



## ARTIFICIALLY INTELLIGENT CHATBOT

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### Abstract

Systems today are getting expert day by day and intend to help human in their day to day queries. Today AI is present in a variety of fields ranging from industries in manufacturing, to diagnosis in medicine technology, to customer care in public relations. There exist lots of online Artificial Intelligence (AI) assistants that help people solve their problems. So, here in the implemented system we built an AI that will solve college related query. It's like a small-scale college oriented intelligent search engine. The implemented system is basically a Virtual Assistant that is strictly college oriented. The implemented system entertains the queries of a student regarding college related issues. Authentication mechanism is used by the implemented system for student identification.

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### I. INTRODUCTION

A chat bot (also known as a talk bot, Bot, chatterbox, Artificial Conversational Entity) is an android application whose conversation done by auditory or textual methods [1][2]. Such Android application are often designed to communicate easily and simulate how a human would behave as a conversational partner, thereby passing the Turing test.

This application mostly Chat bots have been typically used in dialog systems [1] for number of practical purposes that include customer service or help desk [2].

Chat bots are used into the conversational system. Mainly in automated online assistants, giving them, the ability talking or engaging in casual conversations unrelated to the scopes of their primary expert systems [2][3].

This type of android applications like Chat Bot project will be built using artificial intelligence algorithms that will analyze user's queries and understand user's message. This android application will provide answers to the queries of the students. Students will just have to select the category for the department queries and then ask the query to the bot that will be used for chatting.

The reason may be caused because of loopholes in system. Such reasons include:

- Communication gap between student and college administration.
- Ignorance by student and/or college administration.
- Lack of student interest.
- No proper directions.

The other reasons may be:

- Student is new to college.
- Student is physically or mentally disturbed or disordered.
- Student is physically or mentally disturbed or disordered.
- Natural calamities or unfavorable weather.



The student may have lack of information about the following:

- Class time-table.
- Lecture Topics.
- Lecture venue.
- Teacher assigned.
- Event timings.
- Event venue.
- Holidays.
- Examination time-table.
- Examination venue.
- Permissions.

The above information can have greater importance in respect of opportunities, examination details, and important events. Hence, here should be a store of such data that can provide required information whenever needed.

This android application which is based on artificial intelligence will be used to answer the students' queries about college information. The student will get better answers to their queries from this application. The answers got using the built in artificial intelligence algorithms integrated under this application. Students don't have to the college to make the enquiry, they can easily get the information from this application which will save their time.

This android application gives graphical user

interface which describes that if a real person is talking to the user and it is very user friendly. The user has to register himself to this application and has to login to the application. After login user can easily access to the application. Using this application user can chat by asking queries related to college activities and other information. The system replies to the user with the help of effective graphical user interface. The user can query about the college related activities with the help of this application.

Using this application, the answer to the query will be answered on the basis of the user's queries and the knowledge base in this application. The important keywords will be fetched from the query and the answer to those queries will be searched in the knowledge base. If the match is found, the relevant answer will be provided to the user or the default message will be shown to the user that "Answer to this query is not available at the moment, please revert back after some time". The "Keyword Matching" algorithm will be used to match the keywords from the knowledge base.

This application will have two types of users. the Admin will be the first type of the user, who will handle the entire system, and the other type of the user will be Students. There will be two types of students, registered ones and unregistered ones. The registered users will have to log in using the User ID and Password provided to them and after successfully logging in, student can ask his queries. The unregistered users will have to first register themselves in the system by filling up the simple registration form. Then after successful registration, the student can ask his queries

To access this application, user needs to have a web services enabled device. So, the entire application will be hosted on a cloud platform. The users can access this system from any place and at any time. The response time to the queries of the user will depend upon the internet speed of the

user. The usual reply time will be around 3-5 seconds as the process involves fetching the keywords from the user's query, searching it in the knowledge base and then showing the output. This process will take some time, which is estimated to be 4 seconds approximately.



## DESIGN

-As our college, virtual machine will take the query from the user and machine will perform virtual operation with keywords and will provide the appropriate response to that user query. And if user finds any invalid answer from the machine then the user can report it as invalid, so that Admin can update those query answer. And if user provides unrelated query to machine then it will show invalid query as a answer.

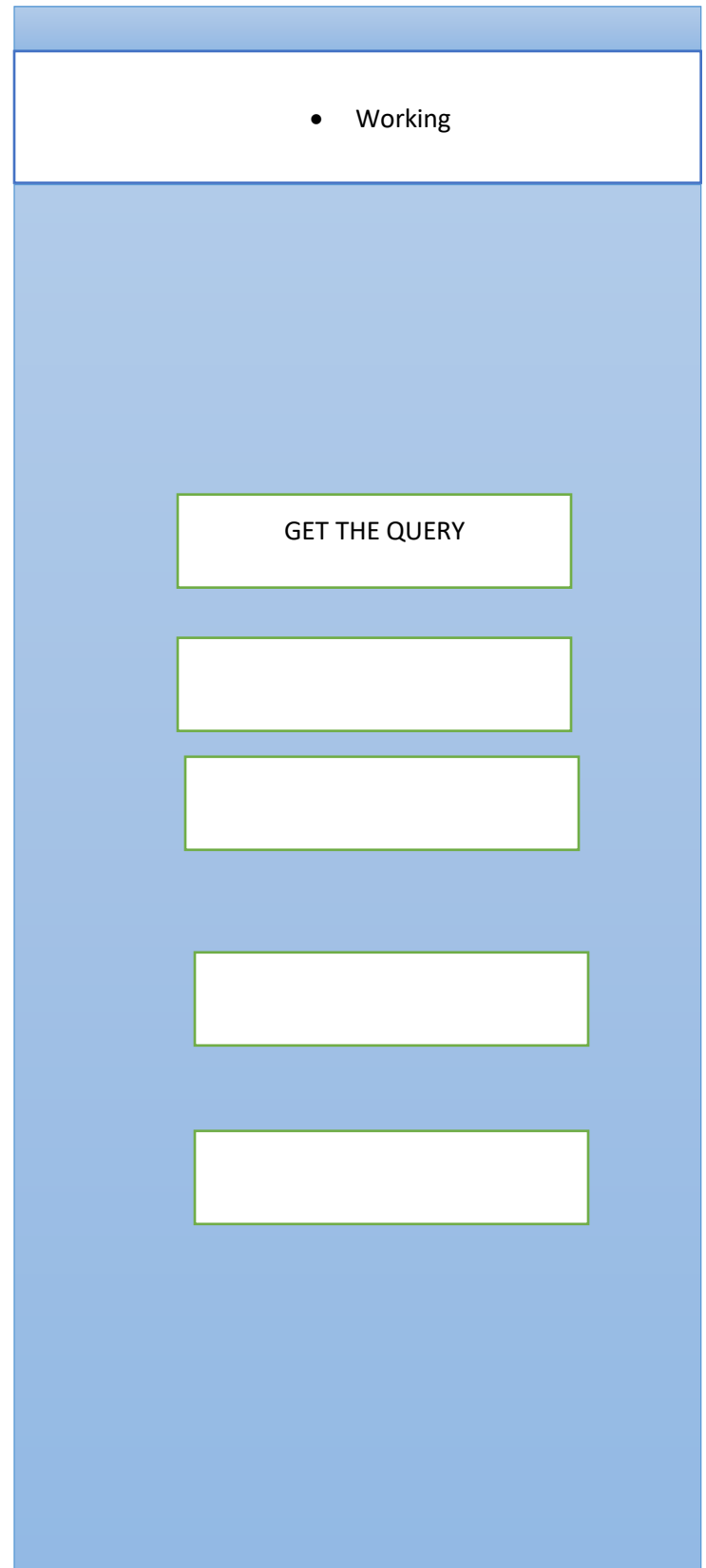
And to fetch Information from machine the user will have to visit the application of chat bot and should interact with the bot to get the response on their query.

This proposed system will have the following modules:

- Notice Board Online
  - Text Notices
  - PDF / HTML Notices can be displayed in the systems
- Chat Bot Online
  - The user / students query will be answered based on the question and knowledge base automatically.
  - As no human interaction will be needed for any user related query, it will help user in instant time.
- Users
  - There are two types of users:  
Ask User & Admin User
  - Ask User can only fetch information for their query from machine, they can't make changes in machine, they can report for changes.
  - Admin User can change and update the machine information.

In the future scope of the project, we can also include the voice based queries in to the system which can be achieved by using relevant APIs and also using NLP (Natural Language Processing).

## LITERATURE SURVEY





Natural Language Processing(NLP) can be done in two ways the first is via written text and the second is via verbal or voice communication, written communication is much easier than the verbal communication. In written(text) communication semantic, syntax, lexical and morphological analysis is done. Whereas in voice communication includes all the process in written(text) as well as additional process include additional knowledge about phonology as well as enough added information to handle the further ambiguities that arise in speech. [4]

This paper introduces an interest in some emerging capabilities for evolving speech understanding and processing in virtual human dialogue systems. This work is part of a progress effort that aims to enable practical spoken conversation with virtual humans(ai-bot) in multi-party confliction scenarios. An important factor in achieving natural behavior in these arbitration scenarios, which ideally should have the virtual humans representing fluid turn-taking, composite reasoning, and responding to factors like trust and emotions, is for the virtual humans to begin to understand. These scenarios are designed to allow trainees to practice their intervention skills by engaging in face-to-face spoken negotiation with one or more virtual humans. [5]

The current system in virtual human conversation systems is to use skilled human recordings or limited-domain speech process. Both approaches lead to good but with some cost. To identify the best trade-off practice between performance and cost, we perform a calculation of a human and synthesize voices with respect to conversational aspect and likability. Changing the type, length, and content of utterances, and take into account the age and native language of ratters as well as their expertise with speech processing. The results suggest that a professional human voice can do better both on amateur human voice and synthesized voices. Also, a crystal clear general-purpose voice or a good limited-domain voice can execute better than limited voice human recordings. As expected, in most cases, the high-quality general-purpose voice is rated higher than the limited-domain voice. [6]

**Step 1:** Start

**Step 2:** Get the user query.  
(INPUT)

**Step 3:** Pre-processing of the query E.g. suppose there is this query “what are the subjects for CSE first year” So, we are going to remove these stop words like is “,the” using pre-processing technique.

**Step 4:** Fetch the remaining only keywords from the query.

**Step 5:** Match the fetched keywords with the keywords in Knowledge base, and provide an appropriate response. The keywords will be matched with the help of keyword matching algorithm.

**Step 6:** Return the query response as an output to the user.

**Step 7:** Exit.

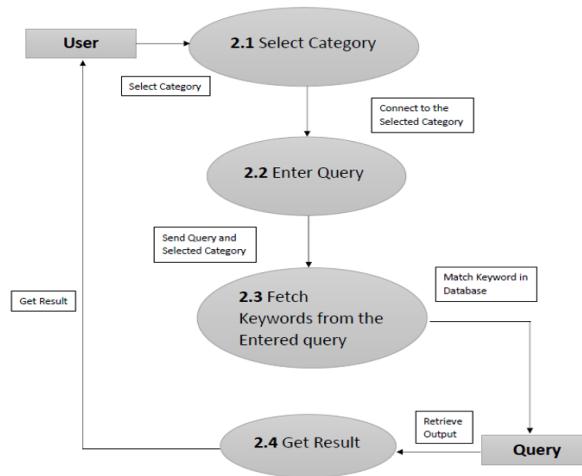


fig: flow diagram



fig: flash screen

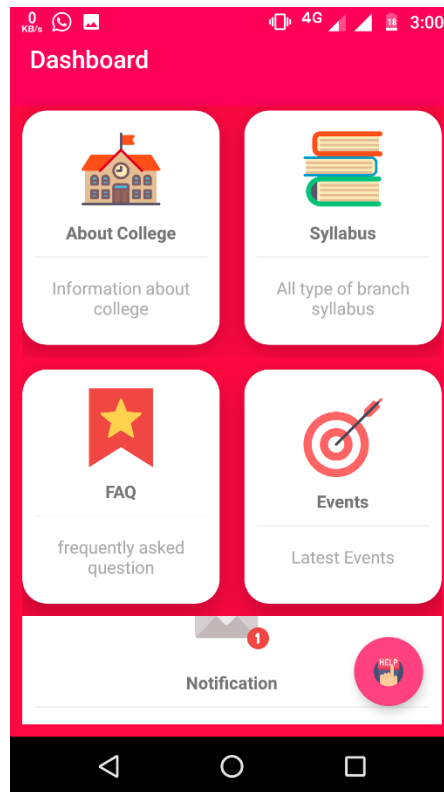


fig: main page

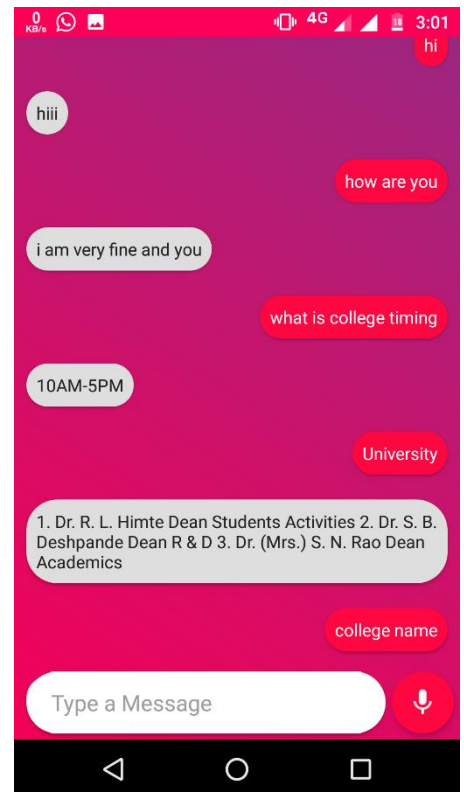


fig: chat screen



The aim of this paper is to use chatbot for commercial use, as well as to propose several extent metrics to evaluate practice, usability and overall quality of an embodied conversational agent. On the basis of this metrics they analyses Polish-speaking commercial chat bots that, firstly, work in the B2C subdivision. Secondly, reach the more widest possible range of users. And at the end, are most probably the most advanced commercial deployments of their creators. The system checks various possible aspects of working of each personified conversational agent: optical look, operation form on the website, speech processing unit, built-in knowledge database, presentation of knowledge and adding extra functionalities, dialog abilities and perspective sensitiveness, personality traits, personalization options, emergency responses in unforeseen situations, possibility of rating chatbot and the website by the user. [7]

## CONCLUSION

The main objective of the project is to develop an algorithm that will be used to identify answers related to user submitted questions. The need is to develop a database where all the related data will be stored and to develop a web interface. The web interface developed will have two parts, one for simple users and one for the administrator. A background research took place, which included an overview of the conversation procedure and any relevant chat bots available. Database will be developed, which will store information about questions, answers, keywords, logs and feedback messages. A usable system will be designed, developed and deployed to the web server.

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