**A MINI PROJECT**

**ON**

**COLLEGE CHATBOT**

**Submitted in partial fulfillment of the requirements**

**For the award of Degree of**

**BACHELOR OF ENGINEERING**

**IN**

**COMPUTER SCIENCE & ENGINEERING**

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**CERTIFICATE**

*This is to certify that the project work entitled*  **COLLEGE CHATBOT** *is a bonafide work carried out by* **BALA KIRAN KUMAR (245318733127), CHARATARAGADDA PRAKASH (245318733133), MD SADATH HUSSAIN (245318733161)** *in partial fulfillment of the requirements for the degree* **Bachelor of Engineering** *in* **COMPUTER SCIENCE & ENGINEERING** *by Osmania University, Hyderabad during the academic year* **2018-2022**.*The results embodied in this report have not been submitted by any student to any other University or Institution for the award of any degree or diploma.*

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we would like to express my gratitude to all the people behind the screen who have helped me transform an idea into a real time application. I would like to express my heart-felt gratitude to my parents without whom I would not have been privileged to achieve and fulfill my dreams.

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**I**

**ABSTRACT**

**On**

**COLLEGE CHATBOT**

**INTRODUCTION:**

A Chatbot is the one that communicates with text or voice interface to provide the answers of student’s question. Typically, a chatbot will communicate with a real person. These bots connect with students providing information like time table of exams, upcoming events, attendance percentage, important dates, etc. This college management chatbot system will help students to provide information support online 24 x 7, it answers all the general questions.

A simple user interface is made where user can type their questions and college buddy will give answers. A simple chatbot can be created by loading an FAQ (frequently asked questions) into chatbot software. The functionality of the chatbot can be improved by integrating it into the organization or college enterprise software, allowing more personal questions to be answered.

Why we need a chatbot? Since due to pandemic, students are unable to contact teacher so students can chat with the bot and can clear questions related to college like exams, results and so on.

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**1.INTRODUCTION**

A chatbot is a piece of technology that allows a computer program to communicate with people just like conversing through text messaging using a natural language, say English, to accomplish specific tasks. A chatbot is also known as an artificial conversational entity (ACE), chat robot, talk bot, chatterbot or chatterbox.

The first chatbot was made in the year 1966 at the MIT AI Laboratory, named Eliza whose purpose was to give an accurate simulation of a human conversation. It was a simple program designed to impersonate a psychotherapist and give out predefined responses to user queries. However, the code base was exhaustive enough to take into account several possible queries and the chatbot was capable of passing the Turing Test, a test designed to check out whether a computer program could pass as an actual human being or not Chatbots today, have become a lot more advanced since then, able to answer substantially complex queries and have expanded capabilities such as voice interaction and machine learning.

Some of the technologies employed by chatbots are:

**Text To Speech**:

A text-to-speech technology is simply one that converts verbal speech to text on a digital page. That’s its full function, but it’s not one that is simple to design. All the text-to-speech technology does is transcribes verbal speech. The chatbot, on the other hand, will take speech in whichever form it’s made for, understand it, and provide responses that seek to pass the turing test – the test of whether a technology can fool a human into thinking that he or she is speaking with another person.

**Natural Language Processing**:

Chatbots leverage natural language processing (NLP), which allows the bot to utilize a contextual understanding of a question towards its resolution. It allows you to understand and extract meaningful information (called entities) out of the messages people send. One can use these entities to identify intent, automate some replies, route the conversation to a human via live chat, and collect audience data.

Chatbots can broadly be classified into two types:

**Simple Chatbots**:

These chatbots are built on a code that utilizes simple use cases. Each of these use cases have to be explicitly written down by the developer individually using various forms of string analysis. If a user asks a question that doesn’t match with any of these predefined use cases, the chatbot would be unable to identify the query and a standard response such as “sorry, I am unable to understand” would be given to the user.

**Smart Chatbots**:

These chatbots are built a on code that is complex in nature. They rely on artificial intelligence while conversing with the users. Instead of standard and static answers, these chatbots respond with several other recommendations and follow-up questions based on the existing chat data as well as data from similar user personas. The technology is at a very nascent stage, but its applications are endless.

**1.1 How are they Useful:**

Chatbots greatly help in reducing the valuable time of your customer care personnel by taking care of routine queries. It then transfers the control of communication over to the organization’s representative after the requirements of the customer have been established. Some chatbots are also equipped to give funny and witty replies to certain questions asked as an additional amusement factor. Others give you information on the film industry, music and other forms of entertainment. People are extremely curious about chatbots by nature. The possibilities are endless and people tinker with the technology in order to expand its scope and capabilities.For businesses, chatbots have a wide variety of uses. They are used for collecting customer information and storing them in the company’s database for future references. They can be used to assist in the business processes by automating simple and repetitive tasks. They are often used to automate sales processes through messenger marketing as well.

**1.2 Evolution of Chatbots:**

It started in 1966 when Joseph Weinbaum made a natural language conversational program that featured a dialog between a user and a computer program. With this great breakthrough came the new age chatbot technology that has taken an enormous leap throughout the decades. Traditional Bots Current Bots Future Bots System Driven by back-and-forth communication at multiple levels. Automation based the automation is at the task level Automation at the service level Minimal Functionality Maintains system context Ability to maintain task, system and people context Maintained only system context Maintains task context as well Introduction to master bots and eventually a bot OS as well.

**1.3 Working:**

We can define the chatbots into two categories, following are the two categories of chatbots:

1. **Rule-Based Approach** – In this approach, a bot is trained according to rules. Based on this a bot can answer simple queries but sometimes fails to answer complex queries.
2. **Self-Learning Approach –**These bots follow the machine learning approach which is rather more efficient and is further divided into two more categories.

**Self-Learning Approach, They are of follows**

1. **Retrieval-Based Models** – In this approach, the bot retrieves the best response from a list of responses according to the user input.
2. **Generative Models** – These models often come up with answers than searching from a set of answers which makes them intelligent bots as well.
   1. **Problems with Existing System:**

**Existing System**:

Emanuela Haller and TraianRebedea, “Designing a Chat-bot that Simulates an Historical Figure”, IEEE Conference Publications, July 2013. There are many applications that are incorporating a human appearance and intending to simulate human dialog, but in most of the cases the knowledge of the conversational bot is stored in a database created by a human experts. However, very few researches have investigated the idea of creating a chat-bot with an artificial character and personality starting from web pages or plain text about a certain person. This paper describes an approach to the idea of identifying the most important facts in texts describing the life (including the personality) of an historical figure for building a conversational agent that could be used in middle-school CSCL scenarios. Chatbots, or conversational interfaces as they are also known, present a new way for individuals to interact with computer systems. Traditionally, to get a question answered by a software program involved using a search engine, or filling out a form. A chatbot allows a user to simply ask questions in the same manner that they would address a human. The most well-known chatbots currently are voice chatbots: Alexa and Siri. However, chatbots are currently being adopted at a high rate on computer chat platforms.

**Proposed System**:

A simple chatbot can be created by loading an FAQ (frequently asked questions) into chatbot software. The functionality of the chatbot can be improved by integrating it into the organization’s enterprise software, allowing more personal questions to be answered, like “What is my attendance?”, or “What is the status of results?”.

1. **SOFTWARE REQUIREMENTS SPECIFICATION**

The purpose of SRS (Software Requirement Specification) document is to describe the external behaviour of the application developed or software. It defines the operations, performance and interfaces and quality assurance requirement of the application or software. The complete software requirements for the system are captured by the SRS.

**2.1 Functional Requirements:**

For documenting the functional requirements, the set of functionalities supported by the system are to be specified. A function can be specified by identifying the state at which data is to be input to the system, its input data domain, the output domain, and the type of processing to be carried on the input data to obtain the output data. Allows user to interact with the chat bot to know particular information and get the results to be displayed on the screen.

**2.2 Non-Functional Requirements:**

A non-functional requirement is a requirement that specifies criteria that can be used to judge the operation of a system, rather than specific behaviour. Especially these are the constraints the system must work within. Following are the non-functional requirements.

* Should be able to work on any Operating System.

**2.3 Software Requirements:**

* Operating System : Windows XP\7\8\10
* Platform : PyCharm
* Language : Python
  1. **Hardware Requirements:**
* Processor : Intel corei5
* Hard Disk : 40GB

**2.4 Hardware Requirements:**

* Processor : Intel corei5
* Hard Disk : 40GB

1. **LITERATURE SURVEY**

The process of testing a software in a well-planned and systematic way is known as software testing lifecycle (STLC). Different organizations have different phases in STLC however generic Software Test Life Cycle (STLC) for waterfall development model consists of the following phases.