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Sunday, May 10

Chatbot for E-travel:



A chatbot is a computer program that essentially simulates human conversations. It is designed to function independently from a human operator. In today's world, travel consumers are turning to a virtual concierge instead of an elaborate trip with an in-person travel agent. Remarkably chatbots are taking the lead in the E-travel industry. The cost effectiveness, and the reduced need for human intervention makes chatbots more preferable in the modern era.

Nowadays, people are already used to checking trips on their mobile devices, but they typically use multiple travel apps and websites to do so. This bot will simplify this cumbersome process by taking it all to one place. In order, to give the best and applicable replies and to understand the natural language of the communication, we have used a natural language processing toolkit in python, a field in machine learning with the ability of the machine to understand, analyze, manipulate, and potentially generate human language for the user's detailed question. And then by using nltk the bot removes the noise, the stop words and it stems (for example traveled, traveler, traveling will be travel) the input which is the process of reducing inflecting words to their stem or if stemming isn't applicable, it will lemmatize the word into its lemma (for example went, going will be go) after that we used Scikit-learn which is probably the most useful library for machine learning in Python. The sklearn library contains a lot of efficient tools for machine learning and statistical modeling including classification, regression, clustering and dimensionality reduction. Hence we used Scikit-learn's TF-IDF approach, for scoring the user input, which enables the bot to be equipped to perform as many thoughts as a typical employee might do. And if the bot ever encounters a situation that it is not equipped to handle, such as spelling errors or incorrect grammar use, we have implemented PyEnchant library, which is used to check the spelling of words and gives suggestions for misspelled words.

Basically the chatbot offers a suite of services that aim to help users plan a trip. In essence, the chatbot will serve as a virtual travel agent, providing recommendations based on user needs, answering FAQs about their travel. For example the user can send questions or comments like, "Can you find me a hotel in Singapore?" or "Send me flights to Singapore for this weekend" or

“Is it safe to travel to singapore”The Chatbot will respond with recommendations that can be pulled from various airlines, hotels, or other travel sites (in our case we can use the datas mined from Agoda as a plain text). For the best conversational interfaces to be delivered we have used two different mediums; text and audio. We have used a cross-platform python wrapper pyttsx for text-to-speech synthesis, the major reason for using this library for text-to-speech conversion is that it works offline, which means it gives an efficient and fast response to the user through audio.

The code can also be easily integrated into mobile messaging applications used widely in our century, such as Facebook Messenger, Whatsapp and Telegram. Which gives the bot more power and enables the user to send reminder emails, add events to the user calendars and itineraries to send to others, such as family or colleagues by the inbuilt features these platforms offer (that detects keywords).

Moreover, this chatbot will provide this helpful, customized on-demand service 24/7. If a user is in another time zone or makes a travel booking outside working hours, they can still get details or make reservations to the platform through the bot. This constant availability helps users that they have their comfort in mind and saves time and money, to both the customer and the provider. In case if the bot doesn't have the information asked by the user it can easily pass the investigation on to a human agent. The main uses of this E-travel bot includes but not limited to:

- Simplifying the user experience
- Making recommendations
- Guide customers through bookings and payments
- Share inspiration, facts and tips
- Provide customer care

The future scope of this chatbot could include integration of AR/VR, a technology that merges elements of the virtual world of traveling with our real life surroundings, by enhancing how we feel, hear, and see things.