JETIR.ORG
ISSN: 2349-5162 | ESTD Year : 2014 | Monthly Issue

JOURNAL OF EMERGING TECHNOLOGIES AND INNOVATIVE RESEARCH (JETIR)
An International Scholarly Open Access, Peer-reviewed, Refereed Journal

Chatbot :A Conversation Tool

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Abstract : This Paper has been undertaken to investigate the determinants of growing interest around text-based chatbots, software applications interacting with humans using natural written language. We have witnessed a growing interest around conversational agents, software applications interacting with humans using natural language. In the last ten years text-based chatbots chatbots, which enable interaction of humans with machines through natural written language, have spread in a variety of application domains. The chatbot tsunami may be retraced to 2014, when investment in chatbots that could provide more depth on specific topics took off (Grudin & Jacques, 2019). I map the relevant themes that are recurrent in the last 08 years of research, describing how people experience the chatbot in terms of satisfaction, engagement, and trust, and why they accept and use this technology, how they are mentally and emotionally involved, what kinds of downsides can be observed in human-chatbot conversations, and how the chatbot is perceived in terms of its humanness. On the basis of these findings, this paper highlight open issues in current research and propose a number of research opportunities that could be tackled in future years.

IndexTerms - Chatbot,Communication,literature review Fundamental Design

I. INTRODUCTION

A Chatbot is a software (machine) that talks with an user (human): it is a virtual assistant able to answer a number of user questions, providing the correct responses. In the last few years there has been a fast growing up of the use of Chatbots in various fields, such as Marketing, Educational, Health, Entertainment Care SupportingSystems and many others. Many companies have developed several Chatbots for researchas well as industrial solutions like Apple Siri, Microsoft Cortana, Facebook M etc. These are few some of the most popular systems. There is a wide range of a less famous Chatbots that have a greater relevance for research and for their applications,

A Chabot is a program designed to counterfeit a smart communication on a text or spoken ground. But this paper is based on the text only chatbot. Chabot recognize the user input as well as by using pattern matching, access information to provide a predefined acknowledgment. When the input is bringing into being in the database, a response from a predefined pattern is given to the user.

A Chatbot is implemented using pattern comparing, in which the order of the sentence is recognized and a saved response pattern is acclimatize to the exclusive variables of the sentence. They cannot register & respond to complex questions, and are unable to perform compound activities [4] One of the most challenging research tasks is the development of effective Chatbots: the emulation of human dialogues, in fact, is a really difficult task and involves problems related to the Natural Language Processing (NLP) in research field [1] but by using (Natural Language Processin algorithms and techniques it is possible to understand what the user is writing and which are his requests. Generally, this task represents the core of system but there are some problems: it is not possible to map all user requests, and the current Chatbots do not show remarkable performances because of the unpredictability of user thought during a conversation [5]. The correct design of conversational flow plays an important role in the development of a Chatbot. In fact, for a successful conversation, it is important to handle with all user requests and provide the right answers. This paper covers the techniques used to design and implement a Chatbot. Comparisons are made, findings are discussed and conclusion is drawn at the end.

II. LITRATURE REVIEW

This review highlights the studies on human-chatbot interaction conducted in the last few years. Interestingly, most research on users interacting with them is extremely recent (more than two thirds of the reviewed papers are published from 2017). This reflects the spreading of commercial chatbots in the last few years and signals the growing interest for this technology in the academic world. Methodologically, papers tend to study the interaction with chatbots. To identify relevant themes related to human-chatbot interaction in current research I used the Grounded Theory Literature Review method (Wolfswinkel et al., 2013). This method is rooted in Grounded Theory (Glaser & Strauss, 2017), an approach developed in social sciences that aims to build theories and identify themes across data through an inductive process of data gathering and analysis. In the literature we find several examples and researches works on the management of conversational workflow. Most of this works use ontologies, based on the knowledge base of the domain, that can be used to interpret the intentions of the user and solve the problem of interpretation of sentences written by the user or client [2]. As previously said, one Chabot field of application is Educational. Recently there has been an increase of Chatbots for e-learning platforms to support student learning [10]. Chatbot technology can be considered an important innovation for e-learning: in fact they are turned out to be the most innovative solution in filling the gap between technology and education. The implication of Chatbots creates an interactive learning experience for the students, like the one-to-one interaction

with the teacher.From testing the student's behavior and in order to keep track of their improvements, bots play an essential role in enhancing the skills of an individual student. Moreover, they can also serve a major role in encouraging a student to work by sending regular reminders and notifications.There are several other cases of use of Chatbots for e-learning, for example is possible to provide a system for a personalized learning experience: each student earns and absorbs things at a different pace. Using Chatbots is possible to adapt the speed at which a student can learn without being too pushy. Chatbot can also be used as a source of social learning, in fact students from different backgrounds can share their views and perspectives on a specific matter while the bot can still adapt to each one of them individually. This technology can improve engagement among students and encourage interaction with the rest of the class by assigning group works and projects like teachers usually do. Chatbots can help teachers in their work routine, answering to student's questions or even checking their homework. Often, theyare used as online assessments too.

III. DESINING

Chatbot refers to a chatting robot. It is a communication simulating computer program. It is all about the conversation with the user. The conversation with a Chatbot is very simple. It answers to the questions asked by the user. During designing a Chatbot, how does the Chatbot speak to the user? And how will be the conversation with the user and the.Chatbot is very important .

There are following few points are kept in mind while designing a Chabot [4]:

A. Selection of OS Windows is used for this project because it is user friendly. Itis also robust.

B. Selection of Software Eclipse software is used for programming in java. Because it contains basic workspace and it is mostly used for java applications.

C. Creating a Chatbot:For creating a Chatbot, a program has to be written. Javaprogramming language is used for programming. The Chatbot is created in such a way to help the user, improve the communication and amuse the user.

D. Creating a Chat:The chat is created using a pattern that is known to the user and could be easy to understand. Chat dialog box show up to create conversation. This dialog box is created using java applets.

E. Pattern Matching:It is a technique of artificial intelligence used in the design of a Chatbot. The input is matched with the inputs saved in the database and corresponding response is returned.

F. Simple:The design of a Chatbot is very simple. It just answers to the questions asked by the user, if the question is found in the database.

3.1 Fundamental Design Techniques and Approaches:

Creating a database:

Two dimensional string arrays are applied to build a database. Rows in the array are used for request and response. All the even rows contain the request or questions and all the odd rows contain the response or answers.Columns in the array are applied to save different types of questions that could asked by the user and responses that a Chatbot can answer. There is one row in the array which contains default responses which is used when the matching question is not found in the array.

Creating the dialog box:

All the packages required for creating the dialog box are imported. The size of the dialog box and text area inside the dialog box is given. Vertical scrollbar is used so that the screen is scrolled as the conversation goes on. Horizontal scrollbar is never used because the size of the dialog box is fixed.

IV. RESULTS AND DISCUSSION

The main objective of chatbot was to develop an algorithm which will identify the user questions or queries and answer according. To develop a database were all the related data is stored and matched with the questions when question is raised.A chatbot is one of the simple ways to transport data from a computer without having to think for proper keywords to look up in a search or browse several web pages to collect information; users can easily type their query in natural language and retrieve information. In this paper, information about the design, implementation of the chatbot has been presented. From the survey above, it can be said that the development and improvement of chatbot design grow at an unpredictable rate due to variety of methods and approachesused to design a chatbot. Chatbot is a great tool for quick interaction with the user. They help us by providing entertainment, saving time and answering the questions that are hard to find. The Chatbot must be simple and conversational. Since there are many designs and approaches for creating a chatbot, it can be at odds with commercial considerations. Researchers need to interact and must agree on a common approach for designing a Chatbot. In this project, we looked into how Chatbots are developed and the applications of Chatbots in various fields. In addition comparison has been made with other Chatbots. General purpose Chatbot must be simple, user friendly, must be easily understood and the knowledge base must be compact. Although some of the commercial products have recently emerged, improvements must be made to find a common approach for designing a Chatbot.

V. CONCLUSION

In this paper, an original approach of a Chatbot has been introduced.. The Chatbots can be analyzed and improved. It can be used in various fields such as education, , online chatting ,business etc. It can be used in the field of education as a learning tool. The information necessary for education can be stored in the data base and can be retrieved any time by querying the bot. In business field, it can be used to provide business solutions in an efficient way. When the solutions are efficient, the business can be improved and the growth of the organization will be increased. The Chatbot can be used in online chatting for entertainment purpose. People can chat with these bots online when they are bored for the purpose of entertainment. These bots can also be used to learn different kinds of language. The language that has to learnt can be stored in the database and can be learnt by asking questions to the bot. They can also be used in the field of medical to solve health related problems. Chatbots are going to explode and can be really dominating in future. Chatbots can provide a new and flexible way for users. They are giving AI something better to do. Chatbots results in smart conversation and is advancing at an unprecedented rate with each new development. ChatBots usually store contextual data which can be used in the detection of geo location or a state This could also be a telephone number or other private data, and no one knows whether the data is encrypted before it gets saved to a database. Since Chatbot predicts and provides accurate response to a posed question, it is hard to imagine the future without a Chatbot.

Also this paper highlight open issues in current research and propose a number of research opportunities that could be tackled in future years.

II. ACKNOWLEDGMENT

REFERENCES

[1] J. Jia, "The Study of the Application of a Keywords-based Chatbot System on the Teaching of Foreign Languages", Report of University of Augsburg, Augsburg, , pp.1-36, 2003

[2] L. Lin, L. F. D'Haro, R. Banchs "A Web-based Platform for Collection of Human-Chatbot Interactions," in Proc. the Fourth International Conference on Human Agent Interaction, pp. 363-366, 2016.

[3] Bhatti, U. and Hanif. M. 2010. Validity of Capital Assets Pricing Model.Evidence from KSE-Pakistan.European Journal of Economics, Finance and Administrative Science, 3 (20).

[4] R. P. Schumaker, H. Chen, "Leveraging Question Answer Technology to Address Terrorism Inquiry", Decision Support Systems, Vol.4, Issue.3, pp. 1419-1430, 2007.

[5] B. P. Kiptonui, "Chatbot Technology: A Possible Means of Unlocking Student Potential to Learn How to Learn, Educational Research", Vol.4, Issue.2, pp. 218-221, 2013.

[6] S. Ghose, J. J. Barua, "Toward the Implementation of a TopicSpecific Dialogue Based Natural Language Chatbot as an Undergraduate Advisor", International Conference on Informatics,Electronics & Vision, India, pp. 1-5, 2013

[7] Setiaji, F. W. Wibowo, "Chatbot Using A Knowledge in Database", IEEE 7th International Conference on Intelligent Systems, Modelling and Simulation, Thailand, pp. 72-77, 2016.

[8] Ms.Ch.Lavanya Susanna and R. Pratyusha, "COLLEGE ENQUIRY CHATBOT" in International Research Journal of Engineering and Technology (IRJET) on 3rd March 2020.

[9] Guruswami Hiremath, Aishwarya Hajare, Priyanka Bhosale and Rasika Nanaware, "Chatbot for education system" in International Journal of Advance Research, Ideas and Innovations in Technology.

[10] Johan Redström, Patricija Jaksetic and Peter Ljungstrand,"The ChatterBox" in RISE Research Institutes of Sweden.