

# **AI BASED DISCOURSE FOR BANKING INDUSTRY**

**Team ID: PNT2022TMID35574**

## **TEAM LEADER:**

**Name: Mrithulla Padmanabhan**

**Register Number: 2019115056**

## **TEAM MEMBERS:**

**Name: Joshika G**

**Register Number: 2019115043**

**Name: Nandhini B**

**Register Number: 2019115058**

**Name: Rasitha R**

**Register Number: 2019115077**

## **Contents**

### **1. INTRODUCTION**

- 1.1 Project Overview
- 1.2 Purpose

### **2. LITERATURE SURVEY**

- 2.1 Conversation to Automation in Banking Through Chatbot Using Artificial Machine Intelligence Language
- 2.2 The Use of Chatbots in Digital Business Transformation

### **3. IDEATION & PROPOSED SOLUTION**

- 3.1 Empathy Map Canvas
- 3.2 Ideation & Brainstorming
- 3.3 Proposed Solution
- 3.4 Problem Solution fit

### **4. REQUIREMENT ANALYSIS**

- 4.1 Functional requirement
- 4.2 Non-Functional requirements

### **5. PROJECT DESIGN**

- 5.1 Data Flow Diagrams
- 5.2 Solution & Technical Architecture
- 5.3 User Stories

### **6. PROJECT PLANNING & SCHEDULING**

- 6.1 Sprint Planning & Estimation
- 6.2 Sprint Delivery Schedule
- 6.3 Reports from JIRA

### **7. CODING & SOLUTIONING (Explain the features added in the project along with code)**

- 7.1 Feature 1
- 7.2 Feature 2
- 7.3 Database Schema

### **8. TESTING**

- 8.1 Test Cases
- 8.2 User Acceptance Testing

### **9. RESULTS**

- Performance Metrics

### **10. ADVANTAGES & DISADVANTAGES**

### **11. CONCLUSION**

### **12. FUTURE SCOPE**

### **13. APPENDIX**

- Source Code
- GitHub & Project Demo Link

# **Project Report**

## **1. INTRODUCTION**

### **1.1 Project Overview:**

The AI bot serves as a virtual assistant in the Banking Chatbot application. The bot automatically responds to the customers' questions. Any queries related to opening an account, loan, net banking, credit card and other general inquiries will be answered by the bot. The chatbot is created using IBM Watson Assistant and is trained by manually adding the queries to it along with the relevant responses

### **1.2 Purpose:**

Most banks have limited hours of operation, making it difficult for customers to sacrifice personal time to visit them. Customers must wait a long time for their queries to be answered. Conversational AI Chatbots understand customer concerns and provide timely assistance. The chatbot assists bank customers with the needful data and it even responds to a few queries that the executive could use for reference. Chatbots not only serve customers but can also be used to assist employees.

## **2. LITERATURE SURVEY**

### **2.1 Conversation to Automation in Banking Through Chatbot Using Artificial Machine Intelligence Language**

#### **Aim:**

Artificial Machine Intelligence involves creating machines that are capable of simulating knowledge. This paper examines some of the latest AI patterns and activities and then provides alternative theory of change in some of the popular and widely accepted postulates of today. The aim is to explore the usability of chatbot to assess whether it can fulfill customers' ever-changing needs.

#### **Methodology:**

The chatbot designed in this paper offers an accurate and reliable response to any request utilizing Artificial Intelligence Markup Language (AIML) and Latent Semantic Analysis (LSA) focused on the (frequently asked question) FAQ dataset. Using AIML, template-based and general questions such as welcome / greetings and general questions will be addressed, and other service-based questions will be answered using LSA to provide responses for customers at any time.

Conclusion:

This paper discusses strategies for handling dialog in the banking and finance area based on ontology. Although this work has not yet been extensively tested, it is promising. The future work involves the completion of the framework and development of chatbot. It further requires the expansion of the domain. Intelligent answers created by entering not only the current FAQ list, but also various other outlets such as twitter, servers, and other data sources. Providing suggestions for closure. Intelligent response photo example, links. Merging linguistic similarity together with cosine similarity. Data relevant to the reporting account using the integrated system of the Bank.

## **2.2 The Use of Chatbots in Digital Business Transformation**

Aim:

The number of studies on chatbots has increased significantly over the past few years which can make it difficult for researchers to navigate the space and identify areas that need further attention. The aim of this paper is to fill in the gap and to conduct a systematic literature review of high-quality journal research papers in order to summarize the current state of research on chatbots, identify their role in digital business transformation and suggest the areas warranting further attention.

Methodology:

A systematic literature review (SLR) was selected as the best method to achieve the defined objectives. The process of identification and analysis of relevant papers for the purpose of this SLR consisted of three steps: i) Initial database search; ii) Title and abstract screening; iii) Detailed full-text analysis.

Conclusion:

This study has certain limitations. Firstly, although an effort was made to search for relevant keywords in resources in different databases, the search will never be entirely exhaustive, as some relevant studies may have been omitted due to the filtering process that was adopted. Only studies where the business implications of chatbots were clearly articulated or can be directly derived, were included.

## **3. IDEATION & PROPOSED SOLUTION**

### **3.1 Empathy Map Canvas**

- An empathy map is a straightforward, simple-to-understand picture that summarizes information about a user's actions and views and is utilized as a collaborative tool to obtain a deeper understanding of their customer.

- An empathy map's main objective in empathetic design is to bridge the understanding of the end user. This was done after surveying many bank customers and the issues they faced.
- A rectangle divided into four quadrants, with the user or client in the center, is an empathy map. The four empathy map quadrants examine the user's actions, thoughts, and feelings.
- From the empathy map we can infer that most of the customers fear and do not know who to trust in case of queries related to banking activities.
- They see time restrictions and often refer to online FAQs which do not resolve all their doubts.
- The customers experience long waiting lines and are frustrated by the delay caused by the crowd.
- Thus they resolve to ask their friends or delay their plans.

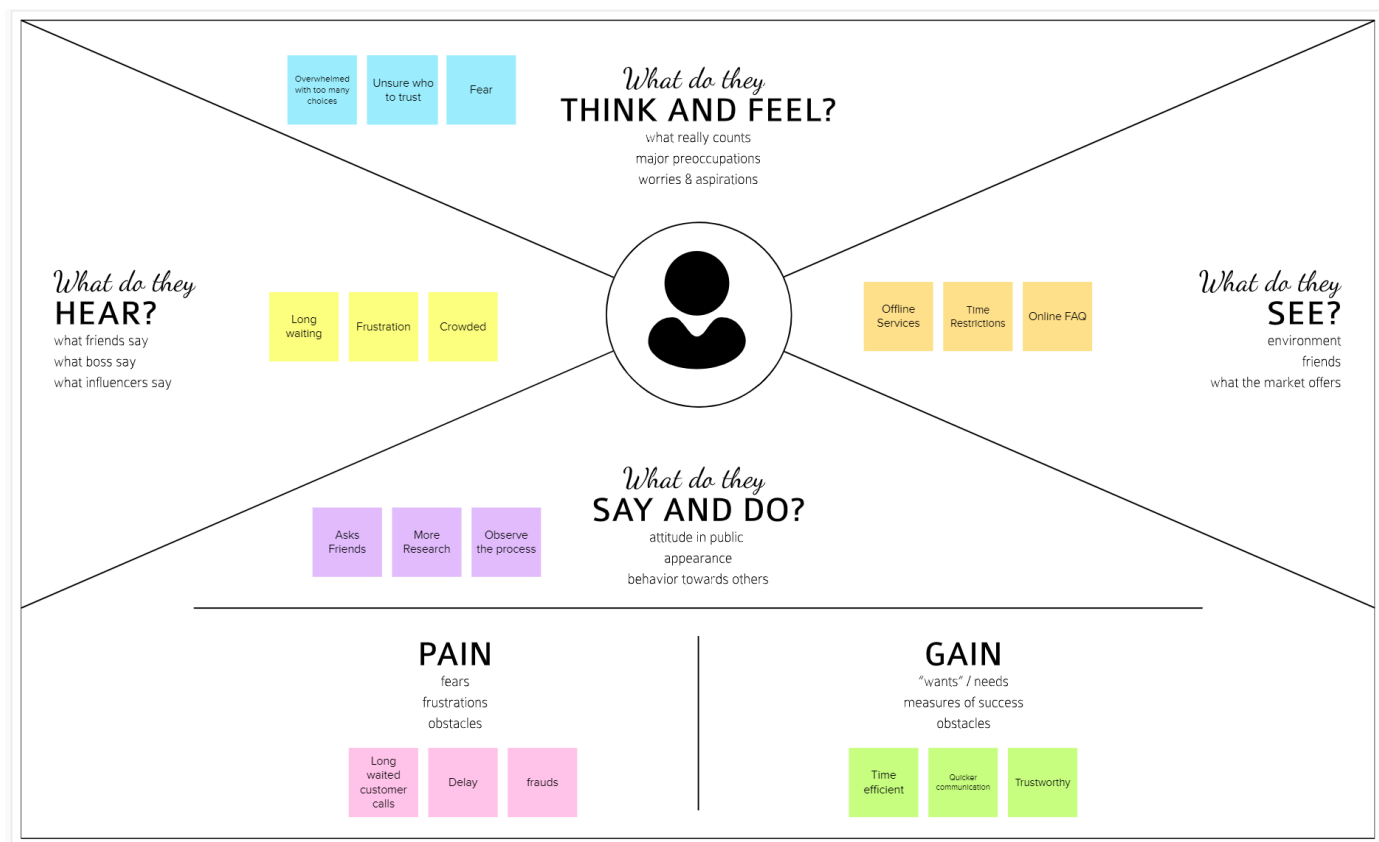


Figure 3.1 Empathy Map

## 3.2 Ideation & Brainstorming

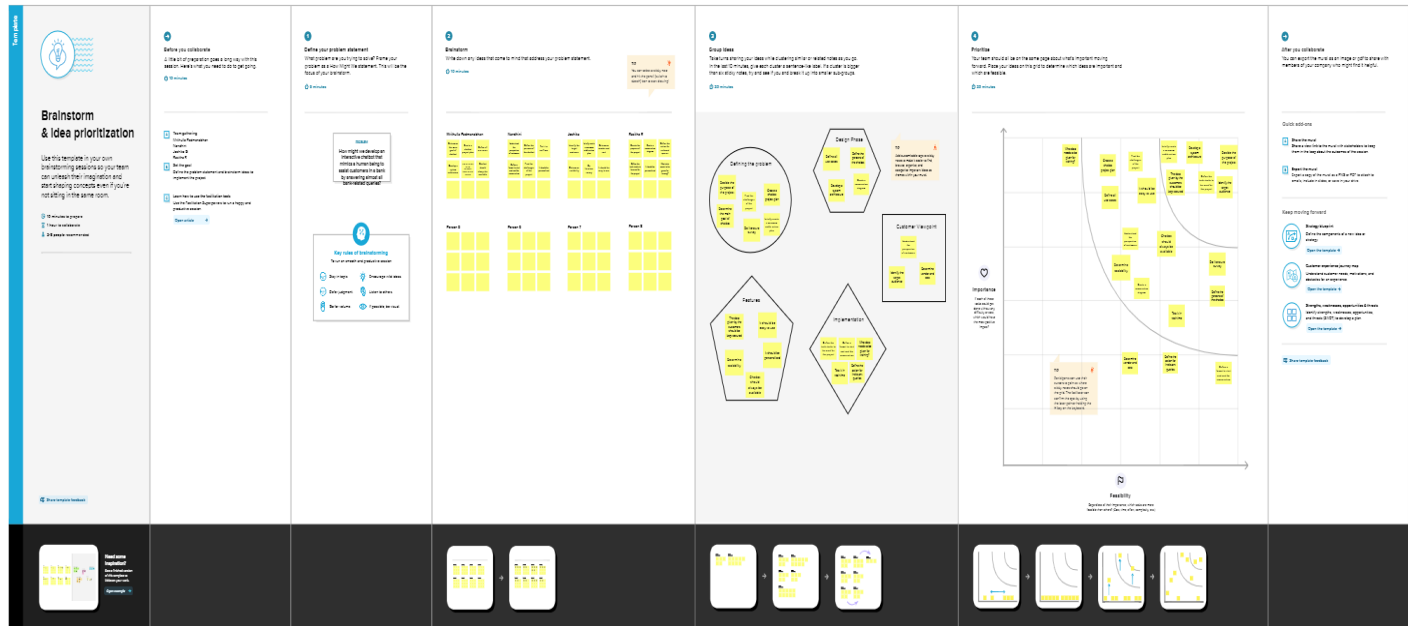


Figure 3.2 Ideation & Brainstorming

## 3.3 Proposed Solution

**Problem Statement (Problem to be solved):**

To help customers who are in need of bank assistance within their door steps .

**Idea / Solution description :**

Creating an AI chatbot to collect various parameters like name, phone number, etc. and using watson assistant to create a bank account.

**Novelty / Uniqueness:**

Existing solutions propose the eligibility of a banking system in real time scenario alone, while this solution aims to provide customers with easy ways to register into a bank account and create a Fixed deposit or Recurring deposit.

**Social Impact / Customer Satisfaction:**

Helps the stakeholders to easily check the availability of account opening.

**Business Model (Revenue Model):**

A high-traffic that would generate revenue from displaying advertisements.

**Scalability of the Solution:**

It can be extended to other types of accounts. Phone number verification can also be included.

### 3.4 Problem Solution fit

Project Title:

Project Design Phase-I - Solution Fit Template

Team ID: PNT2022TMD35574

Define CS, fit into CC	<b>1. CUSTOMER SEGMENT(S)</b> <span>CS</span> Who is your customer? i.e. working parents of 0-5 y.o. kids  Any bank customer who has a query	<b>6. CUSTOMER CONSTRAINTS</b> <span>CC</span> What constraints prevent your customers from taking action or limit their choices of solutions? i.e. spending power, budget, no cash, network connection, available devices.  Facing internet connectivity issues Unfamiliarity with using gadgets like phone, laptop, etc Having security concerns	<b>5. AVAILABLE SOLUTIONS</b> <span>AS</span> Which solutions are available to the customers when they face the problem or need to get the job done? What have they tried in the past? What pros & cons do these solutions have? i.e. pen and paper is an alternative to digital notetaking.  They consult their friends. But this might not be the best solution as only the respective bank officials know the accurate detail.	Explore AS, differentiate
	<b>2. JOBS-TO-BE-DONE / PROBLEMS</b> <span>J&amp;P</span> Which jobs-to-be-done (or problems) do you address for your customers? There could be more than one; explore different sides.  Answer all questions correctly and promptly like:  1. queries on opening a bank account 2. queries on depositing 3. queries on taking loan 4. queries on ordering a card 5. queries related to insurance and investment	<b>9. PROBLEM ROOT CAUSE</b> <span>RC</span> What is the real reason that this problem exists? What is the back story behind the need to do this job? i.e. customers have to do it because of the change in regulations.  1. Not enough bank employees 2. Time restrictions of bank opening hours 3. Clash of schedule of customer's daily life 4. Long waiting queues	<b>7. BEHAVIOUR</b> <span>BE</span> What does your customer do to address the problem and get the job done? i.e. directly related: find the right solar panel installer, calculate usage and benefits; indirectly associated: customers spend free time on volunteering work (i.e. Greenpeace)  1. Customers have to physically visit a bank 2. They contact the customer care service. Sometimes it may have more waiting time which can be frustrating	
Focus on J&P, tap into BE, understand RC	<b>3. TRIGGERS</b> <span>TR</span> What triggers customers to act? i.e. seeing their neighbour installing solar panels, reading about a more efficient solution in the news. - Hearing from others how convenient it is easy to use - Seeing others save a lot of time instead of going to bank each time	<b>10. YOUR SOLUTION</b> <span>SL</span> If you are working on an existing business, write down your current solution first, fill in the canvas, and check how much it fits reality. If you are working on a new business proposition, then keep it blank until you fill in the canvas and come up with a solution that fits within customer limitations, solves a problem and matches customer behavior.  AI chatbot for banking industry which helps resolve the issues of offline banking. This solution allows improved efficient support, reduced wait times, cost-effective 24/7 support	<b>8. CHANNELS OF BEHAVIOUR</b> <span>CH</span> <b>8.1 ONLINE</b> What kind of actions do customers take online? Extract online channels from #7  They generally search the web for answers to their queries which might be scattered and not reliable.  <b>8.2 OFFLINE</b> What kind of actions do customers take offline? Extract offline channels from #7 and use them for customer development.  They go to bank and meet bank officer to clarify their doubts	Identify strong TR & EM
	<b>4. EMOTIONS: BEFORE / AFTER</b> <span>EM</span> How do customers feel when they face a problem or a job and afterwards? i.e. lost, insecure > confident, in control - use it in your communication strategy & design  frustrated, angry > relieved, relaxed			

## 4. REQUIREMENT ANALYSIS

### 4.1 Functional requirement

Following are the functional requirements of the proposed solution.

#### 4.1 a) User Input

Selecting the type of loan  
Filling the necessary details

#### 4.1 b) Eligibility of Loan

Loan Approval Criteria  
Minimum Interest Rate

#### 4.1 c) Net Banking

Procedure to open net banking account

#### 4.1 d) Chatbot

Clarifying user's doubts.

### 4.2 Non-Functional requirements

#### 4.2 a) Usability

Easy to use and self-explaining website.

Easy navigation between pages.

Simple structure for faster access.

#### 4.2 b) Reliability

Ensembling the outputs of various machine learning models.

#### 4.2 c) Performance

Web Based Application.

Ability to indicate user inputs of erroneous data types.

#### 4.2 d) Availability

Application is available 24 / 7 as it is hosted on IBM cloud.

Simple web browser is enough to access the website.

#### 4.2 e) Scalability

Can be extended for other types of loans.

Aadhar and PAN verification can also be implemented.

## 5. PROJECT DESIGN

### 5.1 Data Flow Diagrams

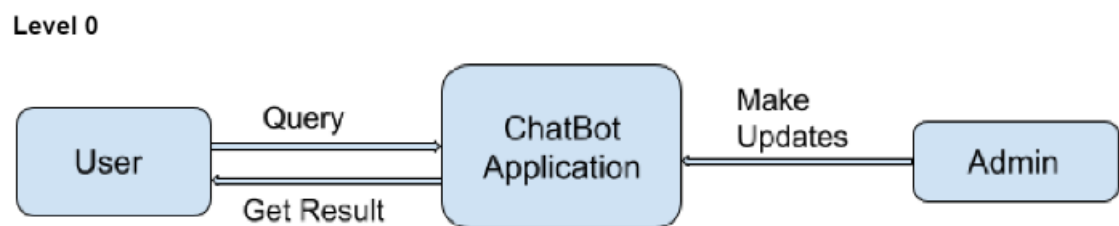


Figure 5.1 Data Flow Diagram - Level 0



Level 1

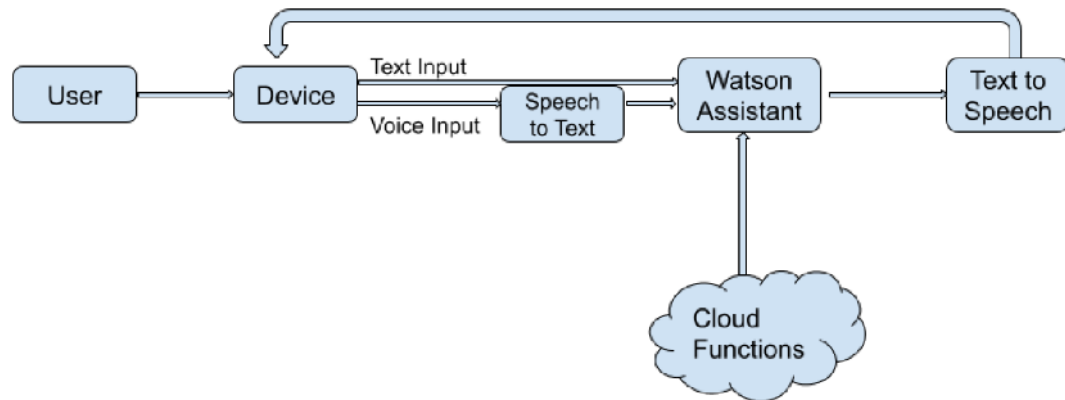


Figure 5.2 Data Flow Diagram - Level 1

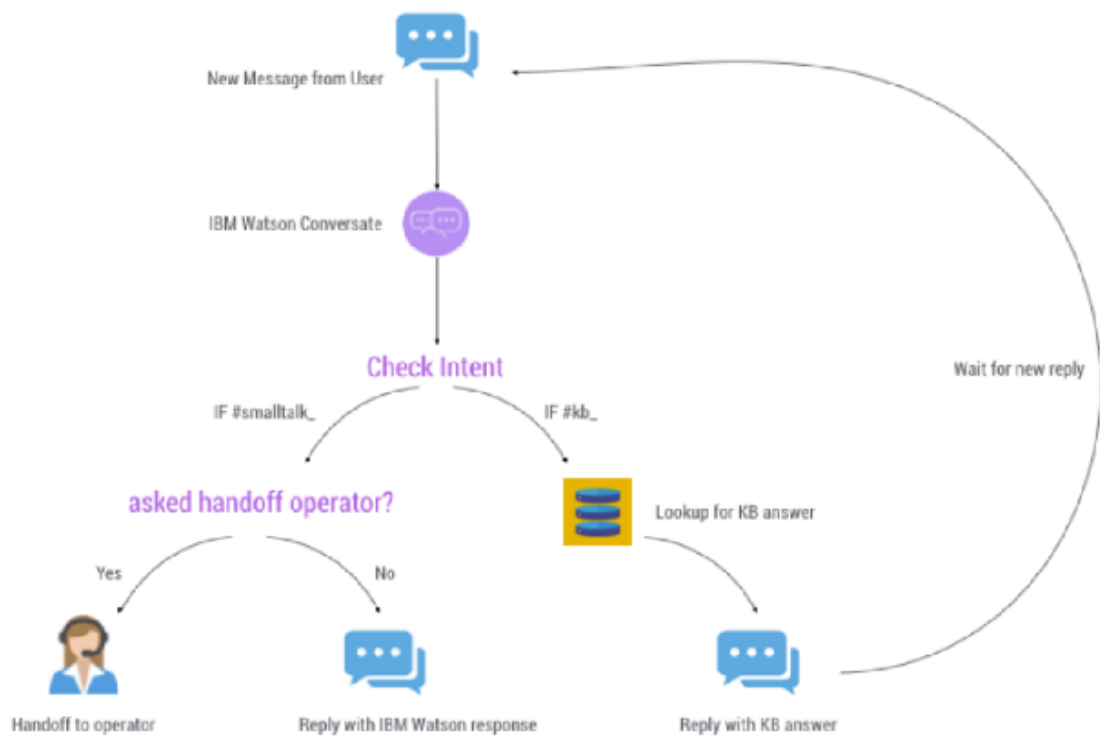


Figure 5.3 Data Flow Diagram - Level 2

## 5.2 Solution & Technical Architecture

# ARCHITECTURE

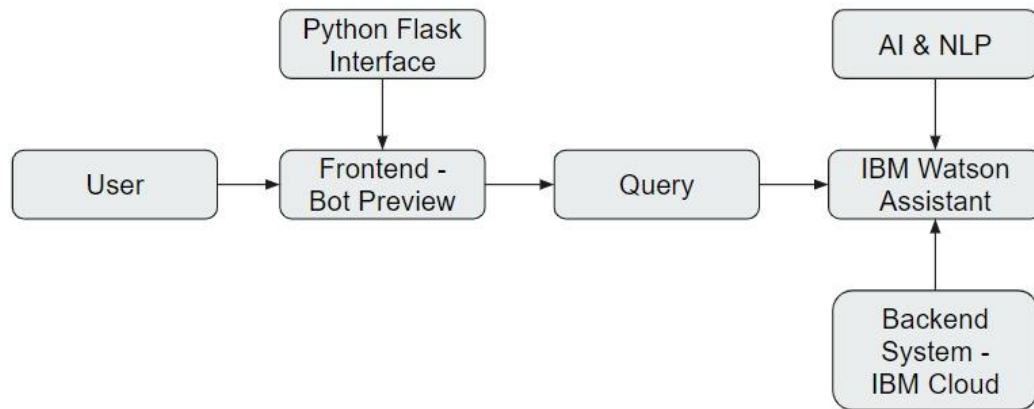


Figure 5.4 Technical Architecture

## 5.3 User Stories

User Story-1 (USN-1):

As a user, in the Savings Account option, I can select Types of Savings Account to get details regarding documents required for creating that savings account

User Story-2 (USN-2):

As a user, I can check the Minimum Balance of Savings Account

User Story-3 (USN-3):

As a user, I can check the Interest Rates of Savings Account.

User Story-4 (USN-4):

As a user, I can choose the Type of Loans to know the information on choosing an essential loan scheme

User Story-5 (USN-5):

As a user, I can check the Loan Amounts that can be offered for corresponding Loan Accounts chosen

User Story-6 (USN-6):

As a user, I can check the Status of Loan for my Loan Accounts

User Story-7 (USN-7):

As a user, I can choose the Type of Company to know the information on documents to be submitted for creating current account

User Story-8 (USN-8):

As a user, I want to get details on procedure to close my Current Account

User Story-9 (USN-9):

As a user, I want to get the procedure details for Currency Conversion facility of my bank account

User Story-10 (USN-10):

As a user, I want to get the procedure details for maintaining Storage Locker facility of my bank account

User Story-11 (USN-11):

As an admin, I can change responses to queries and modify them as needed .

User Story-12 (USN-12):

As a admin, I can add more options to queries and add new options as a new features get added

## 6. PROJECT PLANNING & SCHEDULING

### 6.1 Sprint Planning & Estimation

<b>Sprint</b>	<b>Functional Requirement (Epic)</b>	<b>User Story Number</b>	<b>User Story / Task</b>	<b>Story Points</b>	<b>Priority</b>	<b>Team Members</b>
Sprint-1	Savings Account Related Actions	USN-1	As a user, in the Savings Account option, I can select Types of Savings Account to get details regarding documents required for creating that savings account.	4	High	Mrithulla Padmanabhan
Sprint-1		USN-2	As a user, I can check the Interest Rates of Savings Account	4	High	Mrithulla Padmanabhan
Sprint-1		USN-3	As a user, I can check the Minimum Balance of Savings Account	3	Medium	Mrithulla Padmanabhan
Sprint-1	Current Account Related Actions	USN-4	As a user, I can choose the Type of Company to know the information on documents to be submitted for creating current account	5	High	Mrithulla Padmanabhan
Sprint-1		USN-5	As a user, I want to get details on procedure to close my Current Account	4	High	Nandhini B
Sprint-2	Loan Account Related Actions	USN-6	As a user, I can choose the Type of Loans to know the information on choosing an essential loan scheme	3	High	Nandhini B

<b>Sprint</b>	<b>Functional Requirement (Epic)</b>	<b>User Story Number</b>	<b>User Story / Task</b>	<b>Story Points</b>	<b>Priority</b>	<b>Team Members</b>
Sprint-2		USN-7	As a user, I can check the Loan Amounts that can be offered for corresponding Loan Accounts chosen	3	High	Nandhini B
Sprint-2		USN-8	As a user, I can check the Status of Loan for my Loan Accounts	1	Low	Nandhini B
Sprint-2	General Queries Related Actions	USN-9	As a user, I want to get the procedure details for Currency Conversion facility of my bank account	2	Medium	Joshika G
Sprint-2		USN-10	As a user, I want to check my CIBIL score for my loan application and to ensure whether my loan application is approved by the bank.	1	Low	Joshika G
Sprint-2		USN-11	As a user, I want to get the procedure details for maintaining Storage Locker facility of my bank account	3	High	Joshika G
Sprint-2	Net Banking Related Actions	USN-12	As a user, I want to get the procedure details for changing the Net Banking password of my bank account	3	High	Rasitha R
Sprint-2		USN-13	As a user, I can select types of fund transfers to get details regarding different services available in net banking	2	Medium	Rasitha R
Sprint-2		USN-14	As a user, I want to get the procedure details for adding beneficiaries to my net banking account.	2	Medium	Rasitha R
Sprint-3	Web Application	USN-15	As a user, I want to access the chatbot in a web browser that can be accessed from almost all devices.	20	High	Mrithulla Padmanabhan Nandhini B Joshika G Rasitha R
Sprint-4	User Interface and Web Pages	USN-16	As a user, I want to view pages of the banking website and have access to the chatbot easily.	20	High	Mrithulla Padmanabhan Nandhini B Joshika G Rasitha R

## 6.2 Sprint Delivery Schedule

<b>Sprint</b>	<b>Total Story Points</b>	<b>Duration</b>	<b>Sprint Start Date</b>	<b>Sprint End Date (Planned)</b>	<b>Story Points Completed (as on Planned End Date)</b>	<b>Sprint Release Date (Actual)</b>
---------------	---------------------------	-----------------	--------------------------	----------------------------------	--------------------------------------------------------	-------------------------------------

Sprint-1	4	6 Days	24 Oct 2022	29 Oct 2022	4	29 Oct 2022
Sprint-2	4	6 Days	31 Oct 2022	05 Nov 2022	4	05 Nov 2022
Sprint-3	5	6 Days	07 Nov 2022	12 Nov 2022	5	12 Nov 2022
Sprint-4	10	6 Days	14 Nov 2022	19 Nov 2022	10	19 Nov 2022

## 6.3 Reports from JIRA

The screenshot displays the JIRA interface for the 'IBM Project'. The main view is the 'Board', which is organized into two columns: 'TO DO' and 'DONE'. Each column contains task cards with titles, due dates, and issue IDs.

**TO DO Column:**

- Sprint - 3 - Complete the net banking and credit card action** (Due: 12 NOV, Issue: IP-3)
- Sprint - 4 - Complete the integration with flask to build a website** (Due: 19 NOV, Issue: IP-4)

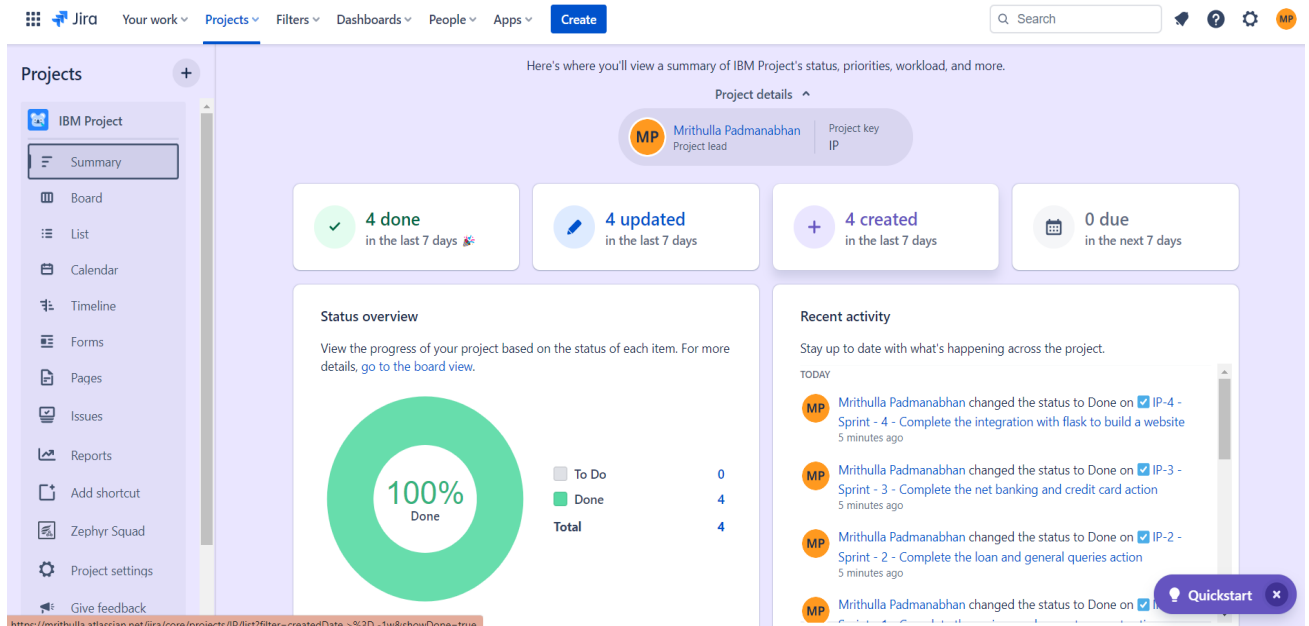
**DONE Column:**

- Sprint - 1 - Complete the savings and current account action** (Due: 29 OCT, Issue: IP-1)
- Sprint - 2 - Complete the loan and general queries action** (Due: 05 NOV, Issue: IP-2)

The right sidebar provides details for the selected issue, IP-3. It includes a 'To Do' section, a 'Description' field, 'Zephyr Actions' (Execute, Add to Test Cycle(s)), and 'Test Details' (Lite, Restore Default Size, Add Step, Columns). The 'Test Details' table shows a single test step:

	Test Step	Test Data	Action
1	Check if user is able to view details on net banking and credit cards		

At the bottom of the sidebar, there is a comment section with the text 'Add a comment...' and a 'Pro tip: press M to comment' note.



## 7. CODING & SOLUTIONING

### 7.1 Create Account Action:

Chatbots can answer several fundamental questions regarding creation of accounts of customers or banking products. For instance, chatbots can answer questions like “How to open a savings account?.”

### 7.2 Get Loan Action:

Chatbots can answer several fundamental questions regarding taking out loans for customers or banking products. For instance, chatbots can answer questions like “How to take out a loan?.”

### 7.3 Net Banking Related Action:

Chatbots can answer several fundamental questions regarding Net Banking of customers or banking products. For instance, chatbots can answer questions like “How to create a net banking account”

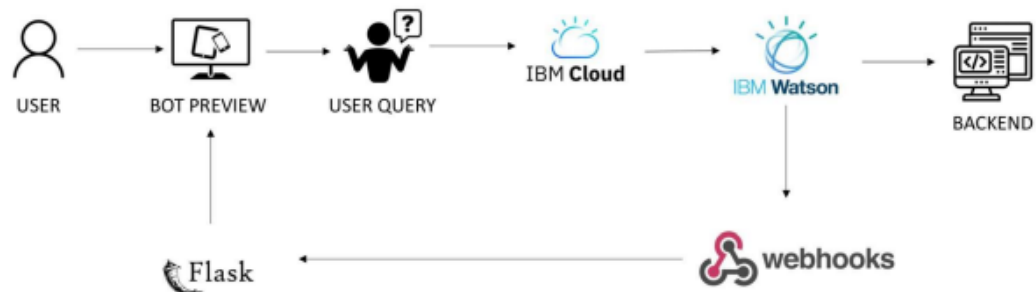
### 7.4 General Query Action:

Chatbots can answer several fundamental questions regarding banking products. For instance, chatbots can answer questions like “How to calculate CIBIL score.”

### 7.5 Credit Card Action:

Chatbots can answer several fundamental questions regarding creation of credit cards for customers or banking products. For instance, chatbots can answer questions like “What is the Eligibility to get a credit card”

## 7.6 Database Schema



## 8. TESTING

### 8.1 Test Cases

	Test Cases
1.	Verify user is able to open and view chatbot UI
2.	Verify user is able to interact with chatbot or not
3.	Verify chatbot is able to respond to user queries immediately
4.	Verify chatbot is able to provide options for user to choose various choices
	<b>Current Account Related Actions</b>
1.	Verify user is able to select type of company
2.	Verify user is able to know the procedure to create current account for selected type

3.	Verify user is able to know about zero balance current account
4.	Verify user is able to know the procedure to close current account
	<b>General Query Related Actions</b>
1.	Verify user is able to know about bank working days
2.	Verify user is able to know about list of branches
3.	Verify user is able to find the nearest branch
4.	Verify user is able to know about storage locker facility
5.	Verify user is able to know about currency conversion facility
	<b>Savings Account Related Actions</b>
1.	Verify user is able to select type of savings account
2.	Verify user is able to know the procedure to create savings account for selected type
3.	Verify user is able to find interest rate
	<b>Loan Account Related Actions</b>
1.	Verify user is able to choose options for selecting type of available loan policies
2.	Verify user is able to know about available loan amounts
3.	Verify user is able to know about joint loan
	<b>Net banking Related Actions</b>
1.	Verify user is able to know the procedure to login netbanking account
2.	Verify user is able to choose options for selecting type of fund transfers
3.	Verify user is able to know about daily transaction limit



## 8.2 User Acceptance Testing

S. No.	Test Cases	Yes/No
1.	Keyword Driven	Yes
2.	Responds in manually drafted rules	Yes
3.	Manages multiple users	Yes
4.	Conversational Paradigm	Yes
5.	Learns from real interactions	No
6.	Has decision-making skills	No

Jira Your work ▾ Projects ▾ Filters ▾ Dashboards ▾ People ▾ Apps ▾ Create

Q Search 🔔 ? ⚙️ MP

**Projects** +

- IBM Project
  - Summary
  - Board
  - List
  - Calendar
  - Timeline
  - Forms
  - Pages
  - Issues
  - Reports
  - Add shortcut
  - Zephyr Squad
  - Project settings
  - Give feedback

**Cycle Summary**

Search 🔍

Create New Test Cycle

UNRELEASED

Unscheduled ...

- User Interface ...
- UAT
- Ad hoc

RELEASED

**UAT** List Detail

Total Executions : 4 Total Executed : 4 Description :  
Total Execution Time : 0m Total Logged Time : 1w 2d 3h 1m Executions Not Tracked : 4

Select All Delete Columns + Add Tests

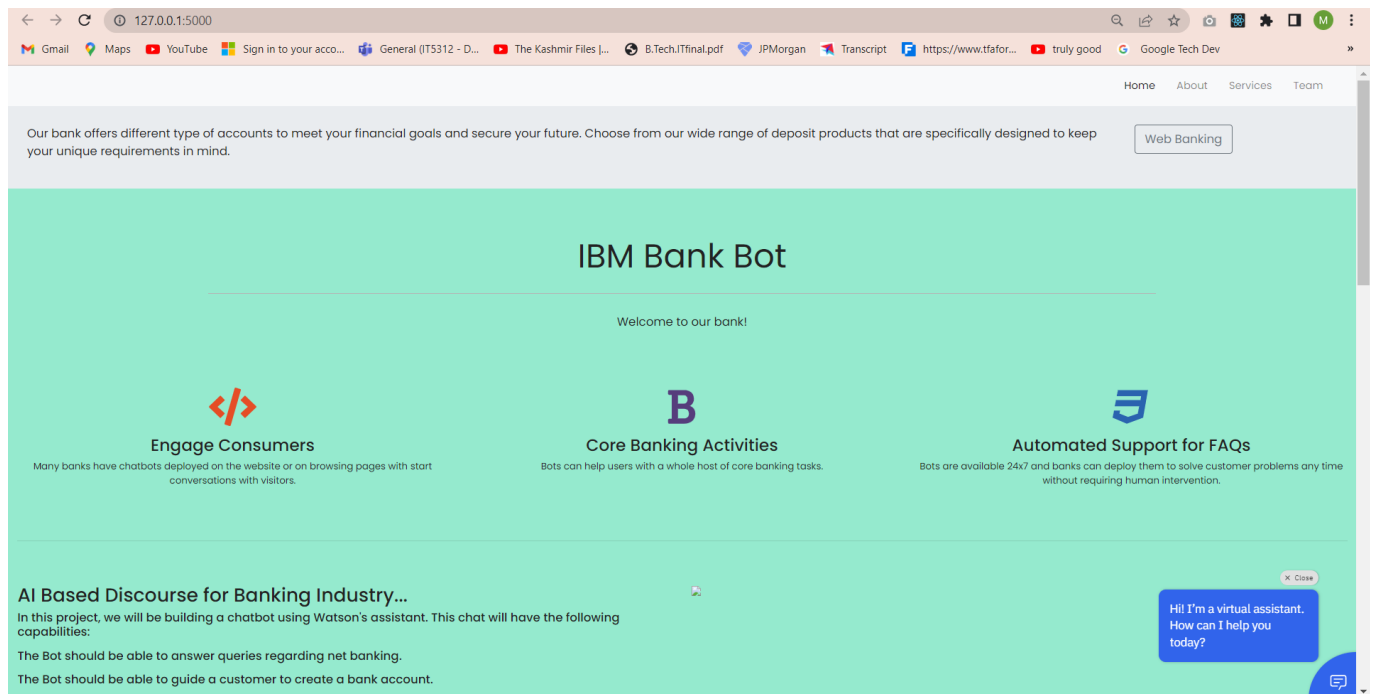
ID	Status	Summary	Defect	Compon...	Label	Action
IP-1	PASS	Sprint - 1 - Complete the savings and current account action	-	-	-	E O
IP-3	PASS	Sprint - 3 - Complete the net banking and credit card action	-	-	-	E O
IP-2	PASS	Sprint - 2 - Complete the loan and general queries action	-	-	-	E O
IP-4	PASS	Sprint - 4 - Complete the	-	-	-	E O

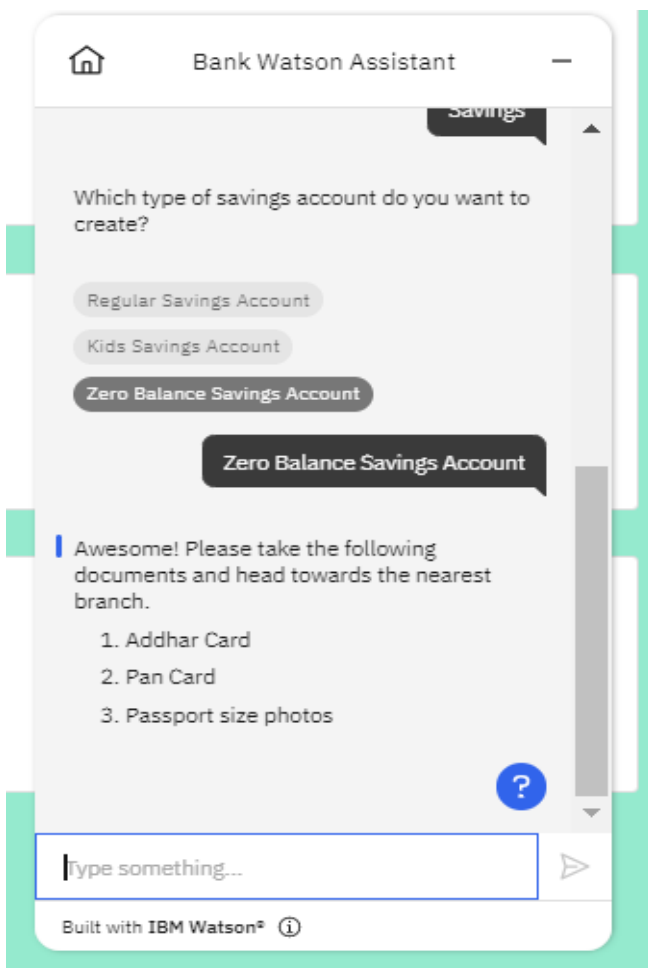
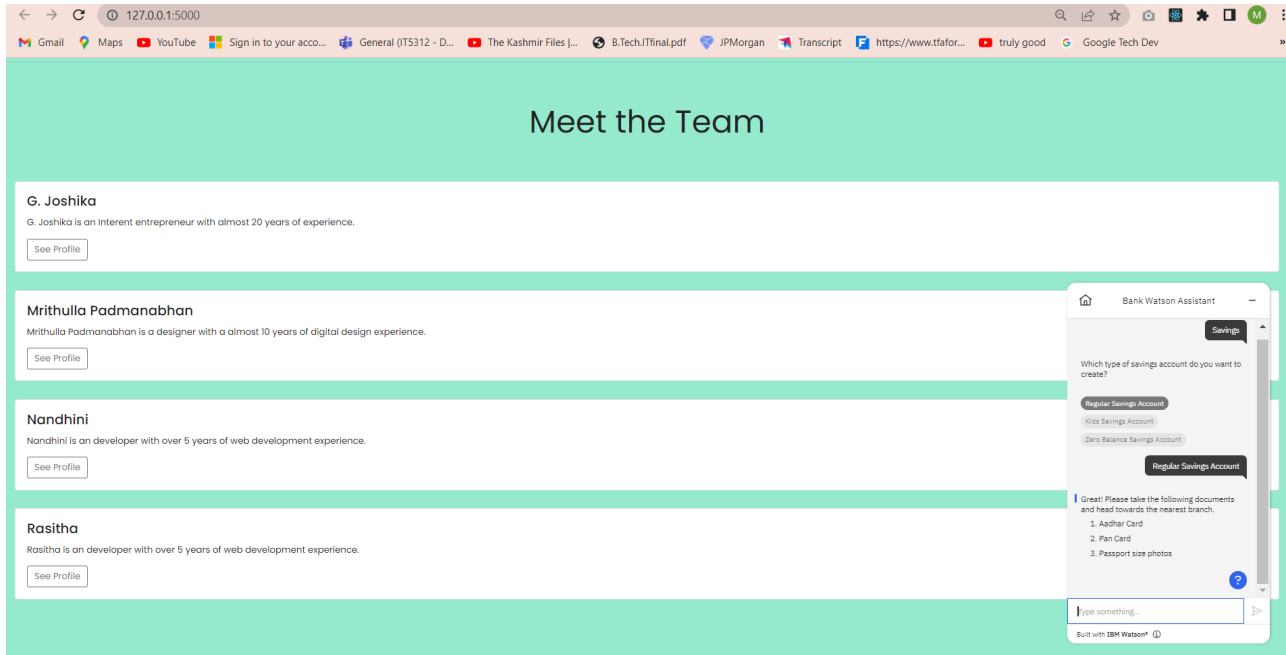
## 9. RESULTS

### 9.1 Performance Metrics

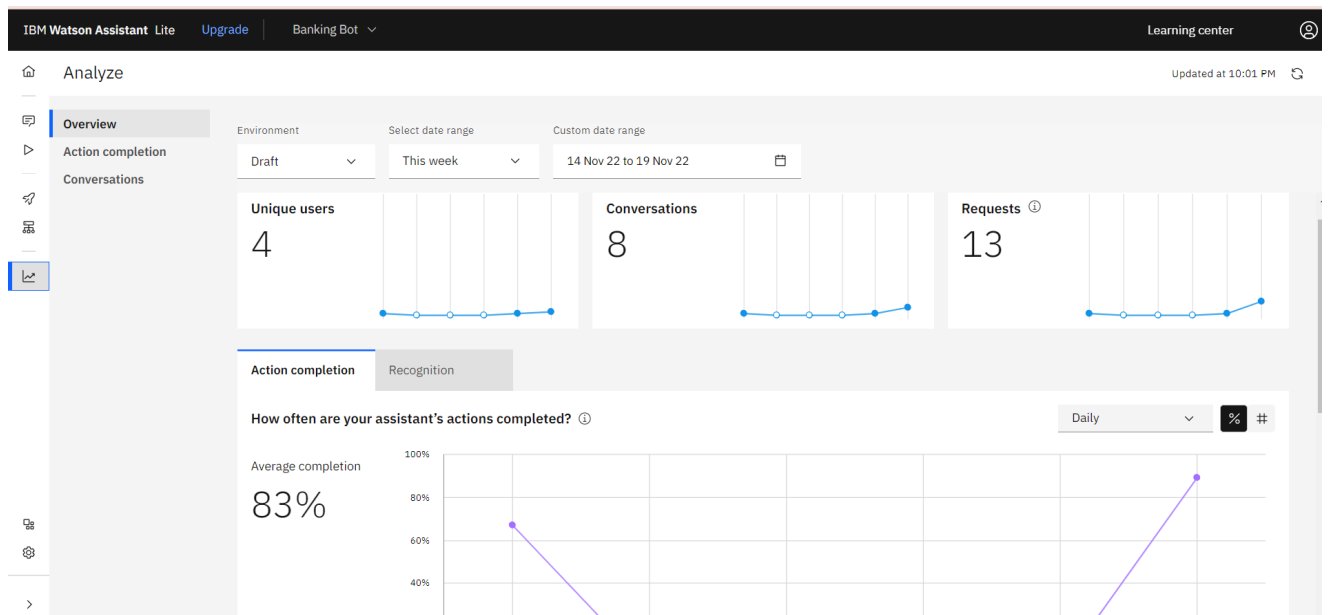
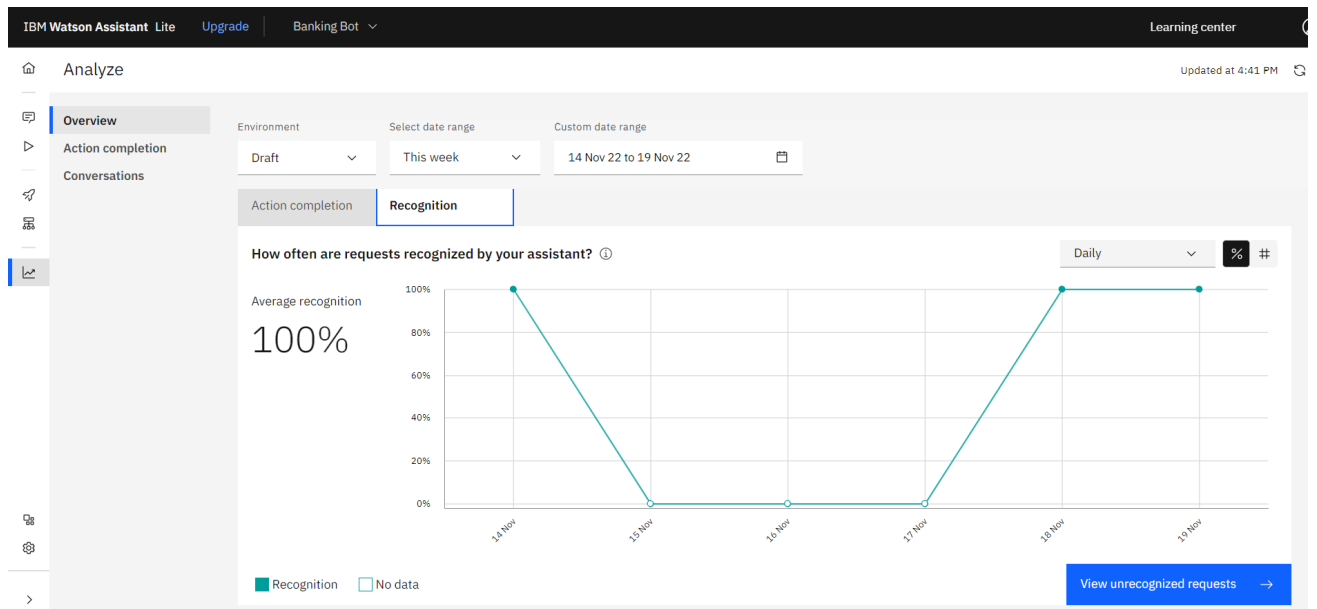
Model Summary:

1. The chatbot is used by the user to interact and select queries that are populated based on frequently asked questions of banking customers.
2. There can be multiple instances of a single chatbot serving different users at the same time.
3. It quickly responds with expected answers to frequently asked customer queries.
4. It can be scaled as per the requirements of the bank to include answers to queries related to any new feature or service introduced by the bank.





- Validation Accuracy - 100 %
- Completion Accuracy - 83 %



10.

#### **ADVANTAGES**

- Available 24/7 across the globe
- Direct connection with the bank agents
- No queueing in responses
- Latest queries are answered with ease
- Updated to the latest details
- Easy to setup and communicate

#### **DISADVANTAGES**

- Limited Response Scaling
- Frequent Maintenance
- Misreading of Queries
- Connectivity Issues

### **11. CONCLUSION**

The solution to almost all the querying applications has become chatbot for assistance and resolving. We believe that the same technology can be in banking queries as it was meant for that purpose. Though the bot would not be able to solve or satisfy all the queries for customers, it can certainly resolve issues that the user might be facing often and help the banking sectors maintain great relationships with their customers.

### **12. FUTURE SCOPE**

Chatbots help people obtain the information they need and solve their problems. The technology sector has seen a massive increase in AI development, which has led to the creation of chatbots that can help users easily find the information they need online. AI Chatbots effectively create a strong brand image. They will continue to evolve and play an important role in customer service for businesses.

1. Bots for Internal Business Communications Chatbots can be used for various purposes, including addressing common problems, communicating with employees, and finishing HR-related tasks and transactional functions. Chatbots for websites are acting as a guide to new employees through company protocols, recording answers for screen questions, and assisting with the onboarding process for new employees. Chatbots can save time for IT desk agents and help with more complicated issues.

2. Content Marketing Chatbots can communicate with the target market by speaking with them in complete sentences with a natural and easy-going conversational flow. Some markets use these bots to serve customer service and retail, amongst others. Chatbots can segment consumers for future marketing campaigns. This can be incredibly useful for creating more accurate target marketing. Based on the information from dialogue with chatbots, marketers can use this information to help with personalizing brand content.

3. Social Media Chatbots have better customer interaction rates on social media. Chatbot interactions increase consumer confidence in a brand or business. Customers are informed with daily or weekly announcements about deals, events, and promotions via social media. With time, it is used for voicing opinions, ordering products and services, offering reviews, and even getting in touch with businesses.

4. Use of AI in contact centers AI chatbots without human involvement can handle simple requests such as changing a password, requesting a balance, scheduling an appointment, etc.

## 13. APPENDIX

### Source Code:

Chat integration with Flask

flaskproj.py:

```
from flask import Flask, render_template  
  
app = Flask(__name__)
```

```

@app.route('/')

def bot():

    return render_template('index.html')


if __name__ == '__main__':

    app.run()

```

Website UI:

Index.html

```

<!DOCTYPE html>

<html lang="en">

<head>

    <meta charset="utf-8">

    <meta name="viewport" content="width=device-width,
initial-scale=1">

    <title>Complete Website Layout</title>

    <link rel="stylesheet"
href="https://unpkg.com/aos@next/dist/aos.css" />

    <link rel="stylesheet"
href="https://maxcdn.bootstrapcdn.com/bootstrap/4.0.0/css/bootstrap.min
.css">

    <script
src="https://ajax.googleapis.com/ajax/libs/jquery/3.3.1/jquery.min.js">
</script>

```

```

<script
src="https://cdnjs.cloudflare.com/ajax/libs/popper.js/1.12.9/umd/popper
.min.js"></script>

<script
src="https://maxcdn.bootstrapcdn.com/bootstrap/4.0.0/js/bootstrap.min.j
s"></script>

<script
src="https://use.fontawesome.com/releases/v5.0.8/js/all.js"></script>

<link          rel="stylesheet"
href="https://cdnjs.cloudflare.com/ajax/libs/animate.css/4.1.1/animate.
min.css">

    <link    rel=    "stylesheet"    type=    "text/css"    href=    "{{
url_for('static',filename='styles/style.css') }}">

</head>

<body>

<!-- Navigation -->

<nav class="navbar navbar-expand-md navbar-light bg-light sticky-top">

    <div class="container-fluid">

        <a    class="navbar-brand"    href="#"></a>

        <button    class="navbar-toggler"    type="button"
data-toggle="collapse" data-target="#navbarResponsive">

            <span class="navbar-toggler-icon"></span>

        </button>

        <div class="collapse navbar-collapse" id="navbarResponsive">

            <ul class="navbar-nav ml-auto">

```



```
<li class="nav-item active">

    <a class="nav-link" href="#">Home</a>

</li>

<li class="nav-item">

    <a class="nav-link" href="#">About</a>

</li>

<li class="nav-item">

    <a class="nav-link" href="#">Services</a>

</li>

<li class="nav-item">

    <a class="nav-link" href="#">Team</a>

</li>

<li class="nav-item">

    <a class="nav-link" href="#">Connect</a>

</li>

</ul>

</div>

</div>

</nav>

<!-- Image Slider -->

<div id="slides" class="carousel slide" data-ride="carousel"
data-aos="fade-up"
```

```

        data-aos-offset="200"

        data-aos-delay="50"

        data-aos-duration="1000">

<ul class="carousel-indicators">

            <li data-target="#slides" data-slide-to="0"
class="active"></li>

            <li data-target="#slides" data-slide-to="1"></li>

            <li data-target="#slides" data-slide-to="2"></li>

</ul>

<div class="carousel-inner">

    <div class="carousel-item active">

        <div class="carousel-caption">

            <h1 class="display-2">Website</h1>

            <h3>Complete Website Layout</h3>

            <button type="button" class="btn btn-outline-light
btn-lg">VIEW

                DEMO</button>

            <button type="button" class="btn btn-primary
btn-lg">Get Started</button>

        </div>

    </div>

    <div class="carousel-item">

```

```

    </div>

    <div class="carousel-item">

    </div>

</div>

</div>

<!-- Jumbotron -->

<div class="container-fluid" data-aos="fade-up"

    data-aos-offset="200"

    data-aos-delay="50"

    data-aos-duration="1000">

    <div class="row jumbotron">

        <div class="col-xs-12 col-sm-12 col-md-9 col-lg-9 col-xl-10">

            <p class="lead">Our bank offers different type of accounts
to meet your financial goals and secure your future. Choose from our
wide range of deposit products

                that are specifically designed to keep your unique
requirements in mind.</p>

        </div>

        <div class="col-xs-12 col-sm-12 col-md-3 col-lg-3 col-xl-2">

            <a href="#"><button type="button" class="btn
btn-outline-secondary

                btn-lg">Web Banking</button></a>

        </div>

```

```

    </div>

</div>

<!-- Welcome Section -->

<div class="container-fluid padding" data-aos="fade-up"

    data-aos-offset="200"

    data-aos-delay="50"

    data-aos-duration="1000">

    <div class="row welcome text-center">

        <div class="col-12">

            <h1 class="display-4">IBM Bank Bot</h1>

        </div>

        <hr>

        <div class="col-12">

            <p class="lead">Welcome to our bank!</p>

        </div>

    </div>

</div>

</div>

<!-- Three Column Section -->

<div class="container-fluid padding" data-aos="fade-up"

    data-aos-offset="200"

    data-aos-delay="50"

```

```

data-aos-duration="1000">

<div class="row text-center padding">

  <div class="col-xs-12 col-sm-6 col-md-4">

    <i class="fas fa-code"></i>

    <h3>Engage Consumers</h3>

    <p>Many banks have chatbots deployed on the website or on
browsing pages with start conversations with visitors. </p>

  </div>

  <div class="col-xs-12 col-sm-6 col-md-4">

    <i class="fas fa-bold"></i>

    <h3>Core Banking Activities</h3>

    <p>Bots can help users with a whole host of core banking
tasks.</p>

  </div>

  <div class="col-xs-12 col-md-4">

    <i class="fab fa-css3"></i>

    <h3>Automated Support for FAQs</h3>

    <p>Bots are available 24x7 and banks can deploy them to
solve customer problems any time without requiring human
intervention.</p>

  </div>

</div>

<hr class="my-4">

</div>

```

```

<!-- Two Column Section -->

<div class="container-fluid padding" data-aos="fade-up"

    data-aos-offset="200"

    data-aos-delay="50"

    data-aos-duration="1000">

    <div class="row padding">

        <div class="col-md-12 col-lg-6">

            <h2>If you build it...</h2>

            <p>The columns will automatically stack on each other when

                the screen is less than 576px wide.</p>

            <p>Resize the browser window to see the effect. Responsive
web
                design has become more important as the amount of
mobile traffic now

                accounts for more than half of total internet
traffic.</p>

            <p>It can also display the web page differently depending
on the

                screen size or viewing device.</p>

            <br>

            <a href="#" class="btn btn-primary">Learn More</a>

        </div>

        <div class="col-lg-6">

        </div>

```

```
    </div>

</div>

<hr class="my-4">

<!-- Meet the team -->

<div class="container-fluid padding">

    <div class="row welcome text-center">

        <div class="col-12">

            <h1 class="display-4">Meet the Team </h1>

        </div>

    </div>

</div>

</div>

<!-- Cards -->

<div class="container-fluid padding" data-aos="fade-up"

    data-aos-offset="200"

    data-aos-delay="50"

    data-aos-duration="1000">

    <div class="row padding">

        <div class="col-md-12">

            <div class="card">
```

```

        <div class="card-body">

            <h4 class="card-title"> G. Joshika</h4>

            <p class="card-text">G. Joshika is an Interent
                                entrepreneur with almost 20 years of
experience.

            </p>

            <a href="#" class="btn btn-outline-secondary">See
Profile</a>

        </div>

    </div>

</div>

<div class="col-md-12">

    <div class="card">

        <div class="card-body">

            <h4 class="card-title">Mrithulla Padmanabhan</h4>

            <p class="card-text">Mrithulla Padmanabhan is a
designer with a almost 10 years

                                of digital design experience.</p>

            <a href="#" class="btn btn-outline-secondary">See
Profile</a>

        </div>

    </div>

</div>

```



```
<div class="col-md-12">

    <div class="card">

        <div class="card-body">

            <h4 class="card-title">Nandhini</h4>

            <p class="card-text">Nandhini is an developer with
over 5 years

            of web development experience.</p>

            <a href="#" class="btn btn-outline-secondary">See
Profile</a>

        </div>

    </div>

</div>

<div class="col-md-12">

    <div class="card">

        <div class="card-body">

            <h4 class="card-title">Rasitha</h4>

            <p class="card-text">Rasitha is an developer with
over 5 years

            of web development experience.</p>

            <a href="#" class="btn btn-outline-secondary">See
Profile</a>

        </div>

    </div>
```

```

    </div>

</div>

</div>

<!-- Two Column Section -->

<div class="container-fluid padding" data-aos="fade-up"

    data-aos-offset="200"

    data-aos-delay="50"

    data-aos-duration="1000">

    <div class="row padding">

        <div class="col-md-12 col-lg-6">

            <h2>Our Philosophy</h2>

            <p>We know that greatness in a disruptive era requires bold

                ambition, curious talent and a culture that believes

we're

                smarter together.</p>

            <p>We approach every challenge hostically, with

best-in-class

                expertise in data, creativity, media, technology,

search, social and

                more. We call this Alchemy. It has the power to build

our clients'

                brands and transform their business. And white it may

seem like

                magic, we've got it down to a science.

```

```

        </p>

    </div>

    <div class="col-lg-6">

    </div>

</div>

<hr class="my-4">

</div>

<!-- Connect -->

<div class="container-fluid padding">

    <div class="row text-center padding">

        <div class="col-12">

            <h2>Connect</h2>

        </div>

        <div class="col-12 social padding">

            <a href="#"><i class="fab fa-facebook"></i></a>

            <a href="#"><i class="fab fa-twitter"></i></a>

            <a href="#"><i class="fab fa-google-plus-g"></i></a>

            <a href="#"><i class="fab fa-instagram"></i></a>

            <a href="#"><i class="fab fa-youtube"></i></a>

        </div>

```

```

    </div>

</div>

<!-- Footer -->

<footer>

    <div class="container-fluid padding" data-aos="fade-up"
        data-aos-offset="200"
        data-aos-delay="50"
        data-aos-duration="1000">

        <div class="row text-center">

            <div class="col-md-4 pt-0">

                <div class="footer-image">

                    </div>

                    <hr class="light">

                    <p>555-555-5555</p>

                    <p>email@hhemail.com</p>

                    <p>69 Street Name</p>

                    <p>City, State, 888</p>

                </div>

                <div class="col-md-4">

                    <hr class="light">

                    <h5>Our hours</h5>

                    <hr class="light">

```

```

        <p>Monday: 9am - 5pm</p>

        <p>Saturday: 10am - 4pm</p>

        <p>Sunday: Closed</p>

    </div>

    <div class="col-md-4">

        <hr class="light">

        <h5>Service Area</h5>

        <hr class="light">

        <p>City, State, 900</p>

        <p>City, State, 800</p>

        <p>City, State, 700</p>

        <p>City, State, 600</p>

    </div>

    <div class="col-12">

        <hr class="light-100">

        <h5>&copy; Website Learning </h5>

    </div>

</div>

</div>

</div>

</footer>

<script src="https://unpkg.com/aos@next/dist/aos.js"></script>

<script>

```

```

AOS.init();

</script>

<script>

    window.watsonAssistantChatOptions = {

        integrationID: "8efaa521-4fa1-4eb0-9c87-bebf773af467", // The ID
of this integration.

        region: "jp-tok", // The region your integration is hosted in.

        serviceInstanceID: "c585c117-6510-48bf-9178-8794b910a068", // The
ID of your service instance.

        onLoad: function(instance) { instance.render(); }

    };

    setTimeout(function() {

        const t=document.createElement('script');

t.src="https://web-chat.global.assistant.watson.appdomain.cloud/version
s/" + (window.watsonAssistantChatOptions.clientVersion || 'latest') +
"/WatsonAssistantChatEntry.js";

        document.head.appendChild(t);

    });

</script>

</body>

</html>

```

Project Demo Link:

<https://youtu.be/nUPh84ZZaWM>

Preview Link :

<https://web-chat.global.assistant.watson.appdomain.cloud/preview.html?backgroundImageURL=https%3A%2F%2Fjp-tok.assistant.watson.cloud.ibm.com%2Fpublic%2Fimages%2Fupx-c585c117-6510-48bf-9178-8794b910a068%3A%3Abed6e781-c735-493f-96f9-df3fcea6ee0&integrationID=8efaa521-4fa1-4eb0-9c87-bebf773af467&region=jp-tok&serviceInstanceID=c585c117-6510-48bf-9178-8794b910a068>

Github Repo Link :

<https://github.com/IBM-EPBL/IBM-Project-3969-1658676796>