

Documentation: University of Poppleton Chat System

Overview-

The University of Poppleton Chat System is a simple, interactive console-based chatbot designed to assist users with frequently asked questions. It uses a configuration file (`chat_config.json`) for customization and logs interactions for reference.

Components and Working Mechanism

1. Configuration File (`chat_config.json`)

- **Purpose:** Stores agent names, keyword-based responses, and fallback responses.
- **Contents:**
 - `agent_names`: List of virtual assistant names.
 - `responses`: Keyword-response mapping for specific user queries.
 - `random_responses`: Default responses when no keyword matches.

2. Functions

`get_random_agent_name()`

- Selects a random agent name from `agent_names` in the configuration file.
- Ensures variety by assigning a different virtual assistant name per session.

`detect_keywords(user_input)`

- Matches user input against the predefined keywords in the configuration.
- Returns a specific response if a keyword is detected.
- Defaults to a random response if no keyword matches.

`log_interaction(log_file, user_name, user_input, agent_name, response)`

- Appends chat interactions to a log file (`chat_log.txt`) for record-keeping.
- Logs include the user's name, input, agent name, and the bot's response.

main_chat()

- **Flow:**
 1. Greets the user and prompts for their name.
 2. Assigns a random virtual assistant name.
 3. Processes user input in a loop until the user exits or the bot "disconnects."
 4. Randomly mimics disconnections with a 5% probability.
 5. Logs all interactions and responses.

3. Key Features

- **Dynamic Virtual Assistant Name:** Randomly assigned from the configuration.
- **Keyword Detection:** Uses responses for targeted replies to FAQs.
- **Random Responses:** Provides generic responses when no match is found.
- **Interaction Logging:** Captures conversations for future analysis.
- **Disconnection Simulation:** Adds realism by mimicking system failures with a small probability.

Usage

1. Place the chat_config.json file in the same directory as the script.
2. Run the script.
3. Interact with the chatbot by typing queries.
4. Type "bye," "quit," or "exit" to end the session.

Example Interaction

User: What are the library hours?

Agent (Siri): The library is open daily from 7 AM to 7 PM.

User: How do I apply for admission?

Agent (Google): Admissions are open now! You can apply through our online site i.e., www.tbc.com.

User: Bye

Agent (Alexa): Goodbye! Have a wonderful day!

Conclusion

The University of Poppleton Chat System is an open and adaptive chatbot system for processing frequently asked questions. These are; agent names which dynamically change, keywords to reply to customers, and random replies in case of stuck, to name a few, improve the experience of the customer. There is also interaction logging, and disconnection simulation, which enhances the practicality, along with the functionality of the tool.