Chatbot Project Submission - Phase 4

Introduction

I'm pleased to submit Phase 4 of the Chatbot project, where we continue to enhance our chatbot by integrating it into a Flask web application. This phase marks a significant advancement in providing an interactive and user-friendly chatbot experience.

Phase 4 Tasks

Step 1: Flask Integration

In Phase 4, our primary focus was on integrating our chatbot into a web app built using Flask. Here's a breakdown of what we accomplished:

**Flask Integration:**

- We successfully integrated our chatbot into a Flask web application. Flask provides the foundation for routing and handling user interactions.

**Web Interface:**

- The user interface of our web app was designed to provide a seamless chatbot interaction experience. We implemented the interface using HTML, CSS, and JavaScript for dynamic behavior.

<!-- HTML code for the chat interface -->

<div id="chat-container">

<div id="chat-display"></div>

<input type="text" id="user-input" placeholder="Type your message...">

<button id="send-button">Send</button>

</div>

**Chatbot Communication:**

- Our web app is now capable of sending user queries to the chatbot and receiving responses. We established a robust communication mechanism to connect the web app and the chatbot backend.

# Code for sending user queries to the chatbot and receiving responses

@app.route("/ask", methods=["POST"])

def ask\_chatbot():

user\_query = request.json["query"]

chatbot\_response = chatbot.generate\_response(user\_query)

return jsonify({"response": chatbot\_response})

Step 2: User Interface Enhancements

To ensure a positive user experience, we made several improvements to the web app's user interface:

**User Interface Improvements:**

- The user interface has been enhanced to be more user-friendly and visually appealing. We added features such as user avatars, timestamps, and a smoother chat display.

/\* CSS for user interface enhancements \*/

.chat-message {

background-color: #f4f4f4;

padding: 10px;

margin: 10px;

border-radius: 5px;

}

**Mobile Responsiveness:**

- Our web app is now fully responsive, providing an optimal experience on both desktop and mobile devices. We employed responsive design practices to adapt the interface to various screen sizes.

/\* CSS for mobile responsiveness \*/

@media (max-width: 768px) {

/\* Styles for smaller screens \*/

.chat-message {

margin: 5px;

}

}

Step 3: Advanced Chatbot Features

We worked on implementing advanced features to enhance the capabilities of our chatbot:

**Context Handling:**

- Our chatbot now handles conversation context effectively. It remembers previous interactions, enabling it to provide coherent responses and maintain meaningful conversations.

# Code for context handling

if user\_has\_previous\_question():

previous\_question = get\_previous\_question()

chatbot.set\_context(previous\_question)

**Advanced NLP:**

- The chatbot's natural language processing capabilities have been improved. We explored advanced NLP models and techniques to enhance its understanding and response quality.

# Code for advanced NLP techniques

chatbot.use\_advanced\_nlp()

Step 4: Submission

To complete Phase 4, we prepared our project for evaluation:

**Organized Files:**

- All project files and code are organized according to the specified naming convention, ensuring clarity and consistency (e.g., AI\_Phase4).

**GitHub Repository:**

- We uploaded our updated project files, including the enhanced code, to our private GitHub repository for evaluation.

**Collaborator Access:**

- To facilitate the evaluation process, we granted access to our GitHub repository to faculty evaluators and the industry evaluator by adding their email addresses as collaborators.

Conclusion

Phase 4 represents a pivotal stage in the Chatbot project. The integration of our chatbot into a web app, along with user interface enhancements and advanced chatbot features, significantly improves the user experience and the chatbot's capabilities. We're excited to receive feedback and continue refining our project.

Notes

We are eagerly looking forward to feedback and suggestions from the evaluators. It's been an exciting journey, and we're committed to further enhancing our chatbot in the upcoming phases.