

PROJECT DESIGN PHASE-II

TECHNOLOGY STACK (ARCHIETECTURE AND STACK)

Date	14 October 2022
Team ID	PNT2022TMID50675
Project Name	AI Based Discourse For Banking Industry
Maximum Marks	4 Marks

Technical Arichitecture:

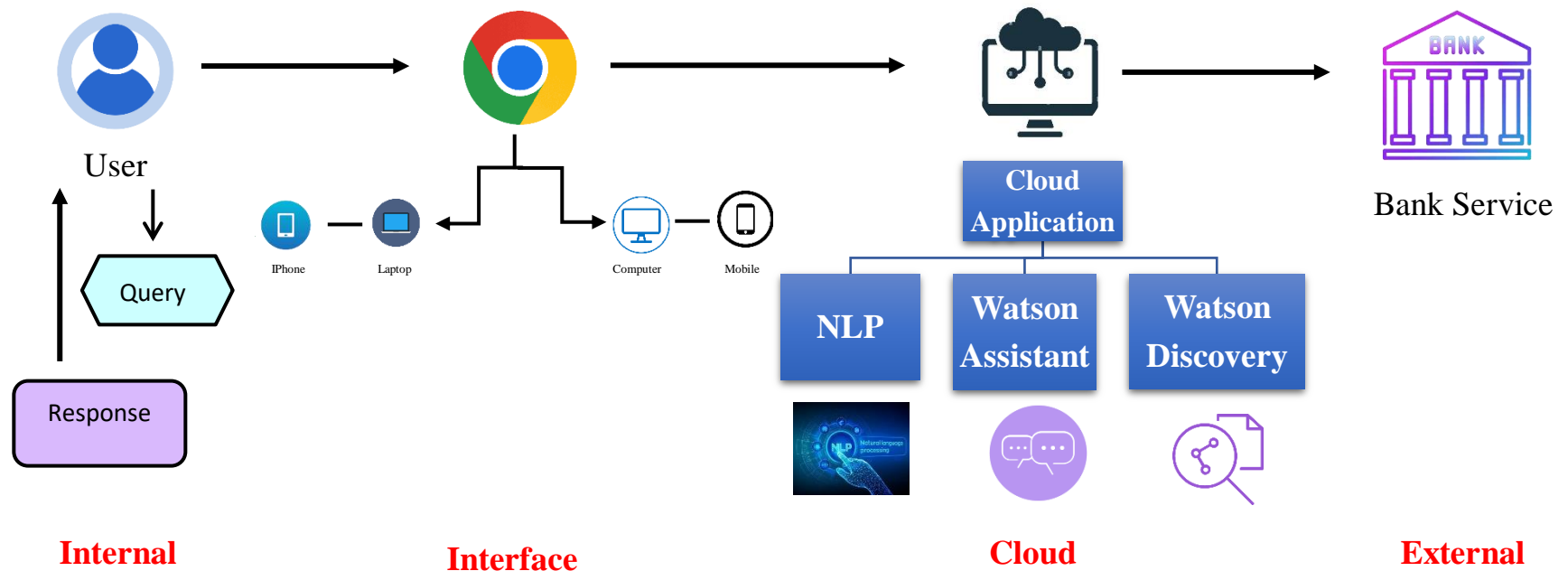


Table 1: Components & Technologies:

S. No.	Component	Description	Technology
1.	User Interface	A user interacts with the application. e. g. Web UI, Chatbot etc...	HTML, CSS, JavaScript / Angular Js / React Js etc...
2.	Application Logic-1	User Message Processing	NLP and NLU
3.	Application Logic-2	Machine intent / Entities	IBM Watson Assistant
4.	Application Logic-3	Training and Building Deep Learning Model	IBM Watson Studio
5.	Application Logic-4	Deployment	Python Flask
6.	Cloud Data Base	Every time a query is asked, the cloud is accessed to store both the query and the response.	IBM Cloudant DB
7.	External API-1	In order to send a query from the application to the cloud, it offers an interface between the two. Watson Assistant v2 API	Watson Assistant v2 API
8.	External API-2	An API for the cloud that supports various cloud-based processes and applications.	IBM Cloud API
9.	Deep Learning Model	It uses the knowledge acquired from responding to several questions to provide pertinent information with a level of accuracy that is acceptable.	Deep Learning
10.	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	Open source frameworks used in Python Flask.	Technology used Python Flask.
2.	Security Implementations	End-to-end encryption of data, isolation of customer data, Scanning and intrusion detection, Antivirus anti anti-malware protection, Security for user devices, Application of security patches.	SHA-256, Encryptions, IAM Controls, OWASP, IBM Watson Assistant etc.
3.	Scalable Architecture	Chatbot Architecture consists of four pillars. They are intents, entities, data flow, scripts (3- tier architecture-presentation tier, application tier, data tier and Microservices architecture)	Technology used-IBM Watson Assistant
4.	Availability	Almost every device that supports an internet browser has access to the chatbot 24/7. Flask, IBM Cloud (Python)	IBM Cloud, Flask (Python)
5.	Performance	Responds to several thousands of queries at the same time.	IBM Load Balancer, IBM Cloud