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

Date	15 October 2022
Team ID	**PNT2022TMID45335**
Project Name	**AI BASED DISCOURSE FOR BANKING INDUSTRY**
Maximum Marks	4 Marks

Technical Architecture Steps:

1. User queries to the Chat Bot
2. Bot previews the query
3. Query is transferred to Watson Assistant
4. Natural Processing Language is used to understand the query
5. Watson Assistant sends the query
6. Watson finds the relevant response from cloud database
7. Queries and responses (sent and received) is stored in cloud database
8. All queries and related information is sent to the bank for improvement

Technical Architecture :

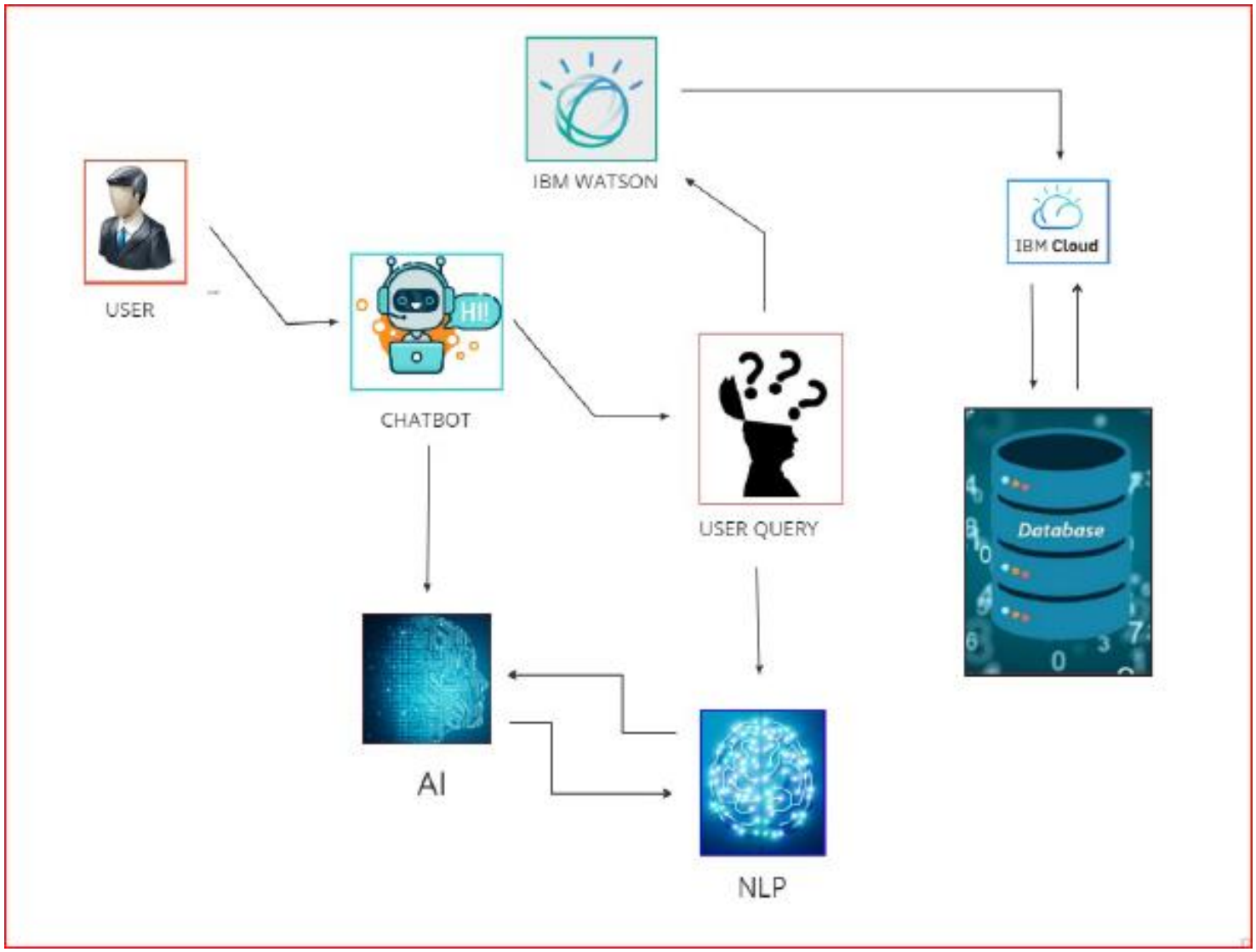

Table-1 : Components & Technologies:

S.No	Component	Description	Technology
1.	Bot Preview	A normal page is present to the user with a chatbot layout that has an input box field available to get user queries and preset options are presented for the user to select.	HTML, CSS, JavaScript
2.	Application Logic-1	User can type the queries by using the input bar	Java / Python
3.	Application Logic-2	The user can have the optional queries and normal queries	IBM Watson STT service
4.	Application Logic-3	Processes responses to custom queries and displays a relevant response.	IBM Watson Assistant
5.	Cloud Database	The queries has been stored in the cloud ,that can access when the queries have answered	IBM Cloudant DB
6.	External API-1	It has the interface between the application and the cloud and again it send the query from the application to the cloud.	Watson Assistant v2 API
7.	External API-2	A cloud based API that supports several cloud based applications and operations.	IBM Cloud API
8.	Deep Learning Model	It is trained with several queries and uses thatknowledge to provide relevant responses to queries with a good enough accuracy.	Deep Learning
9.	Infrastructure (Server / Cloud)	Application Deployment on Local System / Cloud Local Server Configuration: Flask Application Cloud Server Configuration: IBM Cloud	Python Flask, IBM Cloud

Table-2: Application Characteristics:

S.No	Characteristics	Description	Technology
1.	Open-Source Frameworks	List the open-source frameworks used	Python Flask, CSS Frameworks
2.	Security Implementations	IBM Cloud are present highly security features and general user access	IBM Watson Assistant, IBM Cloudant DB
3.	Scalable Architecture	The architecture contains of three parts, the client side, the web server and the cloud server	Client Side: Flask (Python) Web Server: IBM Watson Assistant Cloud Server: IBM Cloud
4.	Availability	The chatbot is available 24/7 on almost all devices that support an internet browser .It is a user friendly	IBM Cloud, Flask (Python)
5.	Performance	Efficient and Respond to several users of queries at the same time without any technical problem.	IBM Load Balancer, IBM Cloud