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A Survey on Railway Reservation Bot Using NLP

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ABSTRACT
In all forms of on-line communications, so far noticed that no bots can imitate what a human can do. Chatbot is a program that provides an interaction with the chat services to automate tasks for the humans, Chatbot can provide 24X7 service to user. Chatbot acts like routing agent that can be used to classify user's context in conversation. Chatbots are aided with Natural Language Processing (NLP) which is used to examine the request and draw out some keyword information's based on the keywords that the Chatbot provides, thus the Railway reservation bot gives details such as number of seats available each class, source and destination with time. Chatbot also provides word suggestion which can be used to find train name, source and destination name etc.., which aids the user for better conversation.
Keywords **- :** Artificial Intelligence, chatbot, NLP, Railway reservation, SQL.

I. INTRODUCTION

In the current survey , the chatbot are utilized by many humans's . In that what are the blessings and downsides and disadvantages, we will see this inside the survey. In the chatbot Artificial Intelligence is used, and strategies are mentioned on this survey. Chat bots or Virtual Assistants have been designed to simplify the interplay among computer systems and humans and feature hit the market.

We can note that through now Chatbots discover software in all types of on-line verbal exchange and to automate the human procedure. The generation is changed and advanced. Computers are quicker and smart telephones are to be had to each person. Numerous net offerings provide ubiquitous connections amongst human beings, information and software program. Large quantities of human understanding are gathered and available. Due to the growing amount of information, techniques for automatic reading that information has end up an essential studies subject matter. While examine modern-day chat-bots and nation that any system, gadget or application (chat-

bot) showing a few, however now not all basics of intelligence are a Partially Intelligent System. Therefore, chat-bots are Partially Intelligent Systems. Moreover, nowadays's device intelligence is significantly confined to the limits of Partial Intelligence.

In order to achieve the automation procedure for railway ticket reservation. The consumer performs the booking operation through the communique or with voice enter to the bot. The bot offers the word notion the usage of N-gram module. Then the bot performs tokenization Chatbot splits the check enter into numerous small tokens or key-word consistent with the key-word the Chatbot executes the unique handler. After the reservation process then it performs price movement the usage of the fee APIs and additionally in FAQ mode the chat bot replies for the user queries using the IE (Information Extraction) approach.

II. RELATED WORKS
A. Anatomy and Utilities of an Artificial Intelligence Conversational Entity
In this paper, we going to look approximately the SARANG Bot and FUTURE

Bot the usage of C++ and AIML. Through Artificial Intelligence, machines have began to imitate numerous human tendencies. One instance of this is the artificial intelligence conversational entities, also called chatbots, which might be computer applications successful to perform the close to natural verbal exchange with human beings. Chatbots are critical due to the fact they may be one of the most prolific examples of Human-Computer Interaction (HCI). These applications are especially serving as private assistants these days. We programmed operating chatbots the use of two distinct programming languages, C++ and AIML, to take a look at their manufacturing and format practices very well and to plot the similarly viable enhancements in such type of packages.

The chatbots programmed at some stage in this paintings are named FUTURE and SARANG. The FUTURE Bot is written in C++ and consists of masses of responses. FUTURE Bot works through imposing easy strings, if-else structure, loops and information report dealing with along side a few other programming thoughts. It has a predefined database of the order of masses of responses, or "feeds". Hence FUTURE is a as an alternative rudimentary chatbot script while in comparison to others. The SARANG Bot is extra superior, written in AIML (Artificial Intelligence Markup Language) and has a massive database of more than 50,000 responses. Choosing AIML provided the benefit of adding the open-supply ALICE AIML set to SARANG Database immediately and made it greater green for research. This bot is also hosted on the Internet for get right of entry to worldwide. To beautify productivity, we integrated a calculator software in FUTURE and a few word video games in SARANG and systematized their production into logical parts. Moreover, we analyzed the capability and quality of these chatbots and additionally made predictions about what enhancements can be practiced for improvement. The person interface of the SARANG Bot throughout a conversation. It shows a textual content input set off and a few preceding communication with the patron.

Advantages:
1. Utilization is education and amusement
Disadvantage:
1. Slow responses
 2. Only solution to 1000 queries(limited queries)

B. RAILBOT: A Railway (IRCTC) Chatbot
In this paper we going to look about RAILBOT the usage of NLP(Natural Language Processing) in Artificial Intelligence. Traditionally, to get a query replied by means of a software program application software concerned the usage of a search engine or filling out a form. It lets in a patron to absolutely ask questions inside the equal manner that they would cope with a human. The era at the middle of the upward thrust of the chatbot is natural language processing. It may be advanced by using integrating it into the company's corporation software program, allowing more personal questions to be spoke back. The platforms wherein chatbots are deployed encompass Facebook Messenger, Skype, and Slack, Telegram. This paper effectively defined and carried out a chatbot which can be used to get a few fundamental statistics related to Indian Railway including PNR, teach popularity and Seat Availability, and so on. It saves the time of the person as they are able to without delay fetch the statistics at the identical time as speaking with the Chatbot the use of text or voice in the above mentioned deployed strategies. This new proposed system will help common passengers and visually impaired people.

The chatbot may be rapid and concise. It is dummy friendly. It gives confirmation of the client query disposing of false impression. The conversational interface of a chatbot is relevant ideally for the cause of fetching the records of the Indian Railways and there is a lot of scope for enhancing and excellent-tuning the offerings provided. It saves tool memory space, time and internet statistics utilization. The chatbot will also permit the user to get the reaction of Small talks.

Advantages:
1. Bot response quick
2. 2. User saves time with the aid of the usage of getting a reaction quick.
Disadvantages:
1. More bugs are present.

C. ANALYSIS OF THE CHATBOT OPEN SOURCE LANGUAGES AIML AND CHATSCRIPT
In this paper, we are going to see about the languages utilized in chatbots. Human-Computer Interaction that characterizes talk amongst man and pc is gaining momentum in computer interplay strategies. This paper gives a survey on the techniques used to format a Chat-bot. The authors speak similarities and variations in chat-bot implementation techniques and analyze most used open deliver languages deployed inside the designing of chat-bots (AIML and ChatScript). The motive of the paper is to provide a technical evaluation of these languages and offer comparisons amongst them in step with following parameters: Ease of implementation and the complexity of language, get entry to to outside

sources, expertise acquisition, linking to customized ontologies and the possibility to build chat-bot for a Mobile application.

The use of era is predicated upon on developer decision. Study on now a days's chat-bots indicates that chat-bots need format improvements at the side of a sophisticated NLP and NLU, superior pattern popularity technique, extra comprehensive information bases, better information business enterprise and knowledge instance.

Advantages:
1.The styles are smooth and utilized in language.

D.Survey on Chatbot Design Techniques in Speech Conversation Systems
In this paper, we're going to see approximately the NLP with the NLTK toolkit and a few techniques, There has been a current upsurge in speech-based search engines like google and yahoo and assistants together with Siri, Google Chrome and Cortana. Natural Language Processing (NLP) strategies together with NLTK for Python can be implemented to have a look at speech, and clever responses can be decided with the resource of designing an engine to provide appropriate human like responses. This kind of program is referred to as a Chatbot, that's the focus of this study. This paper provides a survey at the strategies used to layout Chatbots and an evaluation is made between exquisite layout strategies from 9 carefully decided on papers in line with the primary techniques followed. These papers are consultants of the big enhancements in Chatbots in the last decade.

NLTK: The Natural Language ToolKit (NLTK) is hard and fast of modules, tutorials, and sports activities that can be open to deliver and cover Natural Language Processing symbolically and statistically. NLTK changed into evolved at the University of Pennsylvania in 2001allowing computational linguistics with three academic programs in mind: tasks, assignments, and demonstrations . It may be decided in the Python Libraries for Graph manipulation GPL open license. NLTK is used to break up phrases in a string of textual content and separate the textual content into elements of speech by using manner of tagging word labels in line with their positions and features in the sentence phrases are then processed to extract the this means that and bring a response as speech or movement as required. Different grammar suggestions are used to categorize the tagged terms within the textual content into organizations or terms concerning their neighbors and positions. This form of grouping is called chunking into phrases, collectively with noun terms and verb terms.

Pattern matching: it's far the technique that is used in maximum Chatbots and it's miles pretty not unusual in query-solution systems depending on matching types, which consist of herbal language enquiries, simple statements, or semantic which means of enquiries .

Chat Script: is the method that allows while no fits stand up in AIML. It concentrates on the best syntax to construct a sensible default solution. It offers a tough and speedy of functionalities which includes variable ideas, records, and logical and/or.

Although some commercial merchandise has emerged lately in the marketplace (Eg. Microsoft Cortana) as dialogue Chatbots, improvements want non-stop studies and lack a common solution.

E.Artificial Intelligence Chatbot in Android System using Open Source Program-O
In this paper, we are going to see approximately the Program-O in android the use of in a chatbot, Artificial Intelligence Markup Language (AIML) is derived from Extensible Markup Language (XML) this is used to accumulate a conversational agent (chatbot) artificially. In this paper, we use „software O‟ which is an AIML interpreter for the generation of the responses of client's input. We have used this technique for developing an android software chatbot so as to engage with the individual the usage of text and voice responses

The chatbot can answer only one's questions which he has the solution in its dataset. So, to boom the expertise of the chatbot, we are capable of upload the APIs of Wikipedia, Weather Forecasting Department, Sports, News, Government Services and loads more. In such instances, the customer might be capable to speak and have interaction with the chatbot in any domain. Using APIs like Weather, Sports, News and Government Services

Advantages:
1. It is straightforward and based totally on android.
Disadvantages:
1. Only response to limited queries.

III. COMPARISON ANALYSIS
Table -1: Table Comparison

SURVEY PAPER	ABOUT	METHODS USED
Anatomy and Utilities of an Artificial Intelligence Conversational Entity	SARANG and FUTURE	AIML and C++

RAILBOT:A Railway (IRCTC) Chatbot	RAILBOT: should know about train timings.	NLP
ANALYSIS OF THE CHATBOT OPEN SOURCE LANGUAGES AIML AND CHATSCRIPT	Chatbot techniques an implementatic	AIML and CHATSCRIPT
Survey on Chatbot Design Techniques in Speech Conversation Systems	Chatbot designs and its various techniques is used.	NLP, NLTK, CHATSCRIPT
Artificial Intelligence Chatbot in Android System using Open Source Program-O	Android chatbot	O-PROGRAM ANDROID ,AIML

IV. CONCLUSION

In this paper, the survey of Railway reservation bot using Artificial Intelligence is cited. The Chatbot is client-pleasant in which it allows all the human talk me languages and text class may be advanced in which it shows the best threat of the following word. The chatbot is used for effortlessly railway ticket booking.

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