



INTERACTIVE STUDENT INFORMATION CHATBOT SYSTEM

Mukti Shah¹ Anuj Suthar² Abhishek Sharma³ Kaushal Shah⁴

^{1,2,3,4}Department of Computer Engineering

^{1,2,3,4}Thakur Polytechnic, Mumbai, India

Abstract— This project is built using artificial algorithms that analyzes user's queries and understand user's messages. It is a web application that provides answers to the query of students of a particular organization through the bot which is used for chatting.

The system uses built in artificial intelligence to answer the queries and it also consists of interactive voice Output that replies to the questions using Graphical User Interface which implies that as if a real person is attending the query of the user. This project is loaded in Visual Studio 2010 and all the databases are created and maintained into SQL Server 2008.

Key words: Chat Bot systems; Artificial Intelligence; Artificial algorithms; API; Talkbot.

I.INTRODUCTION

Traditionally, the chat bot system was not known to people who were not more into the technology. Students needed to manually visit to the college to get their queries answered by the college help desk. This process consumes lot of time as well as money as the customer needed to visit college if its miles away from home. Also, this process may lead to communication gap between student and college and reduce the overall efficiency of the system. There was lack of accuracy and security and it was difficult to have perfect maintenance of records. Thus we are able to bring in the new technology of Chatbots using artificial intelligence that may be accustomed to eliminate all of the above drawbacks of the traditional systems followed by the students. . [1]

II.WHAT IS CHAT BOT?

Prior to chatbots or talkbots there were just bots: This is a piece of software basically designed to automate a specific task. A chatbot, also known as talkbot is built on the same basis; however it delivers this task around a single function, namely chat, or simulated conversation. Chat bots typically provide a text-based user interface, allowing the user to type commands and receive text responses.[2] The chatbot is essentially a user interface which can be plugged into a number of data sources via APIs so it can deliver information or services on demand, such as weather forecasts or breaking news. A chatbot uses machine learning to pick up on conversational cadences, allowing it to effectively mimic human conversation and react to spoken or written prompts to deliver a service. [2] A popular example from recent Internet history is the usage of IRC chat bots, often used for monitoring chat rooms, playing games, and providing help. The same technology can be used today, but to provide even more powerful functionality, such as serving business processing requests, multi-threaded processing, or any multi-threaded task that may not be ideal within a web application. When chat bot technology is integrated with popular web services it can be utilized securely by an even larger audience



III. WORKING

Basically, there are several modules in the project namely student, parent, visitor, admin etc. But the two major modules of the project are the Admin module and other is the Student module along with their sub modules as follows: The system comprises of 2 major modules with their sub-modules as follows:

1. **ADMIN:** Admin has to login to the system to access various pages given below.

- **Add Student:**
 - Can add new student with personal details into the system.
- **Add / Manage Course:**
 - Can add a new course details or can manage the pre-added course.
- **Upload Time-Table Image:**
 - Can upload an image of the time-table of various standards/Classes.
- **Upload Syllabus Image:**
 - Can upload image of syllabus for various academics.
- **Upload General Notice:**
 - Here, admin can upload a general notice in form of image/pdf.
- **Upload Exam Time Table Image:**
 - Can upload image of exam time-table of every class.
- **Manage Chat Bot:**
 - System allows admin to view and edit chat bot.
- **Forum:**
 - Admin can chat with students using forum.
- **View Invalid Answer:**
 - Can view all the invalid answers marked by users.

2. **STUDENT:** Student has to login to the system to access various pages given below.

- **Chat Bot + Forum:**
 - User can chat with the bot it implies as if enquiring to the college person about college related activities.
- **View Time- Table:**
 - All the registered user can view the uploaded image of time-table by admin.
- **View Syllabus:**
 - Users can view the syllabus of their academics in the form of image.
- **View General Notice:**
 - Can view the notice or can download the pdf file.
- **View Exam Time Table:**
 - Can view the exam time-table which is uploaded by the admin
- **Exam Notice:**
 - Can view exam notice which is uploaded by the admin.

IV. DRAWBACKS OF TRADITIONAL SYSTEMS.

- Lack of accuracy and error prone.
- Overall efficiency is less.
- Non-secure.
- No perfect maintenance of records.
- No method to trace details.
- Human errors.
- Searching is more time consuming.
- The manual system is too slow.

V. PROPOSED SYSTEM

- ❖ A Student bot project is built using artificial algorithms that analyzes user's queries and understand user's message.
- ❖ This system is a web application which provides answer to the query of the student.
- ❖ Students just have to query through the bot which is used for chatting.
- ❖ Students can chat using any format there is no specific format the user has to follow.
- ❖ The System uses built in artificial intelligence to answer the query.
- ❖ The answers are appropriate what the user queries.
- ❖ If the answer found to invalid, user just need to select the invalid answer button which will notify the admin about the incorrect answer.
- ❖ All the registered students can view time-table, syllabus, general notice, exam time-table and exam notice.
- ❖ Admin can view invalid answer through portal via login
- ❖ System allows admin to delete the invalid answer or to add a specific answer of that equivalent question.
- ❖ Chat bot will have 5 section for keyword. Admin needs to fill at least 2 keywords with its answer.
- ❖ E.g.:
- ❖ Q) What will be date for Coms SEM 3 Exam
- ❖ (Keywords: Date, Coms, Sem3, Exam)
- ❖ Ans) 2016/11/08. (Assumed this date is entered by admin)
- ❖ Admin can add students, add/manage course details, Upload Time-Table image, Upload Syllabus image, Upload General Notice in form of image/pdf, Upload Exam Time-Table and Uploads Exam Notice.
- ❖ The student can query any college related activities through the system using forum.
- ❖ The System analyzes the question and then answers to the student.
- ❖ The system answers to the query as if it is answered by the person.
- ❖ With the help of artificial intelligence, the system answers the query asked by the students.
- ❖ The system replies using an effective Graphical user interface which implies that as if a real person is talking to the student.
- ❖ The student can query about the college related activities through online with the help of this web application.
- ❖ This system helps the student to be updated about the college activities.

VI. HARDWARE REQUIREMENT

- i3Processor Based Computer or higher
- Memory: 1 GB RAM
- Hard Drive: 50 GB
- Monitor
- Internet Connection

VII. SOFTWARE REQUIREMENTS

- Windows 7 or higher
- Visual studio 2010.
- SQL Server 2008.

VIII. OVERVIEW OF TECHNOLOGIES USED

A. FRONT END TECHNOLOGY

Microsoft .NET Framework

- The .NET Framework is a new computing platform that simplifies application development in the highly distributed environment of the Internet. The .NET Framework is designed to fulfill the following objectives:
- To provide a consistent object-oriented programming environment whether object code is stored and executed locally, executed locally but Internet-distributed, or executed remotely.

- To provide a code-execution environment that minimizes software deployment and versioning conflicts.
- To provide a code-execution environment that guarantees safe execution of code, including code created by an unknown or semi-trusted third party. [4]
- To provide a code-execution environment that eliminates the performance problems of scripted or interpreted environments.
- To make the developer experience consistent across widely varying types of applications, such as Windows-based applications and Web-based applications.
- To build all communication on industry standards to ensure that code based on the .NET Framework can integrate with any other code. [4]

B. BACK END TECHNOLOGY

About Microsoft SQL Server

- Microsoft SQL Server is a Structured Query Language (SQL) based, client/server relational database. Each of these terms describes a fundamental part of the architecture of SQL Server.
- Database
- A database is similar to a data file in that it is a storage place for data. Like a data file, a database does not present information directly to a user; the user runs an application that accesses data from the database and presents it to the user in an understandable format. [4]
- A database typically has two components: the files holding the physical database and the database management system (DBMS) software that applications use to access data. The DBMS is responsible for enforcing the database structure, including:
 - Maintaining the relationships between data in the database.
 - Ensuring that data is stored correctly and that the rules defining data relationships are not violated.
 - Recovering all data to a point of known consistency in case of system failures.

IX. CONCLUSION

The main objectives of the project were to develop an algorithm that will be used to identify answers related to user submitted questions. To develop a database where all the related data will be stored and to develop a web interface. The web interface developed had two parts, one for simple users and one for the administrator.

The following objectives were subsequently met. A background research took place, which included an overview of the conversation procedure and any relevant chat bots available. A database was developed, which stores information about questions, answers, keywords, logs and feedback messages. A usable system was designed, developed and deployed to the web server on two occasions. An evaluation took place from data collected by potential students of the University. Also after received feedback from the first deployment, extra requirements were introduced and implemented.

XII. REFERENCES

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