

PROJECT REPORT
AI BASED DISCOURSE FOR BANKING INDUSTRY

Team ID: PNT2022TMID40098

Batch: B4-4M6E

PRIYADARSHINI ENGINEERING COLLEGE

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1. INTRODUCTION

1.1. Project Overview

Chatbots are the biggest development today. They play vital role from start-up's to enterprises and help user to simplify their work. Banking sector has seen tremendous growth in the recent years due to the advancement in technology. But the customer could not visit bank anytime, though they visit bank they have to stand in long queue for hours and the processing fee makes customer more frustrated. To overcome this scenarios Banking website are associated with banking Chatbots. They facilitate customer and guide user throughout the queries in the process, provides high customer satisfaction and enhance user experience and resolves customer queries actively.

1.2. Purpose

The main purpose of the chatbot is to resolve user queries instantly at any time. Our chatbot(socio) provides services such as instant solution regarding loan queries, net banking, savings account, and so on. also provides 24/7 support, personalization, alerts, and remainders to the user. These chatbots basically developed to reduce the processing fee and to reduces the user visiting banks frequently for simple queries.

2. LITERATURE SURVEY

2.1. Existing problem

1. Conversation to Automation in Banking Through Chatbot Using Artificial Machine Intelligence Language - June - 2020

Authors: Sasha Fathima Suhel; Vinod Kumar Shukla; Sonali Vyas; Ved Prakash Mishra

Artificial Machine Intelligence is a very complicated topic. It involves creating machines that are capable of simulating knowledge. This paper examines some of the latest AI patterns and activities and then provide alternative theory of change in some of the popular and widely accepted postulates of today. Based on basic A.I. (Artificial Intelligence) structuring and working for this, System-Chatbots are made (or chatter bots). The paper shows that A.I is ever improving. As of now there isn't enough information on A.I. however this paper provides a new concept which addresses machine intelligence and sheds light on the potential of intelligent systems. The rise of chatbots in the finance sector is the latest disruptive force that has changed the way customers interact.

2. Artificial Intelligence in Banking: A Study Based on Sbi - Sia Virtual Assistant - July - 2022

Authors: Shanimon S; Seena Mary Mathew

Artificial intelligence (AI) is now widely acknowledged as one of the most important digital transformation enablers across a significant number of industries. Artificial intelligence (AI) has the potential to facilitate enterprises. become more imaginative, versatile, and adaptable than they have ever been. AI is already being applied to enhance productivity and competitiveness while also driving digital transformation in a range of organizations. AI is supporting Indian banks in upgrading their operations across the board, from accounting to sales to contracts and cybersecurity. This is a case study based on virtual assistant of SBI-SIA. Recent developments and emergence of virtual banking and the trends in the modern banking systems explained in this study.

3. Theory and application of artificial intelligence in financial industry – June 2021

Authors: yuxin li; Duanxiang peng

AI technology has developed rapidly and has been widely used in all walks of life. In the financial industry, the application of AI technology in risk control, marketing, customer service, transaction, operation, and product optimization of financial institutions is becoming increasingly mature, and some new business models have been created. Starting from the application status and significance of AI in the international financial field, this paper expounds on the application, status quo, and development trend of AI in the financial industry.

4. Text-Based Chatbot in Financial Sector: A Systematic Literature – July – 2022

Authors: Sintayehu Zekarias Esubalew Firesew Fayiso Weldesellase and Taye Girma Debelee

Text-based chatbots are implemented in the financial sector to enhance the relationship between the customer and services provided by the sector, and also to address external challenges and customer requirements. The chatbot technology in the financial sector serves to examine customers' frequently asked questions and the representation of the process using machine learning. In light of this, this study presents a comprehensive systematic literature review of articles focused on text-based chatbots in the financial sector. It describes the understanding of chatbots in the financial sector in terms of implementation, adoption intention, attitude toward use and acceptance.

5. Artificial Intelligence for Futuristic Banking – June – 2021

Authors: Moksha Thisarani; Subha Fernando

Artificial Intelligence (AI) has become an essential resource for large banks that deal with regulatory changes, new Anti-Money Laundering (AML) obligations and vulnerable fraud-prone clients. Cybersecurity has thus become a hot topic due to security failures using traditional methods and concerns about how companies use the personal data collected from clients or their regular users. The most obvious apparent reason why cybersecurity is critical in banking sector transactions is to protect client assets with a high level of data privacy. The main approaches in the front office conventional banking such as AI chatbots, smart virtual assistants and biometric user authentication are discovered to answer security challenges and to enhance prosperity in the field. Concurrently, advanced AI applications in fraud detection, fraud risk monitoring, anti-money laundering techniques and cross-border payments handling are observed under the back-office operations.

6. A STUDY OF APPLICATIONS OF ARTIFICIAL INTELLIGENCE IN BANKING AND FINANCE SECTOR – May 2022

Author:Dr. Lakshkaushik Dattatraya Puri

The rudimentary applications AI include bring smarter chat-bots for customer service, personalizing services for individuals, and even placing an AI robot for self-service at banks. Beyond these basic applications, banks can implement the technology for bringing in more efficiency to their back-office and even reduce fraud and security risks. This paper focuses on the application of Artificial Intelligence in the banking sector.

S.No	Project name	Description	Author	Year	Reference
1	Conversation to Automation in Banking Through Chatbot Using AI	Examines some of the latest AI patterns and activities and then provides alternative theory of change	Sasha FathimaSuhel, Vinod Kumar Shukla, Sonali Vyas, Ved Prakash Mishra	Jun-2020	Click here
2	Artificial intelligence in banking: a study based on sbi-sia virtual assistant	This is based on virtual assistant of SBI-SIA. Recent developments and emergence of virtual banking and the trends in the modern banking systems	Shanimons,See na mary mathew	July-2022	Click here

3	Theory and application of artificial intelligence in financial industry	The AI neural network theory and illustrates the wide application of AI in the financial market	Yuxin li, Duanxiangpeng	Jun-2021	Click here
4	Text-Based Chatbot in Financial Sector: A Systematic Literature	Financial sector serves to examine customer's frequently asked questions and the representation of the process using machine learning	SintayehuZekaria sEsubalew, FiresewFayisoWe Idesellasie and Taye GirmaDebelee	Jul-2022	Click here
5	Artificial Intelligence for Futuristic Banking	Approaches in the front office conventional banking	Moksha Thisarani; Subha Fernando	Jun-2021	Click here
6	Study of applications of artificial intelligence in banking and finance sector	smarter chat-bots for customer service, personalizing services for individuals smarter chat-bots for customer service, personalizing services for individuals smarter chat-bots for customer service, personalizing services for individuals smarter chat-bots for customer service, personalizing services for individuals smarter chat-bots for customer service, personalizing services for individuals smarter chat-bots for customer service, personalizing services for individuals smarter chat-bots for customer service, personalizing services for individuals smarter chat-bots for customer service, personalizing services for individuals smarter chat-bots for customer service, personalizing services for individuals	Dr. Lakshkaushik Dattatraya	Dec-2020	Click here

2.2. References

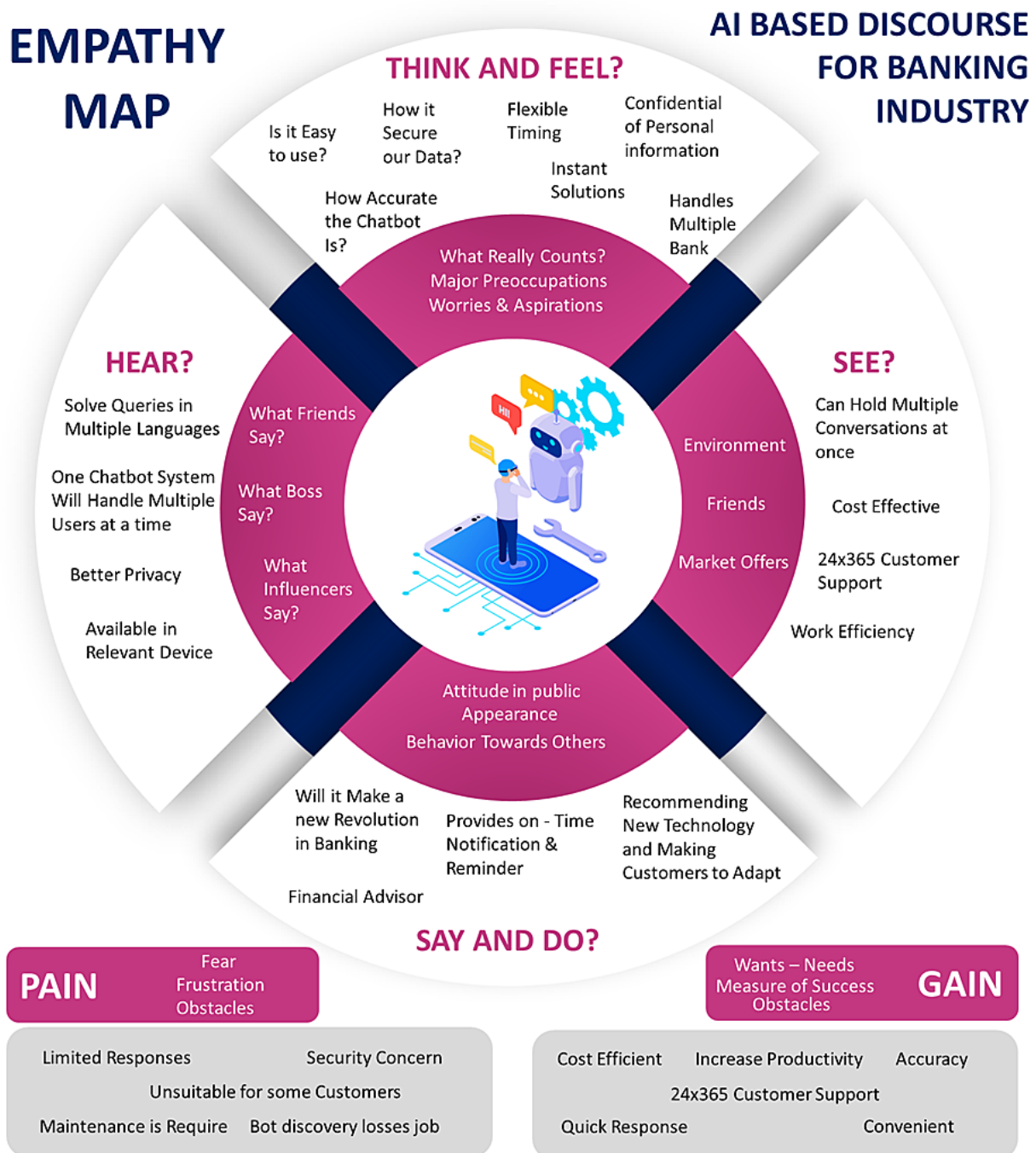
1. Sasha FathimaSuhel, Vinod Kumar Shukla, Sonali Vyas, Ved Prakash Mishra(2020) Examines some of the latest AI patterns and activities and then provides alternative theory of change.
2. Shanimons ,Seenamary Mathew(2022) This is based on virtual assistant of SBI-SIA. Recent developments and emergence of virtual banking and the trends in the modern banking systems.
3. Yuxin li, Duanxiangpeng (2021) The AI neural network theory and illustrates the wide application of AI in the financial market
4. SintayehuZekariasEsubalew, FiresewFayisoWeldesellasié and Taye GirmaDebelee (2022) Financial sector serves to examine customer's frequently asked questions and the representation of the process using machine learning
5. Moksha Thisarani; Subha Fernando (2021) Approaches in the front office conventional banking
6. Dr.Lakshkaushik Dattatraya D (2020) Smarter chat-bots for customer service, personalizing services for individuals

2.3. Problem Statement Definition

The bank doesn't give the proper customer support to solve the queries of the customer. Our project based on AI based discourse for Banking Industry - The AI assistant is nothing but a Chatbot which helps the customers to inquire about the issues they are facing, without having human interaction. The main reason of having Chatbot that provides 24x365 customer support. Customer service is the most crucial part for expanding the business. The AI assistant will identify the customer needs and respond accordingly to solve the problems of the customer. The banking system plays a major role for developing the country.

3. IDEATION & PROPOSED SOLUTION

3.1. Empathy Map Canvas



3.2. Ideation & Brainstorming

Step-1: Team Gathering, Collaboration and Select the Problem Statement

1 PROBLEM STATEMENT

PROBLEM

The bank doesn't give the proper customer support to solve the queries of the customer. Our project based on AI based discourse for Banking Industry - The AI assistant is nothing but a chatbot which helps the customers to inquire about the issues they are facing, without having human interaction. The main reason of having chatbot, that provides 24x365 customer support. Customer service is the most crucial part for expanding the business. The AI assistant will identify the customer needs and respond accordingly to solve the problems of the customer. The banking system plays a major role for developing the country.

Step-2: Brainstorm, Idea Listing and Grouping

2 Brainstorm

SADAIN ABDULLAH N

Detailed information will be provided for Customer Queries	Easy to Create a Bank Account with simple steps	Track Transaction History
Chatbot keep information end to end encryption	Net Banking is easily done using Chatbot	If the Transaction status is "Pending / Refund" chatbot helps to guide the situation
Chatbot also help to guide the Investment Process	Loan details and due status will share according to the end month date	Business Account Management

EARNEST WESLEY S

Easy to use FAQ	Secure Communication	Customer Acquisition
Quicker help across the platform	User Behavioural Analytics	Financial planner
Improved efficiency	Automated customer support	Smart Payment processing

ZAHEEB AFNAN A

24x365 days	Cost efficient	Easy to solve the queries
Queries can be solve anywhere anytime	Better data security	Easy to track customer details
Can handle multiple customer at a time	Automated customer service	Secure communication

YASHIKA U

Provide security and fraud alerts	Provides complete guidance in assisting a new customer	Keep record of each customer
Loan Management	Guide us about credit card plan and policies	Able to guide customers with new queries and provide voice assistant feature
Able to handle multi-language queries	Financial advisory to keep customer finances on track	eKYC initiation

3 Group ideas

USING ARTIFICIAL INTELLIGENCE

If the Transaction status is "Pending / Refund" chatbot helps to guide the situation

Financial advisory to keep customer finances on track

Loan details and due status will share according to the end month date

Guide us about credit card plan and policies

USING CLOUD TECHNOLOGY

Easy to track customer details

Track Transaction History

24x365 days

Detailed information will be provided for Customer Queries

USING NEURAL NETWORK

Improved efficiency

Quicker help across the platform

Can handle multiple customer at a time

User Behavioural Analytics

USING NATURAL LANGUAGE PROCESSING

Able to guide customers with new queries and provide voice assistant feature

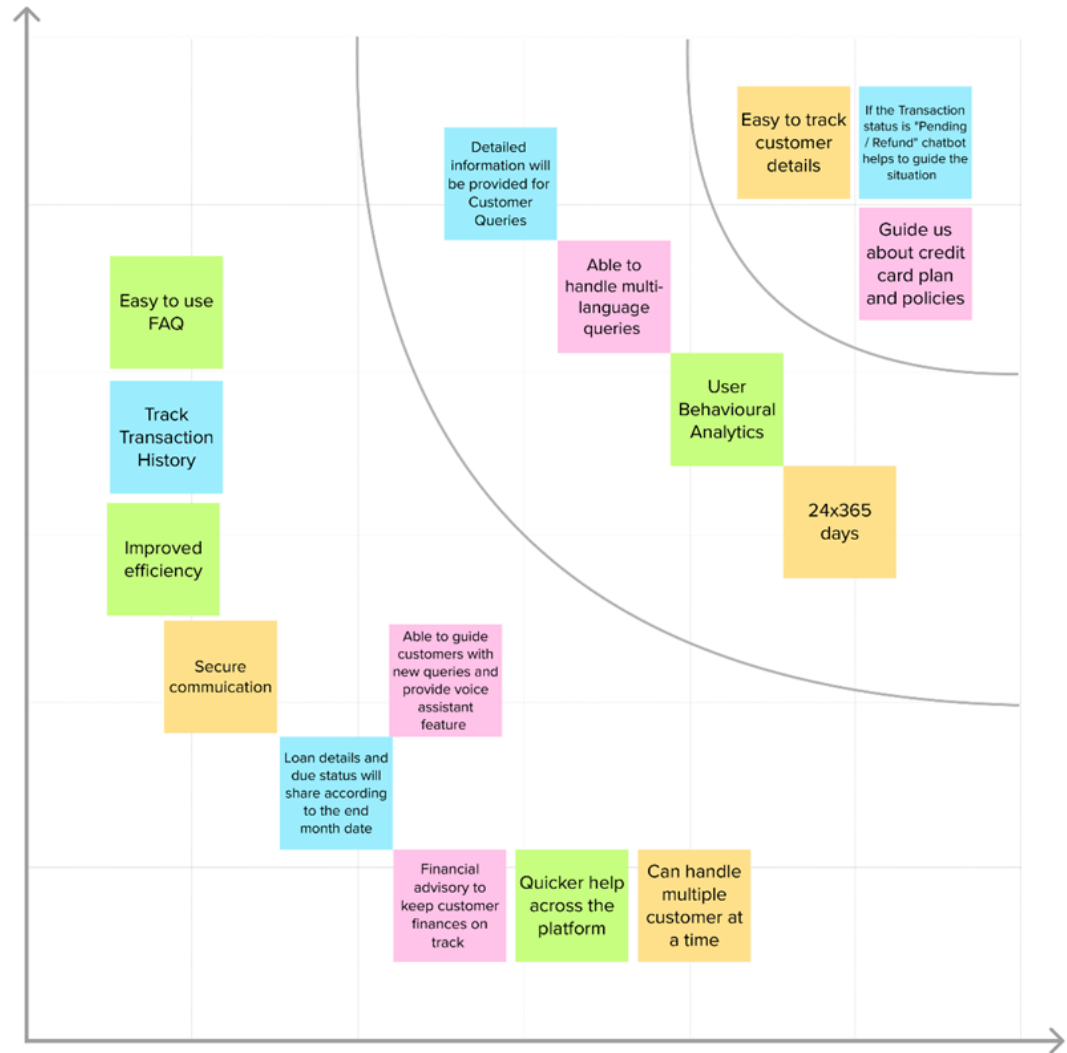
Secure communication

Able to handle multi-language queries

Easy to use FAQ

Step-3: Idea Prioritization

4 Prioritize



3.3 Proposed Solution

S.No.	Parameter	Description
1.	Problem Statement (Problem to be solved)	Bank employees can't able to solve all the queries of the customer at a time. Customer need to visit bank frequently for simple doubts but all the queries can't be solved by the bank employees
2.	Idea / Solution description	Chatbot that helps customer to clear their doubts in order to guide the customer to solve their queries related to bank. The Chatbot will be available 24x365, it will never forget anything, never gets sick and never gets unproductive
3.	Novelty / Uniqueness	Chatbot with the help of AI collects all the data of the customer that helps them to solve their queries that help banks to enhance their customer experience
4.	Social Impact / Customer Satisfaction	Customer can solve their queries anywhere anytime using Chatbot that helps them to save their time and cost for travelling to the bank. It makes the customer satisfied because they get what they want in their place itself
5.	Business Model (Revenue Model)	This Chatbot will be made available to use to all the banks based on subscription model. By implementing this chatbot banks can enable more reliable services to customers which gains customer loyalty and saves the cost needed for manual support.
6.	Scalability of the Solution	Banking sector adopting the chatbot to take their business in the next level without any operational cost. Chatbot in the future will be more significant and ever-expanding

3.4 Problem Solution fit

Project Title: AI Based Discourse for Banking Industry

Project Design Phase-I - Solution Fit

Team ID: PNT2022TMID40098

Define CS, fit into CC	1. CUSTOMER SEGMENT(S) CS A person who has an bank account and the person who wishes to create an account in Bank.	6. CUSTOMER CONSTRAINTS CC Cannot be used during offline. Technical Issues.	5. AVAILABLE SOLUTIONS AS <ul style="list-style-type: none"> Internet Banking Phone Banking 24/7 support 	Explore AS, differentiate
	2. JOBS-TO-BE-DONE / PROBLEMS J&P Customer gets struck during their transaction i.e. pending, Refund. Solution: Chatbot addresses the reason and guides them with the solution User who does not have knowledge about the credit card plan and policy Solution: Chatbot guides them with their required plans and policies.	9. PROBLEM ROOT CAUSE RC Lack of communication between the customer and the bank managers.	7. BEHAVIOUR BE The chatbot works effectively in all the scenarios.	
Focus on J&P, tap into BE, understand RC				Focus on J&P, tap into BE, understand RC
Identify strong TR & EM	3. TRIGGERS TG The easy user interface and the effectiveness of the chatbot , makes other customer to use.	10. YOUR SOLUTION YS The main idea of the project is to <ul style="list-style-type: none"> Provide customer convenience to cutoff operational expenses Chatbot addresses the queries regarding transaction and resolves them 24/7 support User does not have knowledge about the credit card plans and policy 	8. CHANNELS of BEHAVIOUR CB Online: Provides a complete assistance and effectively answers customer queries Offline: Cannot access chatbot	Identify strong TR & EM
	4. EMOTIONS: BEFORE / AFTER E Before: More complex customer needs are difficult to meet No proper updating in customer details After: flexible in using UI Quality of service is good Connivence			

4. REQUIREMENT ANALYSIS

4.1 Functional requirement

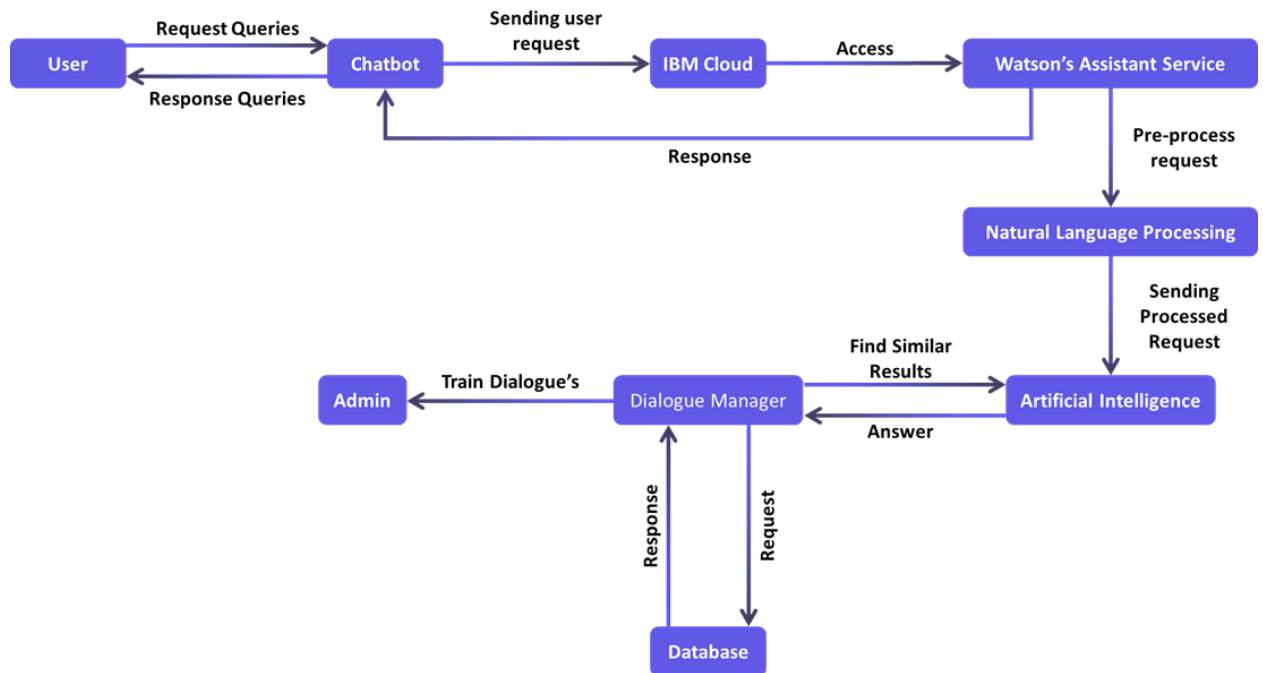
FR No.	Functional Requirement	SubRequirement
FR-1	User Registration	<ul style="list-style-type: none">● Registration through Form● Registration through Gmail
FR-2	User Confirmation	<ul style="list-style-type: none">● Confirmation via Email● Confirmation via OTP
FR-3	Account Creation	<ul style="list-style-type: none">● Personal Details Form● Types of Account information● Verification Documents Form● Terms and Condition document
FR-4	Existing userSupport	<ul style="list-style-type: none">● Mistakes Correction Query support● Bank Card (Debit and Credit)● Account Freezeaction and Security services.● Changes made confirmation through mailor OTP.
FR-5	General QuerySupport	<ul style="list-style-type: none">● Mail to Customer CareExecutive● Bank details● Helpline Number● Complaint Form
FR-6	Query processing	<ul style="list-style-type: none">● Capture Chabot● Read andprocess large amounts of data● Quickly solve customer problems.● Giving insight of relevant data
FR-7	Loan Related Service	<ul style="list-style-type: none">● Types of Loan Details.● Interest and Benefit Schemes.● Instant Detailsof Loan status.● Verification of User Identity.
FR-8	Net Banking Support	<ul style="list-style-type: none">● UPI linkageto account.● Security Services in unauthorised UPIlinkage.● Account BalanceCheck.● Instant Moneytransfer Action● Message when Money transaction.● Account Freeze action.

4.2 Non-Functional requirements

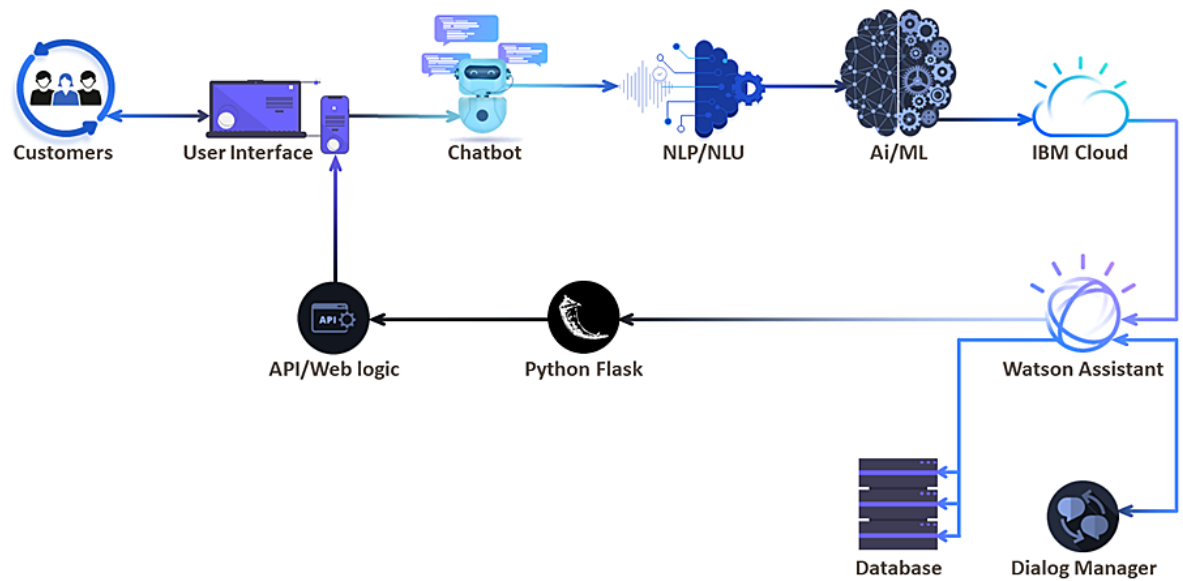
NFR No.	Non-Functional Requirement	Description
NFR-1	Usability	Customer can access Chabot more efficiently and effectively in a better way. Request queries in the Chabot that will provide the functionalities.
NFR-2	Security	Customer can have better security of their information. The details are stored in cloud where the bank employees have total control in accessing valuable information. Customers also get a mail if requested for confidential information.
NFR-3	Reliability	If the criteria or the topic which customer expects is not met via Chabot, bank employee will be able to provide details for that issue within a short span of time.
NFR-4	Performance	Chabot can provide consistency, quality of support and frequently updating of queries are made without any loss in information
NFR-5	Availability	It is available 24x365 and the progress is not lost, even if the servers go down. Cloud storage ensures that data is protected and can we retrieve whenever needed.
NFR-6	Scalability	New user interfaces are made in the Chabot for better user experience. It can support wide range of user's queries and provide instant responses.

5. PROJECT DESIGN

5.1 Data Flow Diagrams



5.2 Solution & Technical Architecture



5.3 User Stories

User Type	Functional Requirement (Epic)	User Story Number	User Story / Task	Acceptance criteria	Priority	Release
Customer (Mobile user, Web user)	Registration	USN-1	As a user, I can register for the application by entering my email, password, and confirming my password.	I can access my account / dashboard	High	Sprint-1
		USN-2	As a user, I will receive confirmation email once I have registered for the application	I can receive confirmation email & click confirm	High	Sprint-1
		USN-3	As a user, I can register for the application through Facebook	I can register & access the dashboard with Facebook Login	Low	Sprint-2
		USN-4	As a user, I can register for the application through Gmail	I can register & access the dashboard with Gmail Login	Medium	Sprint-1
	Login	USN-5	As a user, I can log into the application by entering email & password	I can access my account / dashboard by Login	High	Sprint-1
	Dashboard	USN-6	As a user, I can easily access the profile	I can access my profile	Medium	Sprint-1
		USN-7	As a user, I can easily access the chatbot in the home page	I can access my dashboard	High	Sprint-2
	Access	USN-8	As a user, I can ask queries using Chatbot	I can question in Chatbot	High	Sprint-2
Customer Care Executive	Clarification	USN-9	As a user care executive, I will provide clarification for any questions that the chatbot cannot answer	I can clarify questions that chatbot can't answer	Medium	Sprint-3
Administrator	Moderation	USN-10	As an admin, I can add an inquiry and its appropriate response to the chatbot	I can add an inquiry and answers to the chatbot	High	Sprint-3
		USN-11	As an admin, I will moderate chatbot	I can moderate chatbot responses	Medium	Sprint-4

			responses			
		USN-12	As an admin, I will update the chatbot with new questions and responses	I can add new inquiries and responses to the chatbot	Medium	Sprint-4
		USN-13	As an admin, I will maintain the chatbot's behavior	I can maintain the chatbot's actions	High	Sprint-4

6. PROJECT PLANNING& SCHEDULING

6.1 Sprint Planning & Estimation

Sprint	Functional Requirement (Epic)	User Story Number	User Story / Task	Story Points	Priority	Team Members
Sprint-1	Building of Assistant	USN-1	Creation of Banking Chatbot or Assistant using IBM Watson Assistant/ As a user, I can see a Banking Assistant.	12	High	Sadain Abdullah N, Earnest Wesley S, Yashika U
Sprint-1		USN-2	Understanding Customer's Banking Related Queries and skills/ As a user, I can see a Chatbot with Bankingskills.	8	Moderate	Zaheeb Afnan A, Yashika U, Sadain Abdullah N
Sprint-2	Modelling of Assistant	USN-3	Building action and Adding responses to Account Creation/As a user, I can see a Chatbot which helps to create an account	5	High	Sadain Abdullah N, Zaheeb Afnan A, Yashika U
Sprint-2		USN-4	Building action and Adding responses to Banking related queries/As a user, I can see a Chatbot which helps to solve the banking queries.	5	High	Earnest Wesley S, Sadain Abdullah N, Yashika U
Sprint-2		USN-5	Building action and Adding responses to Net Banking/As a user, I can see a Chatbot which helps to access Net Banking	5	High	Zaheeb Afnan A, Sadain Abdullah N, Yashika U
Sprint-2		USN-6	Building action and Adding responses to Loan Queries/As a user, I can see a Chatbot which helps in Loan related Queries.	5	High	Yashika U, Earnest Wesley S, Sadain Abdullah N

Sprint-3	Testing & Deployment Phase-I	USN-7	Testing the chatbot performance with the trained banking functionalities or conversations/As a user, I can know the chatbots performance level	10	High	Sadain Abdullah N Earnest Wesley S,
Sprint-3		USN-8	Integration of Flask webpage with the chatbot assistant to provide a framework/As a user, I can see a webpage to access the chatbot.	10	High	Zaheeb Afnan A, Yashika U
Sprint-4	Deployment Phase-II & Model Improvement	USN-9	Deployment of AI based chatbot for banking Industry or Running the Chatbot service/As a user, I can see and use a 24*7 banking chatbot.	15	High	Sadain Abdullah N, Zaheeb Afnan A
Sprint-4		USN-10	Improving the model efficiency whenever needed/As a user, I can see new updated chatbot in Future days.	5	Moderate	Yashika U, Earnest Wesley S

6.2 Sprint Delivery Schedule

Sprint	Total Story Points	Duration	Sprint Start Date	Sprint End Date (Planned)	Story Points Completed (as on Planned End Date)	Sprint Release Date (Actual)
Sprint-1	20	6 Days	24 Oct 2022	29 Oct 2022	20	29 Oct 2022
Sprint-2	20	6 Days	31 Oct 2022	05 Nov2022	20	05 Nov2022
Sprint-3	20	6 Days	07 Nov2022	12 Nov2022	20	12 Nov2022
Sprint-4	20	6 Days	14 Nov2022	19 Nov2022	20	19 Nov2022

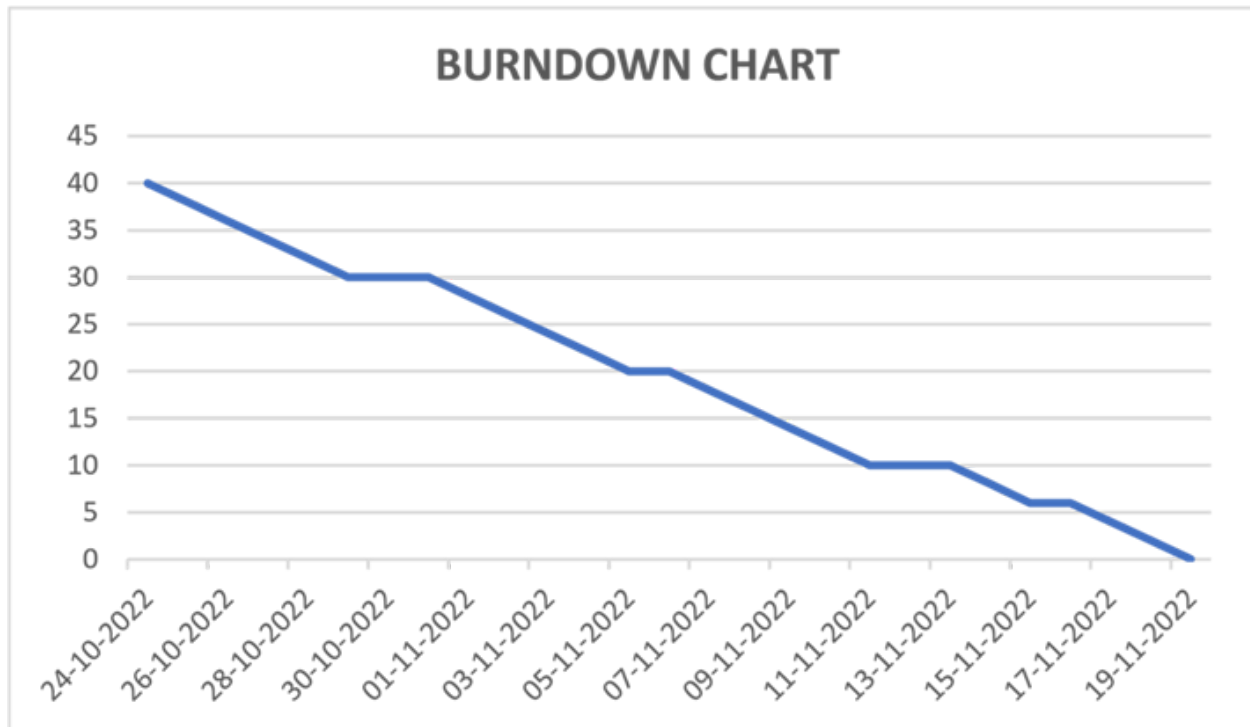
6.3 Reports from JIRA

Velocity:

The team's average velocity (AV) per iteration unit (story points per day)

$$AV = 25/6 = 4.16$$

Burndown Chart:



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

7.1 Feature 1:

Python Flask:

Python Flask is used to develop chatbot applications using python. Flask is mainly used to render and integrate the chatbot application in the browser by providing API. By running the python application, the suitable server domain link is obtained and run in the browser.

Code:

Socio.py

```
from flask import Flask, render_template

app = Flask(__name__)

@app.route('/')

def socio():

    return render_template('./index.html')

if __name__ == "__main__":

    app.run()
```

HTML:

The HTML and CSS is used to design the overall chatbot UI. HTML is used to add UI components and CSS is used to add style to those components. IBM Watson assistant deploys HTML code to train the Chatbot.

CODE:

Index.html

```
<!DOCTYPE html>
<html lang="en">
<head>
  <meta charset="UTF-8">
  <meta http-equiv="X-UA-Compatible" content="IE=edge">
  <meta name="viewport" content="width=device-width, initial-scale=1.0">
  <title>Socio</title>
</head>
<body>
<!-- IBM - Cloud -> Watson Assistant -->
<script>
```

```

window.watsonAssistantChatOptions = {
  integrationID: "44f8a8dc-51c8-4c89-a260-9f6ddf9b5362", // The ID of this
integration.
  region: "au-syd", // The region your integration is hosted in.
  serviceInstanceID: "d6a9a31d-b606-4560-babd-a6f7395f2d74", // 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/versions/"      +
(window.watsonAssistantChatOptions.clientVersion      ||      'latest')      +
"/WatsonAssistantChatEntry.js";
  document.head.appendChild(t);
});
</script>
</body>
</html>

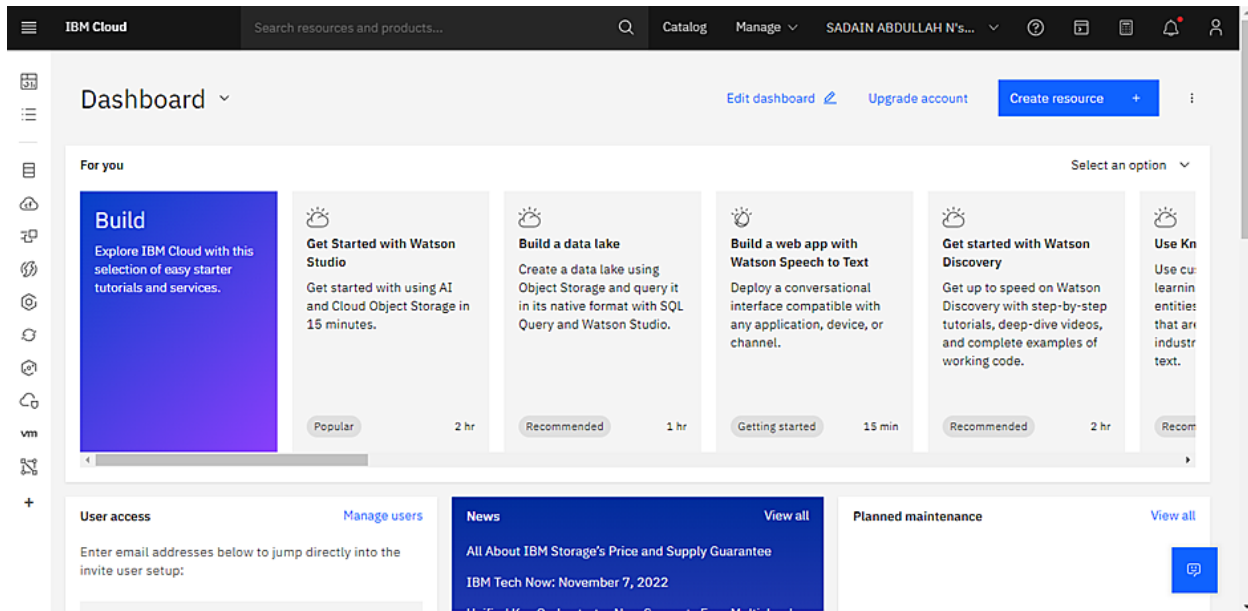
```

7.2 Feature 2:

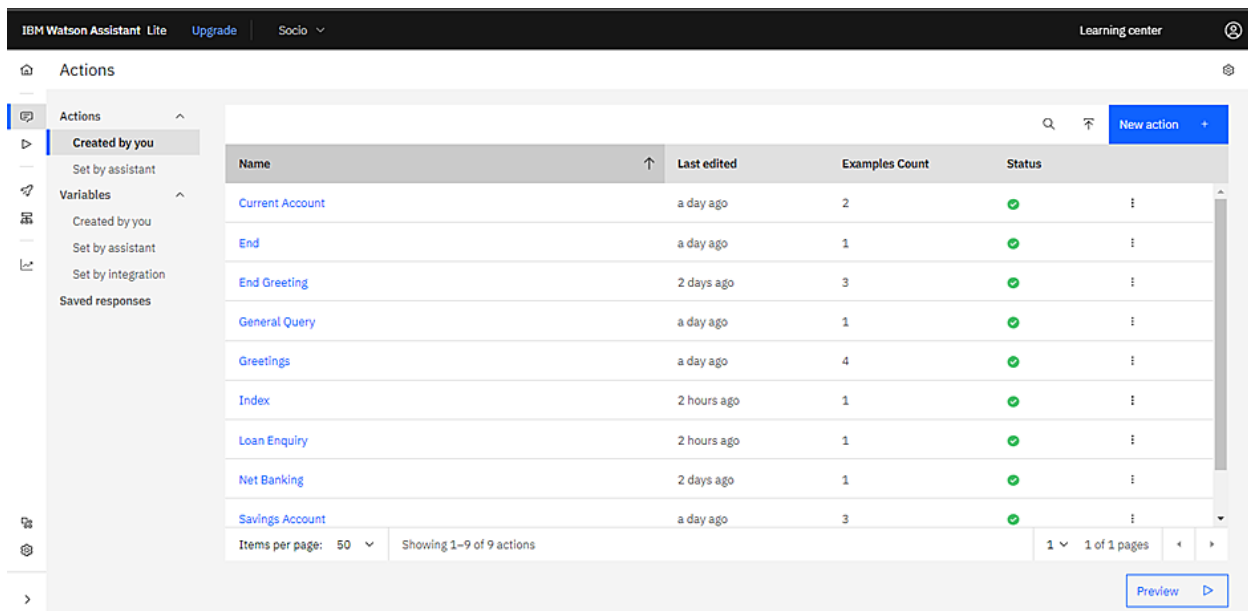
IBM Watson Assistant Chatbot:

- Our chatbot is able to guide a customer to create a bank account. (Both current and savings account)
- Our chatbot is able to answer loan queries.
- Our chatbot is able to answer general banking queries.
- Our chatbot is able to answer queries regarding net banking.

Steps-1: Creating IBM Cloud Account:



Steps-2: Creating Watson Assistant:



Steps-3: Understanding Customer's Banking Related queries and skills:

IBM Watson Assistant LiteUpgradeSocio

Home

Welcome, you're in the new Watson Assistant!
We have some exciting changes in store for you
[Take a tour](#)

Faster build

We've simplified everything about the build process, making it up to 6 times faster to launch your assistant.

[Get started](#)

Easy to use

Now anyone can build a fully-functioning assistant without the usual heavy lift from a development team.

[View documentation](#)

New features

The new Watson Assistant is loaded with features that empower you to meet the complexity of customer needs.

[See what's new](#)

Hide details

Socio | English (US)

Chatbot that helps customer to clear their doubts in order to guide the customer to solve their queries related to the bank.

Get started

3 steps left 7 min

0%

Learn about Watson Assistant


5 min

Explore your learning center

Explore at your own pace, and mark as complete when you're ready

Explore Watson Assistant features on interactive demo site

2 min



8. TESTING

8.1 Test Cases:

			Date	11-Nov-22									
			Team ID	PNTG2022TMD40098									
			Project Name	Project - AI Based Discourse For Banking Industry									
			Maximum Marks	4 marks									
Test case ID	Feature Type	Component	Test Scenario	Pre-Requlite	Steps To Execute	Test Data	Expected Result	Actual Result	Status	Comments	TC for Automation(Y/N)	BUG ID	Executed By
asste_001	Functional	Home Page	Verify user is able to see the Login/Signup popup when user clicked on My account button	Browser Chrome/Firefox	1.Enter URL and click go 2.Click on My login/Signup 3.Verify login/Signup page displayed or not	https://socio.ejptx.com	login/Signup page should display	Working as expected	Pass	//	No		Earnest Wesley S
asste_002	UI	Home Page	Verify the UI elements in Login/Signup page	Browser Chrome/Firefox	1.Enter URL and click go 2.Click on login/Signup button 3.Verify login/Signup popup with below UI elements: a.email text box b.password text box c.Login button d.Sign up? Create new account e.Forget password? Recovery password link	https://socio.ejptx.com	Application should show below UI elements: a. email text box b. password text box c. Login button d. Sign up? Create new account e. Forget password? Recovery password link	Working as expected	Pass	//	No		Earnest Wesley S
asste_003	Functional	Home page	Verify user is able to log into application with Valid credentials	Browser Chrome/Firefox , Valid Credentials	1.Enter URL(https://socio.com/) and click go 2.Click on sign-in button 3.Enter Valid username/email in Email text box 4.Enter valid password in password text box 5.Click on login button	Username: test-socio@gmail.com password: Testing123	User should navigate to user account homepage	Working as expected	Pass	//	No		Earnest Wesley S
asste_004	Functional	Login page	Verify user is able to log into application with Invalid credentials	Browser Chrome/Firefox , Random or incorrect Credentials	1.Enter URL(https://socio.com/) and click go 2.Click on sign-in button 3.Enter Invalid username/email in Email text box 4.Enter valid password in password text box 5.Click on login button	Username: test-socio@gmail.com password: Testing121	Application should show "Incorrect email or password" validation message.	Working as expected	Pass	//	No		Earnest Wesley S
asste_006	Functional	ChatBot	Verify Chatbot pop-up	Browser Chrome / Firefox , Valid Credentials	1.Enter URL(https://socio.com/) and click go 2.Enter with Valid credentials and click login 3.Click on the Chatbot icon	Username: test-socio@gmail.com password: Testing123	Application log user in and pops up the chatbot	Working as expected	Pass	//	No		Earnest Wesley S
asste_007	Functional	ChatBot	Verify Chatbot features	Browser Chrome / Firefox	1.Click on the Chatbot icon 2.Click Greetings button 3.Click Savings account option	Select an option: Savings Account	Chatbot replies with Regular saving account, Kids savings account, Zero-balance savings account	Working as expected	Pass	//	No		Earnest Wesley S
asste_008	Functional	ChatBot	Verify Chatbot features	Browser Chrome / Firefox	1.Click on the Chatbot icon 2.Click Greetings button 3.Click Current account option	Select an option: Current Account	Chatbot replies with Proprietorship and Partnership	Working as expected	Pass	//	No		Earnest Wesley S
asste_009	Functional	ChatBot	Verify Chatbot features	Browser Chrome / Firefox	1.Click on the Chatbot icon 2.Click Greetings button 3.Click Loan Enquiry option	Select an option: Loan Enquiry	Chatbot replies with House, Gold, Topup, Vehicle and Student loan.	Working as expected	Pass	//	No		Earnest Wesley S
asste_010	Functional	ChatBot	Verify Chatbot features	Browser Chrome / Firefox	1.Click on the Chatbot icon 2.Click Greetings button 3.Click General Query option	Select an option: General Query	Chatbot replies with Bank working days, Branches list, Nearest branch	Working as expected	Pass	//	No		Earnest Wesley S
asste_011	Functional	ChatBot	Verify Chatbot features	Browser Chrome / Firefox	1.Click on the Chatbot icon 2.Click Greetings button 3.Click Netbanking option	What is Net banking? How do I Register for Net Banking	Chatbot replies with The facility offered by the bank allows customers to use banking services over the internet.	Working as expected	Pass	//	No		Earnest Wesley S

8.2 User Acceptance Testing

Defect Analysis:

This report shows the number of resolved or closed bugs at each severity level, and how they were resolved

Resolution	Severity 1	Severity 2	Severity 3	Severity 4	
By Design	0	1	1	1	3
Duplicate	0	0	0	1	1
External	0	0	0	1	1
Fixed	4	0	0	1	5
Not Reproduced	0	0	1	0	1
Skipped	0	1	1	1	3
Won't Fix	0	1	0	1	2
Totals	4	3	6	5	16

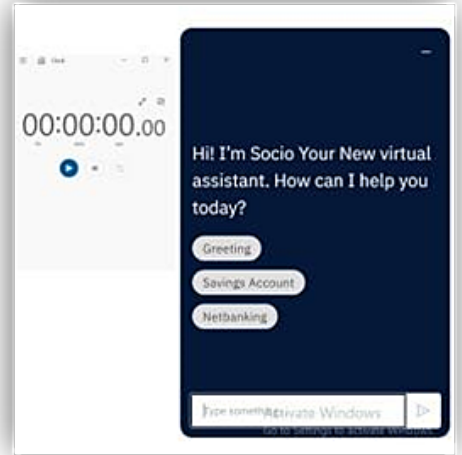
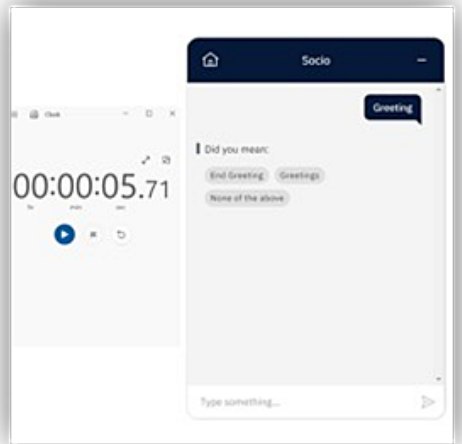
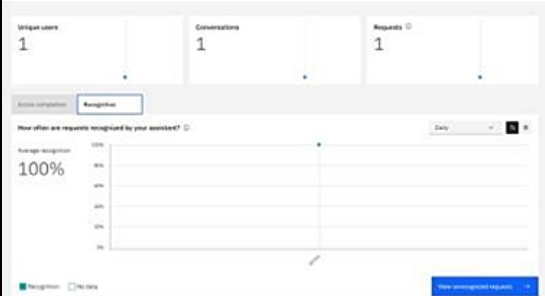
Test Case Analysis:

This report shows the number of test cases that have passed, failed, and untested

Section	Total Cases	Not Tested	Fail	
Print Engine	1	0	0	1
Client Application	1	0	0	1
Security	2	0	0	2
Outsource Shipping	1	0	0	1
Exception Reporting	1	0	0	1
Final ReportOutput	1	0	0	1
Version Control	1	0	0	1

9. RESULTS

9.1 Performance Metrics

S.No.	Parameter	Values	Screenshot
1.	Model Summary	The Chatbot is used by the user to interact and answering queries and offering customer support on frequently asked questions of banking customers. There can be multiple instances of a single chatbot inquiring about different users at the same time. It quickly responds with expected answers to frequently asked customer queries. It can be used as per the Requirements of the bank to include answers to queries related to any new feature or service introduced by the bank.	 
2.	Accuracy	Training Accuracy — 100% Validation Accuracy — 100%	

10. ADVANTAGES & DISADVANTAGES

ADVANTAGES:

- 24 x 365 days
- Easy to solve the queries
- Cost efficient
- Better data security
- Can handle multiple customer at a time
- Queries can be solved instantly
- Automated customer service
- Easy to track customer details

DISADVANTAGES:

- Network Issues
- Continuous Maintenance
- Bots fails to answer complex questions

11. CONCLUSION

Chatbots developed using AI are able to answer any frequently asked banking queries on account creation, loan, net banking, other services etc. It addresses the queries of customers immediately and effectively in a cost-efficient manner. It eliminates the need for a massive customer care workforce and even reduces the workload of the bank employees whose efforts can be used elsewhere. AI Chatbots provides 24/7 service to clear all customer queries and guide them through all the banking processes. 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. In order to overcome the user satisfaction issues associated with banking services, chatbot will provide personal and efficient communication between the user and the bank. It is built to be the overall virtual assistant that can facilitate customers to ask banking-related questions without visiting the bank or calling up customer service centers as well as providing them with relevant suggestions.

12. FUTURE SCOPE

The future goal is to allow users and Artificial Intelligence to communicate naturally and understand complex request and to enhance the chatbot as possible. The following area should be focused to improvise the chatbot support.

- Should handle multiple language queries
- Complete assistance to the customer without letting them to go bank
- Voice Assistant
- Transaction status
- Loan Management and status

13. APPENDIX

13.1 Source Code

Socio.py

```
from flask import Flask, render_template

app = Flask(__name__)

@app.route('/')

def socio():

    return render_template('./index.html')

if __name__ == "__main__":

    app.run()
```

Index.html

```
<!DOCTYPE html>
<html>

<head>
    <meta http-equiv="Content-Type" content="text/html; charset=UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1">

    <title>Socio</title>
    <link rel="shortcut icon" type="image/x-icon" href="./assets/img/Socio - Logo.png">

    <link rel="stylesheet" href="./Socio_files/style.css">
    <link href="./Socio_files/css2" rel="stylesheet">
    <link rel="stylesheet" href="./Socio_files/bootstrap.min.css">
    <link rel="stylesheet" href="./Socio_files/owl.carousel.min.css">
    <link rel="stylesheet" href="./Socio_files/slicknav.css">
    <link rel="stylesheet" href="https://use.fontawesome.com/releases/v5.0.8/css/all.css">
    <link rel="stylesheet" href="https://maxcdn.bootstrapcdn.com/font-awesome/4.4.0/css/font-awesome.min.css">
```

```

<!-- <script type="text/javascript" charset="utf-8" async="" src="./Socio_files/loader.js"></script> -->
<script src="./Socio_files/jquery.min.js"></script>
<script src="./Socio_files/banner-chat.js"></script>
<script src="./Socio_files/anime.min.js"></script>
<script src="./Socio_files/bootstrap.min.js"></script>
<script src="./Socio_files/owl.carousel.js"></script>
<script src="./Socio_files/jquery.slicknav.min.js"></script>

<script type="text/javascript">
    $(document).ready(function () {
        $('#menu').slicknav();
    });
</script>
<link rel="stylesheet" data-id="chatbox-css" href="./Socio_files/styles.css">
<link rel="preconnect" href="https://fonts.gstatic.com/">
<link href="./Socio_files/css2(1)" rel="stylesheet">

</head>

<body>
    <div class="slicknav_menu"><a href="#" aria-haspopup="true" role="button" tabindex="0"
        class="slicknav_btn slicknav_collapsed" style="outline: none;"><span
            class="slicknav_menutxt">MENU</span><span class="slicknav_icon"><span
                class="slicknav_icon-bar"></span><span class="slicknav_icon-
bar"></span><span
                    class="slicknav_icon-bar"></span></span></a>
    <ul class="slicknav_nav slicknav_hidden" aria-hidden="true" role="menu" style="display: none;">
        <li><a href="./index.html" role="menuitem" tabindex="-1">Home</a></li>
        <li><a href="./Blogs.html" role="menuitem" tabindex="-1">Banking Blogs</a></li>
        <li><a href="./features.html" role="menuitem" tabindex="-1">Features</a></li>
        <li><a href="./faq.html" role="menuitem" tabindex="-1">FAQs</a></li>
    </ul>
</div>

<header id="myHeader" class="sticky">
    <div class="container">
        <div class="top-header">
            <div class="brand-logo">
                <a href="./index.html">
                    <!--  -->
                    
                    <!--  -->
                    
                </a>
            </div><!-- rand-logo -->
            <nav class="main-menu">
                <ul id="menu">
                    <li><a href="./index.html">Home</a></li>
                    <li><a href="./Blogs.html">Banking Blogs</a></li>
                    <li><a href="./features.html">Features</a></li>
                    <li><a href="./faq.html">FAQs</a></li>
                </ul>
            </nav><!-- main-menu -->
            <div class="buttons">
                <ul>
                    <li><a href="./login/login.html" class="signup">Login /
Signup</a></li>

```

```

                                <!-- <li><a href="#" class="signup">Signup</a></li> -->
                                </ul>
                                </div><!-- buttons -->
                                </div><!-- top-header -->
                                </div><!-- container -->
                                </header>
<!-- end header -->
    <div class="content-area">
        <div class="home-banner-section">
            
            
            <div class="caption-box">

                <h2 class="ml11" style="opacity: 1;">
                    <span class="text-wrapper">
                        <span class="line line1" style="opacity: 0; transform:
translateX(330.594px);"></span>
                        <span class="letters"><span class="letter" style="opacity:
1;">N</span><span class="letter"
                                style="opacity: 1;">e</span><span
class="letter" style="opacity: 1;">v</span><span
                                class="letter" style="opacity:
1;">e</span><span class="letter"
                                style="opacity: 1;">r</span> <span
class="letter" style="opacity: 1;">m</span><span
                                class="letter" style="opacity:
1;">i</span><span class="letter"
                                style="opacity: 1;">s</span> <span
class="letter" style="opacity:
1;">a</span><span class="letter"
                                style="opacity: 1;">n</span></span></span>
                    </h2>
                    <h2 class="ml15" style="opacity: 1;">
                        <span class="word" style="opacity: 1; transform: scale(1);">enquiry</span>
                        <span class="word" style="opacity: 1; transform: scale(1);">again</span>
                    </h2>
                    <h3 class="ml12" style="opacity: 1; transform: translateX(0px) translateY(0px);">
                        <span class="letter">b</span><span class="letter">e</span> <span
class="letter">a</span><span
class="letter">v</span><span class="letter">a</span><span
class="letter">i</span><span
class="letter">l</span><span class="letter">a</span><span
class="letter">l</span><span class="letter">e</span> <span
class="letter">o</span><span class="letter">r</span> <span
class="letter">o</span><span class="letter">u</span><span
class="letter">v</span><span class="letter">i</span><span
class="letter">j</span><span class="letter">t</span> <span
class="letter">r</span><span class="letter">s</span> <span
class="letter">u</span></span>

```

```

class="letter">n</span><span
class="letter">d</span> <span class="letter">t</span><span
class="letter">h</span><span
class="letter">e</span> <span class="letter">c</span><span
class="letter">l</span><span
class="letter">o</span><span class="letter">c</span><span
class="letter">k</span>

</h3>
<a href="/Blogs/bl-Video.html" class="btn-ab btn-1">
<svg>
<rect x="0" y="0" fill="none" width="100%"
height="100%"></rect>
</svg>
Watch now
</a>
</div><!-- caption-box -->
</div><!-- home-banner-section -->

<section class="section-1">
<div class="container">
<div class="banner-bottom-bg">

<div class="row">
<div class="col-md-4 col-sm-4 col-xs-12 text-center">
<div class="boat-chractor">

</div><!-- boat-chractor -->
</div><!-- col-4 -->

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

<h2>Ask me any Thing</h2>
<!-- <h2>15 days free trial.</h2> -->
<p>I'm Happy to answer</p>
</div><!-- col-4 -->

<div class="col-md-4 col-sm-4 col-xs-12 text-center">
<a class="get-chatboat" href="/login/login.html">Get
your free chatbot</a>
</div><!-- col-4 -->
</div><!-- row -->
</div><!-- banner-bottom-bg -->
</div><!-- container -->

<div class="messaging-content">
<div class="container">
<div class="row">
<div class="col-md-5 col-sm-5 col-xs-12">
<h3>Convert Messaging into Chatbots with Socio</h3>
<p>Our chatbot (socio) provides services such as instant
solution regarding loan queries, net banking, savings account, and so on.</p>
<p>It also provides 24/7 support, personalization, alerts,
and remainders to the user.</p>
<a href="/Contact/Contact.html">Get a demo</a>

```



```

</div><!-- col-5 -->

<div class="col-md-3 col-sm-3 col-xs-12 text-center">
    

</div><!-- col-2 -->

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

</div><!-- col-5 -->
</div><!-- row -->
</div><!-- container -->
</div><!-- messaging-content -->
</section><!-- section-1 -->

<!-- Blogs section -->
<section class="section-2">
    <div class="container">
        <div class="row">
            <div class="col-md-12 col-sm-12 col-xs-12">
                <h3>Some of the useful Blogs about Banking Industry</h3>
            </div><!-- col-12 -->
        </div><!-- row -->
        <div class="row">
            <div class="col-md-12 col-sm-12 col-xs-12">
                <ul class="forms-list">
                    <li>
                        <a href="./Blogs/bl-savings.html">
                            <div class="forms-img">
                                

                                </div>
                                <h4>Saving Account</h4>
                                <p>Savings Account is a smart way
to secure your savings, generate additional income, and facilitate everyday banking. Are you new to banking? So, here's a
detailed process on how to open Savings Account online & offline.</p>

                                </a>
                            </li>

                        <li>
                            <a href="./Blogs/bl-Netbanking.html">
                                <div class="forms-img">
                                    

                                </div>
                                <h4>Netbanking</h4>
                                <p>Net banking is also referred to as
internet banking. It is an electronic system provided by banks to their customers that allows them to access financial and
non-financial banking services in minutes.</p>

                                </a>
                            </li>

                        <li>
                            <a href="./Blogs/bl-Loan.html">
                                <div class="forms-img">
                                    

</div>

<h4>Loan</h4>

<p>This is the traditional method of

a loan application. In this scenario, the applicant must go to the branch office and submit the paperwork to apply for a quick loan.</p>

</a>

</li>

<li>

<a href="/Blogs/bl-Current.html">

<div class="forms-img">



</div>

<h4>Current Account</h4>

<p>A Current Account is a type of

bank account that is used by businesses and has been designed to promote businesses of various sizes</p>

</a>

</li>

<li>

<a href="/Blogs/bl-Chat.html">

<div class="forms-img">



</div>

<h4>Chatbot</h4>

<p>A chatbot communicates

similarly to instant messaging. A chatbot is software that simulates human conversations. It enables the communication between a human and a machine</p>

</a>

</li>

<li>

<a href="/Blogs/bl-Finance.html">

<div class="forms-img">



</div>

<h4>Finance</h4>

<p>The blogging business is

booming and the financial space is no exception. Personal finance bloggers often start by documenting their own personal financial journeys and sharing money-saving advice</p>

</a>

</li>

</ul>

</div><!-- col-12 -->

</div><!-- row -->

</div><!-- container -->

</section><!-- section-2 -->

<!-- end blogs section -->

<div class="combine-section">

<section class="section-3">



```

<div class="container">
 <div class="row">
 <div class="col-md-7 col-sm-7 col-xs-12">
 <div class="use-cases">
 <h3>Executive Chatbot</h3>
 <p>Save Time and Improve Decision Making -
This easy-to-use dashboard provides necessary information (It guides about the Savings Account, Current Account,
Netbanking, Loan Queries, General enquiry, etc.,) to make fast and accurate decisions.</p>
 </div><!-- use-cases -->
 </div><!-- col-7 -->
 </div><!-- row -->
</div><!-- container -->
</section><!-- section-3 -->

<section class="section-4">
 <div class="container">
 <div class="cases-carousel owl-loaded owl-drag">
 <div class="owl-stage-outer">
 <div class="owl-stage"
 style="transform: translate3d(-1183px, 0px,
0px); transition: all 0s ease 0s; width: 3550px;">
 <div class="owl-item cloned" style="width:
215.832px; margin-right: 80px;">
 <div class="item"></div>
 </div>
 <div class="owl-item cloned" style="width:
215.832px; margin-right: 80px;">
 <div class="item"></div>
 </div>
 <div class="owl-item cloned" style="width:
215.832px; margin-right: 80px;">
 <div class="item"></div>
 </div>
 <div class="owl-item cloned" style="width:
215.832px; margin-right: 80px;">
 <div class="item"></div>
 </div>
 <div class="owl-item active" style="width:
215.832px; margin-right: 80px;">
 <div class="item"></div>
 </div>
 <div class="owl-item active" style="width:
215.832px; margin-right: 80px;">
 <div class="item"></div>
 </div>
 <div class="owl-item active" style="width:
215.832px; margin-right: 80px;">
 <div class="item"></div>
 </div>
 <div class="owl-item active" style="width:

```

src="./assets/img/19.jpg"></div>

```

 </div>
 </div>
 <div class="owl-nav disabled"><button type="button"
role="presentation" class="owl-prev"><span
aria-
label="Previous"></button><button type="button" role="presentation"
class="owl-next"><span aria-
label="Next"></button></div>
 <div class="owl-dots disabled"></div>
</div><!-- owl-carousel -->
</div><!-- container -->
</section><!-- section -->
</div><!-- combine-section -->
<script>
 $($('.cases-carousel').owlCarousel({
 loop: true,
 margin: 80,
 nav: true,
 dots: false,
 responsive: {
 0: {
 items: 1
 },
 600: {
 items: 2
 },
 1000: {
 items: 4
 }
 }
 })
</script>

<section class="boat-price">
 <div class="container">
 <div class="row">
 <div class="col-md-12 col-sm-12 col-xs-12 text-center price-top-heading">
 <h3>AI chatbots are now
having awesome Features</h3>
 <p>With highly secure and fine ui ux interface, experience the
world of artificial intelligence</p>
 </div><!-- col-12 -->
 </div><!-- row -->
 </div><!-- container -->

 <div class="container">
 <div class="top-tab-nav">
 <ul class="nav nav-tabs">
 <li class="active"><a data-toggle="tab" href="#tab1">Top
Features
 <a data-toggle="tab" href="#tab2">Service
 <a data-toggle="tab" href="#tab3">Accuracy
 <a data-toggle="tab" href="#tab4">Security
 <!-- nav -->
 </div><!-- top-tab-nav -->

 <div class="row">

```

```

<div class="col-md-4 col-sm-4 col-xs-12">
 <div class="price-boat-img">

 </div><!-- price-boat-img -->
</div><!-- col-4 -->

<div class="col-md-8 col-sm-8 col-xs-12 border-left">
 <div class="tab-content">
 <div id="tab1" class="tab-pane fade in active">

 <h4>Features</h4>
 <div class="price-list-
cont">
 <h2>24x365 Days
services</h2>
 </div>
 <!-- Start Trial -->

 <h4>Features</h4>
 <div class="price-list-
cont">
 <!-- <h5>$
8/mo</h5> -->
 <h2>Handle
multiple customers at a time</h2>
 </div>

 <h4>Features</h4>
 <div class="price-list-
cont">
 <!-- <h5>$
20/mo</h5> -->
 <h2>Enhanced
Customer service</h2>
 </div>

 </div><!-- tab-pane -->
 <div id="tab2" class="tab-pane fade">

 <h4>Service</h4>
 <div class="price-list-
cont">
 <p>If the
Transaction status is "Pending / Refund" chatbot helps to guide the situation</p>
 </div>
 Read More


```

```
cont">

 <h4>Service</h4>
 <div class="price-list-
 <p>Provide
 Complete Solutions Regarding Banking and Finance</p>
 </div>
 Read More

 <h4>Service</h4>
 <div class="price-list-
 <p>Fine Ui / Ux
 Design that makes user to easily interact with Socio Chatbot Website</p>
 </div>
 Read More

</div><!-- tab-pane -->
<div id="tab3" class="tab-pane fade">

 <h4>Accuracy</h4>
 <div class="price-list-
 <p>Performance
 Accuracy</p>
 </div>

 <h4>Accuracy</h4>
 <div class="price-list-
 <p>Training
 Accuracy</p>
 </div>

 <h4>Accuracy</h4>
 <div class="price-list-
 <p>Validation
 Accuracy</p>
 </div>

</div>

```

```


 </div><!-- tab-pane -->

 <div id="tab4" class="tab-pane fade">

 <h4>Security</h4>
 <div class="price-list-
cont">
 <p>protecting
the data against unauthorized access or use that could result in exposure, deletion, or corruption of that data
 </p>
 </div>

 <h4>Security</h4>
 <div class="price-list-
cont">
 <p>the
protective measures and protocols that organizations adopt to protect the organization from cyber criminals and threats that
use the web channel.</p>
 </div>

 <h4>Security</h4>
 <div class="price-list-
cont">
 <p>Compliance
is also a major consideration. It doesn't matter which device, technology or process is used to manage, store or collect data, it
must be protected</p>
 </div>

 </div><!-- tab-pane -->

</div><!-- tab-content -->
</div><!-- col-8 -->
</div><!-- row -->
</div><!-- container -->

<div class="container">
 <div class="row">
 <div class="col-md-12 col-sm-12 col-xs-12 text-center">
 <div class="boat-price-bottom">
 <p>If you require any further information, let me know.
Socio is waiting for you.</p>
 <a class="ab-btn"
href="/Contact/Contact.html">Contact Us
 </div><!-- boat-price-bottom -->
 </div><!-- col-12 -->
 </div><!-- row -->
</div><!-- container -->
</section><!-- boat-price -->

<section class="section-5">

```



```


<div class="blue-section">
 <div class="container">
 <div class="row">
 <div class="col-md-3 col-sm-3 col-xs-12">

 <h5>Artificial Intelligence</h5>
 <p>Artificial Intelligence is a software used by
computers to mimic aspects of human intelligence.</p>
 </div><!-- col-3 -->
 <div class="col-md-3 col-sm-3 col-xs-12">

 <h5>Machine learning</h5>
 <p>Machine learning is capability of a machine to
imitate intelligent human behavior</p>
 </div><!-- col-3 -->
 <div class="col-md-4 col-sm-3 col-xs-12">

 <h5>Natural Language processing</h5>
 <p>Natural language processing (NLP) describes the
interaction between human language and computers.</p>
 </div><!-- col-3 -->
 </div><!-- row -->
 </div><!-- container -->
</div><!-- blue-section -->

<div class="testimonial">
 <div class="container">
 <div class="row">
 <div class="col-md-12 col-sm-12 col-xs-12">
 <h2 class="heading2">What makes Socio different

from others</h2>
 </div><!-- col-12 -->
 </div><!-- row -->
 <div class="row">
 <div class="col-md-12 col-sm-12 col-xs-12">
 <div class="testimonial-container">

 Schedule
Demo
 </div>
 </div>
 </div>
 <div class="carousel-caption-div">
 <div id="myCarousel"
class="carousel slide" data-ride="carousel">
 <div class="carousel-
inner">
 <div class="item
active">
 <div
class="carousel-caption">

```

<h3>User-friendly Chatbots for Banking Sector and business

professionals</h3>

<p>Need a simplified chatbot solution that unifies queries using our Socio Chatbot, this chatbot having an artificial intelligence and natural language processing.</p>

</div>

</div>

<div

class="item">

<div

class="carousel-caption">

<h3>problems in banking sector in India</h3>

<p>According to IMF Report, 36.9% of the total debt in India is at risk and banks have the capacity to absorb only up to 8-9% loss</p>

</div>

</div>

<div

class="item">

<div

class="carousel-caption">

<h3>Crowded people in banking sector</h3>

<p>An overwhelming number of them were private banks. The strange scene of long queues outside nationalised banks</p>

</div>

</div>

</div><!-- carousel-inner -->

>

</div><!-- carousel -->

</div><!-- carousel-caption-div -->

<div class="testimonial-slider">

<div id="myCarousel"

class="carousel slide" data-ride="carousel">

<!-- Indicators -->

<ol class="carousel-

indicators">

<li data-

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

<li data-

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

<li data-

target="#myCarousel" data-slide-to="2" class="active"></li>

</ol>

<!-- Wrapper for slides -->

<div class="carousel-inner"

style="margin-left: 50px;">

<div

class="item">



</div>

```

class="item">

</div>
<div class="item
active">

</div>
</div><!-- carousel-inner --
>
</div><!-- carousel -->
</div><!-- testimonial-slider -->
</div><!-- testimonial-container -->
</div><!-- col-12 -->
</div><!-- row -->
</div><!-- container -->
</div><!-- testimonial -->
</section><!-- section-5 -->
<div class="section-faq">
<div class="container">
<div class="row">
<div class="col-md-12 col-sm-12 col-xs-12">
<h2 class="heading2">Frequently Asked Questions</h2>
<div class="panel-group" id="accordion">
<div class="panel panel-default">
<div class="panel-header">
<h4 class="panel-title">
<a data-toggle="collapse"
data-parent="#accordion"
href="#collapse1" class="collapsed" aria-expanded="false">
What is a
chatbot and how it works?
</h4>
</div>
<div id="collapse1" class="panel-collapse
collapse" aria-expanded="false">
<!-- in -->
<div class="panel-body">
<p>Defined simply, a
chatbot is an AI-based programme that can communicate with
human beings by
means of text or voice. Chatbots are typically integrated
with messaging
channels, websites or mobile apps to offer answers to
customer
queries.</p>
<p>Chatbots are of two
types: rule-based chatbots and AI chatbots. Rule-based
chatbots provide
pre-defined answers to specific questions they have been

```

with. These use a simple true-false algorithm to comprehend user  
suitable answers.</p>  
using sophisticated machine learning algorithms, so  
not just the query but also the context behind the same.  
learns from previous interactions and improves its  
time.</p>

programmed  
queries and offer  
<p>AI chatbots are trained  
they understand  
This kind of bot  
intelligence with

```
</div>
</div>
</div><!-- panel -->

<div class="panel panel-default">
 <div class="panel-header">
 <h4 class="panel-title">
 <a data-toggle="collapse"
```

```
data-parent="#accordion"

href="#collapse2" class="collapsed" aria-expanded="false">

Socio Chatbot?
```

How do I turn on

```
</h4>
</div>
<div id="collapse2" class="panel-collapse
collapse" aria-expanded="false">
```

```
<!-- in -->
<div class="panel-body">
 <p>First Open the Socio

 <p>Next, On the bottom
```

```
Website Using this Url www.Socio.epizy.com</p>

right click on the Chatbot icon to interact with Socio</p>
```

```
</div>
</div>
</div><!-- panel -->

<div class="panel panel-default">
 <div class="panel-header">
 <h4 class="panel-title">
 <a data-toggle="collapse"
```

```
data-parent="#accordion"

href="#collapse3" class="collapsed" aria-expanded="false">

language processing?
```

What is natural

```
</h4>
</div>
<div id="collapse3" class="panel-collapse
collapse" aria-expanded="false">
```

```
<!-- in -->
<div class="panel-body">
 <p>Natural language

 (AI) that pertains
```

processing or NLP is a sub-domain of Artificial Intelligence

(AI) that pertains

to the interactions between computers and natural human  
aims to teach computers text and spoken words, recognise  
generate natural-sounding speech.</p>

language. NLP  
speech and

```
</div>
</div>
</div><!-- panel -->
```

data-parent="#accordion"

href="#collapse4" class="collapsed" aria-expanded="false">

How will I know

if a chatbot is right for my business?</a>

```
</h4>
</div>
<div id="collapse4" class="panel-collapse
```

collapse" aria-expanded="false">

```
<!-- in -->
<div class="panel-body">
```

misconception that chatbots are needed only in certain scenarios.

<p>There is a

chatbots are useful for all kinds of businesses, no matter

In actuality,

domain.</p>

their size and

very small customer base, which is a likely scenario

<p>So, even if you serve a

organisation, chatbots will benefit your business.

if are a small

```
</p>
</div>
</div>
</div><!-- panel -->
```

data-parent="#accordion"

href="#collapse5" class="collapsed" aria-expanded="false">

Are there any

security issues with a chatbot?</a>

```
</h4>
</div>
<div id="collapse5" class="panel-collapse
```

collapse" aria-expanded="false">

```
<!-- in -->
<div class="panel-body">
```

issues are specific to chatbots. Plus, if your

<p>First of all, no security

technology stack are set up securely and you have implemented

website and

your data, there's simply no need to worry about a breach.

steps to secure

data-parent="#accordion"

href="#collapse6" class="collapsed" aria-expanded="false">

chatbots help me with regard to customer service?</a>

collapse" aria-expanded="false">

answer is-a lot. A chatbot can be thought of as a virtual

can do things that can bring a visible difference in your

your end-users by their name, help with product

search for a particular product, answer frequently asked

update on order status, and even collect leads on behalf of your

How can

assistant. They

results-address

availability,

questions,

agents.</p>

data-parent="#accordion"

href="#collapse7" class="collapsed" aria-expanded="false">

of chats can a bot handle?</a>

collapse" aria-expanded="false">

study, chatbots currently handle around 60% of all chat

of these are handled solely by a chatbot, with no support

The chatbot volume distribution for any business varies

What percentage

interactions, 25%

from an agent.

```
</p>
</div>
</div>
</div><!-- panel -->

<div class="panel panel-default">
 <div class="panel-header">
 <h4 class="panel-title">
 <a data-toggle="collapse"
data-parent="#accordion"
href="#collapse6" class="collapsed" aria-expanded="false">
chatbots help me with regard to customer service?
collapse" aria-expanded="false">

 </h4>
 </div>
 <div id="collapse6" class="panel-collapse
collapse" aria-expanded="false">

 <!-- in -->
 <div class="panel-body">
 <p>The straightforward
assistant. They
results-address
availability,
questions,
agents.</p>
 </div>
 </div>
</div><!-- panel -->

<div class="panel panel-default">
 <div class="panel-header">
 <h4 class="panel-title">
 <a data-toggle="collapse"
data-parent="#accordion"
href="#collapse7" class="collapsed" aria-expanded="false">
of chats can a bot handle?
collapse" aria-expanded="false">

 </h4>
 </div>
 <div id="collapse7" class="panel-collapse
collapse" aria-expanded="false">

 <!-- in -->
 <div class="panel-body">
 <p>According to a recent
interactions, 25%
from an agent.
```

and non-peak hours.</p>  
<p>During peak hours,  
chatbots can be your first line of defence for frequently  
asked questions.  
Queries with urgent issues or those from privileged  
customers  
should, however, be instantly transferred to human agents.</p>  
<p>During non-peak  
hours, on the contrary, your chatbot can be the first point  
of contact for all  
your queries. Complex offline messages can be passed on  
to an agent later  
on.</p>

```
</div>
</div>
</div><!-- panel -->
```

data-parent="#accordion"  
href="#collapse8" class="collapsed" aria-expanded="false">  
work on many channels?</a>

```
<div class="panel panel-default">
 <div class="panel-header">
 <h4 class="panel-title">
 <a data-toggle="collapse"
```

collapse" aria-expanded="false">

```
</h4>
</div>
<div id="collapse8" class="panel-collapse
```

Chatbot solutions like ours have omnichannel capabilities.  
This means you  
need to build just one chatbot and deploy it across multiple  
channels-  
website, SMS, Facebook Messenger, WhatsApp, etc. This also means  
you can manage  
queries coming in from different platforms using a single  
inbox. </p>

```
<!-- in -->
<div class="panel-body">
 <p>Of course, it can.
 This means you
 channels-
 you can manage
 inbox. </p>
</div>
</div>
</div><!-- panel -->
```

data-parent="#accordion"  
href="#collapse9" class="collapsed" aria-expanded="false">  
Why do I need  
data training if I have an AI chatbot?</a>

```
<div class="panel panel-default">
 <div class="panel-header">
 <h4 class="panel-title">
 <a data-toggle="collapse"
```

```
</h4>
</div>
<div id="collapse9" class="panel-collapse
```

collapse" aria-expanded="false">

machine learning models to reinforce its capabilities  
more data this model is fed with, the more intuitive it  
while your AI chatbot will definitely learn from past  
is recommended that you train it with queries your  
to ask.</p>

data-parent="#accordion"

href="#collapse10" class="collapsed" aria-expanded="false">  
information sources does a chatbot use?</a>

collapse" aria-expanded="false">

communicate with your end-users in a meaningful way, it is  
program is able to access your data sources-business data,  
internal databases, documents, knowledge base, etc. Open-APIs  
such scenarios. </p>

data-parent="#accordion"

href="#collapse11" class="" aria-expanded="true">  
key features of your chatbot solution Socio?</a>

collapse in" aria-expanded="true">

<!-- in -->

<div class="panel-body">

<p>An AI chatbot relies on

over time. The

becomes. So,

conversations, it

visitors are likely

</div>

</div>

</div><!-- panel -->

<div class="panel panel-default">

<div class="panel-header">

<h4 class="panel-title">

<a data-toggle="collapse"

What

</h4>

</div>

<div id="collapse10" class="panel-collapse

<!-- in -->

<div class="panel-body">

<p>For a chatbot to

vital that the

website data,

can be helpful in

</div>

</div>

</div><!-- panel -->

<div class="panel panel-default">

<div class="panel-header">

<h4 class="panel-title">

<a data-toggle="collapse"

What are some

</h4>

</div>

<div id="collapse11" class="panel-collapse

<!-- in -->



several highly coveted features, some of which are as

Language Understanding: Socio has advanced natural language

capabilities, as a result of which it can understand the context of what  
written or spoken and formulate a suitable response. </li>

Analytics: Because it can seamlessly integrate with your CRM

platform, Socio offers a bunch of immensely useful analytical metrics  
you can keep track of. </li>

Generic Intents: Our chatbot solution comes with pre-built

intents to greet the visitor, reply to objectional messages, and  
in simple conversations. This takes a lot of work off your  
shoulders.</li>

Quicklinks is a collection of links that help a customer

navigate through the chat interface easily by suggesting topics he may  
interested in.</li>

Classification: Our auto-intent classification feature uses

associate words or phrases with a particular intent.</li>

Development: Socio has an intuitive builder that lets you

a chatbot solution without requiring any knowledge of coding.

```
<div class="panel-body">
```

```
<p>Socio is equipped with
```

```
follows:</p>
```

```

```

```
Natural
```

```
is being
```

```
Chat
```

```
that
```

```
Pre-Built
```

```
generic
```

```
engage
```

```
Quicklinks:
```

```
be
```

```
Auto-Intent
```

```
NLP to
```

```
Code-free
```

```
devise
```

```

```

```

```

```
</div>
```

```
</div>
```

```
</div><!-- panel -->
```

```
<div class="panel panel-default">
```

```
<div class="panel-header">
```

```
<h4 class="panel-title">
```

```
<a data-toggle="collapse"
```

```
data-parent="#accordion"
```

```
href="#collapse12" class="collapsed" aria-expanded="false">
```

```
help my business?
```

```
</h4>
```

```
</div>
```

```
collapse" aria-expanded="false"
```

```
<div id="collapse12" class="panel-collapse
```

How can Socio

number of tasks related to customer service, so you can

intricate work demanding human intervention. </p>

instantly understands and responds to queries on many of

platforms. As a result, your customers don't need to connect

agent for everything. It can also handle multiple conversations

schedule appointments and collect user feedback. This way,

hundreds of customers in a hassle-free manner.</p>

data-parent="#accordion"

href="#collapse13" class="collapsed" aria-expanded="false">

does Socio support?</a>

collapse" aria-expanded="false"

channel solution which means you can engage your customers

they spend most of their time on, be it your website,

Messenger, WhatsApp, Slack or Hangouts. This way, you can manage

large number of platforms and broaden your reach. </p>

data-parent="#accordion"

href="#collapse14" class="collapsed" aria-expanded="false">

have programming skills to start with Socio?</a>

style="height: 0px;">

<div class="panel-body">

<p>Socio automates a

focus on more

<p>Our chatbot solution

your messaging

with a human

simultaneously,

you can manage

</div>

</div>

</div><!-- panel -->

<div class="panel panel-default">

<div class="panel-header">

<h4 class="panel-title">

<a data-toggle="collapse"

Which channel

</h4>

</div>

<div id="collapse13" class="panel-collapse

style="height: 0px;">

<div class="panel-body">

<p>Socio is an omni-

on the platform

Facebook

queries from a

</div>

</div>

</div><!-- panel -->

<div class="panel panel-default">

<div class="panel-header">

<h4 class="panel-title">

<a data-toggle="collapse"

Do I need to

</h4>

</div>

collapse" aria-expanded="false"

our chatbot service, you just have to choose a template  
your area of business and edit the template by adding a  
conversation flow to the bot.</p>

data-parent="#accordion"

href="#collapse15" class="collapsed" aria-expanded="false">  
chatbots multilingual?</a>

collapse" aria-expanded="false"

Socio, we deliver multilingual support in English, Hindi,  
regional languages. Our chatbot solution is trained to  
nuances of a language and respond naturally and accurately.

<!-- footer ---->

<footer>

<section class="top-footer">

<div class="container">

<div class="row">

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

<div class="footer-logo">

<div id="collapse14" class="panel-collapse

style="height: 0px;">

<div class="panel-body">

<p>Absolutely not. With

that applies to

custom

</div>

</div>

</div><!-- panel -->

<div class="panel panel-default">

<div class="panel-header">

<h4 class="panel-title">

<a data-toggle="collapse"

Are your

</h4>

</div>

<div id="collapse15" class="panel-collapse

style="height: 0px;">

<div class="panel-body">

<p>Yes, they are. With

and several

understand the

</p>

</div>

</div>

</div><!-- panel -->

</div><!-- accordion -->

</div><!-- col-12 -->

</div><!-- row -->

</div><!-- container -->

</div><!-- section-1 -->

</div><!-- content-area -->

```


 </div><!-- footer-logo -->
</div><!-- col-4 -->

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

 Declaration
 Privacy Policy
 Terms of Service

 </nav><!-- footer-nav -->
</div><!-- col-4 -->

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

 <i class="fa fa-facebook" aria-hidden="true"></i>

 <i class="fa fa-linkedin" aria-hidden="true"></i>

 <i class="fa fa-twitter" aria-hidden="true"></i>

 <i class="fa fa-instagram" aria-hidden="true"></i>

 <i class="fa fa-youtube-play" aria-hidden="true"></i>

 </div><!-- social-icon -->
</div><!-- col-4 -->
</div><!-- row -->
</div><!-- containr -->
</section><!-- top-footer -->
<section class="footer-info">
 <div class="container">
 <div class="row">
 <div class="col-md-6 col-sm-6 col-xs-12 foo-left">
 <p>Socio. © 2022. All rights reserved. </p>
 </div><!-- col-6 -->

 <div class="col-md-6 col-sm-6 col-xs-12 foo-right">
 <p>Design & Developed by Team TFLEX</p>
 </div><!-- col-6 -->
 </div><!-- row -->
 </div><!-- containr -->
</section><!-- footer-info -->
</footer>

<script>
 window.onscroll = function () { myFunction() };

 var header = document.getElementById("myHeader");
 var sticky = header.offsetTop;

 function myFunction() {
 if (window.pageYOffset > sticky) {
 header.classList.add("sticky");
 } else {

```

```

 header.classList.remove("sticky");
 }
}
</script>

<script type="text/javascript">
 // Wrap every letter in a span
 var textWrapper = document.querySelector('.ml11 .letters');
 textWrapper.innerHTML = textWrapper.textContent.replace(/([^\x00-\x80]|\w)/g, "${}");

 anime.timeline({ loop: false })
 .add({
 targets: '.ml11 .line',
 scaleY: [0, 1],
 opacity: [0.5, 1],
 easing: "easeOutExpo",
 duration: 700
 })
 .add({
 targets: '.ml11 .line',
 translateX: [0, document.querySelector('.ml11 .letters').getBoundingClientRect().width + 10],
 easing: "easeOutExpo",
 duration: 700,
 opacity: 0,
 delay: 100
 })
 .add({
 targets: '.ml11 .letter',
 opacity: [0, 1],
 easing: "easeOutExpo",
 duration: 600,
 offset: '-=775',
 delay: (el, i) => 34 * (i + 1)
 })
 .add({
 targets: '.ml11',
 opacity: 1,
 duration: 1000,
 easing: "easeOutExpo",
 delay: 1000
 });
</script>

<script type="text/javascript">
 anime.timeline({ loop: false })
 .add({
 targets: '.ml15 .word',
 scale: [14, 1],
 opacity: [0, 1],
 easing: "easeOutCirc",
 duration: 800,
 delay: 2000
 })
 .add({
 targets: '.ml15',
 opacity: 1,
 duration: 1000,
 easing: "easeOutExpo",
 delay: 1000
 });
</script>

```

```

<script type="text/javascript">
 // Wrap every letter in a span
 var textWrapper = document.querySelector('.ml12');
 textWrapper.innerHTML = textWrapper.textContent.replace(/\S/g, "${}");

 anime.timeline({ loop: false })
 .add({
 targets: '.ml12 .letter',
 translateX: [40, 0],
 translateZ: 0,
 opacity: [0, 1],
 easing: "easeOutExpo",
 delay: 3000,
 duration: 1200,
 })
</script>
<!-- IBM - Cloud -> Watson Assistant -->
<script>
 window.watsonAssistantChatOptions = {
 integrationID: "44f8a8dc-51c8-4c89-a260-9f6ddf9b5362", // The ID of this integration.
 region: "au-syd", // The region your integration is hosted in.
 serviceInstanceID: "d6a9a31d-b606-4560-babd-a6f7395f2d74", // 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/versions/" +
(window.watsonAssistantChatOptions.clientVersion || 'latest') + "/WatsonAssistantChatEntry.js";
 document.head.appendChild(t);
 });
</script>

<div>
 <link rel="stylesheet" href="./Socio_files/font-awesome.min.css">
 <style>
 div#mic-btn {
 position: relative;
 width: 30px;
 height: 30px;
 text-align: center;
 }

 div#mic-btn img {
 position: absolute;
 left: 50%;
 top: 50%;
 width: 120px !important;
 height: 120px !important;
 transform: translate(-50%, -50%);
 max-width: initial;
 }

 div#mic-btn i {
 line-height: 30px;
 cursor: pointer;
 }
 </style>
 <div class="scroll-indicator"></div>

```

```
<script src="./assets/js/scroll-indicator.js"></script>
</body>
<grammarly-desktop-integration data-grammarly-shadow-root="true"></grammarly-desktop-integration>
</html>
```

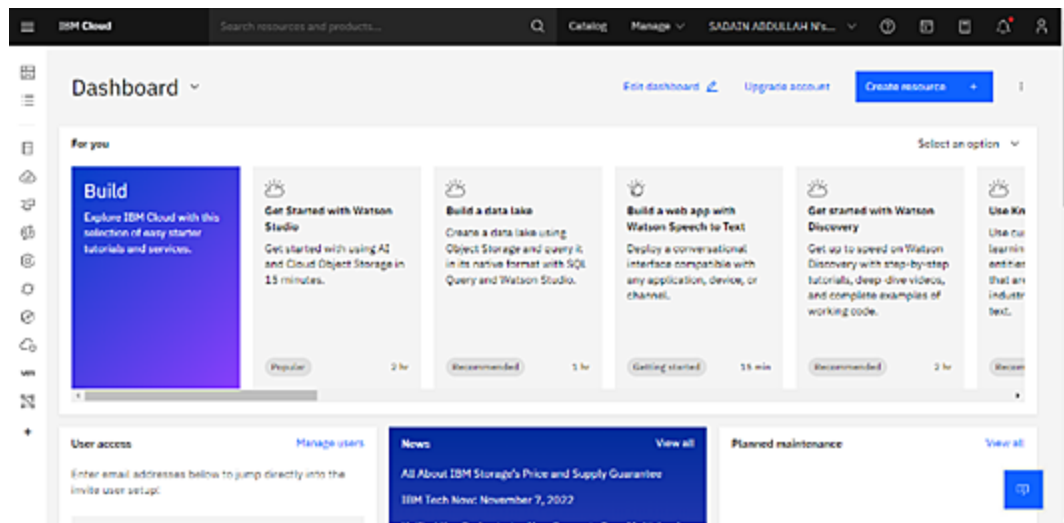
## The Other Files Included in the below File Names:

```
assets
assets\css
assets\css\blogs.css
assets\img
assets\js
assets\js\scroll-indicator.js
Blogs
Blogs\bl-Chat.html
Blogs\bl-Current.html
Blogs\bl-Finance.html
Blogs\bl-General.html
Blogs\bl-Loan.html
Blogs\bl-Netbanking.html
Blogs\bl-savings.html
Blogs\bl-Video.html
Contact
Contact\Contact.html
login
login\login-style.css
login\login.html
Socio_files
Socio_files\anime.min.js
Socio_files\banner-chat.js
Socio_files\bootstrap.min.css
Socio_files\bootstrap.min.js
Socio_files\css2
Socio_files\css2(1)
Socio_files\font-awesome.min.css
Socio_files\jquery.min.js
Socio_files\jquery.slicknav.min.js
Socio_files\loader.js
Socio_files\owl.carousel.js
Socio_files\owl.carousel.min.css
Socio_files\slicknav.css
Socio_files\style.css
Socio_files\styles.css
Socio_files\underscore-min.js
Blogs.html
faq.html
features.html
```

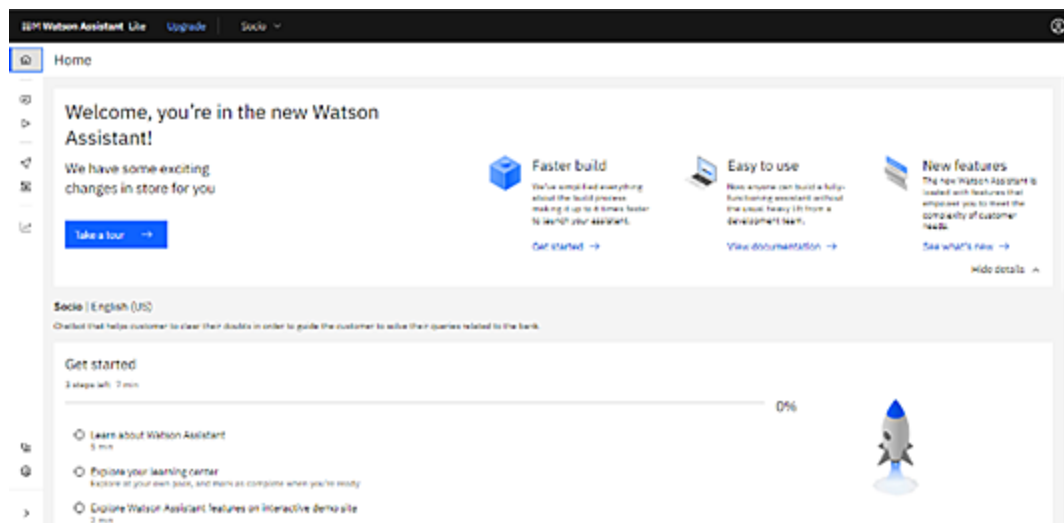
## Snapshots:

### IBM Cloud & IBM Watson Assistant:

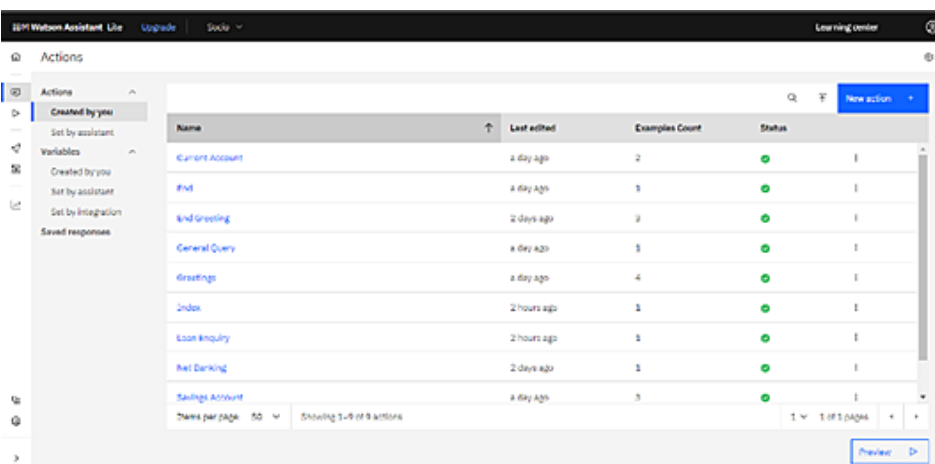
#### Steps-1: Creating IBM Cloud Account:



#### Steps-2: Creating Watson Assistant:

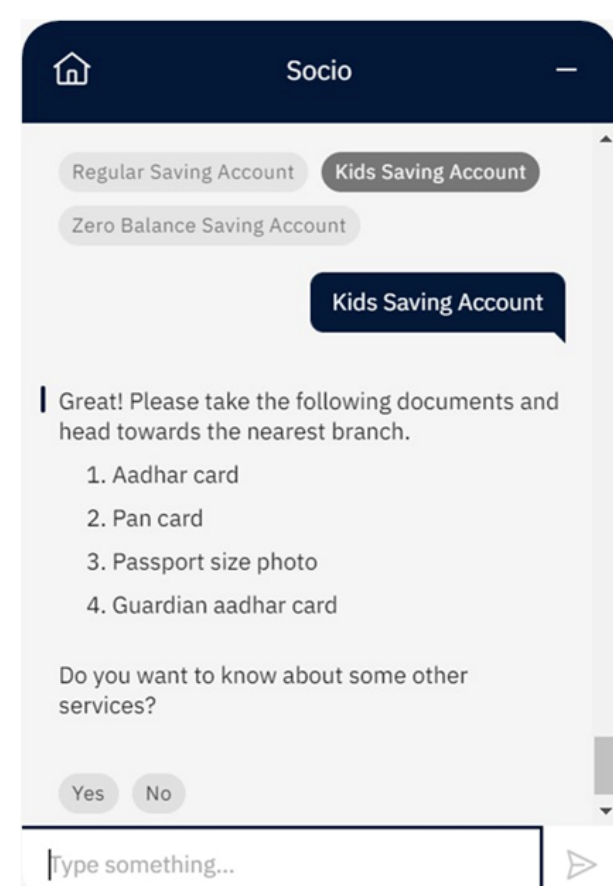
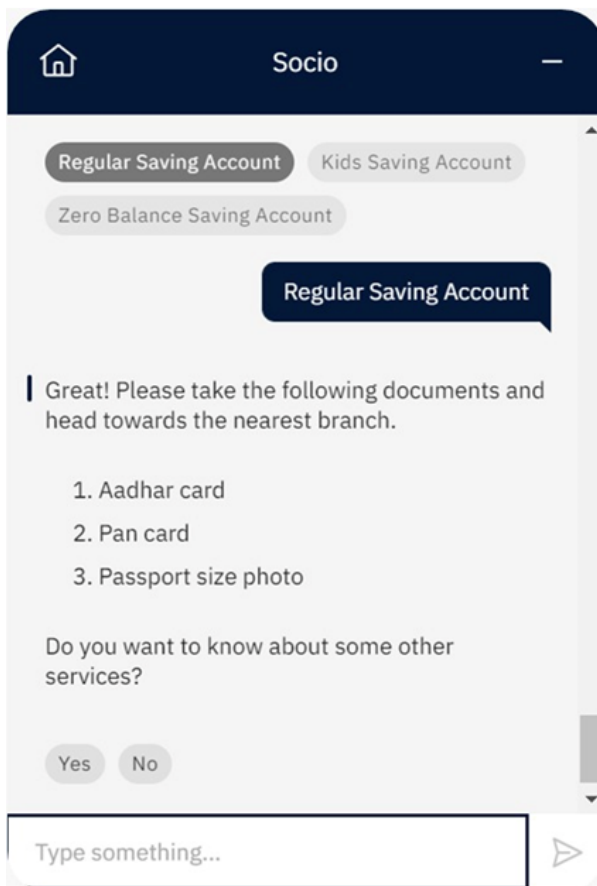
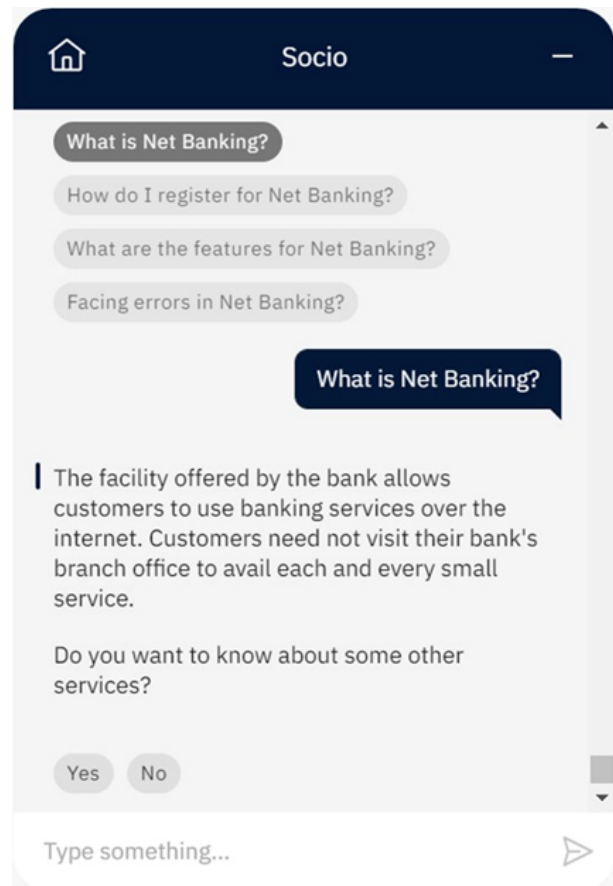
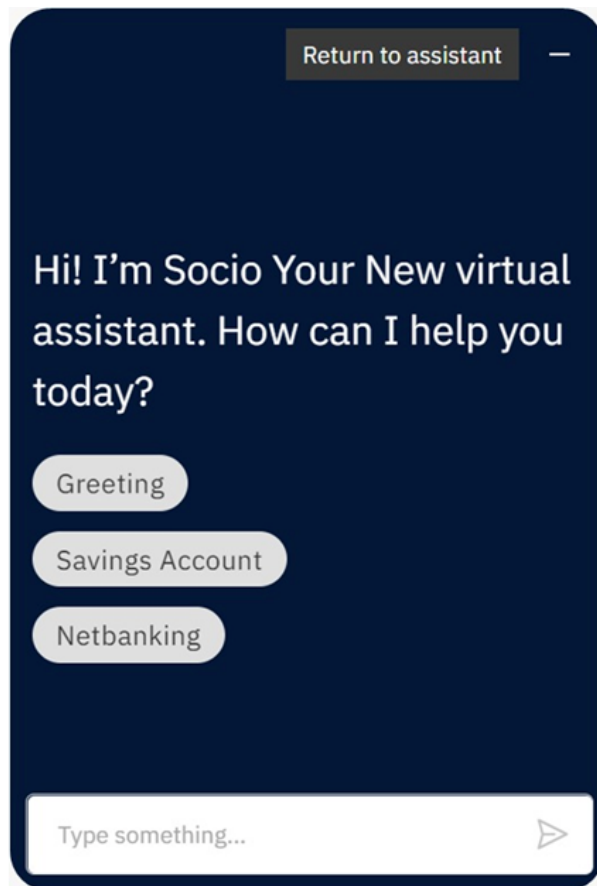


#### Steps-3: Understanding Customer's Banking Related queries and skills:





## Chatbot:





## GitHub & Project Demo Link

GitHub Link: <https://github.com/IBM-EPBL/IBM-Project-12106-1659372335>

Project Demo Link: [https://youtu.be/v\\_uGAYcLt2M](https://youtu.be/v_uGAYcLt2M)