A Project Report on

Chatbot

Submitted in partial fulfillment of the requirements for the award of the degree of

Bachelor of Engineering

in

Computer Engineering

by

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Under the Guidance of

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Academic Year 2021-2022

Approval Sheet

This Project Report entitled ***"Chatbot"*** Submitted by ***"Mansi Shah"(18102002), "Apoorva Talesara"(18102027), "Zoha Shaikh"(19202006), "Isha Phadkar"(18102060)*** is approved for the partial fulfillment of the requirenment for the award of the degree of ***Bachelor of Engineering*** in ***Computer Engineering*** from ***University of Mumbai***.

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Date:

CERTIFICATE

This is to certify that the project entitled ***"Chatbot"*** submitted by ***"Mansi Shah" (18102002),"Apoorva Talesara" (18102027),"Zoha Shaikh" (19202006),"Isha Phadkar" (18102060)*** for the partial fulfillment of the requirement for award of a degree ***Bachelor of Engineering*** in ***Computer Engineering***,to the University of Mumbai,is a bonafide work carried out during academic year 2021-2022.

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Acknowledgement

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Declaration

We declare that this written submission represents our ideas in our own words and where others' ideas or words have been included, We have adequately cited and referenced the original sources. We also declare that We have adhered to all principles of academic honesty and integrity and have not misrepresented or fabricated or falsified any idea/data/fact/source in our submission. We understand that any violation of the above will be cause for disciplinary action by the Institute and can also evoke penal action from the sources which have thus not been properly cited or from whom proper permission has not been taken when needed.

_____

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Chapter 1

Introduction

A chatbot is a software application used to conduct an online chat conversation via text or text-to-speech, in lieu of providing direct contact with a live human agent.
A chatbot is merely a computer program that fundamentally simulates human conversations. It allows a form of interaction between a human and a machine the communication, which happens via messages or voice commands.
A chatbot is programmed to work independently from a human operator. It can answer questions formulated to it in natural language and respond like a real person.
When it is asked a question, the chatbot will respond based on the knowledge database available to it at that point in time.

Chapter 2

Project Concept

2.1 Abstract

In this modern age where every detail of an organization is available on their respective website, third parties looking for any information have to ransack through the entire website for the right information. So to tackle this issue the governing organizations need to spend resources on manpower which then assist the user when needed and the users don't get the information they need as quickly as possible and this method is not efficient. So to solve this problem we are going to develop a chatbot that can provide the users with the information that they need as quickly as possible. A Chatbot is a software application that mimics a genuine person for reenacting a conversation. The main aim of the chatbot developed is to reduce the time that user spends in finding the correct information. Chatbot can be described as software that can chat with people using artificial intelligence. This software is used to perform tasks such as quickly responding to users, informing them, helping to purchase products and providing better service to users.

2.2 Objectives

1. To increase customer satisfaction by giving them the information in time.
2. To increase time efficiency.
3. To reduce response time.
4. To increase the accessibility of the website.
5. To reduce waiting time as the chatbot can process large volume of requests at the same time without a delay.
6. To increase the availability for answering the user questions as the chatbot is available 24/7.

2.3 Literature Review

Chatbots have been in use for educational purposes for quite some time. These Chatbotscan be categorized into those with education intentionality and those without.Chatbots without

education intentionality is used in administrative tasks such as studentguidance and assistance.Chatbots with education intentionality are used in fostering teaching and learning. Withinthis category, there are Chatbots which provide the framework of the learning process, thatis, select and arrange contents to fit the students' needs and speed, and help in reflectionand learning motivation. These bots act as a learning companion which provides dialogue,collaboration and reflection. Furthermore, there are exercise and practiceChatbots that present a stimulus in question form, to which the student provides an answerthat is assessed by the Chatbot which then provides feedback.

2.4 Problem Definition

Keyword recognition chatbot type is a type of chatbot that helps provide a user experience. Unlike the Menu button chatbot, the Keyword Recognition chatbot hearkens to what humans have to say and, based on the information provided, tries to answer queries. A chatbot can be considered as an intermediary AI because the chatbot tries finding the appropriate related words which it then associates with the knowledge given to it and returns the response to the user. Most user-provided queries can be solved by the chatbot, but in case the user requires off-topic knowledge or when the chatbot's knowledge is insufficient, it will respond with "we will get back to you later. For more details, contact:".

2.5 Scope

In this project we are making a college specific chatbot system that can be custom fitted to education domain chatbot, the addition of this chatbot system in the college website will make the webpage more user interactive as it responds to the user queries very accurately as it is a domain specific chatbot system, and furthermore we had investigated our college chatbot system design stages and a few different techniques by which the precision of the chatbot system can be made much better. To make the responses given by the chatbot system more meaningful and accurate the administrator has to train the chatbot system with more information regarding to college and increase the scope of knowledge base. Nevertheless, gathering feedback from the potential user can be helpful in developing the college Chatbot system, ultimately servicing the user queries.
The purpose of developing this project is based on an intellectual chat-bot system which will deal with the academic activities like admission enquiry, fees structure, scholarship details, time-table of every department, details of the documents required to attach etc. With this chat-bot system it will be easy for the student to directly clear their queries in lesser time.

2.6 Technology Stack

ChatterBot is a Python library that makes it easy to generate automated responses to a user's input. ChatterBot uses a selection of machine learning algorithms to produce different types of responses. This makes it easy for developers to create chat bots and automate

conversations with users. The language independent design of ChatterBot allows it to be trained to speak any language. Additionally, the machine-learning nature of ChatterBot allows an agent instance to improve it's own knowledge of possible responses as it interacts with humans and other sources of informative data.

Natural language processing (NLP) is the ability of a computer program to understand human language as it is spoken and written – referred to as natural language. It is a component of artificial intelligence (AI).
NLP has existed for more than 50 years and has roots in the field of linguistics. It has a variety of real-world applications in a number of fields, including medical research, search engines and business intelligence.
Businesses use massive quantities of unstructured, text-heavy data and need a way to efficiently process it. A lot of the information created online and stored in databases is natural human language, and until recently, businesses could not effectively analyze this data. This is where natural language processing is useful.

2.7 Benefits for Environment and Society

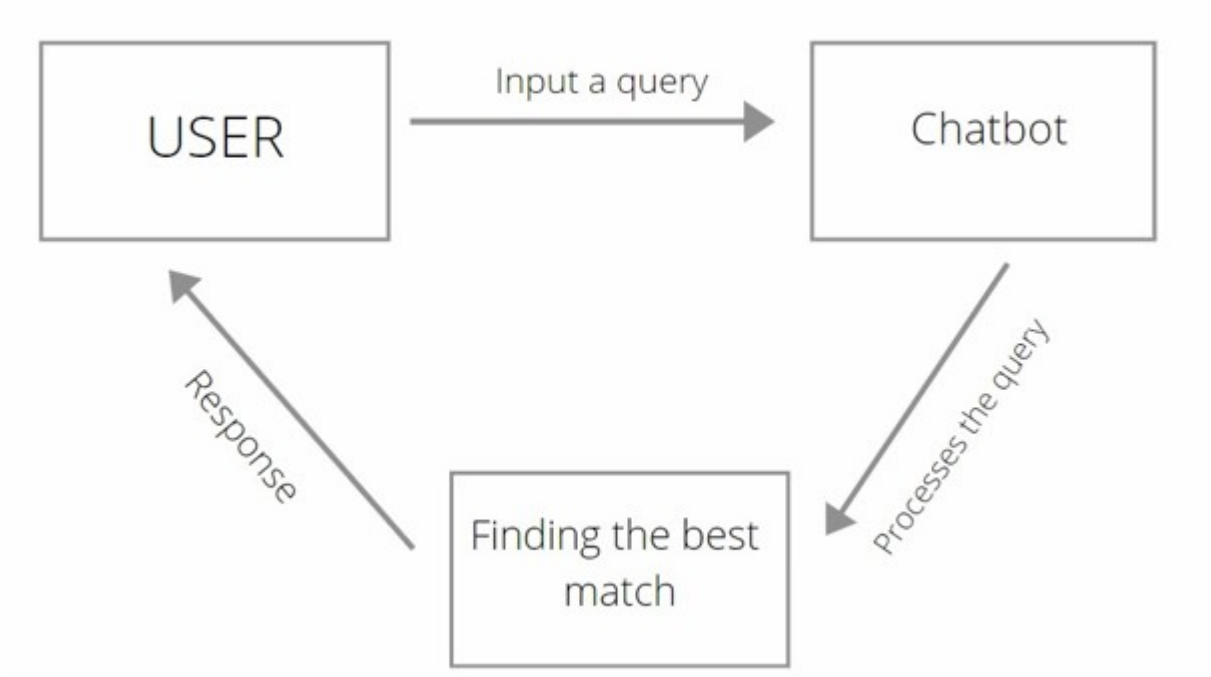
1. 24-hour Availability: Chatbots allow Customers to get help at any time as they are available 24/7.
2. Instant Answers: Chatbots can handle the queries of thousands of customers instantly as well as simultaneously and improve the average response time.
3. Consistent Answers: The use of chatbots can help to maintain a great level of consistency in answers.

Chapter 3

Project Design

3.1 Proposed System

User will input query to the Chatbot, then Chatbot will process that query and will find the best match after getting the match it will respond back to the user with the answer.



3.2 Design (Flow of Modules)

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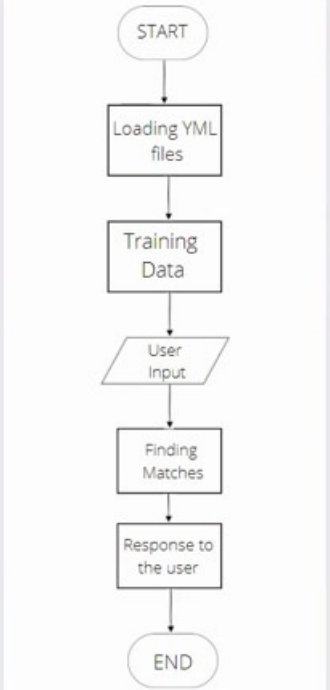
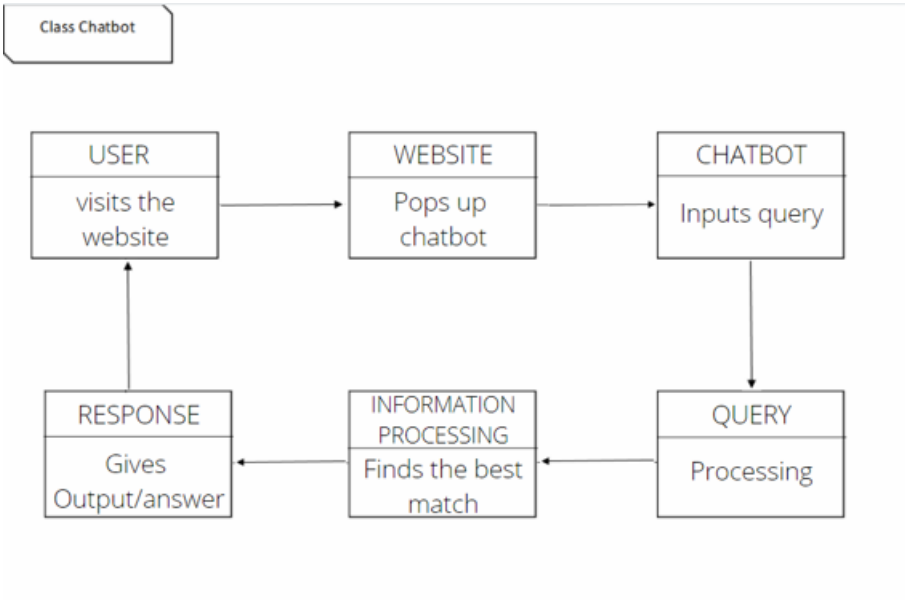


3.3 Class Diagram



3.4 Modules

3.4.1 Module 1

First the Chatbot will load the .YML files.Since the Chatterbot uses .YML files to respond to user, this file will contain the questions and answers so that the user can get appropriate

answer.

3.4.2 Module 2

Chatbot will train the data accordingly using the .YML files.

3.4.3 Module 3

Then the user will input the Query to the Chatbot.

3.4.4 Module 4

The Chatbot will process that query and it will try to find the best match for the query that is provided by the user.

3.4.5 Module 5

After finding the best match it will respond back to the user with the answer.

3.5 References

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Chapter 4

Planning for next semester

- We are planning to create Graphical User Interface(GUI) for the chatbot which will help user to interact with the it.
- Also we are planning to add Extra Features .