1 : Components & Technologies:

S.No	Component	Description	Technology
1.	User Interface	How user interacts with application e.g. Web UI, Mobile App, Chatbot etc.	HTML, CSS, JavaScript
2.	Application Logic-1	Chat Bot that allows to resolve the queries of the user. Automated generation of questions as the user types.	Python, IBM Watson Assistance
3.	Application Logic-2	Personalized questions and frequently asked questions.	IBM Watson STT service
4.	Application Logic-3	Real time fetching of data from the cloud and automated updating of user information.	IBM Watson Assistant

		Improvised and customisable user interface with fresh updates and versions.	
5.	Cloud Database	Database Service on Cloud	IBM DB2, IBM Cloudant etc.
6.	External API-1	Users can sends query with the help of chatbot which is processed by IBM Watson Assistant and stored in IBM Cloud Database	IBM Weather API, etc.
7.	External API-2	Cloud Database is secure, automatic and scalable database which is used by Watson Assistant and sends response back to the user.	Aadhar API, etc.
8.	Deep Learning or NLP	It learns to execute classification task directly from text. It is used to do text in mining and pattern recognition. It also does sentimental analysis on the feedback.	Python / R
9.	Infrastructure (Server / Cloud)	On the cloud server we will deploy the chat bot using python flask API	Python Flask

Table-2: Application Characteristics:

S.No	Characteristics	Description	Technology
1.	Open-Source Frameworks	Different open source frameworks used	Bootstrap, Python flask
2.	Security Implementations	Encryption, Assess Control, User authentication, authorization and other firewalls.	IBM Watson Assistant, IBM Cloudant DB
3.	Scalable Architecture	The scalability consists of 3 tiers – Web server, Application server, Cloud server	Docker, IBM Watson assistance, cloud server-cloud DB
4.	Availability	Available 24/7 and around the globe using load balancers and distributed servers.	IBM Cloud
5.	Performance	No limit on the number of customers.	IBM Load balancer

References:

<https://c4model.com/>

<https://developer.ibm.com/patterns/online-order-processing-system-during-pandemic/>

<https://www.ibm.com/cloud/architecture>

<https://aws.amazon.com/architecture>

<https://medium.com/the-internal-startup/how-to-draw-useful-technical-architecture-diagrams-2d20c9fda90d>