PROJECT DOCUMENTATION

AI Based Discourse For Banking Industry

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Abstract

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

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

Services Used:

- IBM Watson Assistant
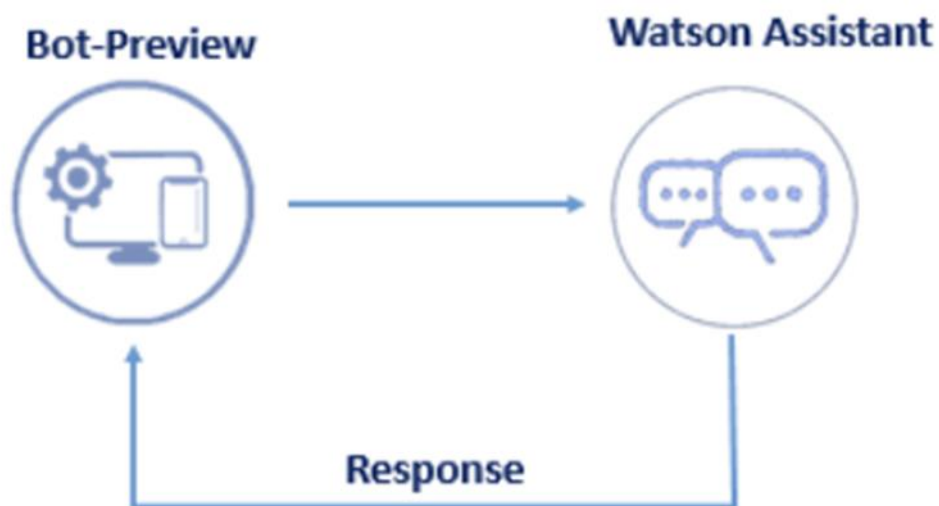
Keywords- AI, Banking etc.

Introduction

The 2011 quiz competition called 'Jepardi' in the US was unique. One of the 3 contestants was a different person. Surprisingly, the same 'person', won that prestigious competition. By the way, the other two players were not Lechepe. One of them had an unbroken tradition of being undefeated 72 times in a row, while the other had won the biggest prize ever. But the difference between the 'people' who loses these two giants is that he is not a human being, but a computer system. This system, called IBM Watson, defeated humans in its own competition.

This phenomenon brought to light such an intelligent system used in computers, that is, the subject of artificial intelligence (AI) behind it. If a computer system starts doing the work where human beings need special intelligence, it can be called 'artificial intelligence' (AI). Diagnosing scans like X-rays, translating, detecting fraud in many financial transactions, and playing chess are not easy. He needs great intelligence. The same work is now being done by such computer systems.

We live in the time where a lot of work is taken over by machines, software, and various automatic processes. In this regard, artificial intelligence has a special place in all the advancements made today. As the AI systems are used on a day-to-day basis in our life, it is not wrong to say that our lives have also become advanced with the use of this technology, like controlling the temperature of our room, getting answers for our doubts, for helping us to drive our car etc. AI powers product pricing on Amazon, movie recommendations on Netflix, predictive maintenance for machinery and fraud detection for your credit card. AI will do everything for you and as of now it is an added luxury to our lives.

OBJECTIVE OF THE STUDY
- To understand the concept of Artificial Intelligence

To know the applications of Artificial Intelligence in Banking Sector

Project Objectives

After completing this project, you will learn how to

- Work with Watson Assistant
- Create Skills in Watson Assistant
- Use Entities, Intents, Dialogues

- Deploy skill to generate a preview link

Prerequisites

To complete this project you must have an IBM account

- Please click **here** to register for IBM
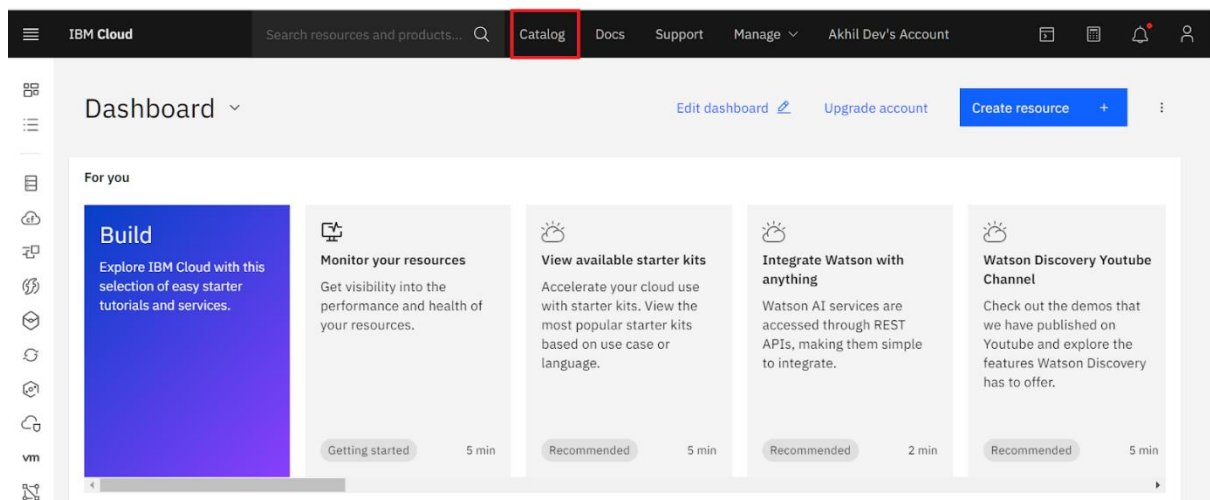- Please click **here** to log in to IBM Account

Prior Knowledge :
you should have knowledge of the following Concepts
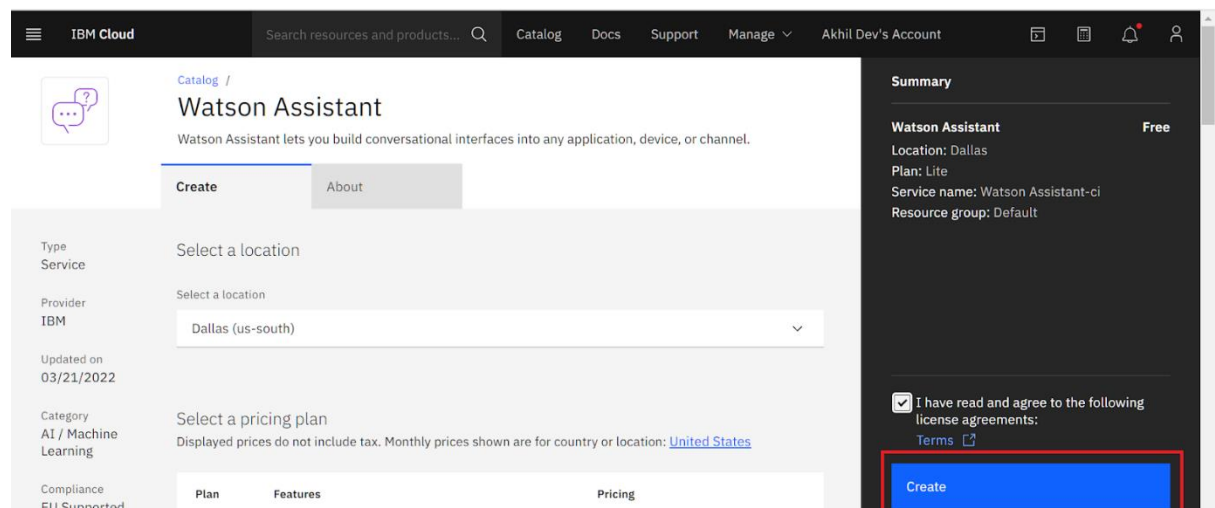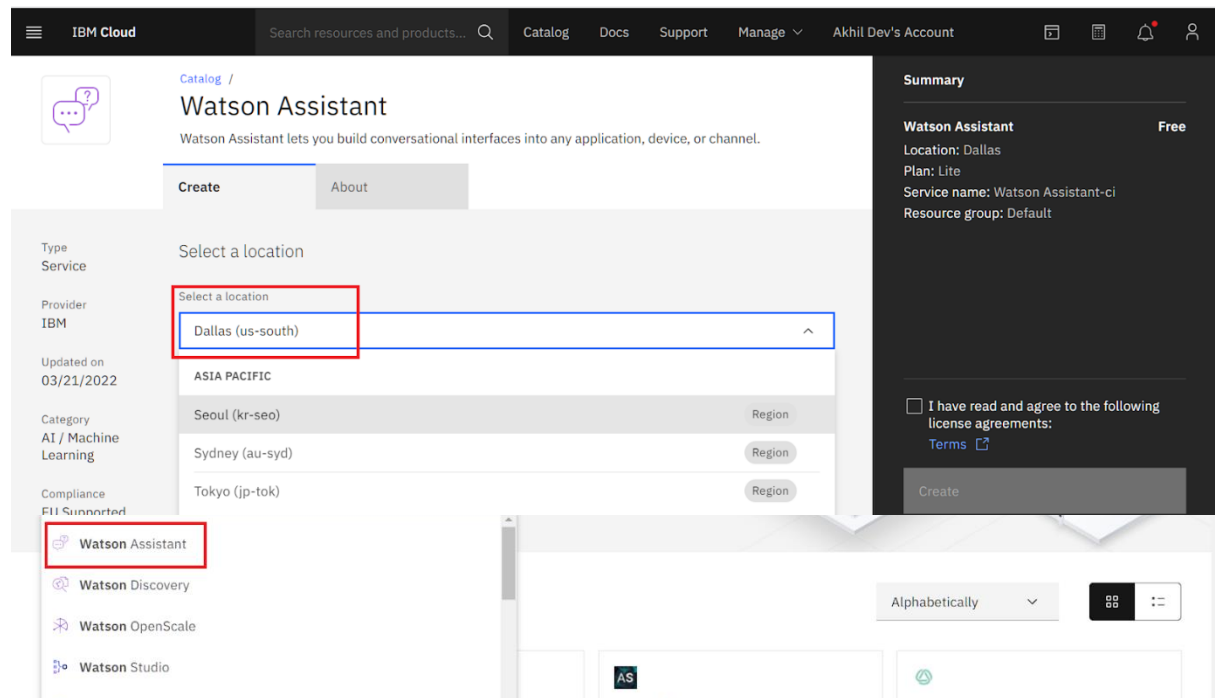
- **What is chatbot**

Create IBM Watson Assistant Service

Create IBM Watson Assistant Service
1. Click on the catalog and you will be redirected to a page that will show you all the IBM services, from your left pane click on AI and then select Watson Assistant.

2.   Ensure that "Dallas" is selected as a region click on create.

3.Upon successful login to the cloud, you will be on the "Watson Assistant" page. Click on Launch Watson Assistant.

Creating Skills & Assistant For Chatbot

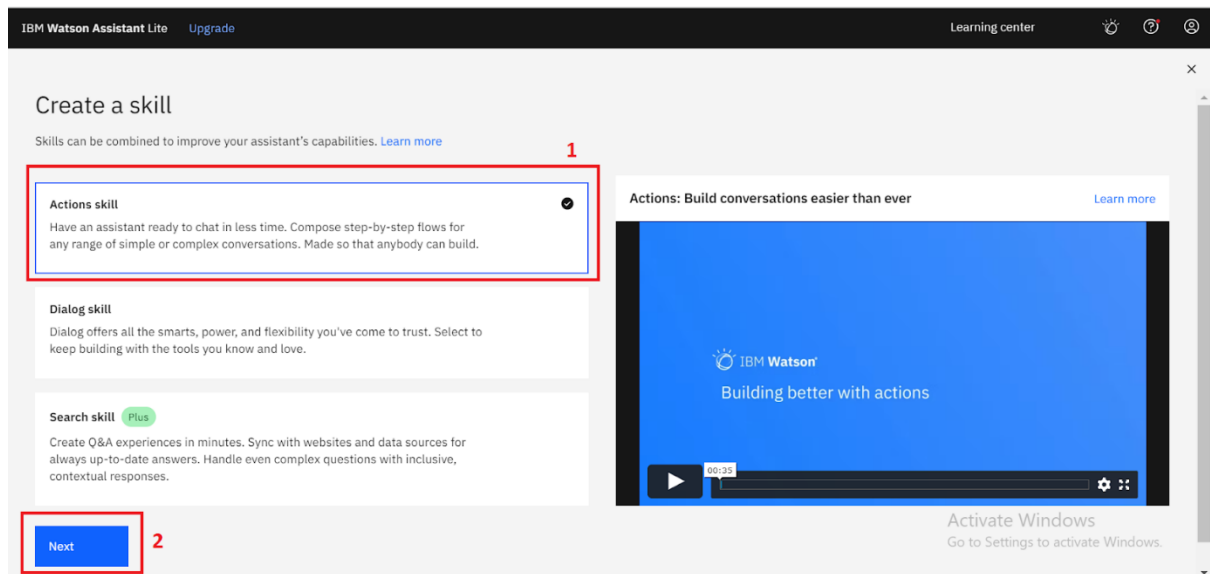**Skills are nothing but actions and steps. Steps are the subset of actions where conversations are built and**
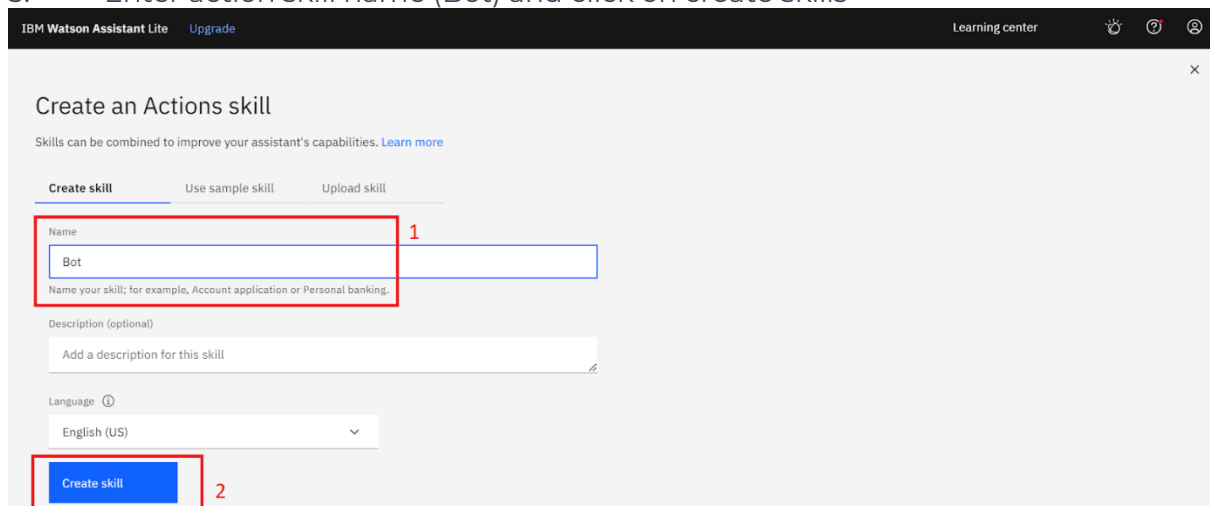**Assistant is used to integrating skills.**

Chatbot Skills Creation

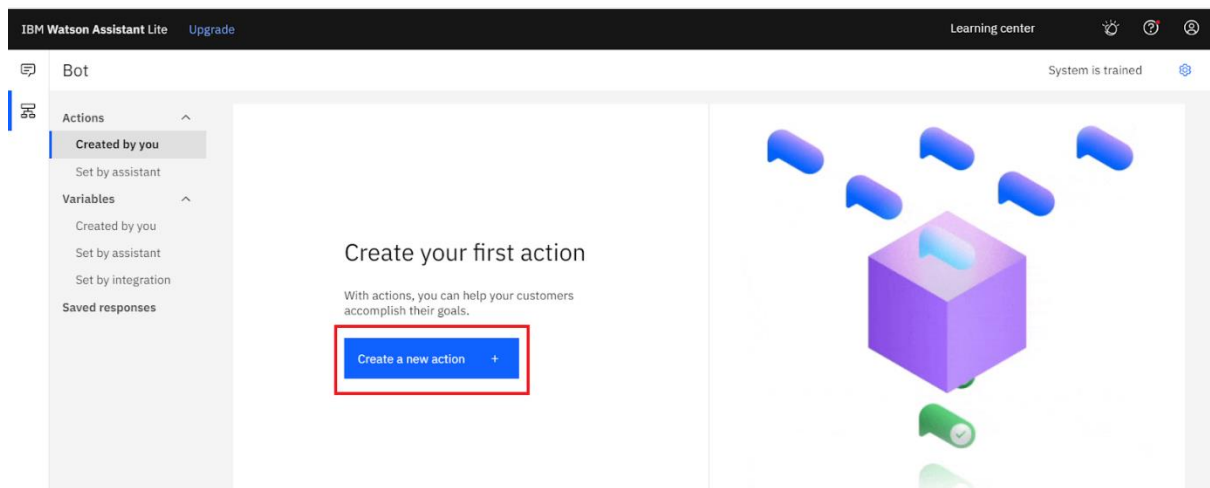1. Click on the Skills tab and click on create skills.
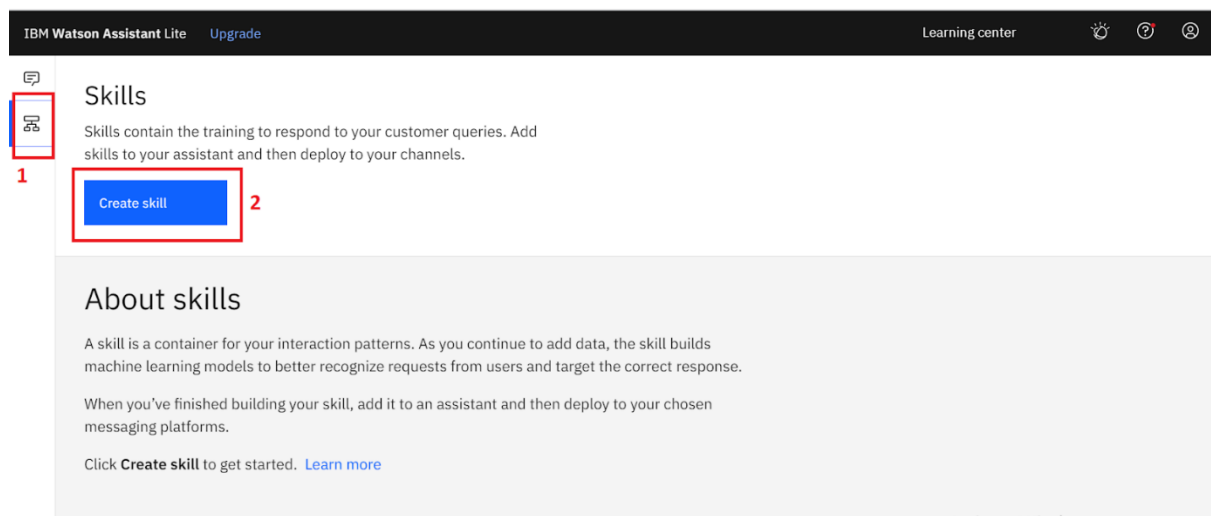
2.Select Action skills and click on next.

3.   Enter action skill name (Bot) and click on create skills

4. To create a new action click on Create a new action button.

Creating Assistant & Integrate With Flask Web Page

You will be creating a banking bot in this activity that has the following capabilities

1. The Bot should be able to guide a customer to create a bank account.
2. The Bot should be able to answer loan queries.
3. The Bot should be able to answer general banking queries.
4. The Bot should be able to answer queries regarding net banking.
5. With the help of this bot, you can get all the required details related to banking.

Let us build our flask application which will be running in our local browser with a user interface.

In the flask application, users will interact with the chatbot, and based on the user queries they will get the outcomes.

Build Python Code

1: Importing Libraries

The first step is usually importing the libraries that will be needed in the program.

```
from flask import Flask, render_template
```

Importing the flask module into the project is mandatory. An object of the Flask class is our WSGI application. Flask constructor takes the name of the current module (__name__).

2: Creating our flask application and loading

```
app = Flask(__name__)
```

3: Routing to the Html Page

Here, the declared constructor is used to route to the HTML page created earlier.

The '/' route is bound with the bot function. Hence, when the home page of a web server is opened in the browser, the HTML page will be rendered.

```python
@app.route('/')
def bot():
    return render_template('chatbot.html')
```

Main Function
This is used to run the application in localhost.

```python
if __name__ == '__main__':
    app.run()
```
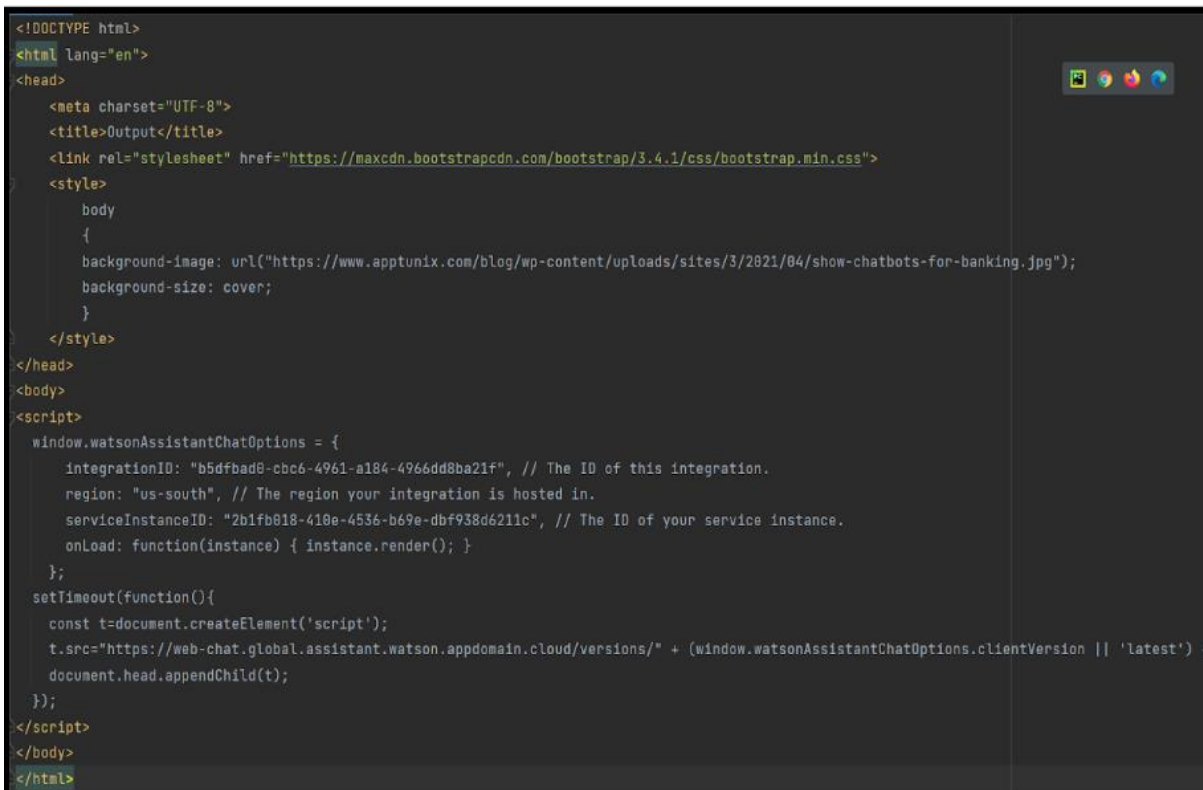
Build HTML Code

- We use HTML to create the front-end part of the web page.
- Here, we have created 1 HTML page-Chatbot.html
- Chatbot.html displays the home page which integrates with Watson Assistant.
- For more information regarding HTML :
  - **Link**

A simple HTML page is created. Auto-generated source code from IBM Watson Assistants is copied and pasted inside the body tag

```html
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <title>Output</title>
    <link rel="stylesheet" href="https://maxcdn.bootstrapcdn.com/bootstrap/3.4.1/css/bootstrap.min.css">
    <style>
        body
        {
        background-image: url("https://www.apptunix.com/blog/wp-content/uploads/sites/3/2021/04/show-chatbots-for-banking.jpg");
        background-size: cover;
        }
    </style>
</head>
<body>
<script>
  window.watsonAssistantChatOptions = {
      integrationID: "b5dfbad8-cbc6-4961-a184-4966dd8ba21f", // The ID of this integration.
      region: "us-south", // The region your integration is hosted in.
      serviceInstanceID: "2b1fb818-410e-4536-b69e-dbf938d6211c", // 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') +
    document.head.appendChild(t);
  });
</script>
</body>
</html>
```

Build HTML Code

- We use HTML to create the front-end part of the web page.

```html
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <title>Output</title>
    <link rel="stylesheet" href="https://maxcdn.bootstrapcdn.com/bootstrap/3.4.1/css/bootstrap.min.css">
    <style>
        body
        {
        background-image: url("https://www.apptunix.com/blog/wp-content/uploads/sites/3/2021/04/show-chatbots-for-banking.jpg");
        background-size: cover;
        }
    </style>
</head>
<body>
<script>
    window.watsonAssistantChatOptions = {
        integrationID: "b5dfbad0-cbc6-4961-a184-4966dd8ba21f", // The ID of this integration.
        region: "us-south", // The region your integration is hosted in.
        serviceInstanceID: "2b1fb018-410e-4536-b69e-dbf938d6211c", // 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') +
      document.head.appendChild(t);
    });
</script>
</body>
</html>
```

- Here, we have created 1 HTML page-Chatbot.html
- Chatbot.html displays the home page which integrates with Watson Assistant.
- For more information regarding HTML

A simple HTML page is created. Auto-generated source code from IBM Watson Assistants is copied and pasted inside the body tag

Run the application

- Open the anaconda prompt from the start menu.
- Navigate to the folder where your app.py resides.
- Now type the "python app.py" command.
- It will show the local host where your app is running on http://127.0.0.1.5000/
- Copy that localhost URL and open that URL in the browser. It does navigate me to where you can view your web page.

Then it will run on localhost:5000

```
* Serving Flask app "app" (lazy loading)
* Environment: production
  WARNING: This is a development server. Do not use it in a production deployment.
  Use a production WSGI server instead.
* Debug mode: off
* Running on http://127.0.0.1:5000/ (Press CTRL+C to quit)
```

Ideation Phase

Brainstorm & Idea Prioritization Template

Navigate to the localhost (http://127.0.0.1:5000/) where you can view your web page.
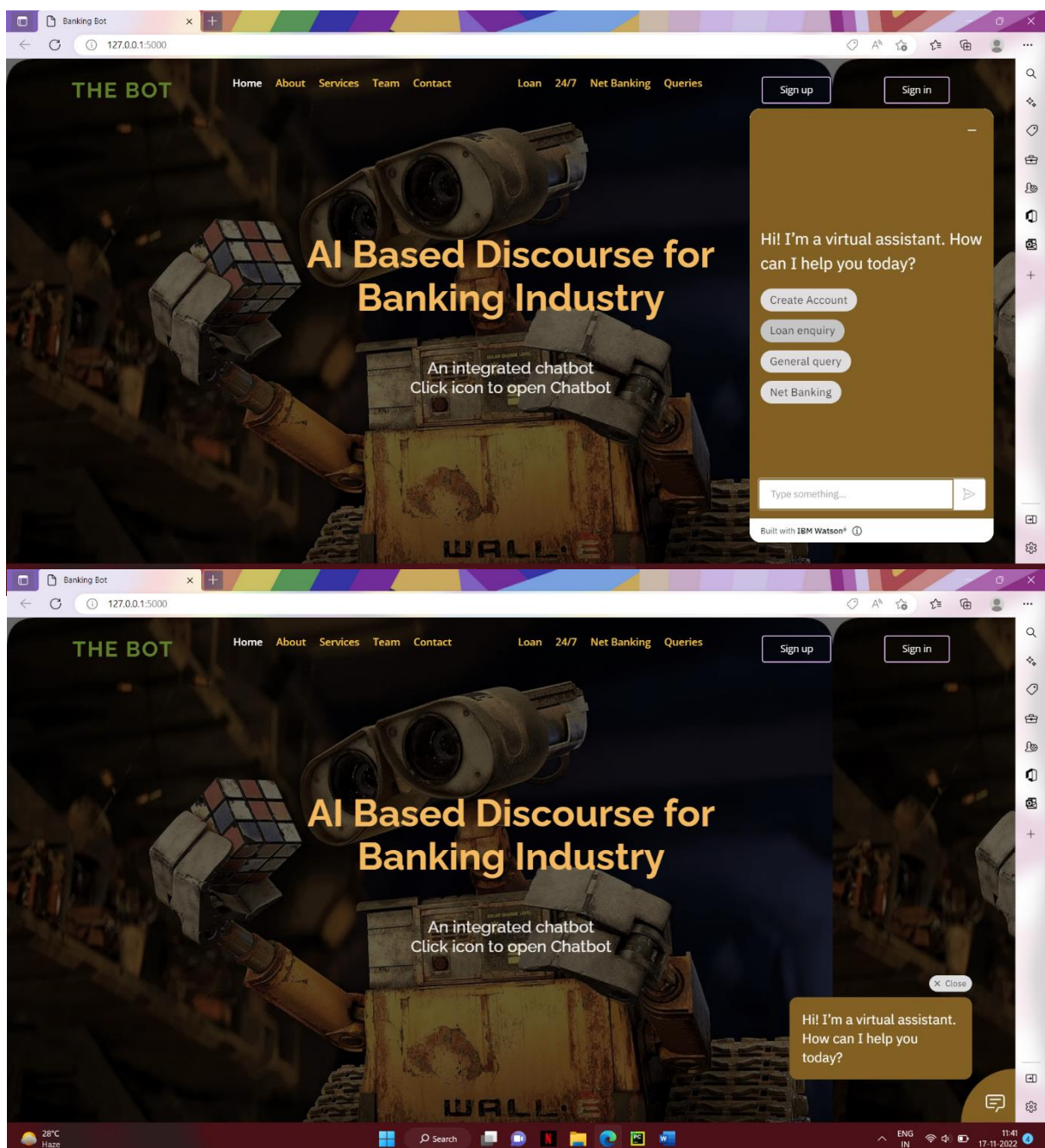
Brainstorm & Idea Prioritization Template:

Brainstorming provides a free and open environment that encourages everyone within a team to participate in the creative thinking process that leads to problem solving. Prioritizing volume over value, out-of-the-box ideas are welcome and built upon, and all participants are encouraged to collaborate, helping each other develop a rich amount of creative solutions.
Use this template in your own brainstorming sessions so your team can unleash their imagination and start shaping concepts even if you're not sitting in the same room.

Step-2: Brainstorm, Idea Listing and Grouping

Step-3: Idea Prioritization

Ideation Phase Empathize and Discover

Empathy Map Canvas:

An empathy map is a simple, easy-to-digest visual that captures knowledge about a user's behaviours and attitudes.

It is a useful tool to helps teams better understand their users.

Creating an effective solution requires understanding the true problem and the person who is experiencing it. The exercise of creating the map helps participants consider things from the user's perspective along with his or her goals and challenges.

Example:

Project DesignPhase-I-SolutionFit

Problem Solution Fit

1. CUSTOMER SEGMENT(S) CS

Discover critical data points for customer segmentation

Profile new customers into user specific segmentation

Real time monitoring and reallocation of segments

Support constant learning about each customer

DefineCS.fitintoCC

2. CUSTOMER CONSTRAINTS CC

The value of reimagined customer engagement
Rising customer expectation
Disintermediation
Increasing human-like formats

3. AVAILABLE SOLUTIONS AS

- Use machine learing to achieve robotic process automation
- Augment human analytical competencies by leveraging machine learning
- Use data analytics to make smart and timely decisions

4.JOBS-TO-BE-DONE/PROBLEMS J&P

High error rates

Hard to access

Hard to integrate with external sources

5.PROBLEM ROOT CAUSE RC

Security and compliance
Localization
Transparency .Explainability
Siloed data

6. BEHAVIOUR BE

- Reduced costs of acquistion
- Lower costs to serve
- Lower risk

FocusonDataappropriate.understandC

7. TRIGGERS TR

Triggers can be pieces of information which users create through their everyday actions that indicate they are either a potential customer/ prospect or otherwise
A user transacts on a bank's ATM

EntidifystrongTR&EM

8. EMOTIONS: BEFORE/AFTER EM

Before: Risk for storing data

After: Easy to manage

9. YOUR SOLUTION SOLN

Establish one master version for each customer

Predict next best action for each customer

Profile new customer as soon as they sign up

Achieve smarter cross sell and up sell of products

10. CHANNELS of BEHAVIOUR CB

1. **ONLINE**

   Blending high tech and high touch banking experience

   Security and Privacy

2. **OFFLINE**

   No Immediate response, as there is a direct interaction.

   Taking time to

ExtractOnlineandOfflineCHof BE

Proposed Solution:

S.NO	Parameter	Description
1.	Problem Statement (Problem to be solved)	**Statement**- Currently, most banks offer a wide variety of products and services – credit cards, savings accounts, debit cards, financial planning, personal loans, mortgages, etc. Yet many customers are not always aware of all the products offered by the financial company they're doing business with. **Description**: Banking is one the crucial sector, it deals with financial transactions which can be availed by everyone, banks are not able to resolve the queries of customers related to the products or services in satisfactory way in turn hinders the customer satisfaction
2.	Idea / Solution description	The banking applications these days are working fine and make almost all the banking routines with ease. Yet, these interfaces were either flooded unwanted notifications or missing the spotlight information for the particular customer.
3.	Novelty / Uniqueness	To enable the e-banking services as a customer based preferential service.
4.	Social Impact / Customer Satisfaction	Customers of the bank – Depositors, borrowers, lenders etc
5.	Business Model (Revenue Model)	Banks will enable much and reliable services which will gain customer loyalty. The propose model aims to bring down the gap between the banking customer requirements and satisfaction.
6.	Scalability of the Solution	Instead of promoting regional ads, AI can be deployed to navigate to their interest and customize the entire app tailor made to the customer priority. It shall be deployed as a quality update in all the banking apps.

Solution Architecture
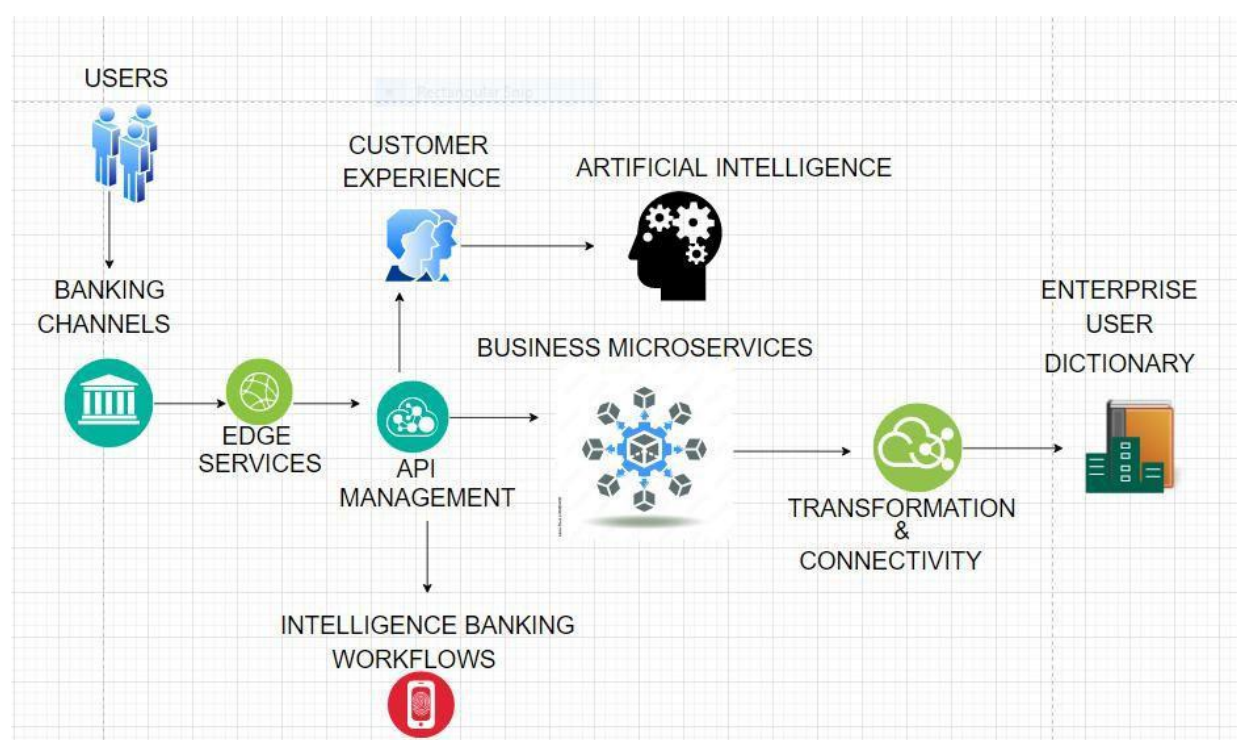
Project Design phase -2
Customer journey
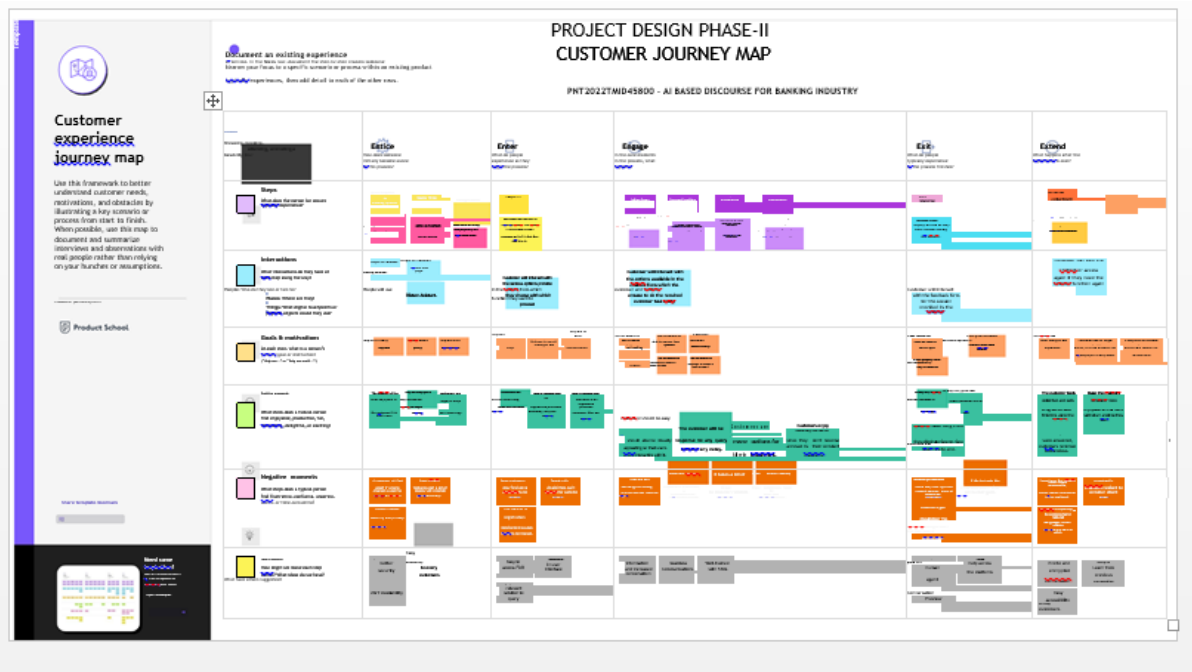
Data Flow Diagram & User stories

Data Flow Diagrams:

A Data Flow Diagram (DFD) is a traditional visual representation of the information flows within a system. A neat and clear DFD can depict the right amount of the system requirement graphically. It shows how data enters and leaves the system, what changes the information, and where data is stored
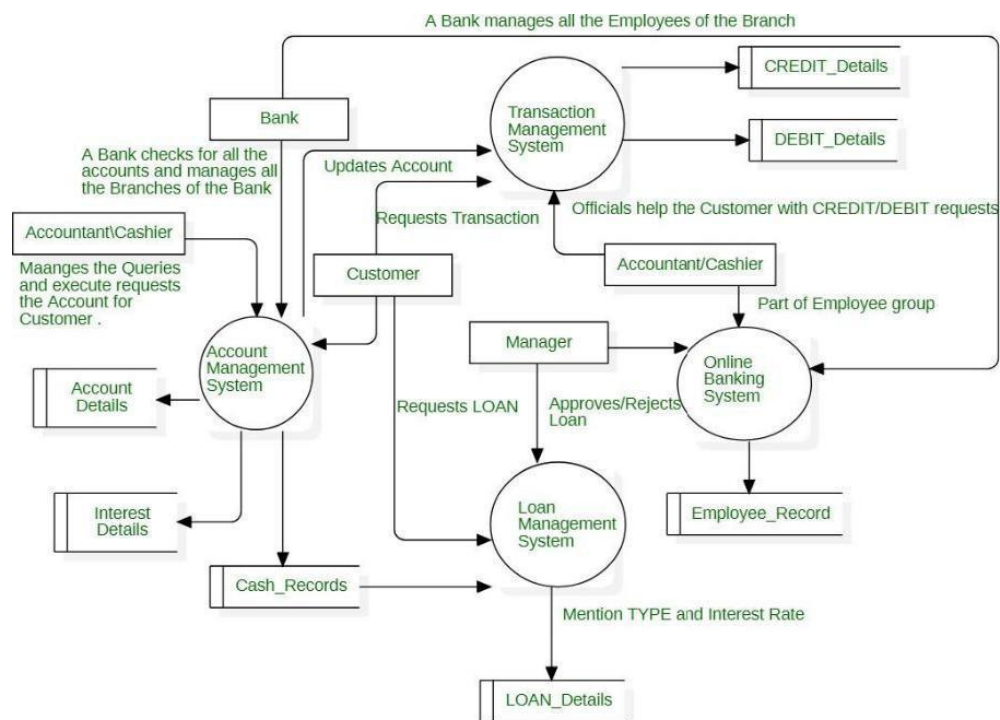
User Stories

User Type	Functional Requirement (Epic)	User Story Number	User Story / Task	Acceptance criteria	Priority	Release
Customer (Mobile 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
Customer (Mobile user)	Registration	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
Customer (Mobile user)	Registration	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
Customer (Mobile user)	Registration	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
Customer (Mobile user)	Login	USN-5	As a user, I can log into the application by entering email & password	I can log in & access the dashboard with email and password	High	Sprint-1
Customer (Mobile user)	Dashboard	USN-6	As a user, I can access the dashboard	I can access the dashboard	High	Sprint-1
Customer (Web user)	Registration	USN-7	As a user, I can register for the application by entering my email, password, and confirming my password.	I can access my account/dashboard in web	High	Sprint-1
Customer (Web user)	Balance	USN-8	As a user, I want to check balance of my bank account	I can see the balances displayed	High	Sprint-1
Customer (Web user)	Transfer money	USN-9	As a user, I want to transfer money from my account to another bank account	I can transfer money from my account to another bank account	High	Sprint-1
Customer Care Executive	Solving query		As a user, To continuously improve product knowledge and awareness of market trends and competitor products.	I can deal with customer issues and churning out an easy-to-follow solution.	High	Sprint-1
Administrator	Backup data	USN-9	As a Net Banking Administrator, I want to have the customer's data backed up so that I can restore it any time in case of issues	I can deal with customer's backup data	High	Sprint-1

Solution requirement (functional & Non functional)

Functional Requirements:

Following are the functional requirements of the proposed solution.

FR No.	Functional Requirement (Epic)	Sub Requirement (Story / Sub-Task)
FR-1	User Registration	Registration through Form Registration through Gmail Registration through LinkedIn
FR-2	User Confirmation	Confirmation via Email Confirmation via OTP
FR-3	User Login	Valid login id and password
FR-4	Query support	AI chatbot for support guidelines.
FR-5	Application filled Data's	Authorised details and files to be uploaded
FR-6	Application approval	Admin review and approve the application
FR-7	Banking credentials	User can manage their account credentials

Non-functional Requirements:

Following are the non-functional requirements of the proposed solution.

FR No.	Non-Functional Requirement	Description
NFR-1	Usability	Developing application performs operation to maximum extent.
NFR-2	Security	Provides highly secured environment to prevent data losses and leaks.
NFR-3	Reliability	Software is developed according to the customers reliability
NFR-4	Performance	The quality of code provides vast features, highly responsive webpage and optimises the performance
NFR-5	Availability	Dynamically available and accessible in smart devices.
NFR-6	Scalability	Developed system is highly scalable and perform vast functionality simultaneously.

Technical Stack (Technical & Stack)

Technical Architecture:
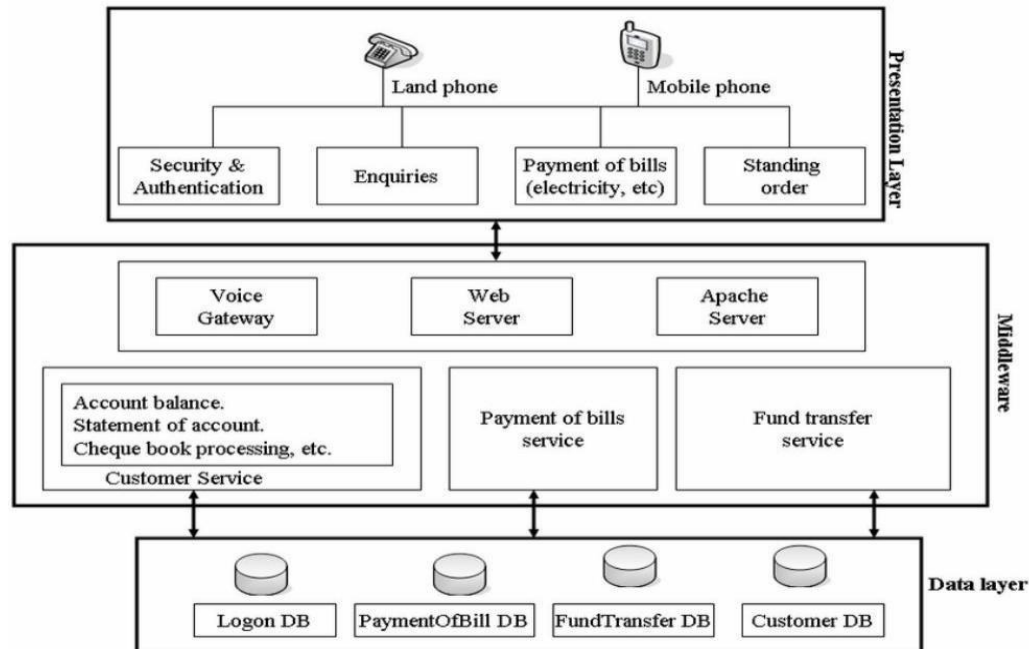
Table-1: Components & Technologies:

S.No	Component	Description	Technology
1.	User Interface	How user interacts with application e.g. Web UI, Mobile App, Chatbot etc.	HTML, CSS, JavaScript, Bootstrap
2.	Application Logic-1	Logic for a process in the application	Python
3.	Application Logic-2	Logic for a process in the application	IBM Watson STT service
4.	Application Logic-3	Logic for a process in the application	IBM Watson Assistant
5.	Database	Data Type, Configurations etc.	MySQL, NoSQL, etc.
6.	Cloud Database	Database Service on Cloud	IBM DB2, IBM Cloudant etc.
7.	File Storage	File storage requirements	IBM Block Storage or Other Storage Service or Local Filesystem
8.	External API-1	Purpose of External API used in the application	IBM Weather API, etc.
9.	External API-2	Purpose of External API used in the application	Aadhar API, etc.
10.	Machine Learning Model	Purpose of Machine Learning Model	Object Recognition Model, etc.
11.	Infrastructure (Server / Cloud)	Application Deployment on Local System / Cloud Local Server Configuration: Cloud Server Configuration :	Local, Cloud Foundry, Kubernetes, etc.

Table-2: Application Characteristics:

S.No	Characteristics	Description	Technology
1.	Open-Source Frameworks	List the open-source frameworks used	Anaconda Navigator, Keras, Tensor flow, Flask
2.	Security Implementations	List all the security / access controls implemented, use of firewalls etc.	e.g. SHA-256, Encryptions, IAM Controls, OWASP etc.
3.	Scalable Architecture	Justify the scalability of architecture (3 – tier, Micro-services)	Response time, Throughput, CPU and network usages, etc.
4.	Availability	Justify the availability of application (e.g. use of load balancers, distributed servers etc.)	All kind of users.
5.	Performance	Design consideration for the performance of the application (number of requests per sec, use of Cache, use of CDN's) etc.	Watson Assistant is used to build the chatbot.

References:

https://www.ibm.com/cloud/architecture
https://app.mural.co/
https://medium.com/the-internal-startup/how-to-draw-useful-technical-architecture-diagrams-2d20c9fda90d
https://cloud.ibm.com/

Project Planning Phase
Milestone and Activity List

MILESTONE

Pre-Requisites	M-01	To complete this project we should have known the following Watson Assistant.	Yes
Create IBM Service	M-02	In this activity, you will be creating the Necessary IBM service. The following are the service that you have to create.	Yes
Creating Skills & Assistant For Chatbot	M-03	Skills are nothing but actions and steps. Steps are the subset of actions where conversations are built and Assistant is used to integrating skills.	Yes
Creating Assistant & Integrate With Flask Web Page	M-04	1. The Bot should be able to guide a customer to create a bank account. 2. The Bot should be able to answer loan queries. 3. The Bot should be able to answer general banking queries. 4. The Bot should be able to answer queries regarding net banking. 5. With the help of this bot, you can get all the required details related to banking.	Yes
Ideation phase	M-05	In this milestone you are expected to get started with the Ideation process.	Yes
Project design phase-I	M-06	From this milestone you will be starting the project design phase. You are expected to cover the activities given.	Yes
Project design phase -II	M-07	From this milestone you will be continue working on the project design phase. You are expected to cover the activities given	Yes
Project Planning Phase	M-08	From this milestone you will be continue working on the project design phase. You are expected to cover the activities given	Yes

Project Development Phase	M-09	In this milestone you will start the project development and expected to perform the coding & solutioning, acceptance testing, performance testing based as per the sprint and submit them.		Yes

ACTIVITY LIST

ACITIVIY NUMBER	ACTIVITY	SUB – ACTIVITY	ASSIGNED TO	STATUS
01	Pre-Requisites		All Members	Completed
02	Create IBM Service	Create IBM Watson Assistant Service	All Members	In Progress
03	Creating Skills & Assistant For Chatbot	Chatbot Skills Creation	All Members	In Progress
		Creating Saving Account Action		
		Creating current account action		
		Creating Loan Account Action		
		Creating General Query Action		
		Creating net Banking Action		
04	Creating Assistant & Integrate With Flask Web Page	Build python code	All Members	In Progress
		Build html code		
		Run the Application		
05	Ideation phase	Literature Survey On The Selected Project & Information Gathering	All Members	Completed
		Prepare Empathy Map		
		Ideation		

06	Project design phase-I	Proposed Solution	All Members	Completed
		Problem Solution Fit		
		Solution Architecture		
07	Project design phase -II	Customer journey	All Members	Completed
		Functional Requirement		
		Data flow Diagrams		
		Technology Architecture		
08	Project planning phase	Prepare Milestone & Activity List	All Members	Completed
		Sprint Delivery Plan		
09	Project developement	Project Development Delivery of Sprint -1	All Members	In Progress
		Project Development Delivery of Sprint-2		
		Project Development Delivery of Sprint-3		
		Project Development Delivery of Sprint-4		

Sprint Delivery Plan

Product Backlog, Sprint Schedule, and Estimation (4 Marks)

Sprint	Functional Requirement (Epic)	User Story Number	User Story / Task	Story Points	Priority	Team Members
Sprint-1	Create IBM Service	USN-1	As a user, I can see a Watson Assistant.	1	Medium	Kaviyarasan M Maha vishnu S Abdul Rahman H Manoj kumar S
Sprint-1	Chatbot Skills Creation	USN-2	As a user, I will see the Chatbot having banking-related skills.	1	High	Kaviyarasan M Maha vishnu S Abdul Rahman H Manoj kumar S
Sprint-2	Creating Saving Account Action	USN-3	As a user, I can converse with the chatbot regarding saving account-related queries.	2	Medium	Kaviyarasan M Maha vishnu S Abdul Rahman H Manoj kumar S
Sprint-2	Creating Current Account Action	USN-4	As a user, I can converse with the chatbot regarding current account-related queries.	2	High	Kaviyarasan M Maha vishnu S Abdul Rahman H Manoj kumar S
Sprint-3	Creating Loan Account Action	USN-5	As a user, I can converse with the chatbot regarding loan account-related queries	2	Medium	Kaviyarasan M Maha vishnu S Abdul Rahman H Manoj kumar S

Sprint	Functional Requirement (Epic)	User Story Number	User Story / Task	Story Points	Priority	Team Members
Sprint-3	Creating General Query Action	USN-6	As a user, I can converse with the chatbot regarding general queries.	2	Medium	Kaviyarasan M Maha vishnu S Abdul Rahman H Manoj kumar S
Sprint-3	Creating Net Banking Action	USN-7	As a user, I can converse with the chatbot regarding net banking-related queries.	2	High	Kaviyarasan M Maha vishnu S Abdul Rahman H Manoj kumar S
Sprint-4	Creating Assistant & Integrate With Flask Web Page (Build Python Code)	USN-8	As a user, I can see a flask web page for bank.	1	Medium	Kaviyarasan M Maha vishnu S Abdul Rahman H Manoj kumar S
Sprint-4	Build HTML Code	USN-9	As a user, I can web pages integrated with a chatbot.	1	Medium	Kaviyarasan M Maha vishnu S Abdul Rahman H Manoj kumar S
Sprint-4	Run The Application	USN-10	As a user, I can communicate with the chatbot 24*7.	1	Medium	Kaviyarasan M Maha vishnu S Abdul Rahman H Manoj kumar S

Project Tracker, Velocity & Burndown Chart: (4 Marks)

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 Nov 2022	20	05 Nov 2022
Sprint-3	20	6 Days	07 Nov 2022	12 Nov 2022	20	12 Nov 2022
Sprint-4	20	6 Days	14 Nov 2022	19 Nov 2022	20	19 Nov 2022

Velocity:
Imagine we have a 10-day sprint duration, and the velocity of the team is 20 (points per sprint). Let's calculate the team's average velocity (AV) per iteration unit (story points per day)

$$AV = \frac{sprint\ duration}{velocity} = \frac{20}{10} = 2$$

Burndown Chart:

A burn down chart is a graphical representation of work left to do versus time. It is often used inagile software development methodologies such as Scrum. However, burn down charts can be applied to any project containing measurable progress over time.
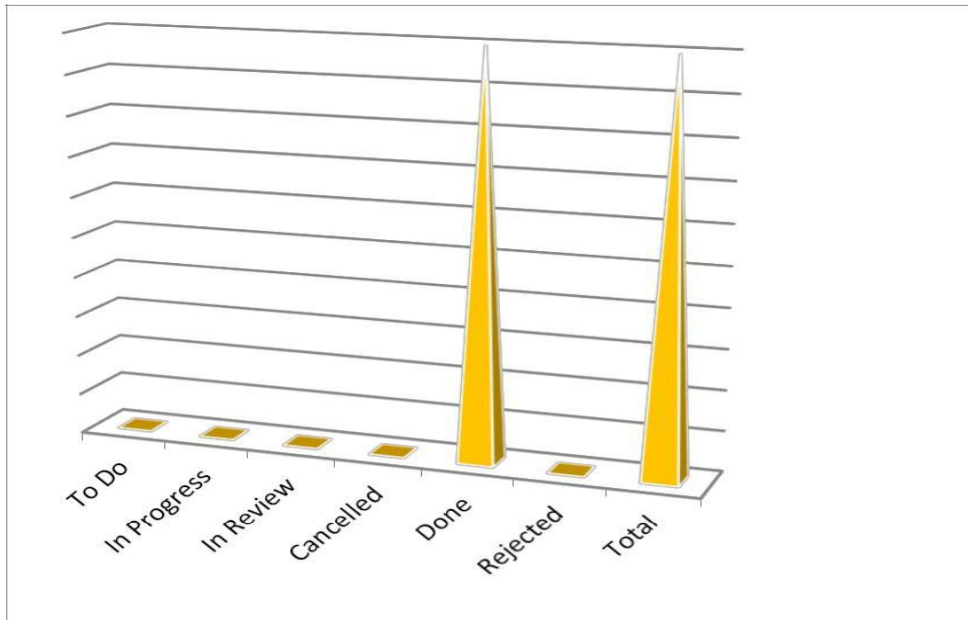
Priority Breakdown:
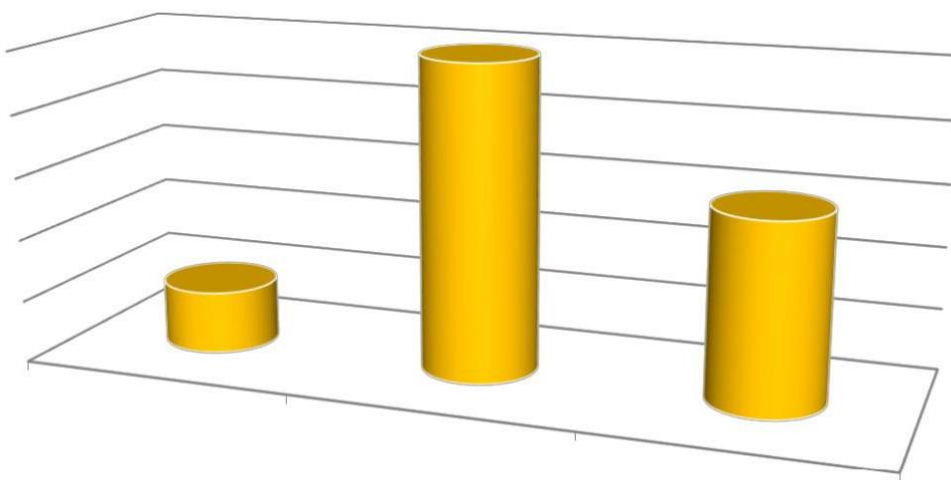
Development Phase

Sprint -1

Create IBM Service

In this activity, you will be creating the Necessary IBM service. The following are the service that you have to create.

☐ Watson Assistant
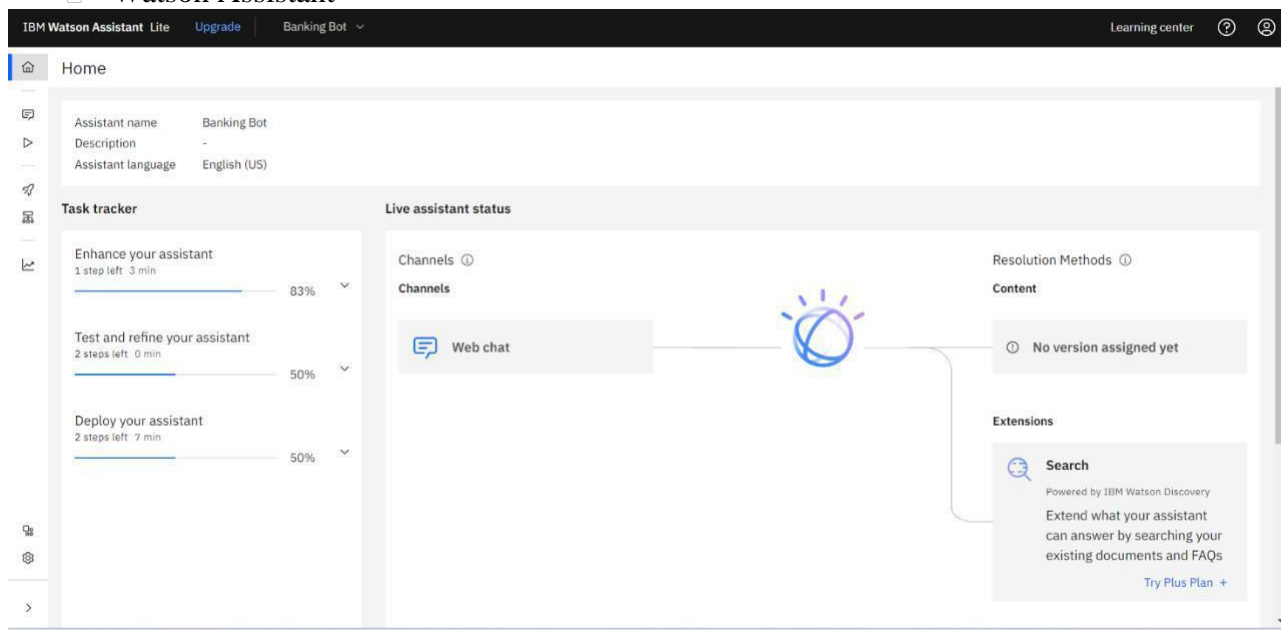
Creating Skills & Assistant For Chatbot

Skills are nothing but actions and steps. Steps are the subset of actions where conversations are
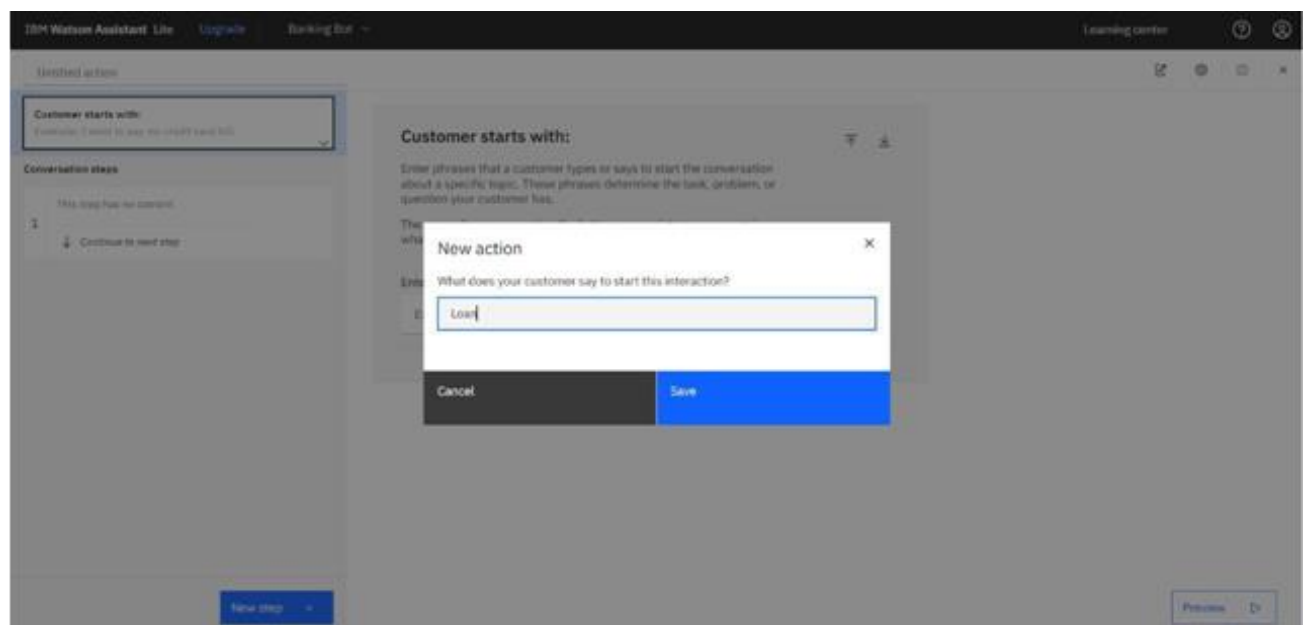
A default template chatbot is created. Need to add actions.
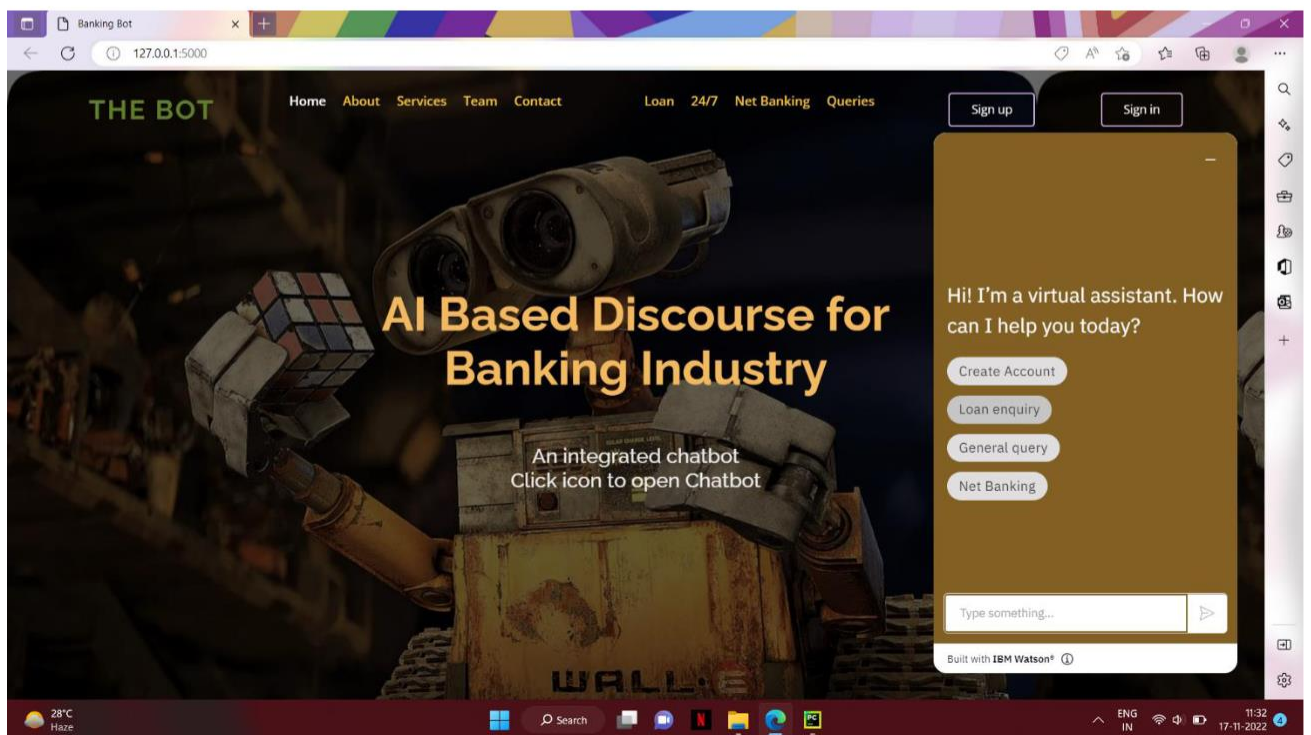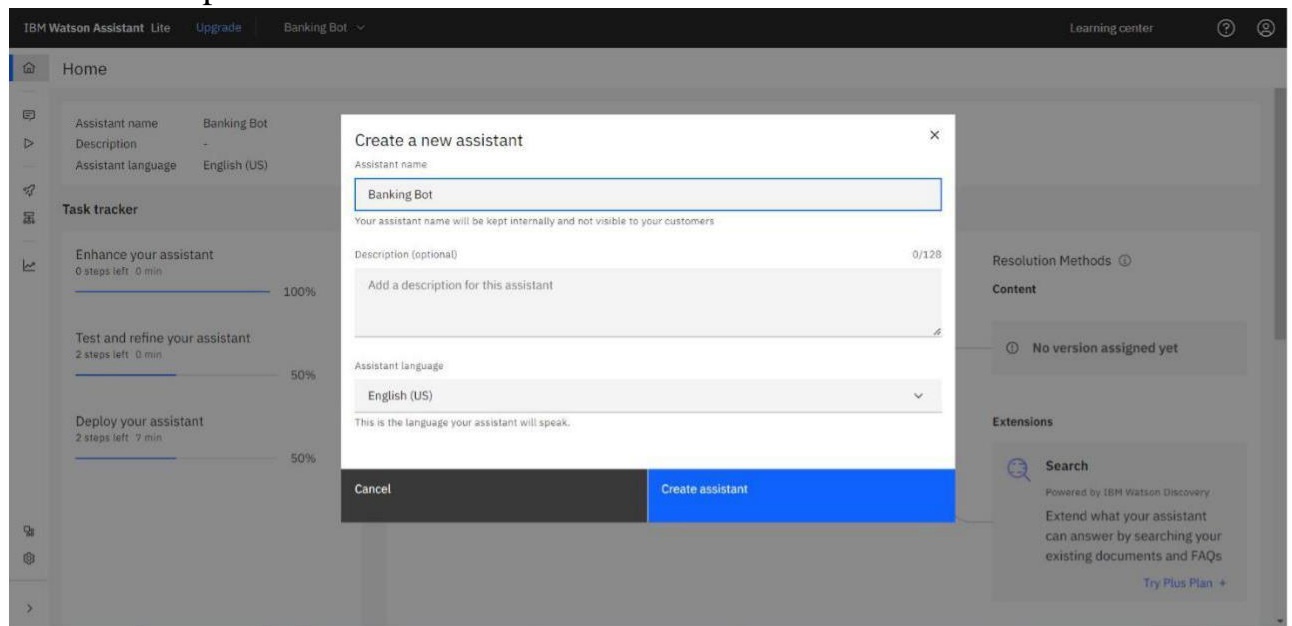
Delivery of Sprint 2

Creating Saving Account Action

Create a saving account in IBM Watson. Create new **Action** Saving.
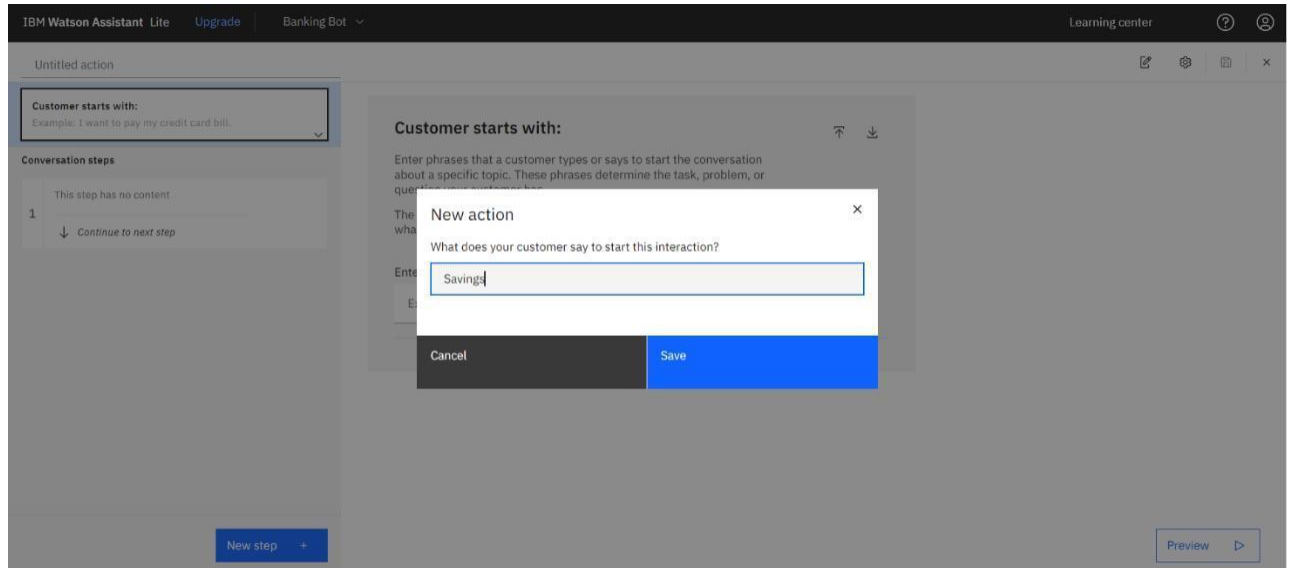
Add steps in savings action.
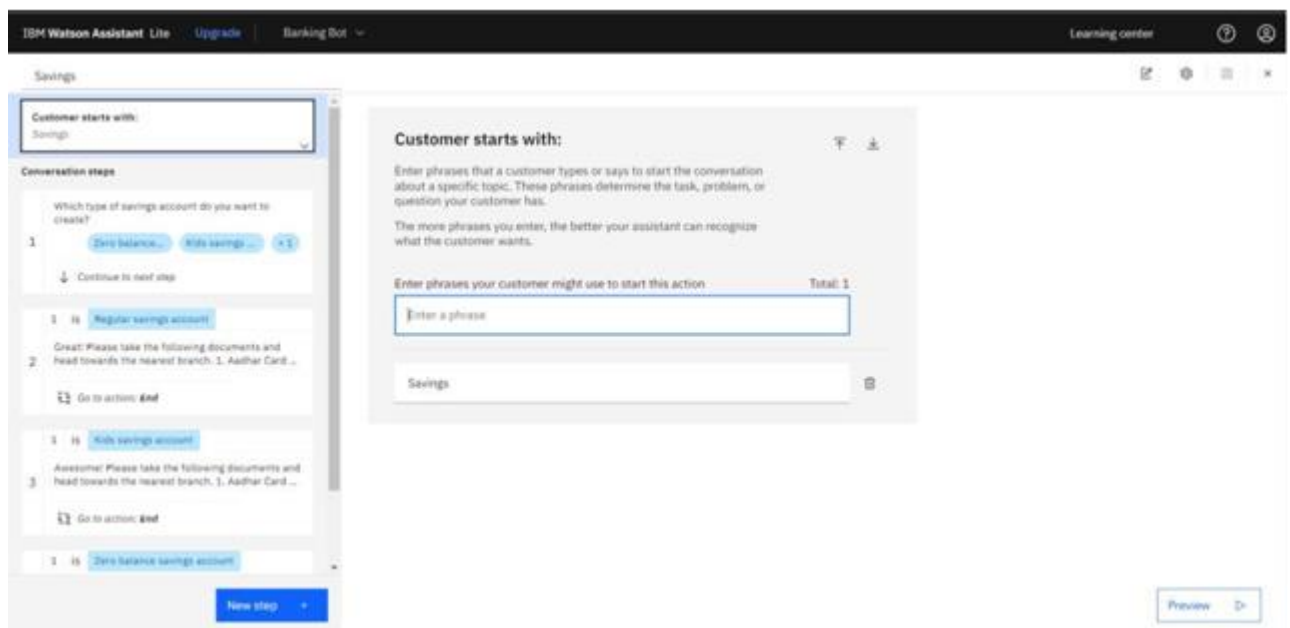
Creating Current Account Action

Create a new **Action** Current for the current account action.
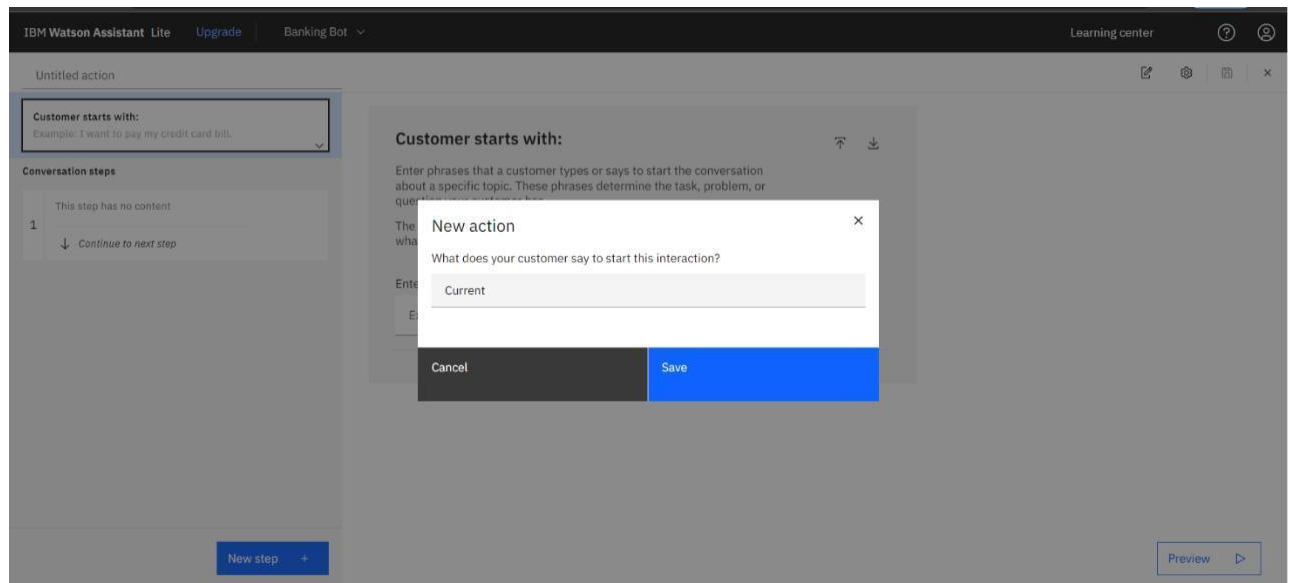
Add steps in current action.
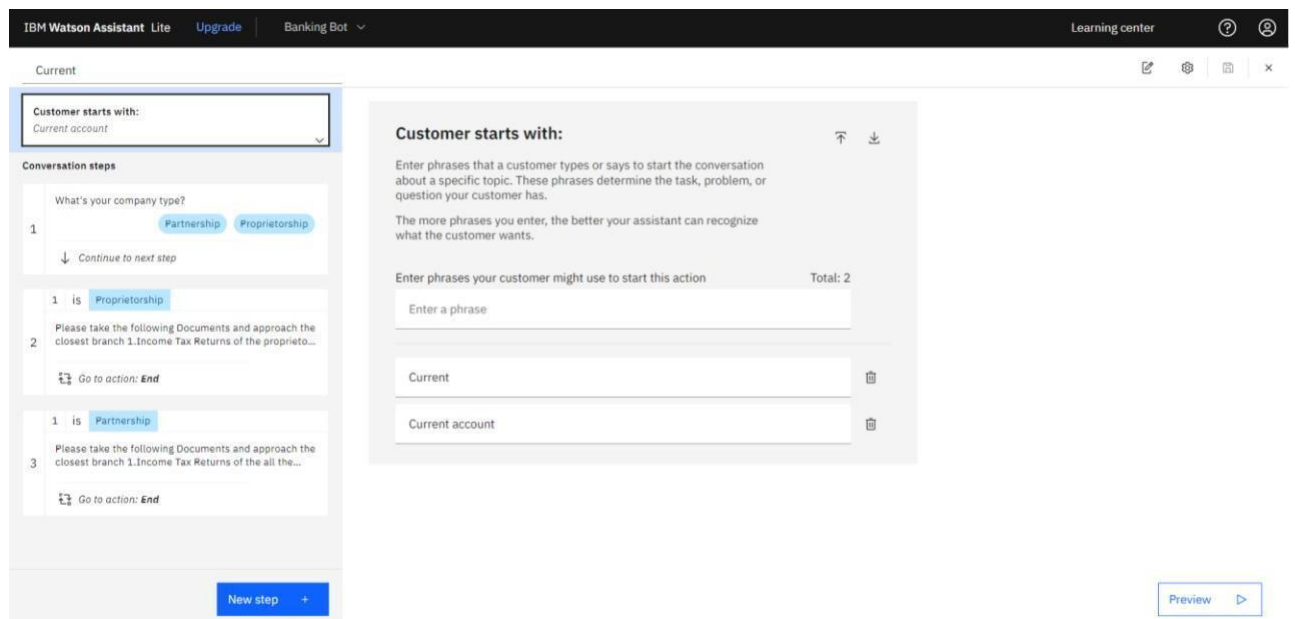
Note: No code for this project. So, I attached the screenshot and step to build it.

Sprint -3

Creating Loan Account Action

Loan action is created with the necessary steps.
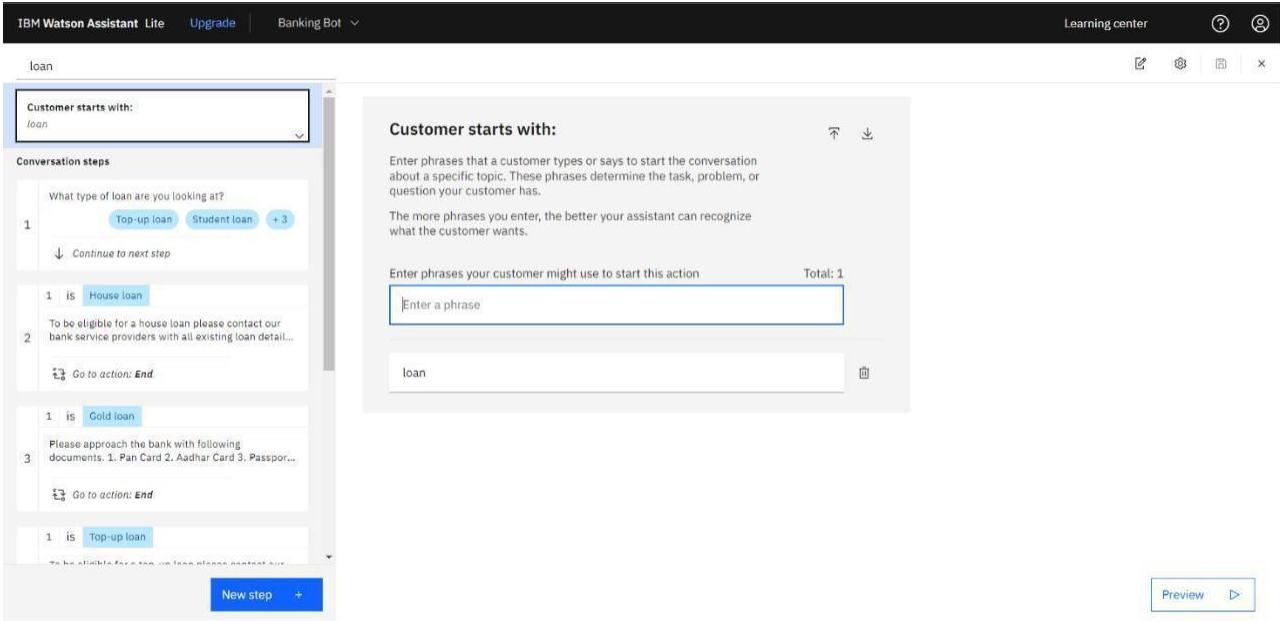
Creating General Query Action

General query action is created with the necessary steps.
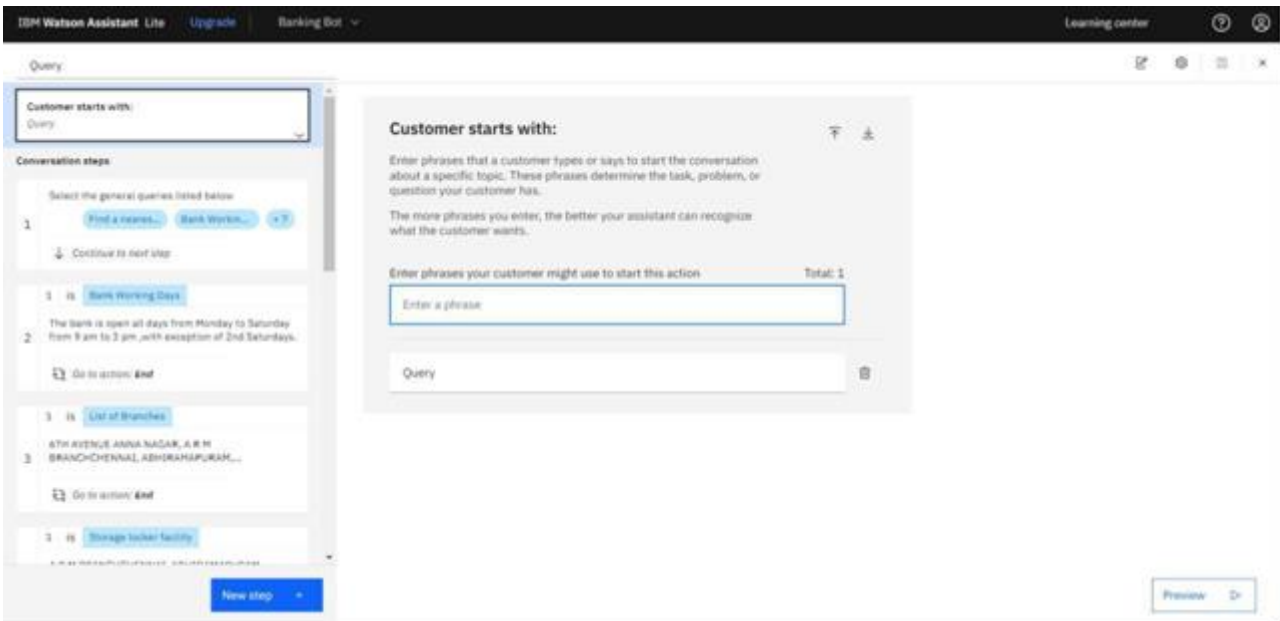
Creating Net Banking Action

Net banking action is created with the necessary steps

In addition to this greeting, end greeting , index and end actions are also created.

PREVIEW OF CHATBOT:
https://cutt.ly/DMUXGed

Note: No code for this project. So, I attached the screenshot and step to build it.

Sprint -4

Creating Assistant & Integrate With Flask Web Page

You will be creating a banking bot in this activity that has the following capabilities

- · The Bot should be able to guide a customer to create a bank account.
- · The Bot should be able to answer loan queries.
- · The Bot should be able to answer general banking queries.
- · The Bot should be able to answer queries regarding net banking.
- · With the help of this bot, you can get all the required details related to banking.

Let us build our flask application which will be running in our local browser with auser interface.

In the flask application, users will interact with the chatbot, and based on

the user queries they will get the outcomes.

Build Python Code

1: Importing Libraries

The first step is usually importing the libraries that will be needed in the program.

```python
from flask import Flask, render_template
```

Importing the flask module into the project is mandatory. An object of the

class is our WSGI application. Flask constructor takes the name of thecurrent module (name).

2: Creating our flask application and loading

```python
app = Flask(__name__)
```

3: Routing to the Html Page

Here, the declared constructor is used to route to the HTML page createdearlier.

The '/' route is bound with the bot function. Hence, when the home page of
a web server is opened in the browser, the HTML page will be rendered.

```
@app.route('/')
def bot():
    return render_template('chatbot.html')
```

Main Function

This is used to run the application in localhost.

```
if __name__ == '__main__':
    app.run()
```

Build HTML Code

- We use HTML to create the front-end part of the web page.
- Here, we have created 1 HTML page-Chatbot.html
- Chatbot.html displays the home page which integrates with Watson Assistant.
- A simple HTML page is created. Auto-generated source code fromIBM
Watson Assistants is copied and pasted inside the body tag

Run The Application

Run the application

- Open the anaconda prompt from the start menu.
  Navigate to the folder where your app.py resides.
- Now type the "python app.py" command.
- It will show the local host where your app is running on http://127.0.0.1.5000/
- Copy that localhost URL and open that URL in the browser. It doesnavigate
me to where you can view your web page.

Then it will run on localhost:5000

PREVIEW OF CHATBOT:

https://cutt.ly/DMUXGed
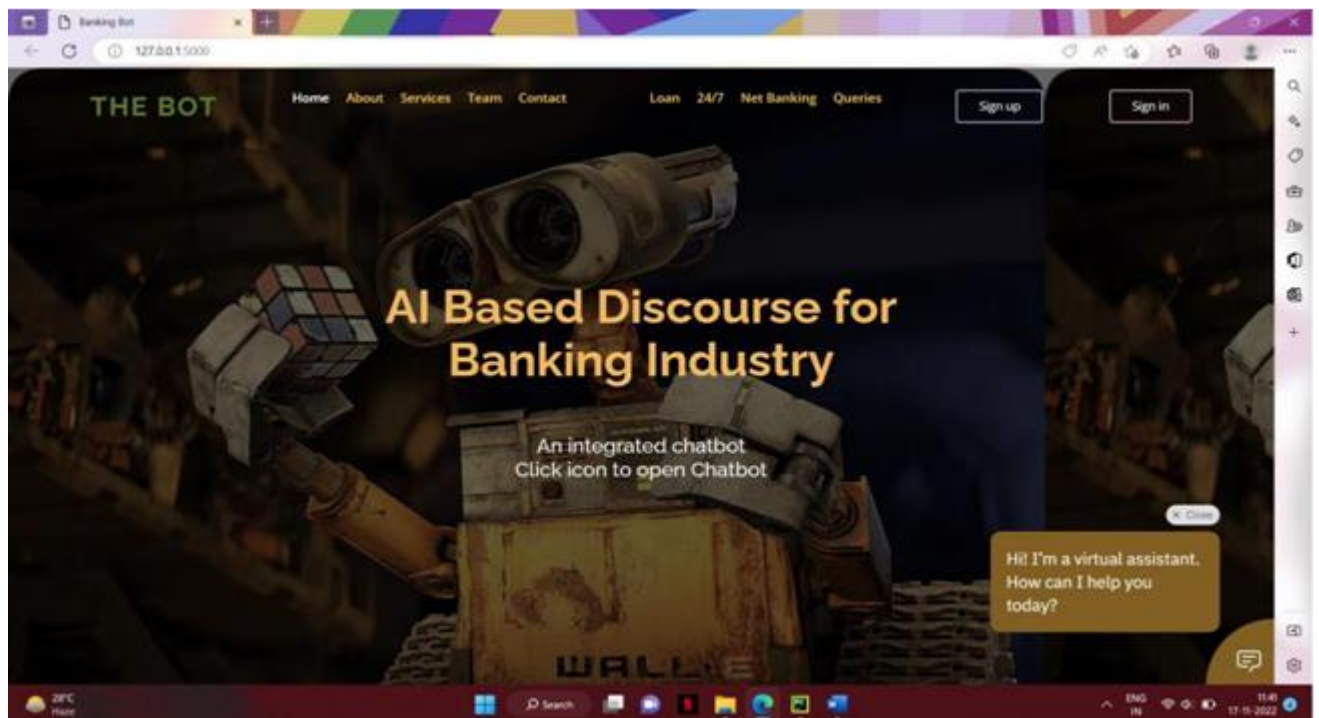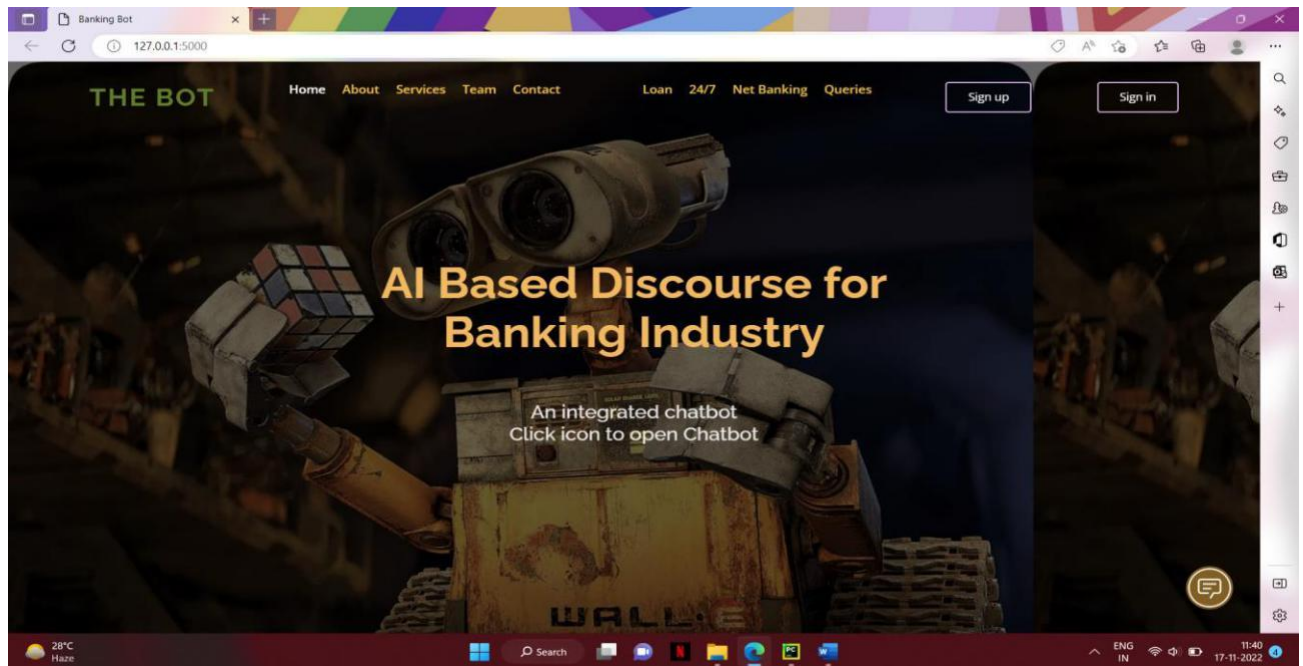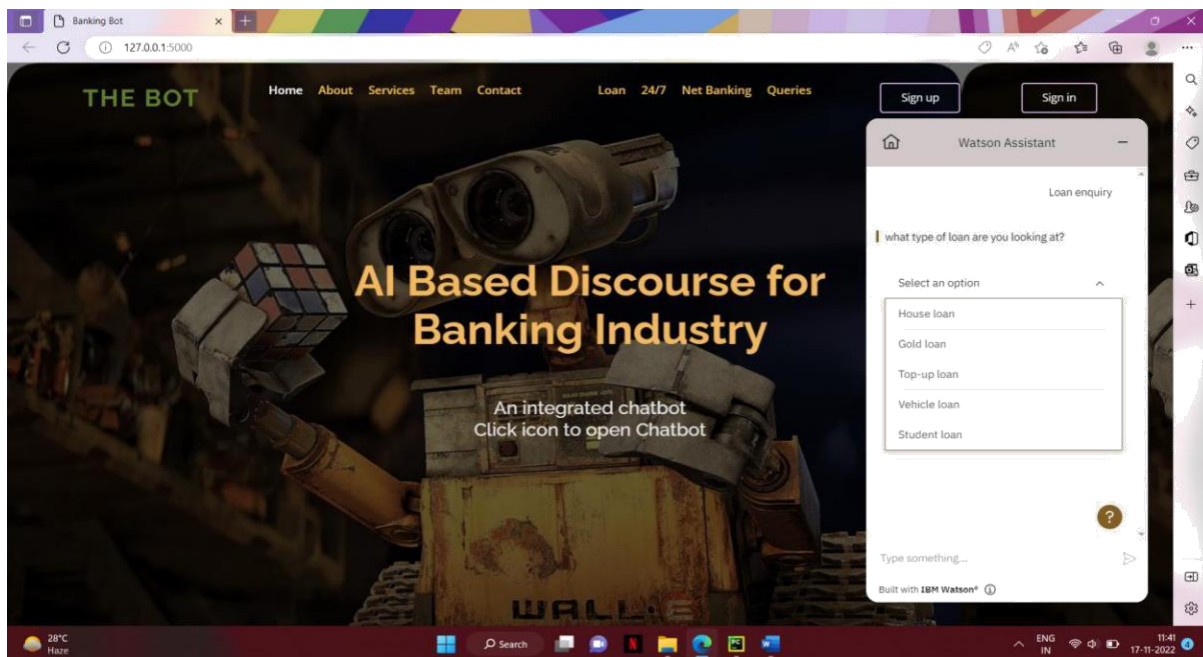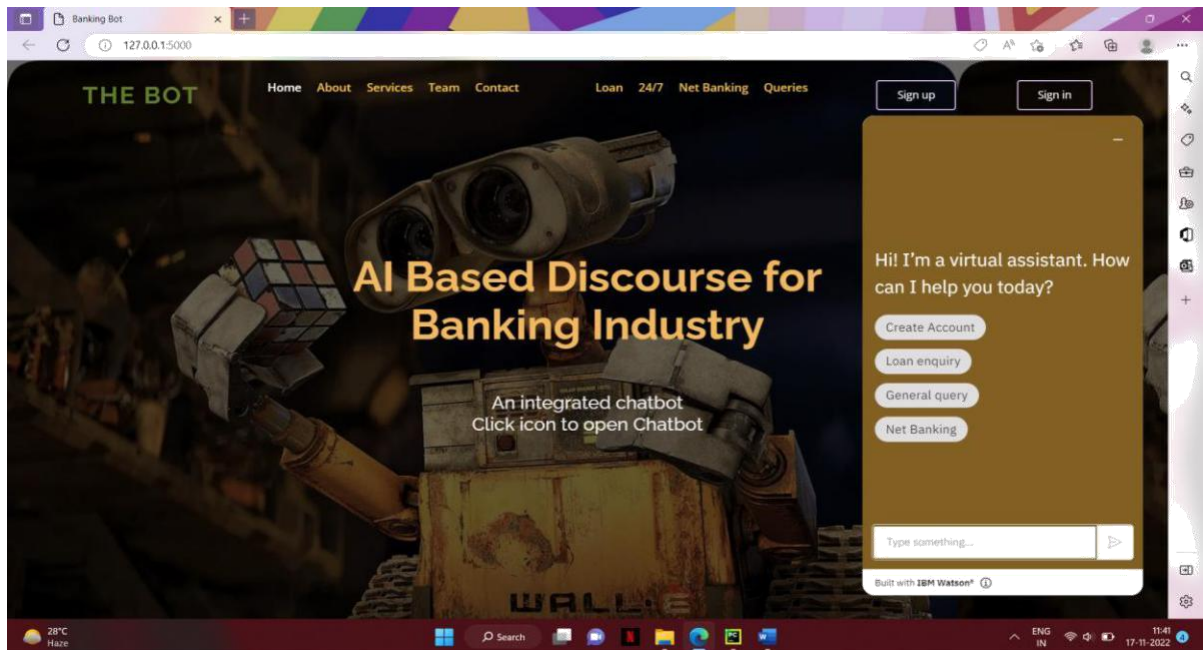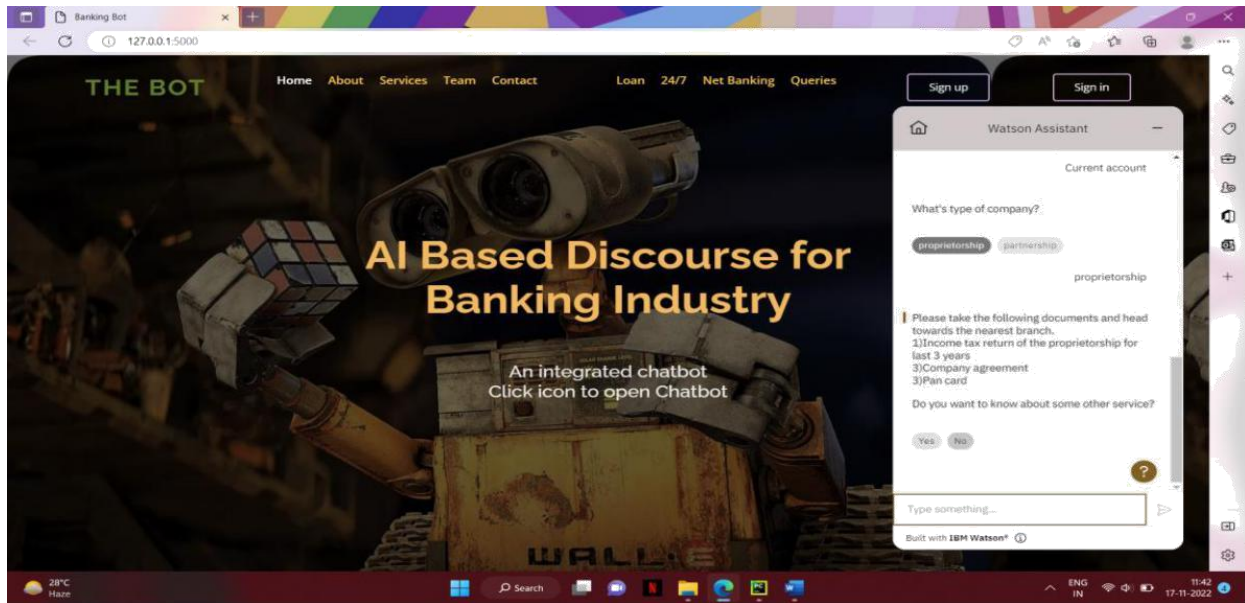
Source code is attached in Final Deliverables.

Note: No code for this project. So, I attached the screenshot and step to build it.

Source code

```
 <!DOCTYPE html>
<html style="font-size: 16px;" lang="en"><head>
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <meta charset="utf-8">
    <meta name="keywords" content="Timeless Time Management Techniques,
Establish prioritized goals, Time Management, OrganisationalDevelopment
Consultants, About Us, Management problem?
We&amp;apos;ll help you solve it.">
    <meta name="description" content="">
    <title>About</title>
    <link rel="stylesheet" href="{{ url_for('static', filename='css/about1.css') }}"
media="screen"/>
    <link rel="stylesheet" href="{{ url_for('static', filename='css/about2.css') }}"
media="screen"/>
    <script src="static/assets/js/about_query1.js"></script>
    <script src="static/assets/js/about_query2.js"></script>
    <meta name="generator" content="Nicepage 4.21.12, nicepage.com">
    <link id="u-theme-google-font" rel="stylesheet"
href="https://fonts.googleapis.com/css?family=Raleway:100,100i,200,200i,300,300i,4
00,400i,500,500i,600,600i,700,700i,800,800i,900,900i|Open+Sans:300,300i,400,400i,
500,500i,600,600i,700,700i,800,800i">
    <link id="u-page-google-font" rel="stylesheet"
href="https://fonts.googleapis.com/css?family=Lato:100,100i,300,300i,400,400i,700,
700i,900,900i">
    <script type="application/ld+json">{
            "@context": "http://schema.org",
            "@type": "Organization",
            "name": "",
            "logo": "images/_Logo.png"
}
</script>
    <meta name="theme-color" content="#478ac9">
    <meta property="og:title" content="Home">
    <meta property="og:type" content="website">
  </head>
  <body class="u-body u-xl-mode" data-lang="en"><header class="u-clearfix u-
header u-header" id="sec-c458"><div class="u-clearfix u-sheet u-valign-middle u-
sheet-1">
      <a href="https://nicepage.com" class="u-image u-logo u-image-1" data-image-
width="931" data-image-height="1024">
        <img src="../static/img/_Logo.png" class="u-logo-image u-logo-image-1">
      </a>
      <nav class="u-menu u-menu-hamburger u-offcanvas u-menu-1" data-responsive-
from="XL">
```

```html
      <div class="menu-collapse" style="font-size: 1rem; letter-spacing: 0px; font-weight:
700;">
        <a class="u-button-style u-custom-border u-custom-border-color u-custom-borders u-
custom-left-right-menu-spacing u-custom-padding-bottom u-custom-text-active-color u-
custom-text-color u-custom-top-bottom-menu-spacing u-nav-link u-text-active-palette-1-base
u-text-hover-palette-2-base" href="#">
          <svg class="u-svg-link" viewBox="0 0 24 24"><use
xmlns:xlink="http://www.w3.org/1999/xlink" xlink:href="#menu-hamburger"></use></svg>
          <svg class="u-svg-content" version="1.1" id="menu-hamburger" viewBox="0 0 16
16" x="0px" y="0px" xmlns:xlink="http://www.w3.org/1999/xlink"
xmlns="http://www.w3.org/2000/svg"><g><rect y="1" width="16" height="2"></rect><rect
y="7" width="16" height="2"></rect><rect y="13" width="16" height="2"></rect>
</g></svg>
        </a>
      </div>
      <div class="u-nav-container">
        <ul class="u-nav u-spacing-20 u-unstyled u-nav-1"><li class="u-nav-item"><a
class="u-button-style u-nav-link u-text-active-palette-2-base u-text-grey-90 u-text-hover-
palette-2-base" href="/home.html" style="padding: 10px;">Home</a>
</li><li class="u-nav-item"><a class="u-button-style u-nav-link u-text-active-palette-2-base
u-text-grey-90 u-text-hover-palette-2-base" href="About.html" style="padding:
10px;">About</a>
</li><li class="u-nav-item"><a class="u-button-style u-nav-link u-text-active-palette-2-base
u-text-grey-90 u-text-hover-palette-2-base" href="Contact.html" style="padding:
10px;">Contact</a>
</li></ul>
      </div>
      <div class="u-nav-container-collapse">
        <div class="u-black u-container-style u-inner-container-layout u-opacity u-opacity-95
u-sidenav">
          <div class="u-inner-container-layout u-sidenav-overflow">
            <div class="u-menu-close"></div>
            <ul class="u-align-center u-nav u-popupmenu-items u-unstyled u-nav-2"><li
class="u-nav-item"><a class="u-button-style u-nav-link" href="home.html">Home</a>
</li><li class="u-nav-item"><a class="u-button-style u-nav-link"
href="about.html">About</a>
</li><li class="u-nav-item"><a class="u-button-style u-nav-link"
href="contact.html">Contact</a>
</li></ul>
          </div>
        </div>
        <div class="u-black u-menu-overlay u-opacity u-opacity-70"></div>
      </div>
    </nav>
  </div></header>
  <section class="u-clearfix u-gradient u-section-1" id="sec-345e">
    <div class="u-clearfix u-sheet u-valign-bottom u-sheet-1">
      <div class="u-clearfix u-gutter-0 u-layout-wrap u-layout-wrap-1">
        <div class="u-layout">
          <div class="u-layout-row">
```

```html
            <div class="u-container-align-left u-container-style u-layout-cell u-left-cell u-size-
28-lg u-size-28-xl u-size-60-md u-size-60-sm u-size-60-xs u-layout-cell-1">
                <div class="u-container-layout u-container-layout-1">
                <h1 class="u-align-left u-text u-text-1">BANKING <br>INDUSTRY
                </h1>
                <ul class="u-align-left u-file-icon u-text u-text-2">
                  <li style="padding-left: 5px;"> A bank is a financial institution that
accepts deposits from the public and creates a demand deposit while simultaneously making
loans. </li>
                    <li style="padding-left: 5px;"> Banking chatbot, also called
conversational banking (commerce), is the new era of digital service offering.<br>
                  </li>
                </ul>
              </div>
            </div>
            <div class="u-align-center u-container-align-center u-container-style u-layout-cell u-
right-cell u-size-32-lg u-size-32-xl u-size-60-md u-size-60-sm u-size-60-xs u-layout-cell-2">
                <div class="u-container-layout u-valign-bottom u-container-layout-2">
                <img class="u-expanded-width u-image u-image-1" src="../static/img//bank-
getty.jpg" data-image-width="1200" data-image-height="900">
              </div>
            </div>
          </div>
        </div>
      </div>
    </section>
    <section class="u-clearfix u-palette-2-base u-section-2" id="carousel_7fa8">
      <div class="u-clearfix u-sheet u-valign-middle-md u-valign-middle-sm u-valign-middle-
xs u-sheet-1">
        <div class="u-expanded-width u-list u-list-1">
          <div class="u-repeater u-repeater-1">
            <div class="u-container-style u-list-item u-repeater-item u-shape-rectangle u-white u-
list-item-1">
              <div class="u-container-layout u-similar-container u-valign-top u-container-layout-
1"><span class="u-icon u-icon-circle u-palette-2-base u-icon-1"><svg class="u-svg-link"
preserveAspectRatio="xMidYMin slice" viewBox="0 0 297 297" style=""><use
xmlns:xlink="http://www.w3.org/1999/xlink" xlink:href="#svg-4ad6"></use></svg><svg
class="u-svg-content" viewBox="0 0 297 297" id="svg-4ad6"><g><path
d="m255.402,41.116c-22.937,0-41.599,18.661-41.599,41.598s18.661,41.599
41.599,41.599c22.937,0 41.598-18.662 41.598-41.599s-18.661-41.598-41.598-
41.598zm0,65.786c-13.338,0-24.188-10.85-24.188-24.188 0-13.337 10.85-24.187 24.188-
24.187 13.337,0 24.187,10.85 24.187,24.187 0.001,13.338-10.85,24.188-
24.187,24.188z"></path><path d="m10.772,97.093c1.7,1.699 3.928,2.549
6.156,2.549s4.456-0.85 6.156-2.549l22.626-22.626 22.626,22.626c1.7,1.699 3.928,2.549
6.156,2.549 2.228,0 4.456-0.85 6.156-2.549 3.399-3.399 3.399-8.912 0-12.312l-22.627-
22.625 22.626-22.626c3.399-3.399 3.399-8.912 0-12.312-3.4-3.398-8.911-3.398-12.312,0l-
22.625,22.626-22.626-22.626c-3.4-3.398-8.911-3.398-12.312,0-3.399,3.399-3.399,8.912
0,12.312l22.626,22.626-22.626,22.625c-3.399,3.4-3.399,8.912 1.77636e-
15,12.312z"></path><path d="m195.772,199.907c-3.4-3.398-8.911-3.398-12.312,0l-
```

22.625,22.625-22.626-22.625c-3.4-3.398-8.911-3.398-12.312,0-3.399,3.4-3.399,8.912 0,12.312l22.626,22.625-22.626,22.626c-3.399,3.399-3.399,8.912 0,12.312 1.7,1.699 3.928,2.549 6.156,2.549s4.456-0.85 6.156-2.549l22.626-22.626 22.625,22.625c1.7,1.699 3.928,2.549 6.156,2.549 2.228,0 4.456-0.85 6.156-2.549 3.399-3.4 3.399-8.912 0-12.312l-22.625-22.625 22.625-22.625c3.4-3.4 3.4-8.913 0-12.312z"></path><path d="m196.45,77.836l-35.107-30.518c-3.628-3.155-9.127-2.768-12.281,0.859-3.154,3.628-2.769,9.126 0.859,12.281l18.618,16.185c-54.952,7.187-87.489,35.904-105.577,60.176-15.843,21.26-23.25,42.201-26.224,52.608-20.654,2.415-36.738,20.012-36.738,41.305 0,22.937 18.661,41.599 41.598,41.599s41.599-18.661 41.599-41.599c0-18.464-12.096-34.148-28.777-39.567 3.133-9.898 9.919-27.229 22.924-44.503 22.64-30.071 54.091-47.78 93.656-52.816l-17.348,19.957c-3.154,3.628-2.769,9.126 0.859,12.281 1.648,1.433 3.682,2.135 5.707,2.135 2.433,0 4.853-1.014 6.574-2.994l30.518-35.108c3.154-3.629 2.769-9.126-0.86-12.281zm-130.664,152.896c0,13.338-10.85,24.188-24.188,24.188-13.337,0-24.187-10.85-24.187-24.188 0-13.337 10.85-24.187 24.187-24.187 13.337,0 24.188,10.85 24.188,24.187z"></path>
</g></svg>

        <h4 class="u-custom-font u-font-lato u-text u-text-palette-1-dark-3 u-text-1">Create Account </h4>
        <p class="u-text u-text-palette-1-dark-3 u-text-2">bank accounts have become a necessity rather than an option. Having a bank account is essentially having a 24x7 security for your hard-earned money. But safety isn't the only feature we offer. </p>
        </div>
        </div>
        <div class="u-container-style u-list-item u-repeater-item u-shape-rectangle u-white u-list-item-2">
        <div class="u-container-layout u-similar-container u-valign-top u-container-layout-2"><span class="u-icon u-icon-circle u-palette-2-base u-icon-2"><svg class="u-svg-link" preserveAspectRatio="xMidYMin slice" viewBox="0 0 512 512" style=""><use xmlns:xlink="http://www.w3.org/1999/xlink" xlink:href="#svg-4881"></use></svg><svg class="u-svg-content" viewBox="0 0 512 512" id="svg-4881"><path d="m155.6875 311h-32.9375v-50.984375c0-16.585937-6.621094-31.644531-17.347656-42.699219 18.320312-12.175781 30.425781-32.992187 30.425781-56.59375 0-37.445312-30.464844-67.914062-67.914063-67.914062-37.449218 0-67.914062 30.464844-67.914062 67.914062 0 20.402344 9.054688 38.714844 23.339844 51.175782-14.203125 11.25-23.339844 28.628906-23.339844 48.117187v151.859375h100.125v100.125h100.875v-155.6875c0-24.984375-20.328125-45.3125-45.3125-45.3125zm-87.773438-188.191406c20.90625 0 37.914063 17.007812 37.914063 37.914062s-17.007813 37.917969-37.914063 37.917969-37.914062-17.011719-37.914062-37.917969 17.007812-37.914062 37.914062-37.914062zm103.085938 359.191406h-40.875v-100.125h-100.125v-121.859375c0-17.300781 14.074219-31.375 31.375-31.375s31.375 14.074219 31.375 31.375v80.984375h62.9375c8.441406 0 15.3125 6.871094 15.3125 15.3125zm0 0"></path><path d="m488.660156 211.898438c14.285156-12.460938 23.339844-30.773438 23.339844-51.175782 0-37.449218-30.464844-67.914062-67.914062-67.914062-37.449219 0-67.914063 30.464844-67.914063 67.914062 0 23.597656 12.105469 44.417969 30.425781 56.59375-10.726562 11.054688-17.347656 26.113282-17.347656 42.695313v50.988281h-32.9375c-24.984375 0-45.3125 20.328125-45.3125 45.3125v155.6875h100.875v-100.125h100.125v-151.859375c0-19.488281-9.136719-36.867187-23.339844-48.117187zm-44.574218-89.089844c20.90625 0 37.914062

17.007812 37.914062 37.914062s-17.007812 37.917969-37.914062 37.917969-37.914063-17.011719-37.914063-37.917969 17.007813-37.914062 37.914063-37.914062zm37.914062 259.066406h-100.125v100.125h-40.875v-125.6875c0-8.441406 6.871094-15.3125 15.3125-15.3125h62.9375v-80.984375c0-17.300781 14.074219-31.375 31.375-31.375s31.375 14.074219 31.375 31.375zm0 0"></path><path d="m352 121.664062v-79.332031c0-23.34375-18.988281-42.332031-42.332031-42.332031h-107.335938c-23.34375 0-42.332031 18.988281-42.332031 42.332031v79.332031c0 23.34375 18.988281 42.335938 42.332031 42.335938h18.171875l35.496094 61.480469 35.496094-61.480469h18.171875c23.34375 0 42.332031-18.992188 42.332031-42.335938zm-30 0c0 6.804688-5.53125 12.335938-12.332031 12.335938h-35.492188l-18.175781 31.480469-18.175781-31.480469h-35.492188c-6.800781 0-12.332031-5.53125-12.332031-12.335938v-79.332031c0-6.800781 5.53125-12.332031 12.332031-12.332031h107.335938c6.800781 0 12.332031 5.53125 12.332031 12.332031zm0 0"></path></svg>

<h4 class="u-custom-font u-font-lato u-text u-text-palette-1-dark-3 u-text-3">Loan Enquiry</h4>
<p class="u-text u-text-palette-1-dark-3 u-text-4">You can Enquire about the loan Details .So that you can get to know about which Loan is suitable for you.</p>
</div>
</div>
<div class="u-container-style u-list-item u-repeater-item u-shape-rectangle u-white u-list-item-3">
<div class="u-container-layout u-similar-container u-valign-top u-container-layout-3"><span class="u-icon u-icon-circle u-palette-2-base u-icon-3"><svg class="u-svg-link" preserveAspectRatio="xMidYMin slice" viewBox="-3 0 512 512" style=""><use xmlns:xlink="http://www.w3.org/1999/xlink" xlink:href="#svg-46a0"></use></svg><svg class="u-svg-content" viewBox="-3 0 512 512" id="svg-46a0"><path d="m494.925781 97.144531c-9.492187-10.839843-23.019531-16.8125-38.089843-16.8125h-113.785157v-65.332031c0-8.285156-6.714843-15-15-15h-80.332031c-8.285156 0-15 6.714844-15 15v65.332031h-140.316406l-3.667969-27.5c-3.953125-29.625-24.578125-52.832031-46.957031-52.832031h-26.777344c-8.285156 0-15 6.714844-15 15s6.714844 15 15 15h26.777344c4.8125 0 15.003906 10.175781 17.21875 26.796875l42.9375 322.039063c1.890625 14.195312 9.183594 27.484374 20.535156 37.421874 8.417969 7.371094 18.367188 12.273438 28.789062 14.324219-4.246093 7.808594-6.65625 16.753907-6.65625 26.25 0 30.421875 24.746094 55.167969 55.164063 55.167969s55.167969-24.746094 55.167969-55.167969c0-9.0625-2.210938-17.613281-6.101563-25.164062h78.601563c-3.890625 7.550781-6.101563 16.101562-6.101563 25.164062 0 30.421875 24.746094 55.167969 55.167969 55.167969 30.417969 0 55.164062-24.746094 55.164062-55.167969 0-9.0625-2.210937-17.613281-6.097656-25.164062h39.300782c8.28125 0 15-6.71875 15-15 0-8.285157-6.71875-15-15-15h-302.589844c-14.65625 0-28.671875-12.273438-30.609375-26.800781l-3.136719-23.535157h296.167969c14.320312 0 28.457031-5.472656 39.808593-15.40625 11.347657-9.9375 18.640626-23.230469 20.539063-37.425781l21.511719-161.367188c1.992187-14.941406-2.136719-29.144531-11.632813-39.988281zm-269.992187 359.6875c0 13.878907-11.289063 25.167969-25.167969 25.167969-13.875 0-25.164063-11.289062-25.164063-25.167969 0-13.875 11.289063-25.164062 25.164063-25.164062 13.878906 0 25.167969 11.289062 25.167969 25.164062zm176.734375 0c0 13.878907-11.289063 25.167969-25.167969 25.167969-13.875 0-25.164062-11.289062-25.164062-25.167969 0-

13.875 11.289062-25.164062 25.164062-25.164062 13.878906 0 25.167969 11.289062 25.167969 25.164062zm-138.949219-426.832031h50.332031v65.160156c0 .058594-.007812.113282-.007812.171875 0 .058594.007812.117188.007812.175781v80.160157c0 8.28125 6.714844 15 15 15h5.289063l-44.558594 44.203125-44.558594-44.203125h3.496094c8.285156 0 15-6.71875 15-15zm214.101562 103.164062-21.511718 161.371094c-1.9375 14.523438-15.953125 26.796875-30.609375 26.796875h-300.167969l-28.128906-211h136.316406v50.335938h-24.917969c-6.078125 0-11.554687 3.667969-13.867187 9.285156-2.316406 5.621094-1.011719 12.082031 3.304687 16.363281l80.980469 80.332032c2.921875 2.902343 6.742188 4.351562 10.5625 4.351562s7.640625-1.449219 10.5625-4.351562l80.980469-80.332032c4.316406-4.28125 5.621093-10.742187 3.304687-16.363281-2.3125-5.617187-7.789062-9.285156-13.867187-9.285156h-26.710938v-50.335938h113.785157c6.296874 0 11.808593 2.335938 15.519531 6.574219 3.710937 4.242188 5.296875 10.015625 4.464843 16.257812zm0 0"></path></svg>

<h4 class="u-custom-font u-font-lato u-text u-text-palette-1-dark-3 u-text-5">General Query</h4>
<p class="u-text u-text-palette-1-dark-3 u-text-6">You can ask and Clear about the general queries you have.</p>
</div>
</div>
<div class="u-container-style u-list-item u-repeater-item u-shape-rectangle u-white u-list-item-4">
<div class="u-container-layout u-similar-container u-valign-top u-container-layout-4"><img src="../static/img/546448-74d58957.png" alt="">
<h4 class="u-custom-font u-font-lato u-text u-text-palette-1-dark-3 u-text-7">Consultation</h4>
<p class="u-text u-text-palette-1-dark-3 u-text-8">It is a Password-protected banking system.
Easy access to financial and non-financial banking products/services.
Access your bank account anytime anywhere.
</p>
</div>
</div>
</div>
</div>
</section>
<section class="u-align-center u-clearfix u-palette-5-light-2 u-section-3" id="carousel_f3d9">
<div class="u-clearfix u-sheet u-valign-middle-lg u-valign-middle-md u-valign-middle-xl u-valign-middle-xs u-sheet-1">
<h2 class="u-text u-text-default u-text-1"> Know About Chatbots</h2>
<div class="u-shape u-shape-svg u-text-palette-2-base u-shape-1">
<svg class="u-svg-link" preserveAspectRatio="none" viewBox="0 0 160 160" style=""><use xmlns:xlink="http://www.w3.org/1999/xlink" xlink:href="#svg-7151"></use></svg>

```
<svg xmlns="http://www.w3.org/2000/svg"
xmlns:xlink="http://www.w3.org/1999/xlink" version="1.1" xml:space="preserve" class="u-
svg-content" viewBox="0 0 160 160" x="0px" y="0px" id="svg-7151" style="enable-
background:new 0 0 160 160;"><path d="M10.3,39.9c-18.2,24.9-
9.2,62.5,4,87.4c8.2,15.4,23,36.1,48.6,32.2c5.8-0.9,11.1-3.2,16.9-4.3c17.8-3.4,37.9,4.7,54.5-
1.5
      c6.6-2.5,11.6-6.9,15.5-11.8c12.2-15.3,13.7-35.6,3.8-51.9c-6.9-11.5-19-20.9-23.6-
33.1c-4.5-11.9-1.4-24.9-4.7-37.1
      C121.1,5,103.7-5.6,85.7,3.1c-6.8,3.3-12.6,7.7-
20,10.2C58,15.9,49.5,16.6,41.6,19C26.8,23.6,16.7,31,10.3,39.9z"></path></svg>
    </div>
    <div class="u-expanded-width-sm u-expanded-width-xs u-shape u-shape-svg u-text-
palette-2-base u-shape-2">
      <svg class="u-svg-link" preserveAspectRatio="none" viewBox="0 0 160 120"
style=""><use xmlns:xlink="http://www.w3.org/1999/xlink" xlink:href="#svg-
a8bb"></use></svg>
      <svg xmlns="http://www.w3.org/2000/svg"
xmlns:xlink="http://www.w3.org/1999/xlink" version="1.1" xml:space="preserve" class="u-
svg-content" viewBox="0 0 160 120" x="0px" y="0px" id="svg-a8bb"><path
d="M124.3,80.3c20.5-1.1,32-18.4,34.8-31.5c4.7-22.6-6.7-55.4-81.5-47.7c-124.8,12.7-
75.1,145.7-16.9,114
      C99.9,93.7,86.4,82.3,124.3,80.3z"></path></svg>
    </div>
    <div class="u-clearfix u-gutter-0 u-layout-wrap u-layout-wrap-1">
     <div class="u-gutter-0 u-layout">
      <div class="u-layout-col">
       <div class="u-size-30">
        <div class="u-layout-row">
         <div class="u-align-center u-container-style u-image u-layout-cell u-left-cell u-
size-20 u-image-1" data-image-width="1620" data-image-height="1080">
          <div class="u-container-layout u-valign-middle u-container-layout-1"></div>
         </div>
         <div class="u-align-center-lg u-align-center-md u-align-center-xl u-container-
style u-layout-cell u-size-20 u-white u-layout-cell-2">
          <div class="u-container-layout u-valign-middle u-container-layout-2"><span
class="u-file-icon u-icon u-text-palette-1-base u-icon-1"><img src="../static/img/125842-
c6f94e19.png" alt=""></span>
           <h4 class="u-align-center u-text u-text-2"> About Chatbot</h4>
           <p class="u-align-center u-text u-text-3">Banking chatbot is an AI
application that perceives and executes the banking transactions of customers. In banking,
chatbots provide opportunities to automate the relationship between the consumer and the
bank.</p>
          </div>
         </div>
         <div class="u-align-center u-container-style u-image u-layout-cell u-right-cell u-
size-20 u-image-2" data-image-width="626" data-image-height="939">
          <div class="u-container-layout u-valign-middle u-container-layout-3"></div>
         </div>
        </div>
       </div>
```

```
        <div class="u-size-30">
          <div class="u-layout-row">
            <div class="u-align-center-lg u-align-center-md u-align-center-xl u-container-
style u-layout-cell u-left-cell u-size-20 u-white u-layout-cell-4">
              <div class="u-container-layout u-valign-middle u-container-layout-4"><span
class="u-file-icon u-icon u-text-palette-1-base u-icon-2"><img src="../static/img/6214689-
5e5e3104.png" alt=""></span>
                <h4 class="u-align-center u-text u-text-4">Use</h4>
                <p class="u-align-center u-text u-text-5">ChatBots are artificial
intelligence powered programs that help a customer with their requirements. </p>
              </div>
            </div>
            <div class="u-align-center u-container-style u-image u-layout-cell u-size-20 u-
image-3" data-image-width="900" data-image-height="600">
              <div class="u-container-layout u-valign-middle u-container-layout-5"></div>
            </div>
            <div class="u-align-center-lg u-align-center-md u-align-center-xl u-container-
style u-layout-cell u-right-cell u-size-20 u-white u-layout-cell-6">
              <div class="u-container-layout u-valign-middle u-container-layout-6"><span
class="u-file-icon u-icon u-text-palette-1-base u-icon-3"><img src="../static/img/4272432-
ed32a84a.png" alt=""></span>
                <h4 class="u-align-center u-text u-text-6">Usability</h4>
                <p class="u-align-center u-text u-text-7">Most banks have started
placing ChatBots on their websites </p>
              </div>
            </div>
          </div>
        </div>
      </div>
    </div>
  </div>
  </section>
  </body></html>
```

Chatbot

```
<!DOCTYPE html>
<html lang="en">
<head>
  <meta charset="utf-8">
  <meta content="width=device-width, initial-scale=1.0" name="viewport">

  <title>Banking Bot</title>
  <meta content="" name="description">
  <meta content="" name="keywords">
```

```html
<!-- Favicons -->
<link href="assets/img/favicon.png" rel="icon">
<link href="assets/img/apple-touch-icon.png" rel="apple-touch-icon">

<!-- Google Fonts -->
<link
href="https://fonts.googleapis.com/css?family=Open+Sans:300,300i,400,400i,600,600i,700,700i|Raleway:300,300i,400,400i,500,500i,600,600i,700,700i|Poppins:300,300i,400,400i,500,500i,600,600i,700,700i" rel="stylesheet">

<!-- Vendor CSS Files -->
<link href="static/assets/vendor/aos/aos.css" rel="stylesheet">
<link href="static/assets/vendor/bootstrap/css/bootstrap.min.css"
rel="stylesheet">
<link href="static/assets/vendor/bootstrap-icons/bootstrap-icons.css"
rel="stylesheet">
<link href="static/assets/vendor/boxicons/css/boxicons.min.css"
rel="stylesheet">
<link href="static/assets/vendor/glightbox/css/glightbox.min.css"
rel="stylesheet">
<link href="static/assets/vendor/remixicon/remixicon.css" rel="stylesheet">
<link href="static/assets/vendor/swiper/swiper-bundle.min.css"
rel="stylesheet">
<!-- Template Main CSS File -->
  <link rel="stylesheet" href="{{ url_for('static', filename='css/style.css') }}">
</head>
<script>
  window.watsonAssistantChatOptions = {
    integrationID: "0a8702f4-985f-46fd-b282-2d36386b9235", // The ID of this
integration.
    region: "us-south", // The region your integration is hosted in.
    serviceInstanceID: "aaa13a48-c75b-420b-b56f-6750ffacbefa", // 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>
```

```html
<!-- ======= Header ======= -->
<header id="header" class="fixed-top ">
  <div class="container d-flex align-items-center justify-content-lg-between">

    <h1 class="logo me-auto me-lg-0"><a
href="home.html">THE BOT<span> </span></a></h1>
    <!-- Uncomment below if you prefer to use an image logo -->
  <nav id="navbar" class="navbar order-last order-lg-0">
    <ul>
      <li><a class="nav-link scrollto active" href="#hero"></a></li>
      <li><a class="nav-link scrollto active" href="#hero">Home</a></li>
      <li><a class="nav-link scrollto" href="about.html">About</a></li>
      <li><a class="nav-link scrollto" href="contact.html">Contact</a></li>
    </ul>
    <i class="bi bi-list mobile-nav-toggle"></i>
  </nav><!-- .navbar -->
  <a href="#about" class="get-started-btn scrollto">Sign in</a>

  </div>
</header><!-- End Header -->

<!-- ======= Hero Section ======= -->
<section id="hero" class="d-flex align-items-center justify-content-center">
  <div class="container"  >

    <div class="row justify-content-center" data-aos="fade-up" data-aos-
delay="150">
      <div class="col-xl-6 col-lg-8">
        <h1>AI Based Discourse for Banking Industry<span></span></h1>
</br> </br>
        <h2>An integrated chatbot
        </br>             Click icon to open Chatbot </h2></div>
      </div>
      </div>
      </div>
</section><!-- End Hero -->
<div id="preloader"></div>
  <a href="#" class="back-to-top d-flex align-items-center justify-content-
center"><i class="bi bi-arrow-up-short"></i></a>

  <!--Vendor JS Files -->
  <script
src="static/assets/vendor/purecounter/purecounter_vanilla.js"></script>
```

```html
  <script src="static/assets/vendor/aos/aos.js"></script>
  <script
src="static/assets/vendor/bootstrap/js/bootstrap.bundle.min.js"></script>
  <script src="static/assets/vendor/glightbox/js/glightbox.min.js"></script>
  <script src="static/assets/vendor/isotope-layout/isotope.pkgd.min.js"></script>
  <script src="static/assets/vendor/swiper/swiper-bundle.min.js"></script>
  <script src="static/assets/vendor/php-email-form/validate.js"></script>
<!-- Template Main JS File -->
  <script src="static/assets/js/main.js"></script>

</body>
</html>
```

Contact

```html
<!DOCTYPE html>
<html style="font-size: 16px;" lang="en"><head>
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <meta charset="utf-8">
    <meta name="keywords" content="We SEO Company That Will Help Your
Business Become Successful, Our Services, Projects, Do you need professionals
for your next construction project?, Here are some of our clients, Contacts">
    <meta name="description" content="">
    <title>Contact</title>
    <link rel="stylesheet" href="{{ url_for('static', filename='css/contact1.css')
}}"  media="screen"/>
    <link rel="stylesheet" href="{{ url_for('static', filename='css/contact2.css')
}}"  media="screen"/>
    <script src="static/assets/js/contact_query1.js"></script>
    <script src="static/assets/js/contact_query2.js"></script>
    <meta name="generator" content="Nicepage 4.21.12, nicepage.com">
    <link id="u-theme-google-font" rel="stylesheet"
href="https://fonts.googleapis.com/css?family=Roboto:100,100i,300,300i,400,4
00i,500,500i,700,700i,900,900i|Open+Sans:300,300i,400,400i,500,500i,600,60
0i,700,700i,800,800i">
    <link id="u-page-google-font" rel="stylesheet"
href="https://fonts.googleapis.com/css?family=Montserrat:100,100i,200,200i,3
00,300i,400,400i,500,500i,600,600i,700,700i,800,800i,900,900i">
     <script type="application/ld+json">{
            "@context": "http://schema.org",
            "@type": "Organization",
            "name": ""
}</script>
```

```html
    <meta name="theme-color" content="#478ac9">
    <meta property="og:title" content="Home">
    <meta property="og:type" content="website">
  </head>
  <body class="u-body u-xl-mode" data-lang="en"><header class="u-clearfix u-header u-header" id="sec-03fb"><div class="u-clearfix u-sheet u-sheet-1">
      <nav class="u-align-left u-menu u-menu-hamburger u-offcanvas u-menu-1" data-responsive-from="XL">
        <div class="menu-collapse">
          <a class="u-button-style u-nav-link" href="#" style="padding: 4px 0px; font-size: calc(1em + 8px);">
            <svg class="u-svg-link" preserveAspectRatio="xMidYMin slice" viewBox="0 0 302 302" style=""><use xmlns:xlink="http://www.w3.org/1999/xlink" xlink:href="#svg-5c50"></use></svg>
            <svg xmlns="http://www.w3.org/2000/svg" xmlns:xlink="http://www.w3.org/1999/xlink" version="1.1" id="svg-5c50" x="0px" y="0px" viewBox="0 0 302 302" style="enable-background:new 0 0 302 302;" xml:space="preserve" class="u-svg-content"><g><rect y="36" width="302" height="30"></rect><rect y="236" width="302" height="30"></rect><rect y="136" width="302" height="30"></rect></g><g></g><g></g><g></g><g></g><g></g><g></g><g></g><g></g><g></g><g></g><g></g><g></g><g></g><g></g><g></g></svg>
          </a>
        </div>
        <div class="u-nav-container">
          <ul class="u-nav u-unstyled u-nav-1"><li class="u-nav-item"><a class="u-button-style u-nav-link u-text-active-palette-1-base u-text-hover-palette-2-base" href="Home.html" style="padding: 10px 20px;">Home</a></li><li class="u-nav-item"><a class="u-button-style u-nav-link u-text-active-palette-1-base u-text-hover-palette-2-base" href="About.html" style="padding: 10px 20px;">About</a></li><li class="u-nav-item"><a class="u-button-style u-nav-link u-text-active-palette-1-base u-text-hover-palette-2-base" href="Contact.html" style="padding: 10px 20px;">Contact</a></li></ul>
        </div>
        <div class="u-nav-container-collapse">
          <div class="u-align-center u-black u-container-style u-inner-container-layout u-opacity u-opacity-95 u-sidenav">
            <div class="u-inner-container-layout u-sidenav-overflow">
              <div class="u-menu-close"></div>
```

```html
            <ul class="u-align-center u-nav u-popupmenu-items u-unstyled u-
nav-2"><li class="u-nav-item"><a class="u-button-style u-nav-link"
href="home.html">Home</a>
</li><li class="u-nav-item"><a class="u-button-style u-nav-link"
href="about.html">About</a>
</li><li class="u-nav-item"><a class="u-button-style u-nav-link"
href="contact.html">Contact</a>
</li></ul>
          </div>
        </div>
        <div class="u-black u-menu-overlay u-opacity u-opacity-70"></div>
      </div>
    </nav>
  </div></header>
  <section class="u-clearfix u-image u-section-1" id="carousel_356a" data-
image-width="1200" data-image-height="675">
    <div class="u-clearfix u-sheet u-sheet-1">
      <h1 class="u-custom-font u-font-montserrat u-text u-text-body-alt-color u-
text-1">AI BASED DISCOURSE FOR BANKING INDUSTRY</h1>
      <p class="u-text u-text-body-alt-color u-text-2"> Banking chatbot is
an AI application that perceives and executes the banking transactions of
customers. In banking, chatbots provide opportunities to automate the
relationship between the consumer and the bank.<br>
      </p>
      <a href="https://nicepage.com/wysiwyg-html-editor" class="u-active-none
u-btn u-button-style u-hover-none u-none u-text-body-alt-color u-text-hover-
palette-3-light-3 u-btn-1"><span class="u-icon u-text-white"><svg class="u-
svg-content" viewBox="0 0 405.333 405.333" x="0px" y="0px" style="width:
1em; height: 1em;"><path d="M373.333,266.88c-25.003,0-49.493-3.904-
72.704-11.563c-11.328-3.904-24.192-0.896-31.637,6.699l-46.016,34.752    c-
52.8-28.181-86.592-61.952-114.389-114.368l33.813-44.928c8.512-
8.512,11.563-20.971,7.915-32.64
C142.592,81.472,138.667,56.96,138.667,32c0-17.643-14.357-32-32-
32H32C14.357,0,0,14.357,0,32
c0,205.845,167.488,373.333,373.333,373.333c17.643,0,32-14.357,32-
32V298.88C405.333,281.237,390.976,266.88,373.333,266.88z"></path></svg>
<img></span> +1 (234) 567-8910
      </a>
    </div>
  </section>
  <section class="u-align-center u-clearfix u-grey-5 u-section-2"
id="carousel_310c">
```

```html
    <div class="u-clearfix u-sheet u-sheet-1">
      <h2 class="u-align-left u-custom-font u-font-montserrat u-text u-text-default u-text-1">Our Services</h2>
      <div class="u-expanded-width u-list u-list-1">
        <div class="u-repeater u-repeater-1">
          <div class="u-align-left u-container-style u-custom-item u-list-item u-repeater-item u-shape-rectangle u-white">
            <div class="u-container-layout u-similar-container u-container-layout-1"><span class="u-icon u-icon-1"><svg class="u-svg-link" preserveAspectRatio="xMidYMin slice" viewBox="0 0 53 53" style=""><use xmlns:xlink="http://www.w3.org/1999/xlink" xlink:href="#svg-e60f"></use></svg><svg class="u-svg-content" viewBox="0 0 53 53" x="0px" y="0px" id="svg-e60f" style="enable-background:new 0 0 53 53;"><path style="fill:#E7ECED;" d="M18.613,41.552l-7.907,4.313c-0.464,0.253-0.881,0.564-1.269,0.903C14.047,50.655,19.998,53,26.5,53
	c6.454,0,12.367-2.31,16.964-6.144c-0.424-0.358-0.884-0.68-1.394-0.934l-8.467-4.233c-1.094-0.547-1.785-1.665-1.785-2.888v-3.322
	c0.238-0.271,0.51-0.619,0.801-1.03c1.154-1.63,2.027-3.423,2.632-5.304c1.086-0.335,1.886-1.338,1.886-2.53v-3.546
	c0-0.78-0.347-1.477-0.886-1.965v-5.126c0,0,1.053-7.977-9.75-7.977s-9.75,7.977-9.75,7.977v5.126
	c-0.54,0.488-0.886,1.185-0.886,1.965v3.546c0,0.934,0.491,1.756,1.226,2.231c0.886,3.857,3.206,6.633,3.206,6.633v3.24
	C20.296,39.899,19.65,40.986,18.613,41.552z"></path><g><path style="fill:#556080;" d="M26.953,0.004C12.32-0.246,11.414,0.004,26.047C-0.138,34.344,3.56,41.801,9.448,46.76
		c0.385-0.336,0.798-0.644,1.257-0.894l7.907-4.313c1.037-0.566,1.683-1.653,1.683-2.835v-3.24c0,0-2.321-2.776-3.206-6.633
		c-0.734-0.475-1.226-1.296-1.226-2.231v-3.546c0-0.78,0.347-1.477,0.886-1.965v-5.126c0,0-1.053-7.977,9.75-7.977

		s9.75,7.977,9.75,7.977v5.126c0.54,0.488,0.886,1.185,0.886,1.965v3.546
	c0,1.192-0.8,2.195-1.886,2.53
		c-0.605,1.881-1.478,3.674-2.632,5.304c-0.291,0.411-0.563,0.759-0.801,1.03V38.8c0,1.223,0.691,2.342,1.785,2.888l8.467,4.233
		c0.508,0.254,0.967,0.575,1.39,0.932c5.71-4.762,9.399-11.882,9.536-19.9C53.246,12.32,41.587,0.254,26.953,0.004z"></path>
</g></svg></span>
            <h4 class="u-custom-font u-font-montserrat u-text u-text-2">About Us</h4>
            <p class="u-text u-text-grey-40 u-text-3">Kaviyarasan M <br>Maha vishnu S <br>Abdul Rahman H
```


Manoj kumar S
          </p>
        </div>
       </div>
        <div class="u-align-left u-container-style u-custom-item u-list-item u-repeater-item u-shape-rectangle u-white u-list-item-2">
          <div class="u-container-layout u-similar-container u-container-layout-2"><svg class="u-svg-link" preserveAspectRatio="xMidYMin slice" viewBox="0 0 58 58" style=""><use xmlns:xlink="http://www.w3.org/1999/xlink" xlink:href="#svg-940a"></use></svg><svg class="u-svg-content" viewBox="0 0 58 58" x="0px" y="0px" id="svg-940a" style="enable-background:new 0 0 58 58;"><polygon style="fill:#E7ECED;" points="29,1.682 6,23.039 6,27.682 6,57.682 52,57.682 52,27.682 52,23.039 "></polygon><path style="fill:#6B5B4B;" d="M36,57.682H22V35.619c0-1.07,0.867-1.937,1.937-1.937h10.126c1.07,0,1.937,0.867,1.937,1.937V57.682z "></path><polygon style="fill:#6C4127;" points="48,19.325 48,6.682 40,6.682 40,11.897 "></polygon><polyline style="fill:none;stroke:#6B5B4B;stroke-width:2;stroke-linecap:round;stroke-miterlimit:10;" points="1,27.682 29,1.682 57,27.682 "></polyline></svg>
          <h4 class="u-custom-font u-font-montserrat u-text u-text-4">Management</h4>
          <p class="u-text u-text-grey-40 u-text-5">   We Provides the Services to Enquire About the Banking Industry</p>
          </div>
         </div>
        </div>
       </div>
     </section>

    <footer class="u-align-center u-clearfix u-footer u-grey-80 u-footer" id="sec-7715"><div class="u-clearfix u-sheet u-sheet-1">
      <p class="u-small-text u-text u-text-variant u-text-1">Sample text. Click to select the Text Element.</p>
    </div></footer>
    <section class="u-backlink u-clearfix u-grey-80">
     <a class="u-link" href="https://nicepage.com/templates" target="_blank">
      Free Template

```
    </a>
    <p class="u-text">
      <span>created with</span>
    </p>
    <a class="u-link" href="https://nicepage.best" target="_blank">
      <span>Website Builder</span>
    </a>.
  </section>

</body></html>
```