**CHATBOT DEPLOYMENT WITH IBM CLOUD**

**OBJECTIVE :**

The objective of a banking chatbot is to provide efficient, convenient, and personalized assistance to customers in their banking-related queries and transactions.

**PROCESS :**

Design Thinking is a problem-solving approach that places the user at the center of the design process. When applied to the creation of a banking chatbot, the following steps can be followed:

1. **Empathize:**
   * Understand the needs, preferences, and pain points of banking customers. Conduct interviews, surveys, and gather data to comprehend user behaviors and expectations regarding banking services and interactions.
2. **Define:**
   * Based on the insights gained from the empathize stage, define the specific problems or challenges that the banking chatbot can address. This involves crafting a clear problem statement or opportunity area.
3. **Ideate:**
   * Brainstorm and generate ideas for how the chatbot could solve the identified problems or fulfill the users' needs. Encourage a diverse range of ideas without limitations, aiming for innovation and user-centric solutions.
4. **Prototype:**
   * Develop a basic prototype of the chatbot's interface and functionalities. This could involve creating wireframes, storyboards, or mockups to visualize the user experience and interactions.
5. **Test:**
   * Gather feedback by testing the prototype with real users. This could be done through usability testing, user interviews, or beta testing to observe how users interact with the chatbot, what works well, and what needs improvement.
6. **Iterate:**
   * Based on the feedback received during testing, refine and improve the chatbot. Make necessary adjustments to enhance the user experience, usability, and functionality. Iterate through the design process multiple times to ensure continuous improvement.

**DEVELOPMENT PHASES :**

The development phases of a banking chatbot involve several key steps that cover planning, design, implementation, testing, and deployment. Here are the typical phases involved in developing a banking chatbot:

1. **Discovery and Planning:**
   * **Define Objectives:** Determine the specific goals and objectives of the banking chatbot. Identify the problems it will solve and the services it will provide.
   * **User Research:** Understand the target audience, their needs, behaviors, and expectations regarding banking services.
   * **Feature Set:** Define the features and functionalities the chatbot will have. This includes transaction support, balance inquiries, bill payments, fund transfers, etc.
2. **Design and Prototyping:**
   * **Conversational Flow:** Create the conversation flow and dialogue design. Map out potential user interactions and responses for different scenarios.
   * **User Interface Design:** Design the user interface for the chatbot across various platforms it will be available on (websites, mobile apps, messaging apps, etc.).
   * **Prototype Development:** Build a basic prototype to visualize the user experience and the chatbot's functionality.
3. **Development:**
   * **Choose Technology:** Select the appropriate technology stack for chatbot development, considering factors like natural language processing (NLP), machine learning, and integration capabilities.
   * **Chatbot Development:** Build the chatbot using the chosen development framework or platform. Develop and program the conversational logic, APIs, and integrations with banking systems.
   * **Security Implementation:** Implement robust security measures to protect user data and ensure compliance with banking regulations.
4. **Testing:**
   * **Functional Testing:** Test the chatbot's functionalities to ensure all features work as intended.
   * **User Acceptance Testing (UAT):** Conduct tests with real users to evaluate the chatbot's performance and gather feedback for improvements.
   * **Security Testing:** Perform security testing to identify and fix vulnerabilities and ensure data protection.
5. **Deployment and Integration:**
   * **Integration with Banking Systems:** Integrate the chatbot with core banking systems to access account information and perform transactions securely.
   * **Deployment Strategy:** Deploy the chatbot across different platforms, such as web, mobile, and messaging apps, ensuring a smooth and consistent user experience.
6. **Monitoring and Maintenance:**
   * **Performance Monitoring:** Continuously monitor the chatbot's performance, user interactions, and feedback to identify areas for improvement.
   * **Updates and Iterations:** Implement regular updates and improvements based on user feedback and changing requirements.
   * **Technical Support:** Provide ongoing technical support and maintenance to ensure the chatbot operates smoothly and addresses any issues promptly.

**CHATBOT PERSONA :**

**Name:** BankingBot

**Background:** BankingBot is a knowledgeable and helpful virtual assistant designed to provide seamless and efficient banking services. It's an AI-powered bot developed to assist customers in their financial needs, making banking tasks easier and more accessible.

**Persona Traits:**

* **Friendly and Professional:** BankingBot communicates in a friendly yet professional manner, maintaining a formal tone suitable for banking interactions.
* **Knowledgeable and Reliable:** It's equipped with a wealth of information about banking services, account details, transactions, and financial advice, offering reliable assistance to customers.
* **Efficient and Proactive:** BankingBot is designed to quickly address user queries, proactively guiding customers through various banking tasks or issues.
* **Adaptive and Understanding:** It's adaptive to different user needs and preferences, striving to understand and cater to each user's specific requirements.
* **Security-Conscious:** BankingBot prioritizes security and confidentiality, ensuring that sensitive banking information is protected and compliant with industry standards and regulations.

**Interactions:**

* **Greeting:** "Hello! I'm BankingBot, here to help you with your banking needs. How can I assist you today?"
* **Guidance:** "Let me guide you through your account balance or help you with a transfer. What would you like to do?"
* **Assistance with Services:** "I can help you pay bills, set up direct deposits, or answer questions about recent transactions."
* **Educational:** "Did you know you can set up alerts for your account activities? I can show you how."
* **Closing:** "Thank you for using our services. Feel free to ask if you need any more help. Have a great day!"

This persona, BankingBot, aims to provide a personalized and efficient banking experience, offering support and guidance while ensuring the security and confidentiality of the user's financial information.

**Technical Implementation:**

**1. Set up IBM Watson Assistant:**

1. **Create or Access Watson Assistant Service:**
   * Access IBM Cloud and navigate to Watson Assistant.
   * Create a new Watson Assistant instance or use an existing one.
2. **Build and Train Your Assistant:**
   * Create the dialog flow, intents, entities, and responses within Watson Assistant based on your banking chatbot's functionalities.
3. **Connect to Facebook Messenger:**

a. **Facebook for Developers:**

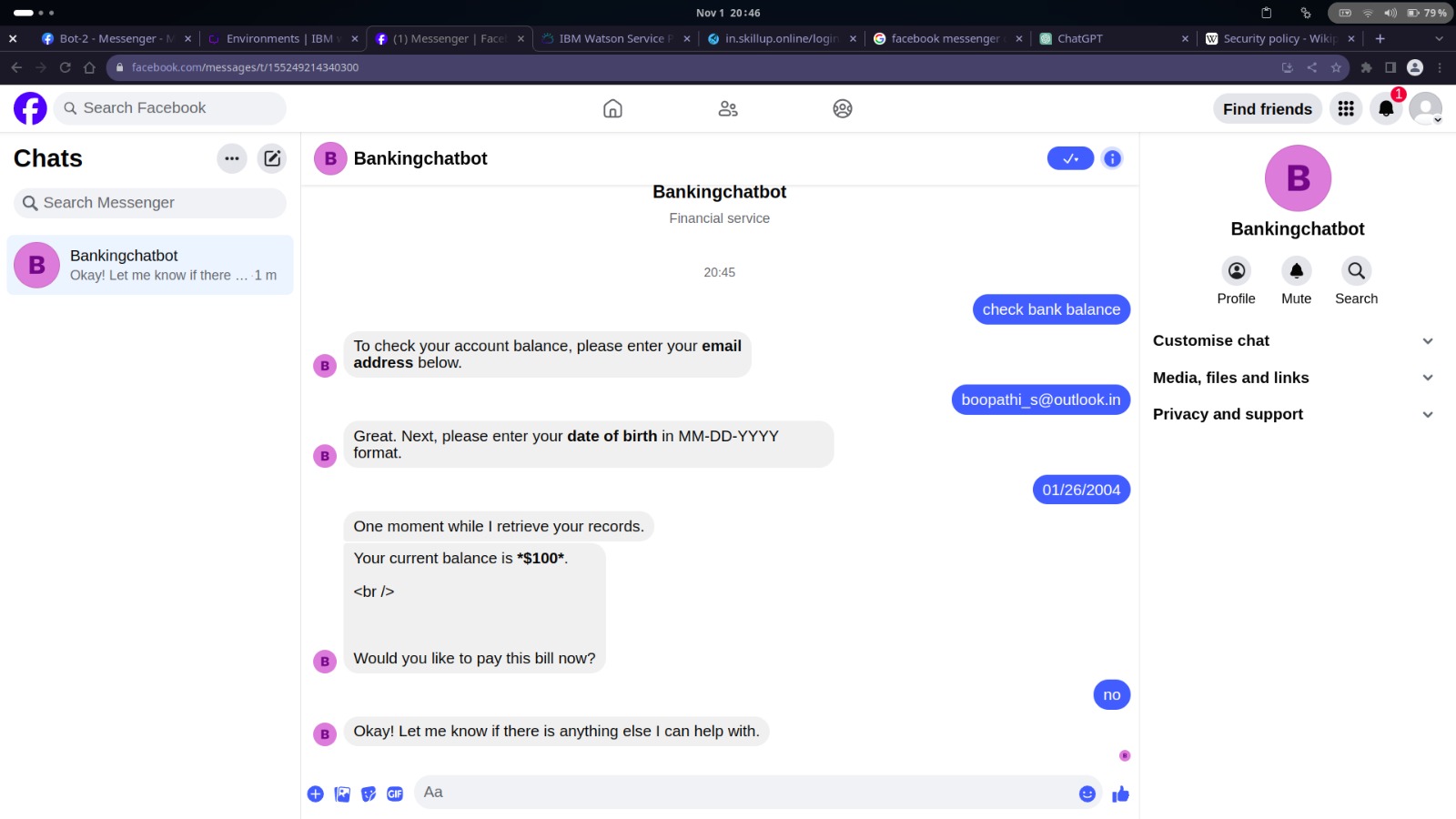
* + Log in to Facebook for Developers (developers.facebook.com) and create a new app if you haven’t already.

b. **Facebook App Setup:**

* + Configure the Facebook app settings:
    - Add Messenger as a product in the app.
    - Generate a Page Access Token and note it down.
    - Set up a webhook and subscribe to the app's Facebook page for the messages.

**2. Linking Watson Assistant with Facebook Messenger:**

1. **Link Facebook Messenger to Watson Assistant:**
   * In the Watson Assistant console:
     + Go to the Skills section and select the skill you want to integrate.
     + Under Integrations, select the Facebook Messenger tile.
     + Input the Page Access Token generated from the Facebook app settings.
     + Connect the Facebook Messenger integration to the specific dialog skill.
2. **Test the Integration:**
   * Verify the integration by starting a conversation with Facebook page or profile where the Messenger integration is enabled.

****