Weekly Tasks

Assumptions and Claims of our Chatbot Design

1. **Panic Button Functionality**
    - **Assumption**: The chatbot includes a panic button feature that, when activated, will immediately send alerts to authorities or emergency responders.
    - **Claim**: The panic button is assumed to be fully operational, ensuring that it triggers the correct emergency protocol and notifies the relevant personnel without delay.
2. **User Intent Recognition**
    - **Assumption**: The chatbot assumes that it can accurately identify user intent from a variety of conversational inputs, including variations in phrasing, slang, and regional dialects.
    - **Claim**: The chatbot claims to understand user queries and provide relevant responses based on its NLP model, even if the user provides vague or incomplete information.
3. **Contextual Awareness**
    - **Assumption**: The chatbot assumes that it can maintain context throughout a conversation, remembering past interactions and appropriately handling multi-turn dialogues.
    - **Claim**: The chatbot claims to track the conversation history, which allows it to give relevant responses and follow-up questions based on earlier parts of the conversation.
4. **Natural Language Processing (NLP) Capability**
    - **Assumption**: The chatbot assumes that the NLP engine it uses will effectively interpret the meaning behind user inputs and produce coherent, grammatically correct responses.
    - **Claim**: The chatbot claims to understand not only basic syntax but also the nuances of user input, like humor, sarcasm, or emotional undertones.

5. **Error Handling and User Guidance**

   - **Assumption**: The chatbot assumes that when it fails to understand a query, it will handle errors gracefully by asking for clarification or rephrasing.
   - **Claim**: The chatbot claims to provide clear instructions to the user in case of misunderstandings and can guide the user through alternative ways of asking their questions.

6. **Data Security and Privacy**

   - **Assumption**: The chatbot assumes that sensitive information exchanged during interactions will be securely stored and processed, in accordance with privacy laws such as GDPR or HIPAA.
   - **Claim**: The chatbot claims to protect user data by implementing encryption and other security measures to prevent unauthorized access or data breaches.

7. **Task Automation**

   - **Assumption**: The chatbot assumes it can automate certain tasks based on user commands (e.g., setting reminders, scheduling appointments, sending emails).
   - **Claim**: The chatbot claims to be able to perform these tasks autonomously, saving users time and reducing the need for manual intervention.

8. **Real-Time Updates**

   - **Assumption**: The chatbot assumes that it can provide up-to-date information, such as weather forecasts, stock prices, or breaking news, by integrating with reliable third-party APIs.
   - **Claim**: The chatbot claims to present accurate real-time information to the user, ensuring that the data it provides is fresh and relevant.

9. **User-Friendly Interface**

   - **Assumption**: The chatbot assumes that users will find its interface intuitive, with clear options and easy navigation for initiating conversations and accessing features.
   - **Claim**: The chatbot claims to be simple to use, even for users who may not be particularly tech-savvy, with minimal barriers to entry.

Evaluation Plan

1. **User Satisfaction & Feedback**

- Evaluate user satisfaction through post-interaction surveys, focusing on ease of use, effectiveness of the chatbot's responses, and overall experience.
- Track feedback to identify areas for improvement in user interaction and functionality.

2. Panic Button Effectiveness

- Conduct tests on the panic button feature to ensure that it triggers the correct emergency protocol and notifies authorities immediately without fail.
- Simulate different user conditions to test the responsiveness and accuracy of the panic button.

3. Accuracy of Intent Recognition

- Test the chatbot's ability to correctly understand various types of user inputs, including ambiguous or complex queries, by setting up different user scenarios.
- Monitor and analyze response accuracy to ensure that intents are recognized with minimal error.

4. Task Completion & Workflow Testing

- Test task automation features by simulating real-world use cases (e.g., booking a flight, setting reminders, scheduling appointments) and evaluating how well the chatbot handles each task.
- Measure the success rate of task completions, ensuring that users can achieve their goals with minimal intervention.

5. Context Retention & Multi-turn Conversations

- Run tests with continuous, multi-turn dialogues to evaluate whether the chatbot correctly maintains context and adapts to ongoing conversation.
- Evaluate whether the chatbot appropriately handles interruptions, changes in conversation flow, and returning users.

6. Performance Under Load

- Test the chatbot's performance under high user load to ensure it can handle a large number of simultaneous interactions without crashing or lagging.
- Measure response time during peak usage to ensure the system remains responsive and user-friendly.

7. Security & Data Protection

- Perform security audits and penetration testing to ensure that user data is protected from potential breaches and that the chatbot adheres to privacy regulations.
- Regularly assess encryption standards and data storage practices to maintain user trust.

8. Usability Testing

- Conduct user testing with diverse demographic groups to evaluate whether the interface and functionality meet the needs of various users.
- Use A/B testing to compare different user interface designs and determine which is most intuitive.