Proposed Title

RESERVATION HUB
NESTED CHATBOT

MENTOR: Prof.Akash Goel

MEMBERS:

KHUSHI CHANDELIA CS-A 052

KRITIKA DUBEY CS-A 054

LOKESH VERMA CS-A 057

Field of Invention

❖ The field of invention is <u>Software field</u>.

❖ Software programming languages are used for Website while software including databases are used for chatbot.

❖ This is a <u>Website</u> which can be used for reservation.

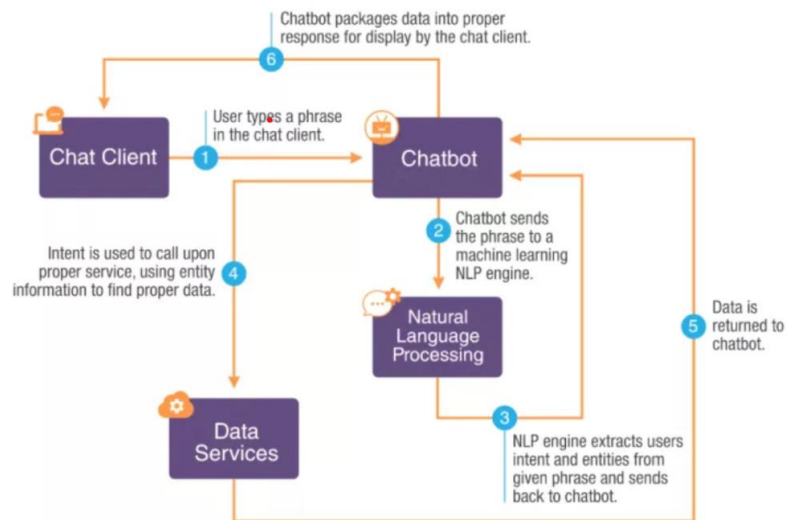❖ There will also be a implementation of <u>Chatbot</u> through <u>Machine learning</u> in the website.

Background

❖ The IRCTC website of Indian Railways doesnot have a proper chatbot.

❖ After looking the condition of chatbot our team decided to make a clone website of Indian Railways with the implementaion of chatbot .

❖ This chatbot will be fast and responsive.

❖ Customers can easily ask their queries in that chatbot and these queries will be solved in more effective manner.

❖ This will make reservation process and queries solving process more better and helpful for the customers.

❖ Website will have more added features than the existing one which will provide better experience.

Objective

❖ Taking in consideration to the above discussed problem our team has come up with a better way to present the Reservation status.

❖ Implementation of Chatbot in the website, being lightweight and nimble seemed adept for this situation.

❖ Using the power of chatbots to serve travel related information in a quick and easy to consume format.

❖ The Functioning of chatbot will be fast and very concise and it will be compatible for customers.

❖ Chatbot will solve all customer queries and provide multiple languages like Hindi and English in which customer can tell their queries.

Model

Chatbot packages data into proper response for display by the chat client.

6

Chat Client

1 User types a phrase in the chat client.

Chatbot

2 Chatbot sends the phrase to a machine learning NLP engine.

Intent is used to call upon proper service, using entity information to find proper data. 4

Natural Language Processing

5 Data is returned to chatbot.

Data Services

3 NLP engine extracts users intent and entities from given phrase and sends back to chatbot.

Innovative Ideas

❖ Chatbot will solve all customer queries and provide better and improvised experience to users.

❖ It will provide multiple languages like Hindi and English in which customer can tell their queries.

❖ Website will have features which are more responsive and effective to users.

❖ Website will keep record of data of all users and transactions record are also saved in database.

❖ This will provide better suggestions which are user friendly and beneficial for customers.

❖ Chatbot will provide flexibility to users to ask all reservation related queries.

Technology Used

❖ We are using HTML, CSS, JavaScript Library(REACT.JS) and framework(ANGULAR) for client side programming and for making frontend part of website.

❖ PHP for server-side programming and for Backend part of website.

❖ MYSQL for Databases and storing various data of customers which can be retrieve easily whenever require for information.

❖ We are using MACHINE LEARNING concept for Chatbot.

❖ Implementation of Chatbot in Website will take place through python programming languages.

Abstract

Machines are working similar to humans because of advanced technological concepts. Best example is chatbot which depends on advanced concepts in computer science. Chatbots serve as a medium for the communication between human and machine. There are a number of chatbots and design techniques available in market that perform different function and can be implemented in sectors like business sector, medical sector, farming etc. The technology used for the advancement of conversational agent is natural language processing (NLP). Due to these advancements in artificial intelligence concepts, the precision and perfection has been greatly improved, chatbots have become a good and optimal option for many organizations. There is also a chatbot system in the travel sector which collects user searches and provides appropriate search results, but still the research is going on to improve customer satisfaction. We introduce the background of chatbots so as to get an idea of how chatbots have been developed. This paper also gives a brief look on recent design techniques used and thus one can get to know what advancements can still be done in the chatbot system for various sectors.

End Users

❖ End users of website are customers which will visit website for reservation.

❖ When users visit the website first they will have to create their account if they are new users.

❖ They can also sign in to website if they are existing users.

❖ Now users can book their seats after checking seat availability for particular train for a particular day.

❖ Users can also ask help from chatbot for train status and booking confirmation.

❖ Chatbot will resolve all reservation related queries of users.

Advantage

- This website will reduce the work of Admin to much extent.

- This website will Maximise the reservations and reduce no-shows.

- This will increase payment speed and security.

- This will help admin to seek into data insights which help users for better performance.

- Chatbot will be operable in both languages that is Hindi and English.

- Throughput of website will be large so it can handle large number of users.

- Website will provide fast and Hassle-Free booking of tickets.

Summary Conclusion

- After reviewing papers published from 1998 to 2018, we used a mind-mapping approach to present an overview of chatbots in this paper.
- This paper describes several machine learning techniques that could improve chatbot performance by allowing chatbots to learn and adapt through experience.
- As a result, future intelligent chatbots should: 1) use improved natural language processing techniques to recognize the content of user input; and 2) learn to understand the context of conversations and respond appropriately with emotions or personalized content.
- Chatbots' ultimate goal is to mimic human-human interaction, which necessitates improved machine learning and natural language processing techniques.
- According to the current trend in chatbot development, chatbots will continue to be improved with advanced technologies powered by ML and NLP.

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