CHATBOT DEPLOYMENT WITH IBM

CLOUD WATSON ASSISTANT

PHASE-5: **DOCUMENTATION**

PROJECT OBJECTIVE:

The primary objective of our project is to develop a conversational Book

Recommendation Chatbot utilizing IBM Cloud Watson Assistant with Actions to offer

personalized book recommendations to users which is integrated in the Whatsapp using

Twilio. This chatbot will analyze user input and reading preferences to deliver personalized book suggestions, facilitating users in discovering new and engaging reading material.

DESIGN THINKING PROCESS:[Book Recommendation Bot]

Empathize: Understand User Needs

 Conduct user research to empathize with potential users, identifying their reading preferences and pain points in finding books.

• Gather insights through surveys, interviews, and feedback from book enthusiasts.

Define: Clarify the Objectives

 Clearly define the chatbot's objectives, such as providing personalized book recommendations and enhancing the user's reading experience.

• Establish success criteria for the chatbot, including user satisfaction and the quality of book suggestions.

Ideate: Generate Innovative Ideas

- Brainstorm creative solutions for book recommendations. Consider how the chatbot can engage users and suggest books effectively.
- Explore options for integrating Action Skills in IBM Cloud Watson Assistant.

Prototype: Create a User-Focused Model

- Develop a prototype of the chatbot's user interface and conversation flows.
- Test the prototype with potential users to gather feedback on the chatbot's design and user interactions.

Test: Validate and Refine

- Conduct usability testing with a focus group to validate the chatbot's design and gather insights on its user-friendliness.
- Iterate on the prototype based on user feedback, focusing on actions and book recommendation features.

Deployment:

- Deploy the chatbot by integrating it with your chosen platform, such as a website or messaging app, and ensure it functions seamlessly in that environment. This integration typically involves the use of chat widgets, APIs, or platform-specific connectors to provide users access to the chatbot.
- Thoroughly test the chatbot in the deployment environment to ensure it operates as expected. Provide clear access points or instructions for users to interact with the chatbot on the platform, encouraging user engagement and book recommendations.

DEVELOPMENT PHASES:

Development Phases for the Book Recommendation Bot using Action Skills in IBM Cloud Watson Assistant:

IBM Cloud Watson Assistant Setup:

 Create an instance of IBM Cloud Watson Assistant and configure it for chatbot development. • Ensure that Action Skills are enabled and set up correctly within Watson Assistant.

Intent and Entity Definition:

 Define the intents and entities that the chatbot will recognize to understand user queries related to book recommendations. These intents and entities will be used in Action Skills.

Action Skill Creation:

- Create Action Skills within IBM Watson Assistant to implement the logic and functionalities of your book recommendation bot.
- Use Action Skills to process user input, access the book recommendation algorithm or database, and generate personalized book suggestions.

User Interaction Design:

 Design a user-friendly interface for interacting with the chatbot. Ensure that the user interface is intuitive and engaging, incorporating Action Skills where necessary.

User Testing and Iteration:

 Test the chatbot with real users to gather feedback on its functionality and user experience. Iterate on the design and Action Skills based on user input and refine the book recommendation process.

Deployment:

Deploy the chatbot on your chosen platform, such as a website or messaging app.
 Ensure that Action Skills are operational and that users can access the chatbot easily.

Continuous Improvement:

 Continuously monitor the chatbot's performance, gather user data, and make ongoing improvements to its recommendation capabilities and conversational skills, including enhancements to Action Skills.

INTEGRATION OF CHATBOT USING TWILIO IN WHATSAPP:

Integrating a chatbot with WhatsApp using Twilio adds another layer of communication to a project. Here are the steps for integrating the chatbot with WhatsApp using Twilio:

Step 1: Set Up Twilio Account

If you don't already have one, create an account on Twilio (https://www.twilio.com/).

Step 2: Obtain Twilio API Credentials

Once logged in, navigate to the Twilio Console.

Obtain your Twilio Account SID and Auth Token, which you will need to connect to Twilio's service.

Step 3: Purchase a WhatsApp Number

Inside the Twilio Console, you need to purchase a WhatsApp-enabled phone number.

This number will be used to send and receive WhatsApp messages. Make sure to set up this number for use with WhatsApp.

Step 4: Configure Webhooks

In your Twilio Console, set up webhooks to handle incoming and outgoing WhatsApp messages.

You'll need to specify the URL where Twilio should send incoming messages. This URL should point to your chatbot's endpoint (e.g., your chatbot API).

Step 5: Integrate with Your Chatbot

Modify your chatbot's code to handle incoming messages from Twilio.

You'll need to set up routes or endpoints to listen to incoming messages from Twilio.

Step 6: Send and Receive Messages

Use Twilio's API to send messages from your chatbot to WhatsApp users. You'll need to send messages to the WhatsApp number you purchased.

Process incoming messages from WhatsApp users, extract user queries, and respond accordingly using your chatbot logic.

Step 7: Test and Debug

Test the integration by sending and receiving messages through your WhatsApp-enabled

Twilio number.

Ensure that your chatbot responds correctly to user gueries.

Step 8: Deploy

Deploy your updated chatbot with the Twilio integration to your chosen hosting platform

(e.g., IBM Cloud Foundry).

Step 9: Security and Compliance

Ensure that your chatbot complies with data protection and privacy regulations, as

WhatsApp messaging may involve sensitive user data.

Step 10: Ongoing Maintenance

Plan for ongoing maintenance and monitoring to ensure that the integration remains

functional as WhatsApp or Twilio make updates or changes to their services.

By following these steps, you can successfully integrate your chatbot with WhatsApp using

Twilio, enhancing your project's communication capabilities.

CHATBOT PERSONA:

Name: "LIBROBOT"

LibroBot: Your Book Recommender

LibroBot is your literary companion, here to recommend your next great read. With a passion

for books and a friendly attitude, LibroBot makes finding the perfect book easy and

enjoyable. Just tell it your preferences, and let LibroBot do the rest. Discover new literary

adventures with LibroBot by your side.

Personality Traits:

Friendly and Approachable:

LibroBot have a conversations with a friendly greeting and introduces itself, explaining its purpose as a book recommendation expert.

Knowledgeable and Enthusiastic:

LibroBot shares its enthusiasm for books and offers insights into different genres to you.

Helpful and Supportive:

LibroBot is dedicated to helping you find the perfect book, providing thoughtful recommendations and answering your book-related questions.

Conversational and Engaging:

LibroBot engages you in lively conversations, making the book recommendation process feel like a friendly chat.

Respectful and Non-judgmental:

LibroBot respects your reading preferences and encourages you to explore various genres.

CONVERSATIONAL FLOW:

here's a description of the conversation flow for "LibroBot"- Book Recommendation Chatbot:

User Initiation:

- The conversation begins when the user initiates the chat with "LibroBot".
- This could be on a messaging app called whatsapp, where the chatbot is deployed.

LibroBot Introduction:

• LibroBot starts the conversation with a warm welcome and an introduction, setting the tone for a friendly and helpful interaction.

Understanding User Preferences:

• LibroBot starts by asking the user about their reading preferences. It wants to know what kind of books the user enjoys and provides options to guide the conversation.

Choosing a Genre:

 If the user wants to choose genre, LibroBot asks about specific types of books, like mystery or historical books like wise.

Book Recommendations:

 After collecting these preferences, LibroBot provides personalized book recommendations.

User Questions and Exploration:

• Users can ask questions about the recommended books or request more suggestions.

Help and Interaction:

 LibroBot responds to user questions, shares information about the books, and offers further assistance.

Goodbye and Thanks:

• The conversation ends with LibroBot thanking the user and leaving the door open for future book recommendations.

TECHNICAL IMPLEMENTATION USING WATSON ASSISTANT:

IBM Watson Assistant Setup:

• Start by setting up your Book Recommendation Bot using IBM Watson Assistant. This is like creating the brain of your chatbot that understands and responds to user requests.

Action Skills:

• Within Watson Assistant, you build Action Skills to make your bot smarter. These skills allow it to process information, like user requests for book recommendations.

Book Data:

 Connect your bot to a database or recommendation system that holds information about books. This way, your bot can provide personalized recommendations based on user preferences.

WhatsApp Integration with Twilio:

• Now, you use Twilio to connect your Watson Assistant-powered bot to WhatsApp. Think of Twilio as the bridge that allows your bot to chat with users on WhatsApp.

User Interaction:

• Users will send messages on WhatsApp to interact with your bot. The bot will receive these messages through Twilio, process them using Watson Assistant, and provide book recommendations or answer questions.

Testing:

 Before going live, make sure to test your bot to ensure it understands and responds to user messages correctly.

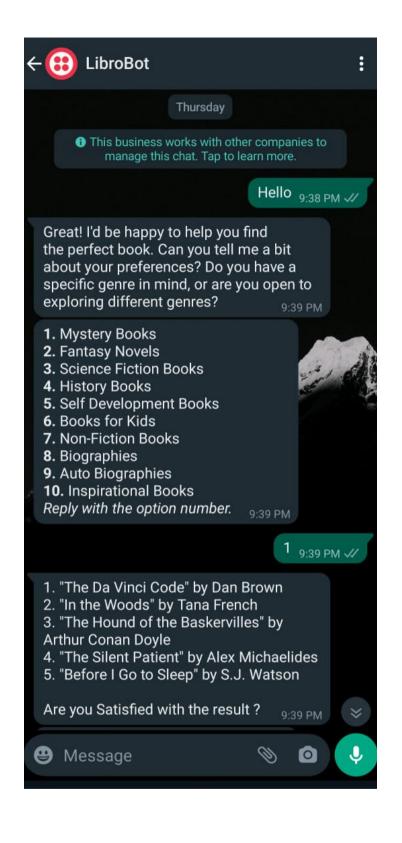
Deployment:

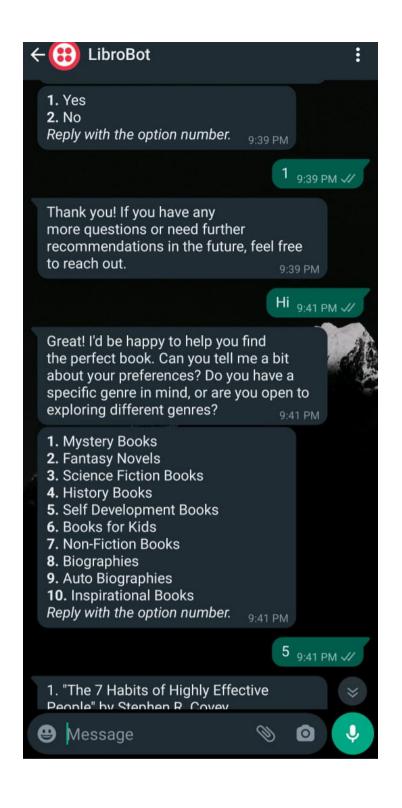
 Once your bot works well, you deploy it so that real WhatsApp users can start chatting with it.

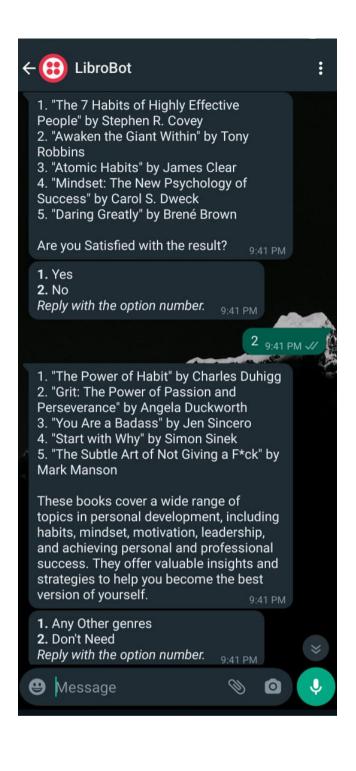
User Engagement:

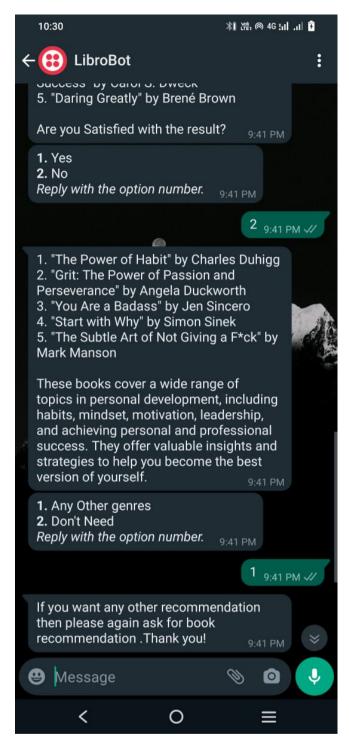
• Promote your bot on WhatsApp and encourage users to chat with it for book recommendations. You can also use Twilio to send notifications or updates to users.

EXAMPLE OF USER QUERIES AND THE CHATBOT'S RESPONSES:

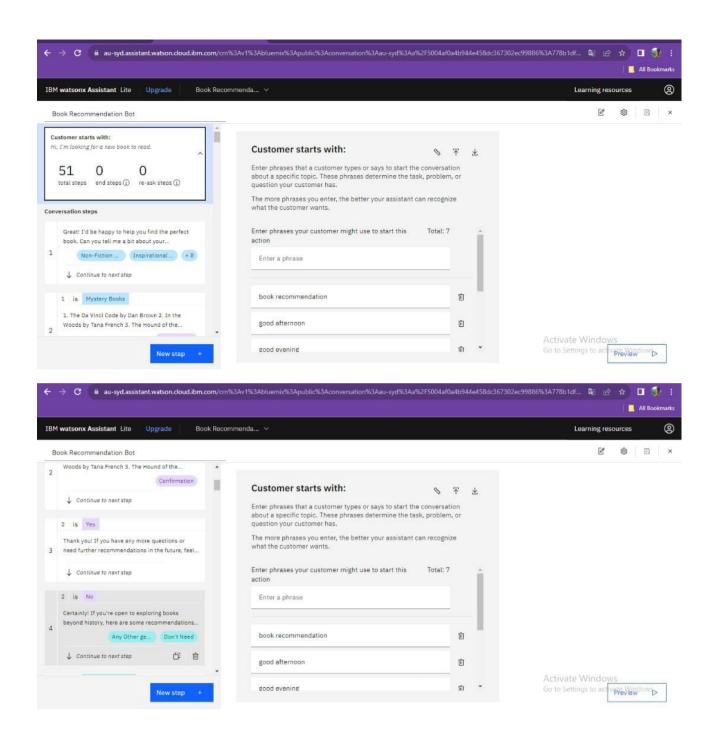


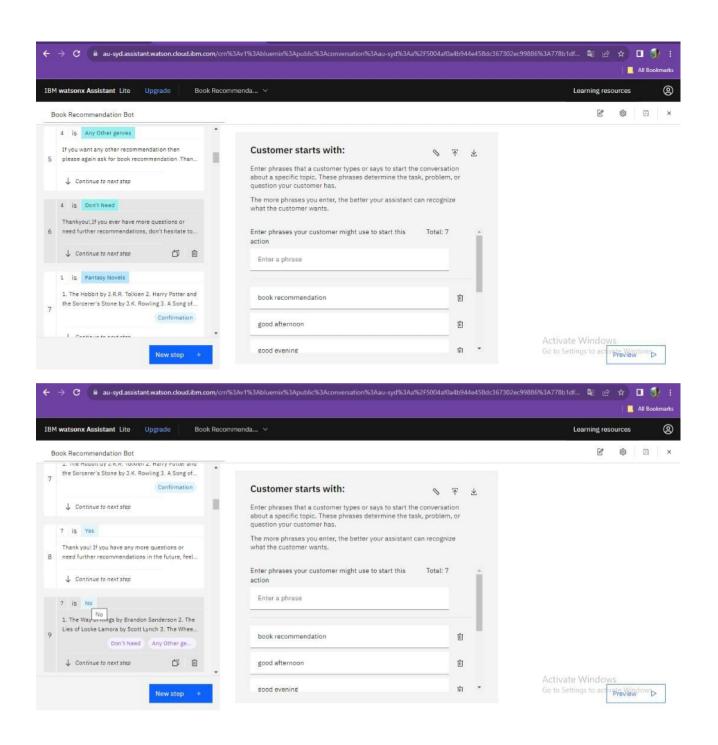


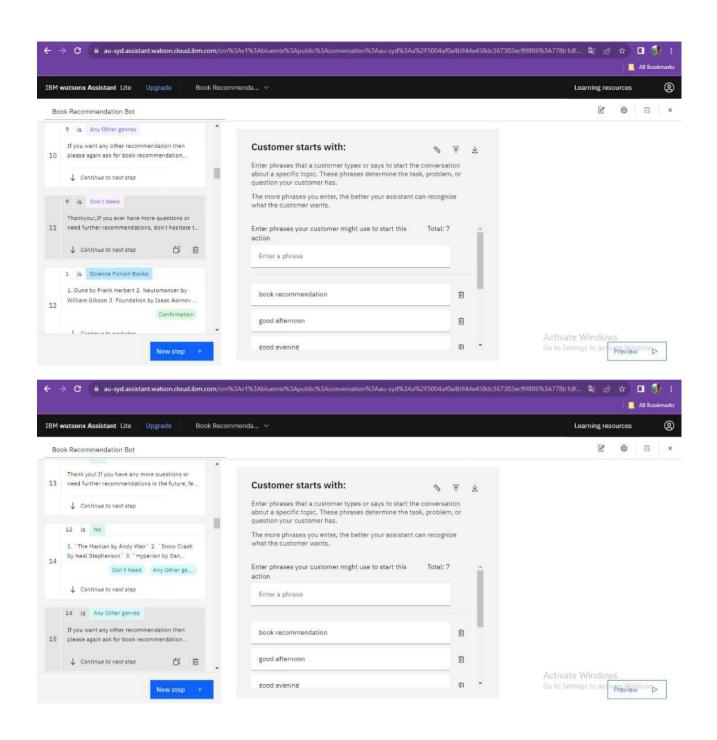


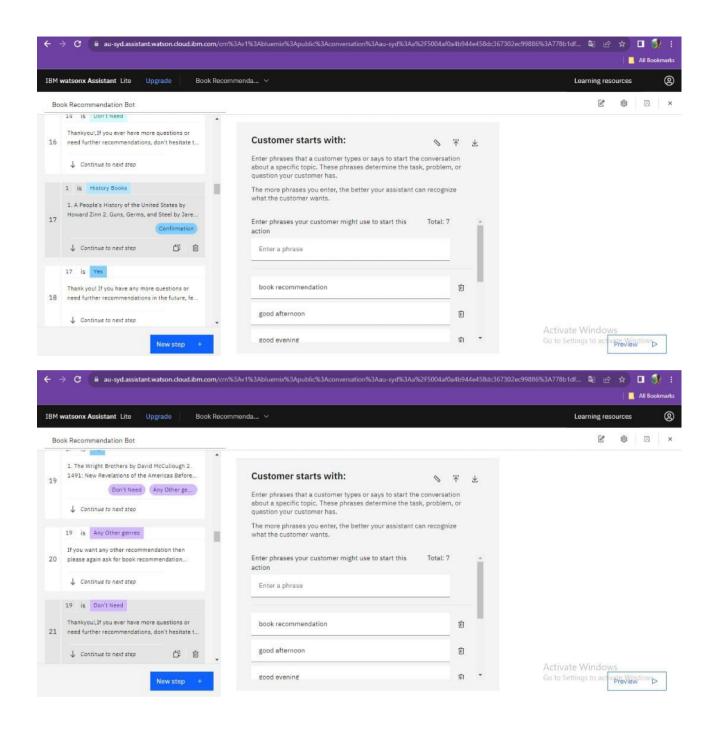


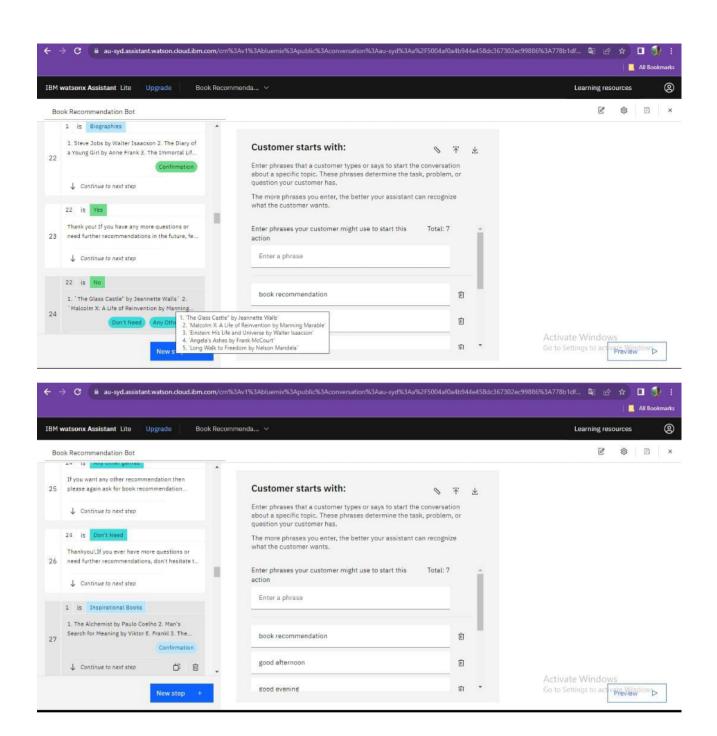
ACTIONS WHICH IS DONE IN THE IBM CLOUD WATSON
ASSISTANT:

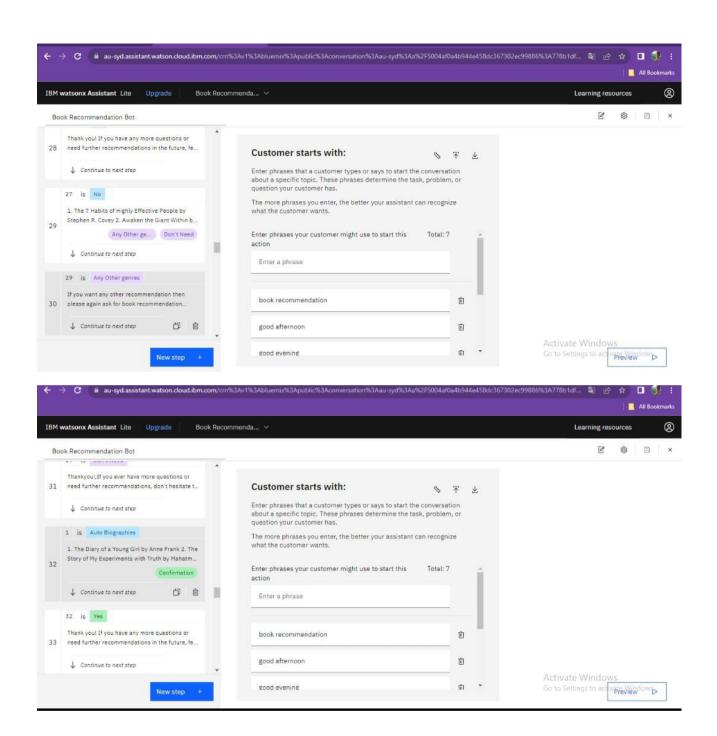


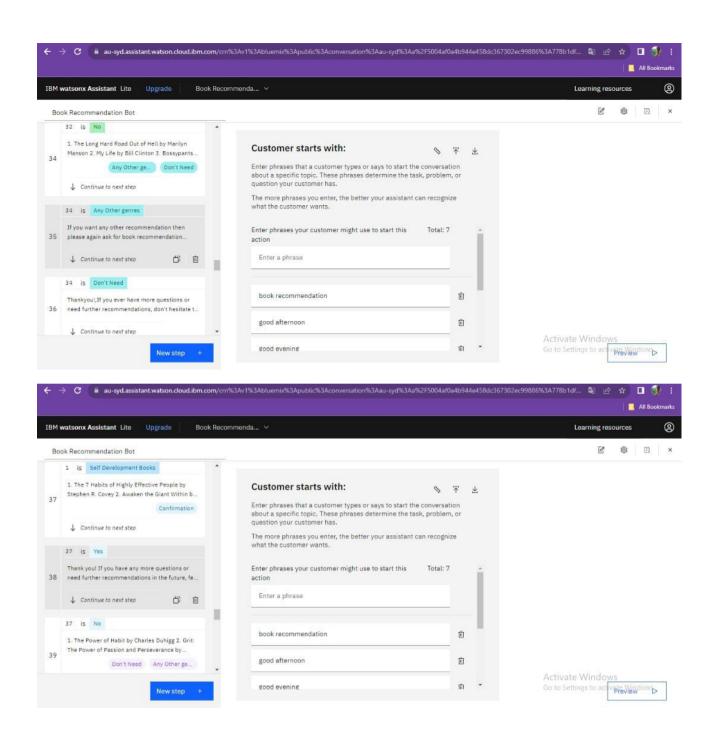


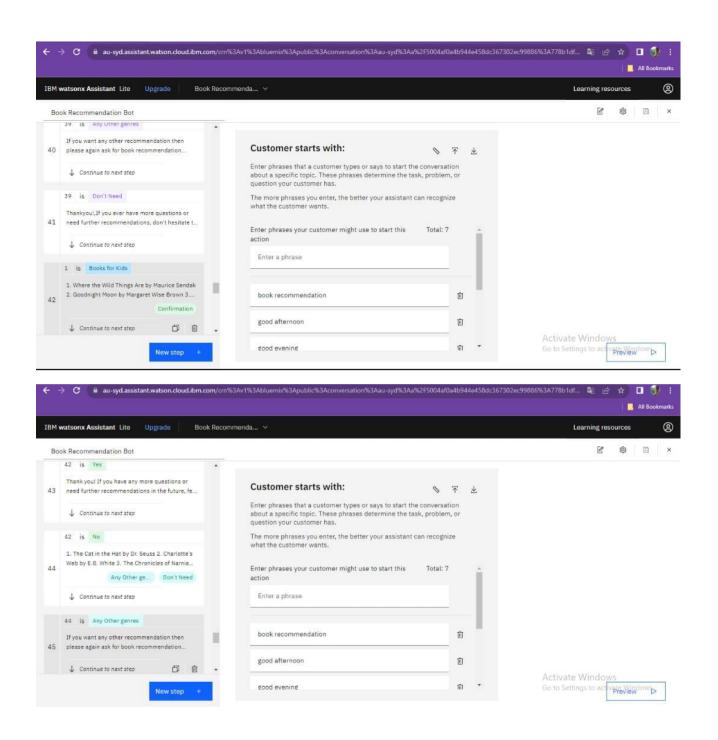


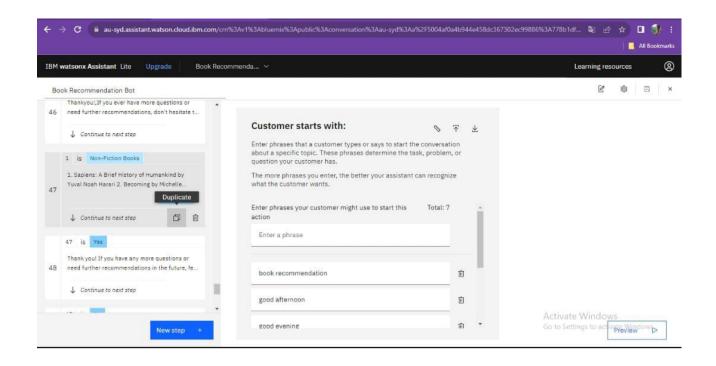


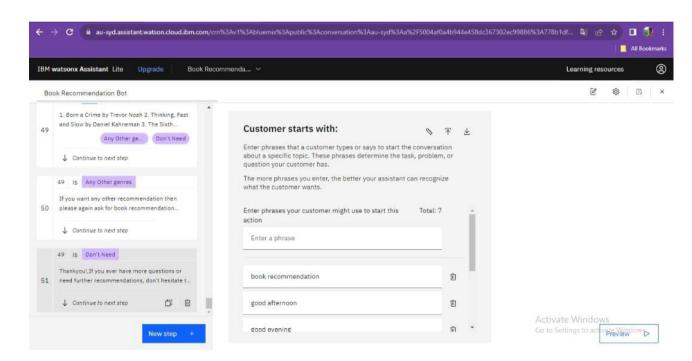












Link of our Published Chatbot:

https://web-

<u>chat.global.assistant.watson.appdomain.cloud/preview.html?</u>
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