

Online chatting System for College Enquiry using Knowledgeable Database

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Abstract: - A chatterbot or Chatbot aims to make a conversation between both human and machine. The machine has been embedded knowledge to identify the sentences and making a decision itself as response to answer a question. The response principle is matching the input sentence from user. The present technical project consists of developing an expert system for college enquiry desk using an android-based chatbot, through artificial intelligence technology virtual assistance (human-machine conversation), transmitting natural language to a server.

Keywords: - Arduino, caregiver, power jack, brace matching.

I. INTRODUCTION

The development of the information technology and communication has been complex in implementing artificial intelligent systems. The systems are approaching human activities such as decision support systems, robotics, natural language processing, expert systems, etc. Even in the artificial intelligent fields, there are some hybrid methods and adaptive methods that make more complex methods.

Not only that, but nowadays there is also a hybrid of natural language and intelligent systems that could understand human natural language. These systems can learn themselves and renew their knowledge by reading all electronics articles that have existed on the internet. Human as user can ask to the systems like usually did to other human. These systems are often known as internet answering-engines. In addition to the internet answering-engines, currently in the internet also begins many applications of chatter-bot or known as chatbot which is often aimed for such purposes or just entertainment [1]. This application work is very simpler because the knowledge already programmed in advance [2]. One of the methods used in this application is to match the pattern (pattern-matching) [3]. The chatbot would match the input sentence from the speaker or user with pattern that has existed on the knowledge. Each pattern paired with the knowledge of chatbot which taken from various sources input sentence prepared as the materials of chat pattern [4].

Chatbots (also known as Chatterbots or chatter robots) are software agents that simulate an entity, usually a human counterpart of vague or specifically defined characteristics, with whom the user can interact in a conversation (either written, oral, or mixed). One of the first and main goals of chatbots has always been to resemble an intelligent human

person and make it hard or impossible for the other party of the conversation to understand their real nature (as in artificial). With the development of more and more chatbots of various architecture and capabilities the purposes for their usage has widely broadened. [5]

These chatbots can prove sufficient to fool the user into believing they are "talking" to a human being, but are very limited in improving their knowledge base at runtime, and have usually little to no means of keeping track of all the conversation data. Chatbots, which are software agents with an artificial intelligence that allows them to understand the user input and provide a meaningful response according to pre-compiled knowledge. [6]

A2KD Algorithm:-

1. Find first match of a pattern of length M in a text stream of length N.
2. Where $N \gg M$
3. Pattern $M=10$ i.e. => attendance
4. Text => Computer Department student attendance (N=35)
5. Read the Next and Previous character position of L(i) i.e. L(i+1) & L(i-1).
6. Matching with the character of N then check the index values of M & N are equal or not
7. i.e. L(i+1) = next [L(i)] & L(i-1) = prev[L(i)]
8. If both exist then continue repeating and find exact match.

Modules and their Description

The system comprises of 3 modules as follows:

1. Admin Login
2. Bot Chat

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3. Speech to text
4. Student Login
5. Parent Login

Description: -

Admin Login:

User has to login to the system to access various helping pages through which user can ask queries to the system with the help of bot.

Add Student: The Admin adds the student and the password is generated by the system and sent to the students Mail Id.

Add Course: The Admin is allowed to add the Course and its Subjects semester wise.

Add Timetable: The Admin is allowed to add the timetable for the course semester wise in the form of an .jpg

Add Schedule: The Admin is allowed to add the Schedule for the course semester wise in the form of an .jpg

Add Test Solutions: The Admin adds the test solutions limited to a pdf only.

Add Vide Links: The Admin adds the video links which is a URL.

Add Weekly Marks: The Admin adds weekly marks; weekly marks are not subjecting wise and out of 25.

Add PT1/PT2: The Admin is responsible to add the marks for PT1 and PT2 which are subject wise out of 25.

Add College related information e.g. Events, workshop doc, photos, branch info with photos. Which is useful for represent college.

Bot Chat:

User can chat with the bot it implies as if enquiring to the college person about college related activities.

Speech to text:

The bot also speaks out the answer.

Student Login:

Student Login: The Student is allowed to login into the App with password sent to his/her email Id and is remembered once logged In.

View Timetable: The student can check timetable limited to only his/her course and semester, its a Image and can be pinch zoomed.

View Schedule: The student can check Schedule limited to only his/her course and semester, its a Image and can be pinch zoomed.

View Test Solutions: The Student can see a list of the test solutions limited to his/her course and semester which are viewed by default by Google docs.

View Video Links: The Student can checkout video links which are directed to the dedicated web link.

View Weekly Marks: The Student can see his weekly marks and the marks are displayed as a Bar Report.

View PT1/PT2: The Student can see his marks in the form of 2 reports namely Line Chart and Pie Chart. Line Chart is divided into 3 fragments(Highest , Average and Students Marks) to help the student with his progress and rank Pie Chart shows only the students marks.

University Link: The link is redirected to the Web.

Speech To Text : The bot also speaks out the answer. (if student have any query student write query in text view and android app answer it in voice and also text format.)

View College related information e.g. Events, workshop doc, photos, branch info with photos. Which is useful for represent college.

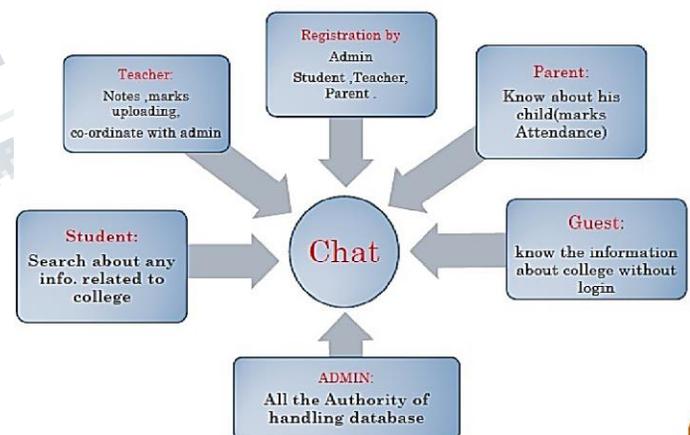
Parent Login:

Parent Login: The Parent is allowed to login into the App with password sent to his/her email Id and is remembered once logged In.

View College related information e.g. Events, workshop doc, photos, branch info with photos. Which is useful for represent college.

View Marks: The Parents can see his/her child marks and the marks are displayed as a Bar Report.

System Architecture:



According to the architectural diagram of College Information Chat Bot System, there are 7 modules which are explained as follows accordingly.

1. Add User – This module is responsible for adding user to the system. Each user is assigned a unique id and password to get access into the system for its utilization.

2. Database Server – It keeps record of all the users login credentials, college data, user queries,etc.

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3. Manage Course – In this module the admin performs the various tasks to fetch into the database various college information requirements like placement sheet, dept info, timetable, general notices, etc . All this fetched information are then retrieved as a response to the user query accordingly. Admin only has the authority to manage course details.

4. View/Edit Chat – In this, User types the query and the bot replies to the user query accordingly. Actual Chating occurs in this phase only.

5. Upload – In this section admin uploads the common/ general notices like time schedule, exam dates, fee structures, event and seminar notices, etc which user may query out during chatng phase.

In this, if the user finds that answer does not satisfy or make any sense to his query then he can mark that answer as invalid. This invalid answer is later viewed by the admin. Admin then studies that invalid answer and then decides whether to work upon it or just ignore.

7. Exit – This is the phase where user after finishing his work sign out from the system.

Algorithm:

- So when user submits its Question, we store that in a variable "query"
- After that we bring all the main keywords from question table of the database.
- and check if "query" contains any of the main keywords in it.
- If No then we say no answer found.
- If Yes then we bring all sub-keyword with its answer of that matching Main-keyword.
- then we pass "query" through 4 keyword check procedure
- ** 4 Keyword check is checking all the 4 sub-keywords are in "query" Code : if(strpos(\$query,\$k1) !== false && strpos(\$query,\$k2) !== false && strpos(\$query,\$k3) !== false && strpos(\$query,\$k4) !== false)
- If any of the entry matches the keyword then we take its answer and then submit it to the user.
- If it does not match then we pass "query" through 3-keyword match algo.
- If it and so on for 2 and 1 keyword match.
- And if we still don't get the output we say No Answer Found.

Mathematical Model

System Description

- o $S = U, A, I, O, T1, Su, F$
- o Where,
- o $S =$ System.
- o $A =$ Admin.
- o $U =$ Set of users
- o $U = St, P, T, G,$
- o $St =$ set of Students

- o $St = St1, St2, \dots =$ set of Parents $= p1, p2, \dots$ $T =$ set of teachers $= T1, T2,$
- o $G =$ Guest
- o $I =$ Set of Inputs.
- o $I = I1, I2, \dots$
- o Where ,
- o $I1 =$ text, $I2 =$ Audio,
- o $T1 =$ Task Processing.
- o Match String As follows with database:
- o $L(i-1) =$ Previous $[i]$.
- o $L(i)$
- o $L(i+1) =$ next $[i]$
- o $O =$ Output
- o $Su =$ Data Found.
- o $F =$ Data Not Found/Server Down.
- o Success Conditions: As per user input desired output is generated
- o Failure Conditions: Desired output is not obtained

II. LITERATURE SURVEY

This project is mainly targeted at colleges and the synchronization of all the sparse and diverse information regarding regular college schedule. Generally students face problems in getting correct notifications at the correct time, some times important notices such as campus interview, training and placement events, holidays and special announcements. Smart Campus tries to bridge this gap between students, teachers and college administrators. Therefore in the real world scenario, such as college campus, the information in the form of notices, oral communication, can be directly communicated through the android devices and can be made available for the students, teachers directly for their android devices and the maintenance of application will be easier in later future because of the use of architectural MVC which separates the major works in the development of an application such as data management, mobile user interface display and web service which will be the controller to make sure for fast and efficient maintenance of application.

- 1) Artificial Intelligence Technologies for Personnel Learning Management Systems Nayden Nenkov, Yuriy Dyachenko IEEE 8th International Conference on Intelligent Systems 2016 These agents in the form of chatbots have to automate the interaction between the student and the teacher within the frames of Moodle learning management system.
- 2) "Vibhor Sharma ,Monika Goyal" "An Intelligent Behaviour Shoen by Chatbot System" International journal of new technology and research April 2017. chatbotare sotware agent used to interact between

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a computer and human in natural language just as people use language for human communication, chatbots use natural language to communicate with human user.

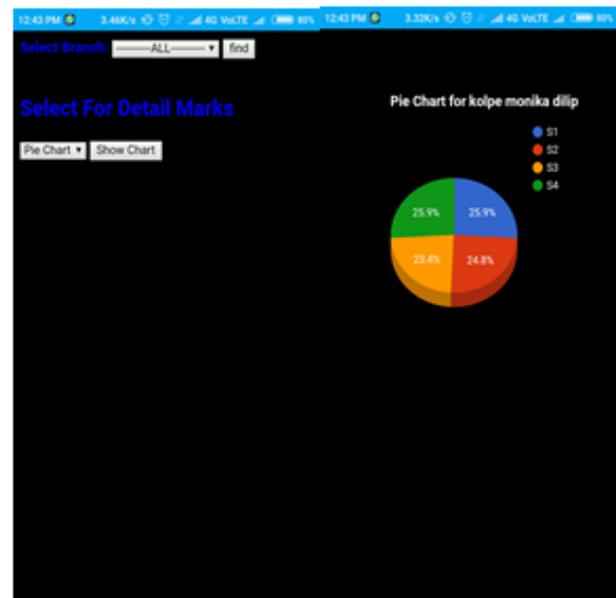
3) Chatbot Using A Knowledge in Database Human-to-Machine Conversation Modeling Bayu Setiaji ,Ferry Wahyu Wibowo 2166-0670/16 2016 IEEE 2016 The machine has been embedded knowledge to identify the sentences and making a decision itself as response to answer a question

4) Towards an efficient voice-based chatbot J. Quintero Student Member IEEE, and R. Asprilla, Member, IEEE 2015 IEEE THIRTY FIFTH CENTRAL AMERICAN AND PANAMA CONVENTION 2015 The development and integration of technologies used in an experimental natural conversation system designed to run on a humanoid robot .

5) AI BASED CHATBOT Prof.Nikita Hatwar¹, Ashwini Patil² , Diksha Gondane³ 123 (Information Technology, Priyadarshini College of Engineering,Nagpur/ RTMNU,India)International Journal of Emerging Trends in Engineering and Basic Sciences (IJEEBS) ISSN (Online) 2349-6967 Volume 3, Issue 2 (March-April 2016)

6) S. Jayalakshmi and Dr.Ananthi Sheshasaayee Automated Question Answering System Using Ontology and Semantic Role International Conference on Innovative Mechanisms for Industry Applications (ICIMIA 2017)

Expected Result



III. CONCLUSION

Artificial Intelligent is the fastest growing technology every were in the word. With the help of Artificial Intelligent and Knowledgeable database. we can make the transformation in the pattern matching and virtual assistance. This system is developing chat bot based on android system so with the combination of Artificial Intelligent Knowledgeable database and virtual assistance. we can developed such chat bot which will make a conversion between human and machine and will satisfy the question raised by user.

REFERENCES

- 1) Artificial Intelligence Technologies for Personnel Learning Management Systems Nayden Nenkov, Yuriy Dyachenko IEEE 8th International Conference on Intelligent Systems 2016
- 2) "Vibhor Sharma ,Monika Goyal" "An Intelligent Behaviour Shoen by Chatbot System"
- 3) Chatbot Using A Knowledge in Database Human-to-Machine Conversation Modeling Bayu Setiaji ,Ferry Wahyu Wibowo 2166-0670/16 2016 IEEE 2016
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6) S. Jayalakshmi and Dr. Ananthi Sheshasaayee Automated Question Answering System Using Ontology and Semantic Role International Conference on Innovative Mechanisms for Industry Applications (ICIMIA 2017)

7) Open-domain personalized dialog system using user-interested topics in system responses Jeessoo Bang, Sangdo Han, Kyusong Lee and Gary Geunbae Lee 978-1-4799-7291-3/15/2015 IEEE

8) Aditi Gupta, Divyansh Jaiwal, Kartikeya Sinha "A2KD STRING PATTERN MATCHING ALGORITHM"

9) "Stevan Gianvecchio, mengjun Xie, IEEE" "Human and Bots in Internet Chat Automated Classification"

