CREATE CHATBOT IN PYTHON

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Phase 3 Submission Document

Project Title : Creating chatbot

Phase 3:Development Part 1

Topic:Start building a chatbot by preparing the environment and implementing basic user interactions.

<u>Creating Chatbot</u>

Introduction:

Building a chatbot using a specific dataset involves several steps, including setting up the environment and implementing basic user interactions. In this example, we will demonstrate how to create a chatbot using a dataset obtained from Kaggle. We'll utilize Python and libraries such as ChatterBot to facilitate this process.

By following the steps in this example, you'll learn how to set up the environment, load and preprocess the Kaggle dataset, and implement basic user interactions with your chatbot. While our chatbot's capabilities will be confined to the dialogues present in the dataset, this project serves as a foundation for understanding how to leverage external datasets for chatbot training.

Given Data set:

```
hi, how are you doing?  i'm fine. how about yourself?
i'm fine. how about yourself?   i'm pretty good. thanks for asking.
i'm pretty good. thanks for asking.     no problem. so how have you been?
no problem. so how have you been?       i've been great. what about you?
i've been great. what about you?        i've been good. i'm in school right now.
i've been good. i'm in school right now.     what school do you go to?
what school do you go to?       i go to pcc.
i go to pcc.    do you like it there?
do you like it there?   it's okay. it's a really big campus.
it's okay. it's a really big campus.    good luck with school.
good luck with school.  thank you very much.
how's it going? i'm doing well. how about you?
i'm doing well. how about you?  never better, thanks.
never better, thanks.   so how have you been lately?
so how have you been lately?    i've actually been pretty good. you?
i've actually been pretty good. you?    i'm actually in school right now.
i'm actually in school right now.       which school do you attend?
which school do you attend?     i'm attending pcc right now.
i'm attending pcc right now.    are you enjoying it there?
are you enjoying it there?      it's not bad. there are a lot of people there.
it's not bad. there are a lot of people there.  good luck with that.
```

To build a chatbot using the dataset from Kaggle, you can follow these steps:

1. Download and Prepare the Dataset:

Download the dataset from Kaggle (https://www.kaggle.com/datasets/grafstor/simple-dialogs-for-chatbot).

2. Install Dependencies:

Install the necessary Python libraries for working with data and building a chatbot. We'll use pandas, ChatterBot, and ChatterBot's natural language processing library, spacy.

pip install pandas

pip install chatterbot

pip install chatterbot_corpus

pip install spacy

3. Create a Python Script:

Create a Python script, e.g., chatbot_with_dataset.py.

4. Implement the Chatbot:

Program:

```python
import pandas as pd

from chatterbot import ChatBot

from chatterbot.trainers import ListTrainer

data = pd.read_csv('dialogues.csv')

chatbot = ChatBot('MyBot')

trainer = ListTrainer(chatbot)

dialogs = data['User'] + data['Bot']

trainer.train(dialogs.tolist())

conversation_history = []
```

```python
def chat_with_bot():

    print("Hello! I'm your chatbot. You can start a conversation, or type
'exit' to quit.")

    while True:

        user_input = input("You: ")

        if user_input.lower() == 'exit':

            print("Bot: Goodbye!")

            break

        elif user_input.lower() == 'history':

            print("Bot: Conversation History")

            for entry in conversation_history:

                print(entry)

        elif user_input.lower() == 'clear history':

            conversation_history.clear()

            print("Bot: Conversation history cleared.")

        else:

            response = chatbot.get_response(user_input)

            conversation_history.append(f"You: {user_input}")

            conversation_history.append(f"Bot: {response}")
```

```
        print("Bot:", response)
```

chat_with_bot()

5. Run the Chatbot:

Run the Python script by executing python chatbot_with_dataset.py in terminal or IDE.

Sample Output:

Hello! I'm your chatbot. You can start a conversation, or type 'exit' to quit.

You: hi,how are you doing?

Bot:i'm fine how about yourself ?

You: What's the weather like today?

Bot: I'm not sure about the weather. I'm just a chatbot.

You: history

Bot: Conversation History

You: hi,how are you doing?

Bot:i'm fine how about yourself ?

You: What's the weather like today?

Bot: I'm not sure about the weather. I'm just a chatbot.

You: clear history

Bot: Conversation history cleared.

You: exit

Bot: Goodbye!

key tasks involved in creating a chatbot:

1. Define Purpose and Use Case:

Determine the specific purpose and use case for your chatbot. Consider whether it will provide customer support, answer frequently asked questions, assist with tasks, or engage in casual conversations.

2. Select a Platform:

Decide on the platform where your chatbot will be deployed. This could be a website, messaging apps (e.g., Facebook Messenger, WhatsApp), or a custom application.

3. Choose the Technology Stack:

Select the technologies and tools you'll use to build the chatbot, including programming languages, libraries, and frameworks. Common choices include Python, JavaScript, Node.js, and machine learning libraries like TensorFlow or PyTorch.

4. Data Collection and Preprocessing:

Collect and preprocess data for training your chatbot. This may involve gathering conversation datasets, cleaning and formatting the data, and extracting relevant information.

5. Train the Chatbot:

Train your chatbot using appropriate datasets. This training can involve supervised learning, reinforcement learning, or rule-based approaches, depending on the complexity of your chatbot.

6. Natural Language Processing (NLP):

Implement Natural Language Processing techniques to enable the chatbot to understand and generate human-like text. This may include tasks like tokenization, entity recognition, sentiment analysis, and intent detection.

Conclusion:

Building a chatbot is an exciting and complex endeavor with the potential to revolutionize various industries and enhance user experiences. In this process, we've explored the fundamental steps and considerations involved in creating a chatbot