Cloud Based Chat Bot using IoT and Arduino

Mrs. Nalini S. Jagtap[1], Mrs. Pratiksha Shevatekar[2], Ms. Rachana Mudholkar[3]

[1]*Asst. Prof., Dept. of Computer Engineering, Dr D. Y. Patil Inst. of Eng., Mgmt. and Research, Maharashtra, India.*
[2]*HOD., Dept. of Computer Engineering, Dr D. Y. Patil Inst. of Eng., Mgmt. and Research, Maharashtra, India.*
[3]*Asst. Prof., Dept. of Computer Engineering, Dr D. Y. Patil Inst. of Eng., Mgmt. and Research, Maharashtra, India.*

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Abstract - ChatBot is a latest trend in technology world. Now we are introducing the IoT based ChatBot which can be communicate with u using Bluetooth and for human interface we are introducing mobile app. By which robot ChatBot will communicate with u using Bluetooth which tell u the current temp and humidity to you as well as distance of u from robot. Also indicates the new message arrival notification using sound and light. U can chat with robot a basic conversation as well as some information of robot using this chat. For this ChatBot we are using IoT and android technology. This will work in WLAN.

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Key Words: IoT, Chatbot, Android, Arduino, Network, Cloud, AI, Voice Process

1. INTRODUCTION

Nowadays it's a vital for any company to have the infrastructure to listen to social media streams whether it's twitter, Facebook, messenger, LinkedIn, email or even company own application. Because most of the customers are using this streams to reach out to company as they need help regarding a particular product or service. The company have to build a platform by which the customer care representatives reach out to this people to ensure that they are happy. Till now the companies have set up huge customer care centers, where the users have to call, go through the IVR process which will redirect them to the customer care representatives. This is usually very time consuming and frustrating for the customer who has to wait until their chances come to talk to the customer representatives. In today's world, no has that much time to talk with the customer care representatives. This has resulted in many unsatisfied customer over the years. Even though the company spending so much on customer cares service, there are not able to give an optimal outcome. The emerging trend of online chatting is gaining popularity, where the customer can chat with the customer care representatives at point of time from anywhere. This gives the freedom for the customers to express their issue in a more elaborated way. As it turns out, AI is starting to truly become mainstream and 2017 looks like it's going to be full of new technologies and platforms. The Chatbots is one of those technologies which is going to change the way we do conversations till now. A Chatbot is a service, powered by rules and sometimes artificial intelligence that you interact with via a chat interface. The service could be any number of things, ranging from functional to fun, and it could live in any major chat product. To papers tries to build a system which can resolve the above issues. For such overpowering system, this paper proposes a Robust, Scalable and Extensible architecture with technologies stack consisting of ejabberd server, AWS web services and Chatbots. In this paper, the ejabberd server will handle the chatting part, the AWS web services will analyses the messages to check whether any actionable message has come and the Chatbot will act as a customer representative to resolve the issues the customer has been facing. Moreover this papers also illustrates addition of room functionality in ejabberd server to make participant in that room persistent over time.

2. LITERATURE SURVEY:

In August 2011, Jaume Jordán et.al [1] proposed Multi-Agent Systems which are suitable to provide a framework that allows to perform collaborative processes in distributed environments. In a customer support system with operators attending incidences, the problem to solve is to find out the best solution for the problems reported to the system. An argumentation framework for a Multi-Agent System applied to customer support is proposed to help agents to reach an agreement and jointly solve incidences. In this paper [2], G. B. Satrya et al. discuss remnant data from private chat, secret chat, and hidden chat in social messenger applications for Android by explaining the artifacts which are produced by social messengers. Also provide interpretations of generated messages as well as how they relate to one another. Based on the investigation results of Android forensics and analysis in this paper, an analyst or investigator will be able to read, reconstruct, and present the chronology of the messages which have been created by the user. By using two smartphones

with different brands and different Android OS versions as experimental objects, we conducted a digital investigation in a forensically sound manner. In august 2015, Bogdan Ionescu et al. [3] Introduced new chat-driven architecture for collaborative rich-text and media editing and consuming. The chat has a central role in coordinating group activities. The goal of the new platform is the production of information or content by one or all of the members of the group synchronously. Central to this new concept are operational transformations and collaborative "Smart Objects". These objects are entirely web-based and contain information related to their embedding in the content, as well as interactive functions to assist the users in their collaborative work. Real-life experiments using this new platform are described at the end. In this paper [4] Haoliang Wang et.al proposes an interaction design of a social TV real-time chatting application, called Touch Talk, which aiming at providing a better experience on program communication and comments sharing with each other in real-time while watching TV. For this purpose, we investigated some basic properties of social TV and analyzed viewer's behavior. Based on the results of these research, the formation of a platform and some design principles for social TV are proposed, making it reasonable and meaningful to design Touch Talk.
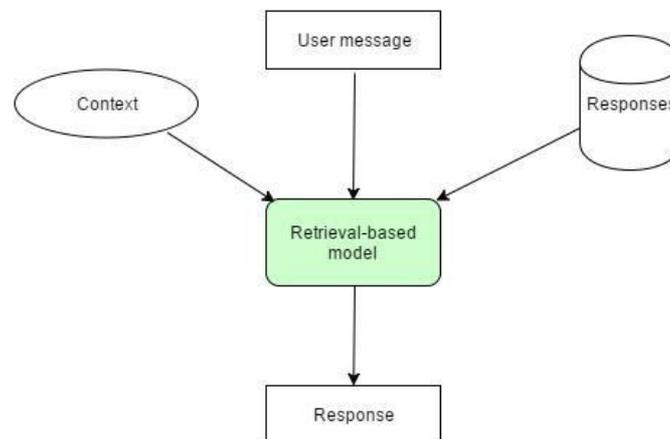
3. ALGORITHM:

START

1. Connect Robot with Server using WLAN or LAN or wired.

2. Connect Mobile App for ChatBot with Robot using Bluetooth.

3. Fire text command to robot over Bluetooth.

4. Receive respond from ChatBot Robot.

5. Show on display.

6. Repeat step 3 to 5

END

4. SYSTEM ARCHITECTURE:

Fig -1: System Architecture

Client – Server based model in which centrally stored responses and context will be stored and managed by user or provider. Some responses and context will be stored by default to communication purpose user can be store own responses and context. When user will ask command then system will match response and context from cloud and responds to the user as per result of query.

Smart Android Mobile are used for chatting with personal app.

Real time operating system to communicate. Smart AI based program.

Alarm system to user

All system is REAL TIME system and inbuilt alarm mechanism.

Global portal cloud based

5. SOFTWARE AND HARDWARE:

Hardware

- o   Arduino Uno
- o   Jumper cable M2M, M2F, F2F
- o   Bread Board
- o   Bluetooth Module
- o   Serial cable
- o   Led Green, Red Software
- o   Arduino IDE
- o   Serial Monitor
- o   .Net Framework 5
- o   MSSQL Server 2008 R2

6. ADVANTAGES

Communication Practice ChatBot for sales marketing Sales Person

Attendant / Receptionist Personal Trainer

7. CONCLUSION

A ChatBot is a rising trend and ChatBot increases the effectiveness of business by providing a better experience with low cost. A simple ChatBot is not a challenging task as compared to complex ChatBot and developers should understand and consider the stability, scalability and flexibility issues along with high level of intention on human language. In short, ChatBot is ecosystem and moving quite fast and with the passage of time new features are added in the existing platform. Recent advancements in the machine learning techniques may able to handle complex conversation issue such as payments correctly.

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