Project Design Phase-2
Technology Stack (Architecture & Stack)

Team ID	**PNT2022TMID13685**
Project Name	**AI based discourse for Banking Industry**
Maximum Marks	**4 Marks**

ABSTRACT

- The aim of the project is to build an AI chatbot using Watson's assistant which will have the capability to answer banking related queries asked by customers.
- This is done so that the economies of scale afforded to organizations that efficiently deploy AI technologies will compel incumbents to strengthen customer engagement each day with distinctive experiences and superior value propositions.
- In today's banking services, the customer service suffers from long waiting lines, long response times, and viewing only online content. In this situation, customer service is being devalued, and businesses and individuals are seeking new ways to interact with customers in a more effective way.
- Our chatbot will be designed to answer an array of frequently asked questions, manage tasks and orders, schedule notifications and reminders, generate reports and much more,
- The chatbot utilizes Watson's assistant features to build upon itself. It stores entities, intents and dialogs of the customer and responds accordingly.

OBJECTIVES

In this project, we will be building a chatbot using Watson's assistant. This chat should have the following capabilities:

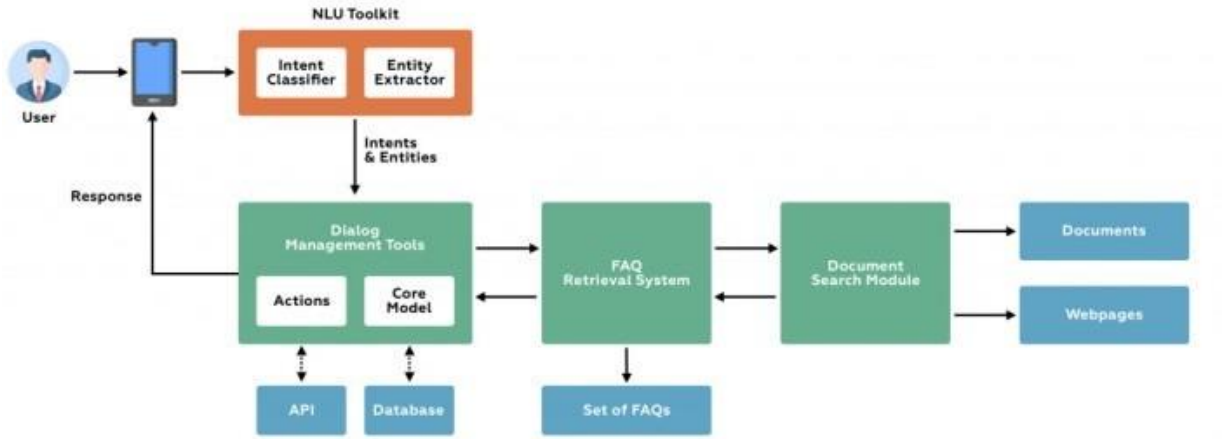
- The Bot should be able to guide a customer to create a bank account.
- The Bot should be able to answer loan queries.
- The Bot should be able to answer general banking queries.
- The Bot should be able to answer queries regarding net banking.

Banking chatbots have all the data to predict the spending habits of the customers and help them keep their finances on track. With the help of artificial intelligence, banks can provide financial advice to their customers in natural language using a set of pre-stored intents, entities and dialogs. It should be able to recognise and match the intents of the customer and answer them accordingly.

Chatbots enable businesses to communicate with consumers in a more personal way without incurring the costs of human personnel. Many of the queries or concerns that clients have, for

example, are frequent and readily resolved. That is why businesses develop FAQs and troubleshooting manuals.

TECHNICAL ARCHITECTURE:



1. User
2. NLU Toolkit
    a. Intent Classifier
    b. Entity Extractor
3. Intents & entities
4. Dialog Management Tools
    a. Actions
        i. API
    b. Core Model
        i. Database
5. FAQ Retrieval System
    a. Set of FAQs
6. Document Search Module
    a. Documents
    b. Webpages
7. Response to User

Table-1 : Components & Technologies:

S.No	Component	Description	Technology
1	User Interface	How user interacts with application	HTML, CSS
2	Application Logic-1	Logic for a process in the application	Python

3	Database	Data Type (CSV FILE)	Kaggle website
4	Model of the data	Building model of the data	Machine learning
5	Libraries	Import libraries into data set	Pandas, Seaborn, Matplotlib, Numpy
6	Training and testing data	Purpose of data training and testing	Regression ,Classification, clustering Algorithms , SK learn
7	Testing	Data Tests data using Agile methodology	Agile methodology
8	Accuracy	Accuracy of the tested and trained data	Mean_squared_error, Mean_absolute_error
9	Infrastructure (Server)	Application Deployment on Local System	Local.

Table-2: Application Characteristics:

S.No	Characteristics	Description	Technology
1	Open-Source Frameworks	List the open-source frameworks used	Flask framework
2	CSV file	Importing CSV file	Pandas
3	Data visualization	Perform data visualization	Matplot(pie charts,histograms)
4	Testing and Training	Create testing and training for the dataset	Technology used standardScaler, MinMaxScaler
5	Performance	Design consideration for the performance of the application	Technology used IBM Chatbox