CHATBOT DEPLOYMENT WITH IBM CLOUD WATSON ASSISTANT

PROBLEM DEFINITION

The project involves creating a chatbot using IBM Cloud Watson Assistant. The goal is to develop a virtual guide that assists users on messaging platforms like Facebook Messenger and Slack.

The chatbot should provide helpful information, answer frequently asked questions (FAQs), and offer a friendly conversational experience. The project includes designing the chatbot's persona, configuring responses, integrating with messaging platforms, and ensuring a seamless user experience.

APPROACH METHOD

For Facebook :

**Facebook developers platform:**

* Go to the Facebook for Developers platform (<https://developers.facebook.com/>).
* Create a new Facebook App or use an existing one.

**Set Up Messenger Integration**:

* Inside your Facebook App, navigate to the Messenger tab and set up the Messenger integration.
* Generate a Page Access Token, which is needed to interact with Facebook Messenger.

**Configure Webhooks:**

* Set up a webhook to receive incoming messages from Facebook Messenger. This webhook should point to your server or cloud service.

**Develop a Backend Server:**

* Create a backend server that communicates with Watson Assistant. This server will receive messages from Facebook, send them to Watson Assistant, and relay the responses back to Facebook.

**Integrate with Watson Assistant:**

* Use the Watson Assistant API to interact with your chatbot. Send user messages to Watson Assistant and receive responses.

**Handle User Authentication (if necessary):**

* Depending on your use case, you might need to handle user authentication within your chatbot.

**Test and Deploy:**

* Test your integration thoroughly to ensure it works as expected.
* Deploy your integration to a production environment.

**Connect to Facebook App:**

* In the Facebook App settings, link your backend server (webhook) to the Messenger integration.

**Submit for Review:**

* If you plan to make your chatbot available to the public, you'll need to submit it to Facebook for review and approval.

For Slack :

**Create a Slack App:**

* Go to the Slack API website (<https://api.slack.com/>).
* Create a new Slack App or use an existing one.

**Configure Bot User:**

* Inside your Slack App, configure a bot user. This bot user will represent your Watson Assistant chatbot.

**Install the App to Workspaces:**

* Enable your Slack App to be installed by Slack users in their workspaces.

**Implement OAuth 2.0:**

* Set up OAuth 2.0 authentication to allow your app to access Slack workspaces.

**Integrate with Watson Assistant:**

* Use the Watson Assistant API to send and receive messages from Slack.

**Develop a Backend Server:**

* Create a backend server that listens for events and messages from Slack and communicates with Watson Assistant.

**Test and Deploy:**

* Test your integration and ensure it handles various user interactions.
* Deploy your integration to a production environment.

**Connect to Slack App:**

* In the Slack App settings, configure event subscriptions and interactive components to handle incoming messages.

**Submit for Distribution:**

* If you want to make your chatbot available to other Slack workspaces, submit your app for distribution through the Slack App Directory.

DESIGN THINKING

**Persona Design:**

* Creating a chatbot persona helps define its character, which influences how users perceive and interact with it. It sets the tone and style of communication, making it relatable to users.

**User Scenarios:**

* Identifying common user scenarios and FAQs ensures that the chatbot can effectively address the needs and queries of its intended audience. This step helps in building a chatbot that provides value.

**Conversation Flow:**

* Designing the conversation flow outlines how the chatbot responds to different user inputs. It's crucial for guiding the chatbot's interactions and ensuring a coherent and helpful dialogue.

**Response Configuration:**

* Leveraging Watson Assistant's features like intents, entities, and dialog nodes is vital for configuring the chatbot's responses. This step enables the chatbot to understand and generate appropriate replies based on user inputs.

**Platform Integration:**

* Integrate the chatbot with popular messaging platforms like Facebook Messenger and Slack.
* Integrating the chatbot with popular messaging platforms extends its reach and

accessibility.

**User Experience:**

* Prioritizing a seamless and user-friendly experience is key. Clear prompts and informative responses enhance user satisfaction and the chatbot's effectiveness.