




e-ISSN: 2319-8753 | p-ISSN: 2320-6710

IJRSET

International Journal of Innovative Research in
SCIENCE | ENGINEERING | TECHNOLOGY



INTERNATIONAL JOURNAL OF INNOVATIVE RESEARCH


IN SCIENCE | ENGINEERING | TECHNOLOGY

Volume 9, Issue 9, September 2020

ISSN INTERNATIONAL
STANDARD
SERIAL
NUMBER
INDIA

Impact Factor: 7.512

 9940 572 462

 6381 907 438

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Android Based College Enquiry and Lab Booking Chatbot

Pooja Bele¹, Vaishnavi Kamble¹, Shrushti Sakala¹, Akash Hanchate¹, Rajnikant Narwade²

B.E. Student, Department of Computer Science and Engineering, Bhagwant Institute of Technology,
Barshi, India¹

H.O.D, Assistant Professor, Department of Computer Science and Engineering, Bhagwant Institute of Technology,
Barshi, India²

ABSTRACT: The system presented gives a complete solution to uninteresting conversations with the people. When people are busy and not getting answer to queries. BITSTALK can be described as an application that can chat with students and staff using artificial intelligence markup language. It has simple UI, which gives users access to get answer to their queries. System uses Artificial Intelligence Markup Language (AIML) for the appropriate responses generated by the chat bot. With firebase as database.

On top of that, app is equipped with some other facilities, which gives users ability to access the schedules of labs and book them accordingly. System is efficient from user's perspective as it reduces human work.

KEYWORDS: Chat bot, AIML, Firebase, Lab Booking.

I. INTRODUCTION

In today's generation there are many android based services like E-business, Entertainment, Virtual assistant etc. There is a drastic increase in the world of android services, where every thing is now getting associated with android. It is very user friendly approach to avail everything to doorstep. There are different types of customer service available like live chat support service. But for all such support services provided by human to human takes time to answer customer query. As the number of clients increases the waiting time increases as well, which results in poor client satisfaction.

BITSTALK chatbot using AIML with Firebase is an android based system for enquiry purposes. The application of computer technology has increased for entertainment and customer support purposes in a drastic manner for recent few years, Alice, google assistant, cortana, siri are some examples of it. Evolution of technology has always forced human minds to do more.

This system is an intelligent solution which helps the user in areas where waiting is there like long line, for getting their college related doubts clear. This system is composed of software i.e. an android app. AIML files for responses, developed with Java and XML as its database is firebase.

An android app with version greater than lollipop is used to make this system. users will be able to access the chatbot and lab booking services. The distinctive aspect of this system is lab booking service, it is a mechanism which takes some request from user and according to that request it will display whether the lab is available or not. The user will get access to the schedule of the requested lab through firebase similar to hotel management apps, etc.. The app will be connected to the firebase which will tell whether the lab is available or not. Besides the admin will accept or reject the request.

II. RELATED WORK

Many similar projects target on creating a separate chatbot that completes the need of enquiry, entertainment and customer care purposes. Like Weizenbaum J shows psychological issues related to the ELIZA [1]. ALICE bot which uses AIML (Artificial Intelligence Mark-up Language) and program Eliza. Such chatbot performs pattern matching which requires particular patterns to be matched [2][3]. UNIBOT [4] developed which is efficient and relevant response to the user corresponding to the entered message. Chatbot for university related FAQs which was designed for college purpose [5].



According to our analysis people try to separate chatbots and college lab booking systems, which is little inconvenient for users. To overcome this problem we showcase our attempt to combine both the systems and to make a platform where user can access both chatbot as well as lab booking system.

III. METHODOLOGY

The structure uses java language to complete the background; the front end is accomplished by XML. For chatbot responses we have used AIML, and firebase for booking purpose.

A. AIML

Among the theories and technologies used to develop chatterbots, the Pattern Recognition is an example which aims to model computer systems based on the format of human dialogs. The Pattern Recognition is based on representative stimulus-response type blocks, which the user enters a sentence (stimuli) and the software makes an output (response) according to the user input. And in this sequence the dialogue carries on . The language AIML is used to the development of chatterbots, if the chatterbot adopts the Pattern Recognition technique.

Its operation is divided in three steps.

(i)The first step is the question input by the user.

(ii)In the second step the system performs word processing actions to fit the user's input to a pre-established format by the designer and

(iii)makes the pattern matching between user input and the files.

Finally, one answer is presented to the user in the third step.

B. Pattern Matching

Every AIML category is uniquely specified by an input pattern, that pattern and topic pattern. Remember, if the and/or are left unspecified, they are assumed to have a default value of *. A Pattern Path is defined as a linked sequence of nodes, where the nodes are linked by edges labeled with the words. The sequence of words in a Pattern Path is specified as the words from the input pattern, followed by the symbol , the words in the that pattern, followed by the words in the topic pattern.

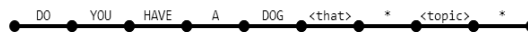


Figure 1 depicts the Pattern Path for a category

The AIML interpreter builds an object called the Graphmaster by reading the AIML files, constructing a Pattern Path for each category, and inserting the path into a directed, rooted graph. At the end of each path, the Graphmaster contains a link to the AIML template for the associated category.

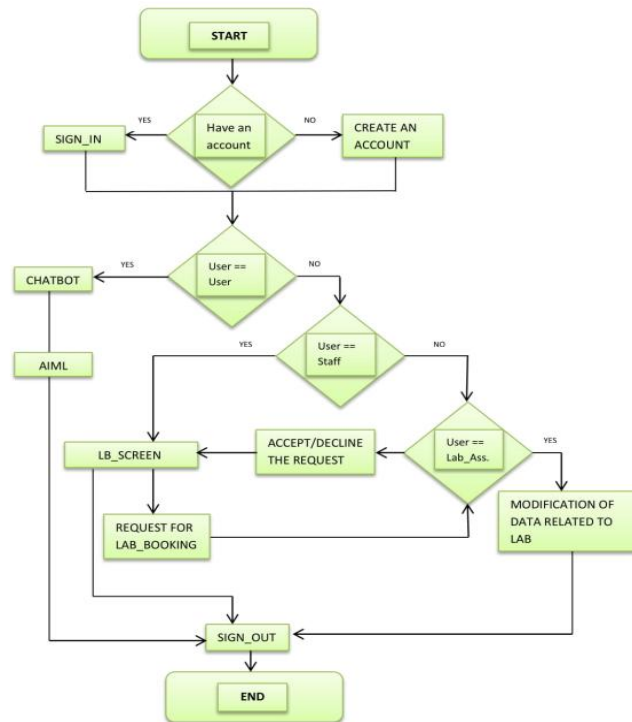
C. Firebase

The Firebase Realtime Database is a cloud-hosted NoSQL database that lets you store and sync between your users in realtime. The Realtime Database is really just one big JSON object that the developers can manage in realtime. With just a single API, the Firebase database provides your app with both the current value of the data and any updates to that data. Realtime syncing makes it easy for your users to access their data from any device, be it web or mobile. Realtime Database also helps your users collaborate with one another. Another amazing benefit of Realtime Database is that it ships with mobile and web SDKs, allowing you to build your apps without the need for servers. When your users go offline, the Realtime Database SDKs use local cache on the device to serve and store changes. When the device comes online, the local data is automatically synchronized. The Realtime Database can also integrate with Firebase Authentication to provide a simple and intuitive authentication process.

D. Flowchart

In this proposed system, we provide Chabot for college enquiry. Chatbot is implemented using Artificial Intelligence Markup Language, including AIML libraries in the java files, Which matches the pattern entered through the queries with the AIML files. Chatbot is accessible to everyone. Then comes lab booking system for which user needs to create an account. When the user want to book a lab first they will have to check the

schedule of the lab if the status is available for booking then the user can request for that lab. Then the admin can decide whether to grant the request or not.



IV. CONCLUSION

We have implemented an android based AIML chatbot that responds to user queries in an efficient way and also managed to join a lab booking system to the chatbot so that this project can reduce human efforts. This project mainly revolves around the chatbot and lab booking system, which helps user to reduce efforts.

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BIOGRAPHY



Ms. Pooja Prashant Bele is a final year Engineering student. She has completed her SSC and HSC from MIT English Medium School Barshi(CBSE Board). She is pursuing her Bachelors degree in Computer Science and Engineering from Punyashlok Ahilyadevi Holkar University, Solapur.



Ms. Vaishnavi Kumar Kamble obtained SSC and HSC from Jawahar Navodaya Vidyalaya, Solapur. She is also pursuing bachelors in computer science from Punyashlok Ahilyadevi Holkar University, Solapur.



Mr. Akash Suresh Hanchate completed his SSC from Saint Joseph English Medium School(CBSE Board), Barshi and HSC from Shree Shivaji Mahavidyalalay, Barshi and currently pursuing Bachelors degree from Punyashlok Ahilyadevi Holkar Solapur University, Solapur.



Ms. Shrushti Dilip Sakal is pursuing bachelors in Computer Science from Punyashlok Ahilyadevi Holkar Solapur University, Solapur. She has completed her H.S.C. and S.S.C from State Board, Pune.



Mr. Rajnikant Kundlik Narwade obtained bachelors in Information Technology from Dr. BAMU University, Aurangabad. He has also obtained masters in Computer Science from JNTU, Hyderabad, Telangana. He is also pursuing doctorate from VELTECH University, Chennai. Currently he is working as Head Of Department, Computer science and engineering department, Bhagwant Institute of Technology Barshi.



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