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Ales Lab Assignment 6 by Life many 1

Aim: Create a chatbot using various NLP libraries.

Objective: Write a program in c/ctt/Python/Java to create a Java using NLP libraries.

Theory:

omputers and humans through natural language. It involves the ability of a computer to understand, interpret and generate human like text or speech.

Various libraries for chatbot development-

1) NLTK (Natural language Toolkit): Powerful library
for working with human language data.

2) Spacy: - An open source library designed for NLP tasks such as entity recognition, part - of speech tagging and more.

3) Rasa NEU: - An open source Nul Hibrary for intent recognition and entity extraction.

9 Output: Chatbotalton - Hraggue somoteu) (16

responses to predirection asked dressions ande

1) Explain Natural Language Processing in detail with example.

-> Natural language processing (NLP) involves the ability of computers to understand and interpret human language

It encompasses tasks such as text analysis, language translation is entiment analysis, and speech recognition NLP algorithms enable computers to process, compre-hend and respond to human language in a way both meaningful and contextually relevant.

Ex) Sentiment analysis:- NLP can be used to analyze customer reviews and determine whether they express the, we or neutral sentiments.

2) Explain limitations and challenges one can face while creating chatbot.

-) a) limitations?

- Struggles with maintaining conversation context,
leading to user query misin terpretation.

Heavily relies on pre-defined datasets,
limiting adaptability to real time changes in
language use.

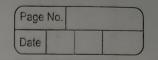
b) Challenges:

Must cope with diverse ways people express
ideas posing a challenge for accurate interpretation.

ideas posing a challenge for accurate interpretation requiring advanced programming and AI capabilities

3) Uses of chat-bot in various domains.

) 1) Customer Support: - Chatbots can automate responses to frequently asked questions equide instant support.



- 2) Ecommerce: Assist in recommending products based on user preference, answering inquires about order status and much more.
- 3) Finance: They handle basic financial inquiries, assist in transaction history retreival and provide information on account balances.

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