Chatbot for Personal Assistant Using Natural Language Processing

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Abstract: **Chatbots are the essential support for the man power and its acquaintance. This becomes the essential key for dominant devices in our day to day life as a demand. From tiny outlets to huge ones, would like this features to enhance the industrial field all over the world. Chatbots are machines, made with automated chats which humans use for client service and work with the requests given to it. I the recent decades, chatbots have become a part of the artificial intelligence and have given major support over the industry. This paper proposes an idea to initiate daily routine by using Personal Assistant using Natural Language Processing. Personal Assistant has been used widely for different purposes. This bot helps to schedule events and tasks by its own. This helps the customer save time and minimize work pressure. Through Natural Language Processing this bot uses language to process efficiently. This bot communicates with the human and make sure the work has been done correctly.**

Keywords: **Chatbot, Natural Language Processing, Personal assistant.**

1. Introduction

Personal Assistant chatbot is an eco-friendly machine which helps to identify the notifications and other significances. For example, Facebook also has the messenger that shows few responses from the user and producer. Natural Language Processing is the upcoming technology that is used for text and other mode of communication in smartphones. This helps in visual and voice interfaces, where machines can interact directly like messenger based systems such as traditional phone based communications.

2. Literature Survey

Jack Cahn, [1] designed chatbot with Architecture and design explaining the working process using Natural Language Processing. Also, the development process explained. The design pattern has been explained with Natural Language Processing and other process in order to make the chatbot empower with instructions given by the user.

Nuruzzaman, [2] made a survey on chatbot implementation in customer service industry through digital neural networks. His study brought the capability to dep neural network that to engage in human conversation and some limitations of statistical models with mechanisms.

M. Rosen, [3] created a chatbot for Medical consultation purpose. This clears all the medical related queries by auto

response. This report gives the goal to help healthcare practitioners, public- and private sector healthcare decision makers, regulators, investors and innovators with lastest thinking on Artificial Intelligence in healthcare and the potentials.

J. Zhang, [4] developed chatbot using Artificial Intelligence to promote physical activities. This aims to organize critical information for necessary background for further research activity in field of chatbots, while giving the historical evolution, from the generative idea to the present day, possible weaknesses of each stage can be found.

E. H. Almansor, [5] a survey on intelligent chatbot for information grabbing and develop communications between citizens and government through Artificial intelligent guided chatbot. It presents a historical overview for evolution of the International community's interest in chatbots. Next, the motivations that does the use of chatbots, and they implement chatbots' usefulness in a variety of areas. Moreover, they highlight the impact of social stereotypes on chatbots design.

3. Proposed Method

Web based, artificially intelligent chatbot that simulate real-time conversations for various purposes have become a very common existing system.

The proposed system implies that it schedules the chatbot with proper maintainability.

1. This bot works in offline mode, with the help personalized database. This method becomes compactible for easy scheduling of every day task basis.
2. The chat bot is trained to schedule tasks based on priority using Natural Language Processing.
3. The chat bot is designed to understand regional languages (in our case, Tamil) alongside English.
4. As an additional feature, it also provides weekly insights on the schedule stored by the user.

Natural language processing helps computers to communicate with humans in their own language and scales other language-related tasks. Natural Language Processing deems it possible for machines to understand and interpret data that are given as input majorly through text, and speech.

The NLP model used for the chatbot is trained using several strings that are tokenised and stored. The CompareStrings()

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module compares the input with the module and returns the desired output to the Data() module where the necessary actions are processed. A respective response is returned to the user.

Offline mode of the chatbot is achieved by using a personalized database for the chatbot which has a dictionary with calendar-like features and a User Interface that displays the information in the desired format. When online, this data can be updated to the Google Calendar using the Calendar API.

Three related databases are used in the proposed model.
1. The user details and calendar details database.
2. Google Calendar database.
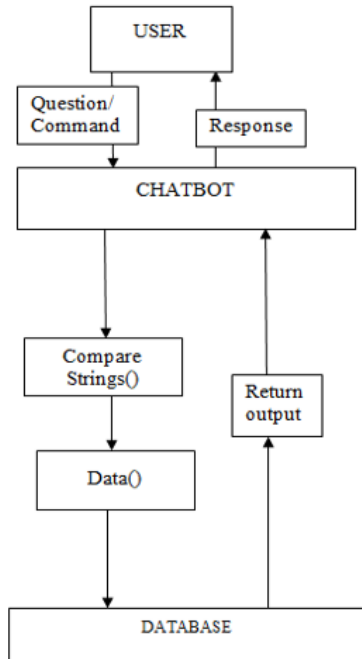3. Database for the Natural Language Processing model.

Fig. 1. Design of proposed Chatbot

4. Conclusion

Chatbots have become a common tool that make humans' life easier. This paper presented an offline approach to artificially intelligent chatbot systems that use Natural Language Processing. This makes scheduling, managing events and managing day-to-day tasks easier on a personal basis. With regional language detection, this bot works on the basis of the advantage of the common people.

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