CHATBOT FOR COLLEGE WEBSITE

Using IBM Watson Assistant

Campus: VIT Vellore

Team members:

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1. INTRODUCTION

1.1 Overview

The Web application "CHATBOT FOR COLLEGE WEBSITE" named “VITbot” is designed using HTML and CSS for the website and IBM Watson Assistant for building the chatbot. The project is implemented mainly to solve the doubts and queries of both students, Academic staff, parents and visitors. A chatbot suits the user needs and requirements. Chat bots are usually a stateful services, remembering previous commands (and perhaps even conversation) in order to provide functionality. When chat bot technology is integrated with popular web services it can be utilized securely by an even larger audience. The project provides user to have basic interaction with them just like a human. And, provides text-based user interface, allowing user to type commands as well as receive the texts. It can answer the questions asked by the user. The questions could be about college details.

1.2 Purpose

The purpose of a chatbot on a college website can vary depending on the specific goals and objectives of the institution. A chatbot can provide quick and accurate responses to commonly asked questions from prospective students, current students, parents, or any website visitor. It can assist with inquiries related to admission requirements, academic programs, campus facilities, financial aid, student services, and more. Overall, the primary purpose of a chatbot on a college website is to enhance user experience by providing quick and accurate information, assisting with inquiries, and improving accessibility to key resources and services. It can save time for both staff and visitors and ensure a more seamless and interactive browsing experience.

2. LITERATURE SURVEY

2.1 Existing Problem

- Greetings or Basic interaction with the user.
- Students need 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.

Disadvantages:

- Traditionally, the chat bot system is not known to people who are not more into the technology.
- Even if there exist a chat bot system, it is not much accurate in proving the answer or solutions.
- Students/Visitors need 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.
- Hence, this process may lead to communication gap between student and college.

2.2 Proposed Solution

- This System is a web application which provides answer to the query of the student, Academic staff, Parent and especially visitor.
- They just have to query through the bot which is used for chatting.
- They can chat using any format there is no specific format the user has to follow.
- The System uses built in conditions set in IBM Watson Assistant to answer the query.
- The answers are appropriate what the user queries.

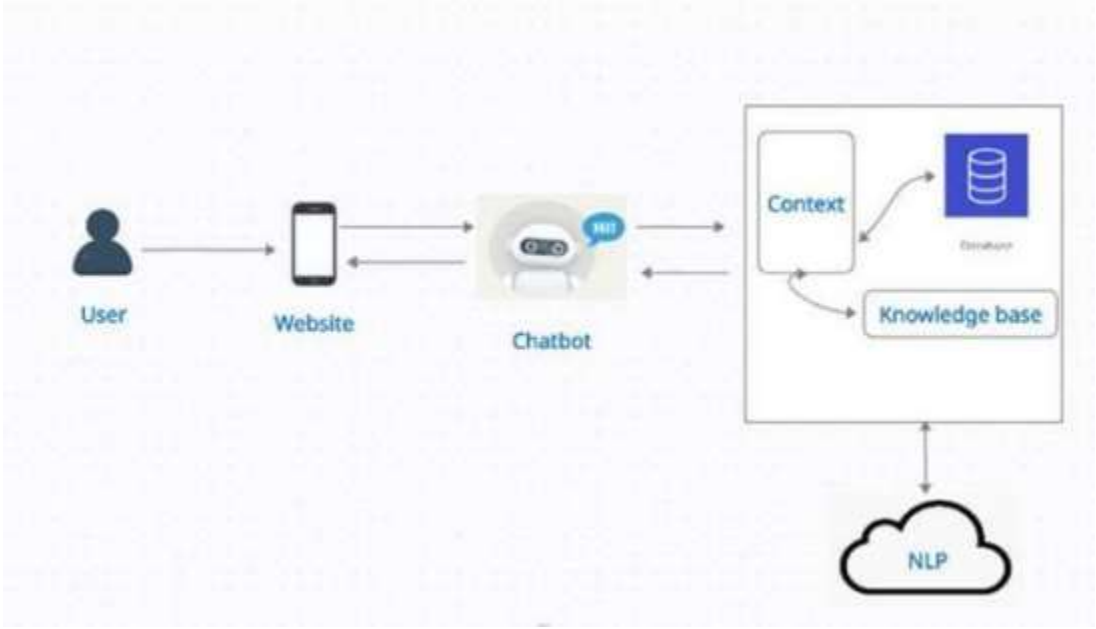
Advantages:

- User does not have to go personally to college office for the enquiry.
- This application enables the students to be updated with all the college activities.
- This application saves time for the student as well as teaching and non-teaching staffs. Chat bot can run on local computers and phones, though most of the time it is accessed through the internet.
- Chat bot is typically perceived as engaging software entity which humans can talk to. It can be interesting, inspiring and intriguing.
- It appears everywhere, from old ancient HTML pages to modern advanced social networking websites.
- It runs from standard computers to fashionable smart mobile devices.

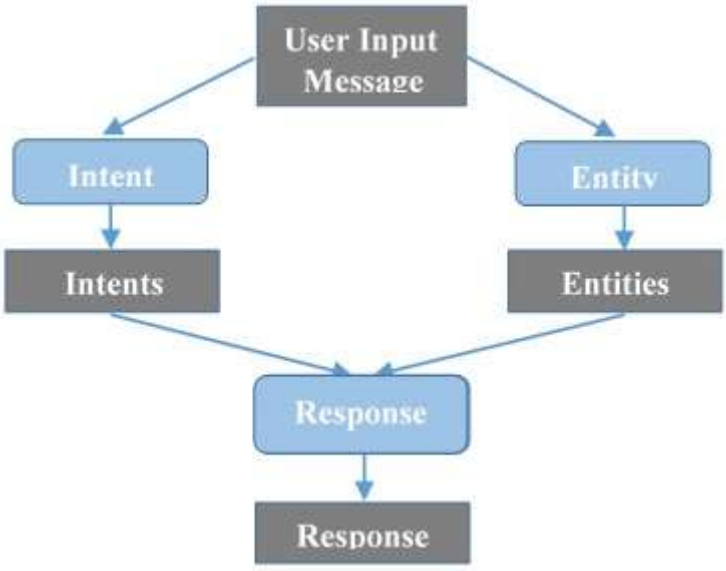
3. THEORITICAL ANALYSIS

3.1 Block diagram

General representation of how the project works:



Simple block diagram for the chatbot:



3.2 Hardware / Software designing

Hardware Requirements

Processor	Core i3
Ram	8 GB
Keyboard	108 enhanced
Display	HP 14” monitor

Software Requirements

Operating system	Windows 11
Platform	IBM Watson Assistant
Software	Visual studio code

4. EXPERIMENTAL INVESTIGATIONS

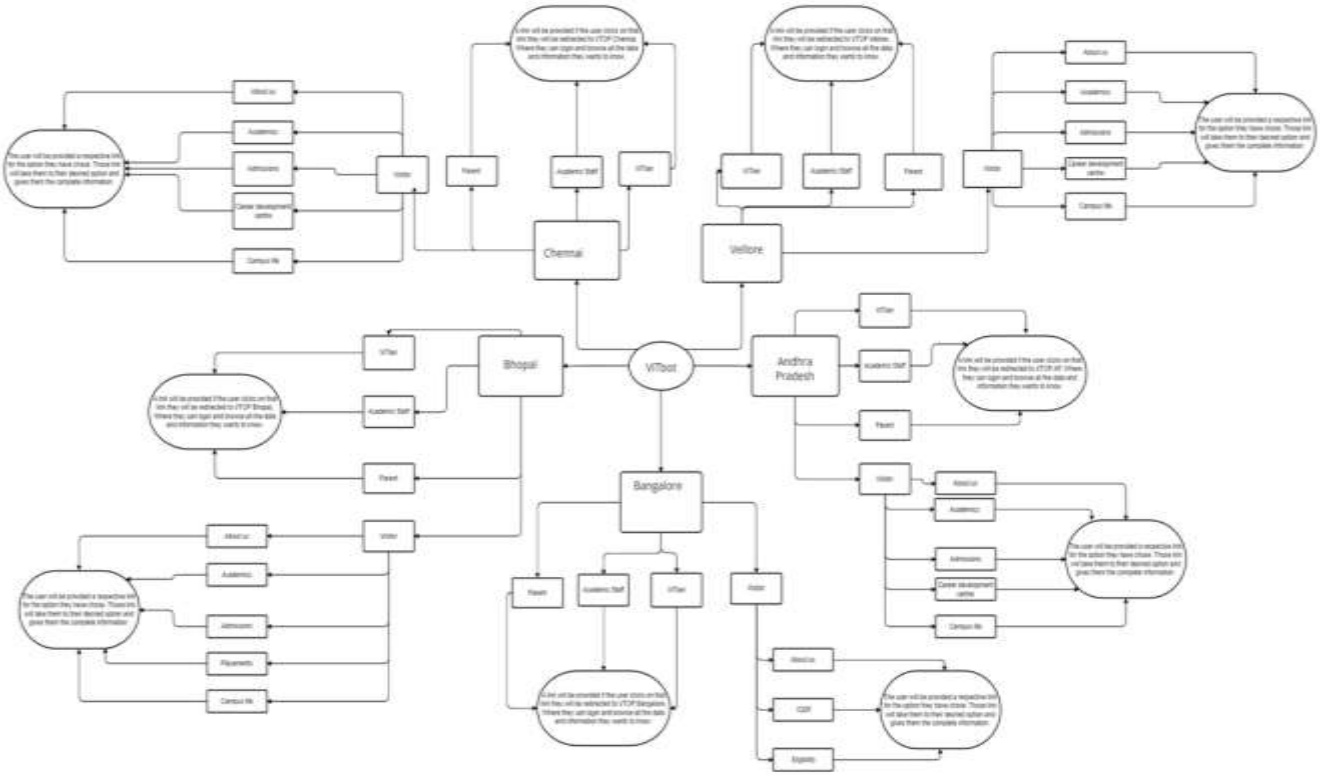
User Analysis: Understanding the target audience, such as prospective students, current students, or parents, is crucial. Conduct user research, surveys, or interviews to identify their needs, preferences, and common queries. This analysis helps in designing a chatbot that caters to their specific requirements.

Content Analysis: Analyse the existing content on the college website to identify the most frequently accessed information, such as admission requirements, academic programs, or student services. This analysis helps in determining the content that should be readily available and easily accessible through the chatbot.

Use Case Analysis: Identify the specific use cases where the chatbot can add value and improve user experience. For example, assisting with admissions inquiries, providing course information, or guiding users to relevant resources. Analysing these use cases helps in defining the chatbot's functionalities and determining the scope of its capabilities.

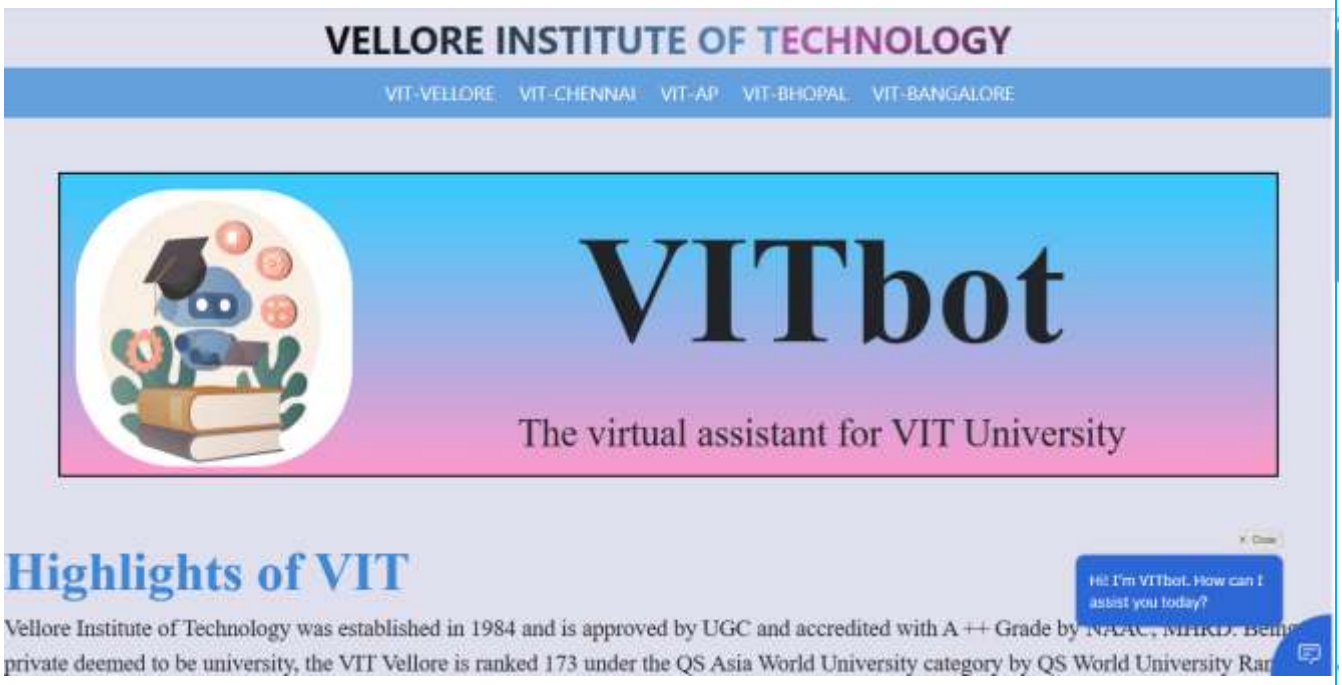
Conversational Design Analysis: Study the principles of conversational design and chatbot interaction to ensure a seamless and natural conversation flow. Analyse different conversational scenarios and user intents to create effective chatbot responses. This analysis involves considering the tone of the chatbot, handling user errors, and providing accurate and relevant information.

5. FLOWCHART



6. RESULT

The user interface for the "VITbot":

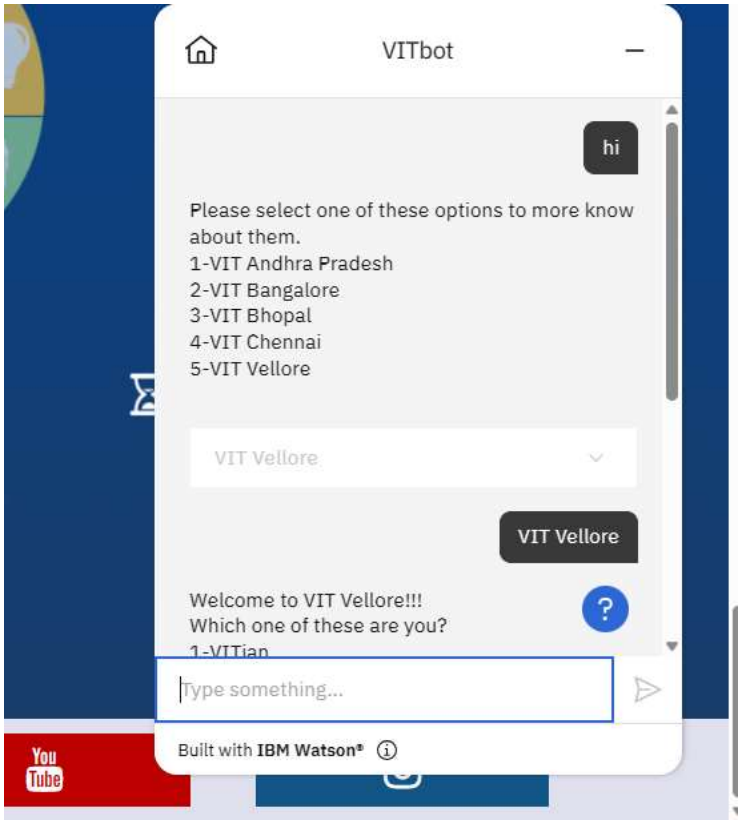


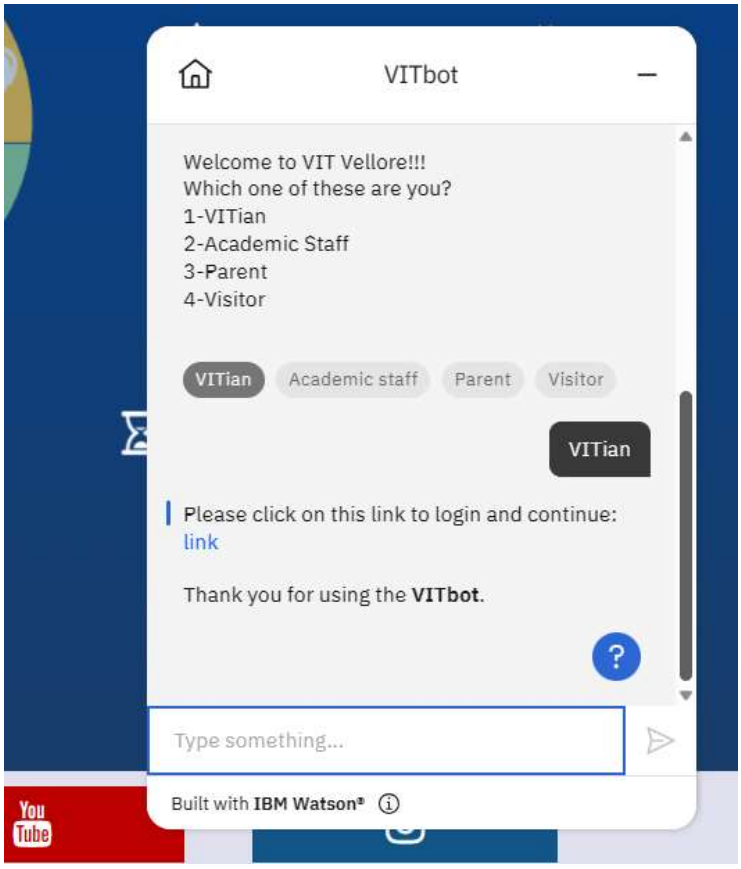
Highlights of VIT

Vellore Institute of Technology was established in 1984 and is approved by UGC and accredited with A ++ Grade by NAAC, MHRD. Being a private deemed to be university, the VIT Vellore is ranked 173 under the QS Asia World University category by QS World University Rankings 2023. VIT University, through 15 schools of study, offers UG, PG, PhD courses to students across the Management, Engineering, Science, and other streams. VIT Vellore comprises three other campuses located in Bhopal, Chennai, Amaravati and Bangalore is run and managed by the VIT Group of Institutes. VIT also has VIT Online Learning Institute which offers online courses to students.

Internationally, VIT was ranked 1001–1200 in the QS World University Rankings of 2023 and 173 in Asia. It was ranked 801–1000 in the world by the Times Higher Education World University Rankings of 2023,251–300 in Asia in 2022 and 301–350 among emerging economies. It was ranked 601–700 in the Academic Ranking of World Universities of 2022.

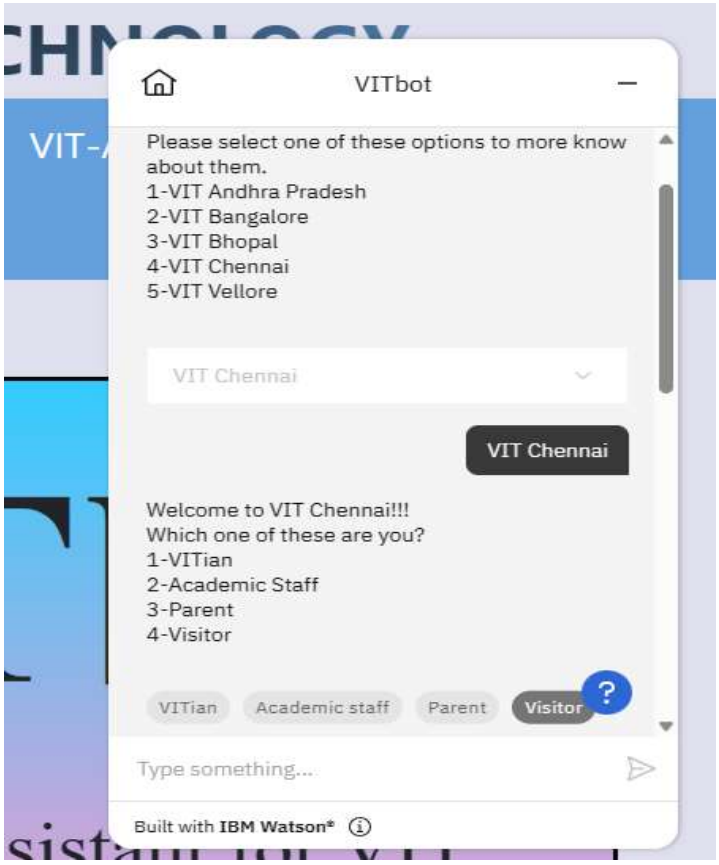
If you are a student in VIT Vellore, you can access the VITbot as follows:

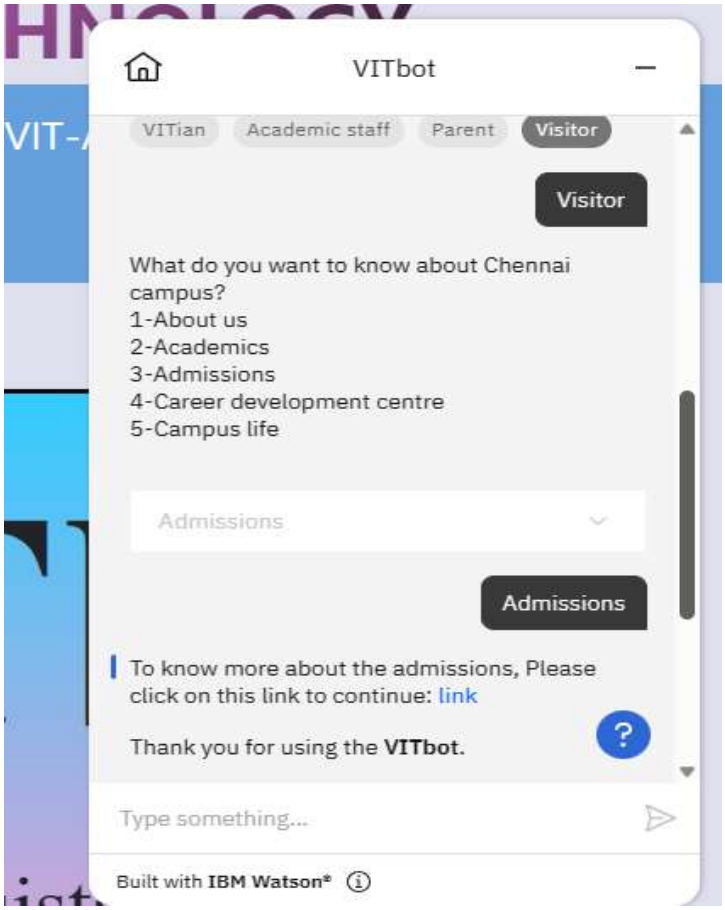




This works similarly for Academic staff and parent.

If the user is a visitor and wants to know about any of the VIT campus:





7. ADVANTAGES & DISADVANTAGES

Advantages:

24/7 Availability: Chatbots can provide instant assistance and support to website visitors at any time, eliminating the need to wait for office hours or rely on human staff availability.

Improved User Experience: Chatbots offer a more interactive and personalized user experience by providing tailored responses to individual queries, guiding users through the website, and offering relevant information.

Time and Cost Savings: Chatbots can handle a high volume of inquiries simultaneously, reducing the workload on staff and freeing up their time for more complex tasks. This can lead to cost savings for the college by reducing the need for additional support staff.

Quick and Accurate Information: Chatbots are designed to provide prompt and accurate responses based on programmed knowledge and data sources, ensuring that users receive reliable information in real-time.

Scalability: Chatbots can handle a large number of inquiries concurrently, making them scalable and capable of managing increased user traffic during peak periods, such as admissions deadlines.

Disadvantages:

Lack of Human Touch: Chatbots may lack the human touch and empathy that a person-to-person interaction can provide, potentially leading to a less personal experience for some users.

Limited Contextual Understanding: Chatbots might struggle to understand complex or nuanced queries that require contextual understanding or subjective judgment. They may provide incorrect or incomplete responses in such cases.

Technical Challenges: Developing and maintaining a chatbot requires technical expertise and ongoing updates to ensure optimal performance. Technical issues, such as integration problems, downtime, or errors, can impact the user experience and require dedicated resources for troubleshooting.

Language and Communication Limitations: Chatbots may encounter difficulties in understanding and responding appropriately to users with diverse language styles, accents, or non-standard queries. They may also struggle with sarcasm, humour, or nuanced language.

8. APPLICATIONS

- A chatbot can provide information about admission requirements, deadlines, application processes, and required documentation. It can guide prospective students through the application steps and help them understand the college's offerings.
- They provide details about academic programs, course descriptions, prerequisites, and faculty information. It can assist students in exploring different majors, understanding curriculum options, and finding courses that align with their interests and goals.
- It can connect students with various support services offered by the college, such as counselling, career services, academic advising, or health services. They can provide basic information, schedule appointments, or direct students to the appropriate resources.
- It can collect feedback from students, faculty, or website visitors, providing an interactive and convenient way to gather insights. They can conduct surveys on various topics, such as satisfaction with services, program feedback, or campus experience, aiding in continuous improvement efforts.
- It can address frequently asked questions (FAQs) about the college, its policies, campus facilities, student services, financial aid, and more. They can provide quick and accurate responses to common inquiries, saving time for both users and staff.

9. CONCLUSION

In conclusion, developing a chatbot for a college website can bring numerous benefits and enhance the overall user experience. The project presents an opportunity to provide 24/7 support, improve accessibility to information, and streamline various processes within the college. By analysing user needs, content, and specific use cases, a well-designed chatbot can offer quick and accurate information, saving time and costs for both users and staff.

Despite the advantages, it is important to consider the limitations and challenges associated with chatbot development. Ensuring the chatbot understands contextual nuances, maintaining accurate programming and data sources, and addressing potential language barriers are crucial factors to address. Additionally, the chatbot should be designed as a complementary tool rather than a complete replacement for human interaction, as it may lack the human touch and empathy that some users may desire.

In conclusion, developing a chatbot for a college website requires careful analysis, planning, and implementation. With proper attention to user needs, conversational design, technical integration, and security considerations, a well-executed chatbot can significantly enhance the functionality and user satisfaction of the college website.

10. FUTURE SCOPE

- Face Detection and Face Recognition
- Set up more Voice Terminals
- Make to learn more new skills on its own
- To make it available to the world

11. BIBILOGRAPHY

[1] Emanuela Haller and Traian Rebedea, "Designing a Chat-bot that Simulates an Historical Figure", IEEE Conference Publications, July 2013.

[2] Maja Pantic, Reinier Zwitserloot, and Robbert Jan Grootjans, "Teaching Introductory Artificial Intelligence Using Asimple Agent Framework", IEEE Transactions On Education, Vol. 48, No. 3, August 2005.

[3] https://www.edureka.co/blog/how-to-make-a-chatbot-in-python/

[4] https://developer.ibm.com/tutorials/embed-watson-assistant-in-website/

APPENDIX

```
<!DOCTYPE html>
<html>
    <head>
        <link rel="stylesheet"
href="https://stackpath.bootstrapcdn.com/bootstrap/4.5.2/css/bootstrap.min.css"
integrity="sha384-JcKb8q3iqJ61gNV9KGb8thSsNjpSL0n8PARn9HuZOnIxN0hoP+VmmDGMN5t9UJ0Z"
crossorigin="anonymous">
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crossorigin="anonymous"></script>
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integrity="sha384-9/reFTGAW83EW2RDu2S0VKaIzap3H66lZH81PoYlFhbGU+6BZp6G7niu735Sk7lN"
crossorigin="anonymous"></script>
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otstrapcdn.com/bootstrap/4.5.2/js/bootstrap.min.js" integrity="sha384-
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crossorigin="anonymous"></script>
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awesome/4.7.0/css/font-awesome.min.css">
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            margin: 0px;
        }
    .bg-container{
        background-color: rgb(224, 223, 238);
        background-size: cover;
        width: 100%;
    }
    ul {
  list-style-type: none;
  margin: 0;
  padding: 0;
  overflow: hidden;
  background-color: #649fde;
  width: 100%;
  text-align: center;

}
li {
  float: left;
  text-align: center;
}
li a {
  display: block;
  color: white;
  text-align: center;
  padding: 14px 16px;
  text-decoration: none;
  text-align: center;
}
li a:hover {
  background-color: lightblue;
  text-align: center;
}
.animate-charcter
{
   text-transform: uppercase;
  background-image: linear-gradient(
    -225deg,
    #b057aa 5%,
    #0b0b0b 29%,
    #0b0b09 67%,
    #649fde 100%
```

```
  );
  background-size: auto auto;
  background-clip: border-box;
  background-size: 200% auto;
  color: #fff;
  background-clip: text;
  text-fill-color: transparent;
  -webkit-background-clip: text;
  -webkit-text-fill-color: transparent;
  animation: textclip 2s linear infinite;
  display: inline-block;
      font-size: 50px;
}
@keyframes textclip {
  to {
    background-position: 200% center;
  }
}
.bg-container2{
    text-align: center;
    font-size: 200px;
    margin: 70px;
    font-family: 'Times New Roman', Times, serif;
  border: 3px solid #070807;
  background: linear-gradient(to bottom, #33ccff 0%, #ff99cc 100%);
}
.waviy {
  position: relative;
}
.waviy span {
  position: relative;
  display: inline-block;
  font-size: 40px;
  color: #fff;
  text-transform: uppercase;
  animation: flip 2s infinite;
  animation-delay: calc(.2s * var(--i))
}
@keyframes flip {
  0%,80% {
    transform: rotateY(360deg)
  }
}
.happy{
    font-size: 30px;
    font-family: 'Times New Roman';
}
.sad{
```

```
    font-size: 70px;
    font-family: 'Times New Roman';
    color: #3c87d8;
}
.tagline{
    font-size: 50px;
}
.image{

  border-radius: 150px;
  padding: 20px;
}
.fa {
  padding: 10px;
  border-radius: '1s%';
  font-size: 30px;
  width : 200px;
  text-align: center;
  text-decoration: none;
  margin: 10px 20px;
}
.fa-twitter {
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  color: white;
}
.fa-linkedin {
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  color: white;
}
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width: 100%;
font-size: 25px;
```

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}
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    integrationID: "45fcdd5b-e129-45d4-879a-ea567c4146ae", // The ID of this integration.
    region: "au-syd", // The region your integration is hosted in.
    serviceInstanceID: "48241b15-44a6-462e-8be8-b441da88f814", // The ID of your service
instance.
    onLoad: function(instance) { instance.render(); }
  };
  setTimeout(function(){
    const t=document.createElement('script');
    t.src="https://web-chat.global.assistant.watson.appdomain.cloud/versions/" +
(window.watsonAssistantChatOptions.clientVersion || 'latest') + "/WatsonAssistantChatEntry.js";
    document.head.appendChild(t);
  });
</script>
    </head>
    <body>
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</b></a></center>
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            <li><a href="https://chennai.vit.ac.in/">VIT-CHENNAI</a></li>
            <li><a href="https://vitap.ac.in/">VIT-AP</a></li>
            <li><a href="https://vitbhopal.ac.in/">VIT-BHOPAL</a></li>
            <li><a href="https://vitbangalore.in/">VIT-BANGALORE</a></li>
        </div>
          </ul>
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height="400"  >
             <b>VITbot</b>
             <p class="tagline">The virtual assistant for VIT University</p>
          </div>
          <b class="sad">Highlights  of  VIT</b></h1>
          <br>
          <P class="happy">Vellore Institute of Technology was established in 1984 and is
approved by UGC and accredited with A ++ Grade by NAAC, MHRD. Being a private deemed to be
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managed by the VIT Group of Institutes. VIT also has VIT Online Learning Institute which offers online courses to students. </P><br>
          <p class="happy">Internationally, VIT was ranked 1001–1200 in the QS World University Rankings of 2023 and 173 in Asia. It was ranked 801–1000 in the world by the Times Higher Education World University Rankings of 2023,251–300 in Asia in 2022 and 301–350 among emerging economies. It was ranked 601–700 in the Academic Ranking of World Universities of 2022.</p>
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<a href="https://www.linkedin.com/school/vellore-institute-of-technology/" class="fa fa-linkedin"></a>
<a href="https://www.youtube.com/@VITUniversityVellore" class="fa fa-youtube"></a>
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