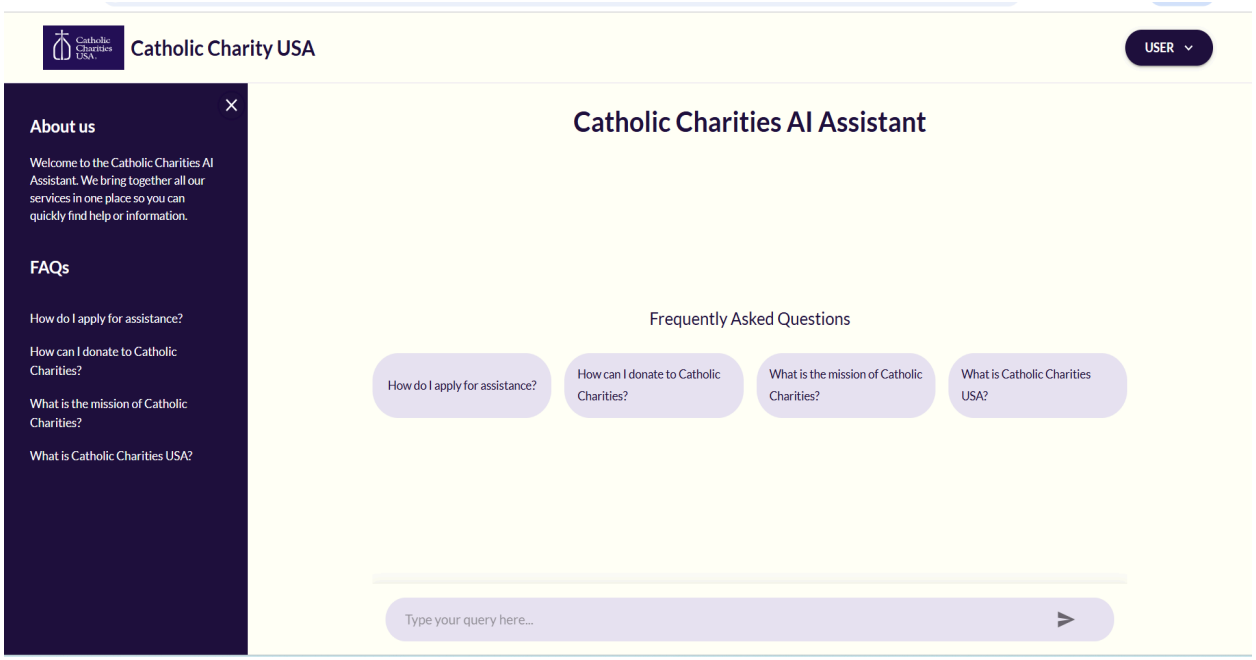
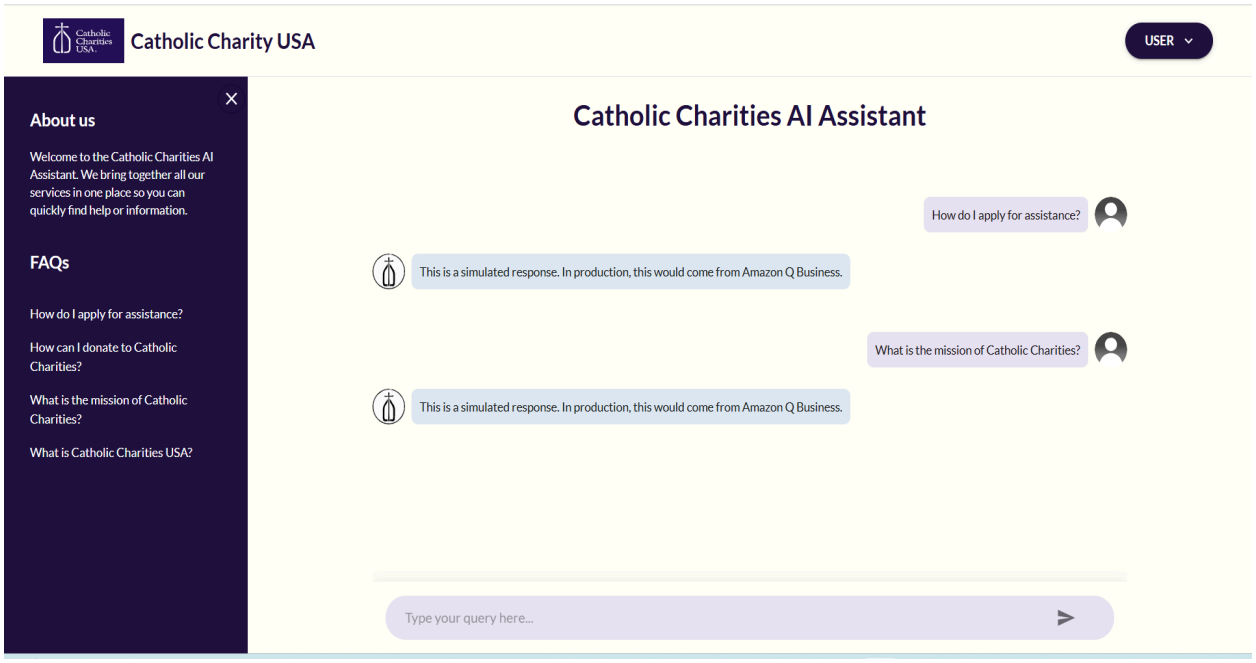
Front End UI


Catholic Charity USA
USER
About us
Welcome to the Catholic Charities AI Assistant. We bring together all our services in one place so you can quickly find help or information.
FAQs
How do I apply for assistance?
How can I donate to Catholic Charities?
What is the mission of Catholic Charities?
What is Catholic Charities USA?
Catholic Charities AI Assistant
Frequently Asked Questions
How do I apply for assistance?
How can I donate to Catholic Charities?
What is the mission of Catholic Charities?
What is Catholic Charities USA?
Type your query here...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How do I apply for assistance?
This is a simulated response. In production, this would come from Amazon Q Business.
What is the mission of Catholic Charities?
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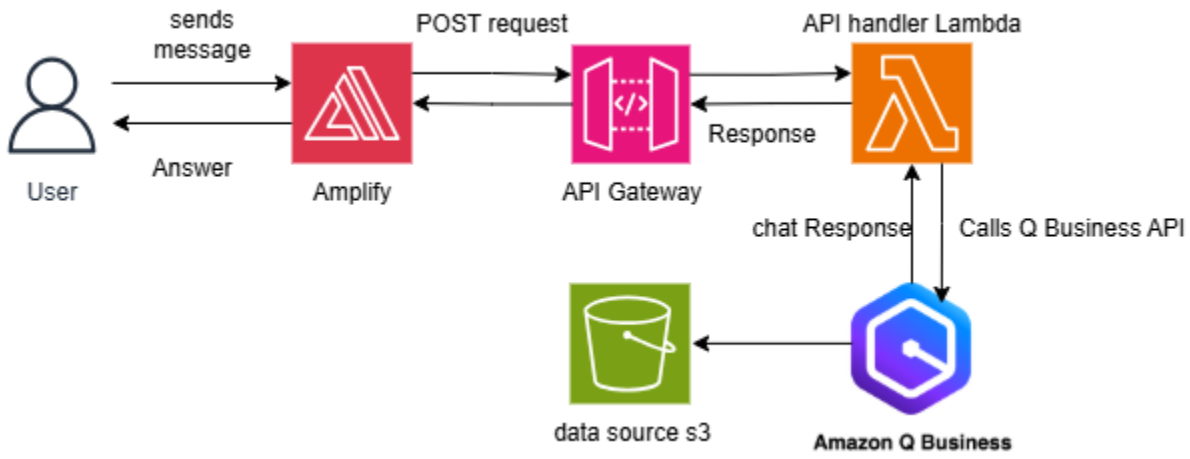
Type your query here...

Architecture:



Components and Flow

1. **User**
   - **Role**: The end-user interacting with the chatbot.
   - **Action**: The user sends a message to initiate a conversation or query.
   - **Output**: The message is transmitted to the Amplify frontend.

2. **Amplify**
   - **Role**: AWS Amplify, a development platform for building and deploying web and mobile applications.
   - **Function**: Acts as the frontend layer where the user interface (e.g., a web or mobile app) is hosted. It captures the user's input (message) and forwards it to the backend via an API request.
   - **Action**: Sends a POST request containing the user's message to the API Gateway.
   - **Output**: The request is passed to the API Gateway for further processing.

3. **API Gateway**
   - **Role**: AWS API Gateway, a service for creating, managing, and securing APIs.
   - **Function**: Serves as the entry point for the backend, receiving the POST request from Amplify. It acts as a reverse proxy that routes the request to the appropriate Lambda function.
   - **Action**: Processes the POST request and triggers the API handler Lambda function.

- **Output**: Forwards the request to the API handler Lambda and eventually receives a response, which it sends back to Amplify.

4. **API Handler Lambda**
   - **Role**: An AWS Lambda function designed to handle the API request.
   - **Function**: This is the core logic layer that processes the user's message. It likely includes business logic to interpret the input, call external services, and format the response.
   - **Action**:
     - Receives the POST request from API Gateway.
     - Calls the Amazon Q Business API to fetch a chat response based on the user's message.
     - May also interact with a data source (e.g., S3) for additional context or data.
   - **Output**: Generates a chat response and sends it back to the API Gateway.

5. **Amazon Q Business**
   - **Role**: Amazon Q Business, an AI-powered service that provides conversational capabilities and business-specific insights.
   - **Function**: Acts as the intelligence layer, processing natural language inputs and generating relevant responses. It can leverage pre-trained models or custom data to provide context-aware answers.
   - **Action**: Receives the call from the API handler Lambda, processes the user's message, and returns a chat response.
   - **Output**: Sends the chat response back to the API handler Lambda.

6. **Data Source S3**
   - **Role**: Amazon S3 (Simple Storage Service), a scalable object storage service.
   - **Function**: Serves as a data source (labeled as "data source s3" in the diagram) that may store additional information, such as documents, training data, or context for the chatbot.
   - **Action**: Provides data to the API handler Lambda or Amazon Q Business when needed to enrich the response.
   - **Output**: Data is retrieved and used to formulate the chat response.

Data Flow

1. **Initiation**: The user sends a message through the Amplify frontend.
2. **Request Forwarding**: Amplify sends a POST request to the API Gateway.
3. **Request Processing**: The API Gateway routes the request to the API handler Lambda.
4. **Response Generation**:
   - The API handler Lambda calls the Amazon Q Business API to process the message.

    - Amazon Q Business may query the S3 data source for additional context if required.
    - Amazon Q Business generates a chat response and sends it back to the API handler Lambda.
5. **Response Return**: The API handler Lambda sends the response to the API Gateway.
6. **Delivery**: The API Gateway forwards the response to Amplify, which displays the answer to the user.