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CTEC 450

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#### ****Testing:****

#### **Test User 1: Expected Input (Greeting)**

**Input:** “Hello”

**Expected Response:** “Hello ! How can I help you today?”

**Result:** The chatbot responded appropriately and continued the conversation.

A screenshot of a chat

AI-generated content may be incorrect.**Issue:** None.

1. **Test User 2: Expected Input (FAQ)**

**Input:** “What time are your business hours?”

**Expected Response:** “Our business hours are 7 AM to 6 PM, Monday to Friday.”

**Result:** The chatbot correctly answered the question about business hours.

**Issue:** None.

A screenshot of a chat

AI-generated content may be incorrect.

1. **Test User 3: Unexpected Input (Non-Recognized Command)**

**Input:** “Sup”

**Expected Response:** “, I didn’t get that. Can you repeat ?”

**Result:** The chatbot returned an error message and asked the user to rephrase.

**Issue:** None.

A screenshot of a chat

AI-generated content may be incorrect.

1. **Test User 4: Handling Off-Topic Input**

**Input:** “Tell me a joke!”

**Expected Response:** “**Sorry, I can only help with business hours and contact support. How can I assist you today?”**

**Result:** Gently guide the user back to the relevant conversation without getting stuck or returning a confusing response.

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AI-generated content may be incorrect.**Issue:** None.

1. **Test User 5: Exit Command**

**Input:** “bye”

**Expected Response:** “See you soon!”

**Result:** The chatbot responded as expected, ending the conversation.

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AI-generated content may be incorrect.**Issue:** None.

### ****Testing Summary****

The chatbot passed all tests for:

* Correct handling of expected user inputs.
* Error handling and recovery (e.g., rephrasing requests when faced with unrecognized inputs).
* No major issues were encountered during testing, and all responses were within expectations.

### ****Documentation****

#### ****Overview of the Chatbot****

The chatbot was developed to assist users in obtaining quick, accurate information about business hours, contact support, and to provide a welcoming, polite exit.

**Target Users:** This chatbot is aimed at customers who are looking for basic information about a company’s operational hours and ways to contact customer support.

**Key Features:**

**Greeting Intent:** Responds to greetings like Hello and Hi.

**FAQ Intent:** Answers questions like What are your business hours? and How can I contact support?

**Exit Intent:** Concludes the conversation with a friendly farewell.

#### ****Development Process****

**Design:** Defined the chatbot’s core intents: Greeting, FAQ, and Exit, to create a simple, approachable user experience.

**Implementation:**

Configured training phrases for greeting, FAQ, and exit intents.

Set up appropriate responses to ensure smooth user interaction.

Created fallback responses for handling unrecognized inputs.

**Testing:**

Conducted tests with a mix of common user inputs, including expected and unexpected inputs.

#### ****Challenges****

**Handling Unrecognized Input:**

**Challenge:** Ensuring the chatbot would respond appropriately when users input random text or off-topic questions.

**Solution:** Implemented fallback responses to guide users back to meaningful interactions.

#### ****Testing Results****

**Positive Results:** The chatbot handled user inputs correctly, responded to greetings and questions, and ended conversations as expected.

**Improvements Based on Feedback:** Testing confirmed that the chatbot needed a fallback for unexpected inputs, which was implemented to prompt users to rephrase.

#### ****Future Improvements****

**Natural Language Processing (NLP):** Adding advanced NLP capabilities could improve the chatbot’s ability to understand more complex and varied user inputs, providing more accurate responses..

**Personalized Experience:** Including the ability to recognize returning users or store session data could make the chatbot more personalized and engaging.

**Conclusion**

In conclusion, the chatbot project was a success in providing a helpful and responsive tool for customers. Although it performed well in answering simple queries, future improvements could make it more robust by adding more NLP features and integrating external data sources. The feedback from testing has been invaluable in identifying key areas for growth, and the chatbot can continue to evolve based on user needs and technological advancements.