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Campus Chatbot for Student Support based on Chat Assistant

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ABSTRACT

The Campus Chatbot for Student Support is a web-based application designed to help students get important college information quickly and easily. In many colleges, students often have questions about exams, fees, admission process, syllabus, assignments, results, and college events. Usually, students need to visit the college office or contact staff members to get this information. This process takes time and sometimes causes delay.
To solve this problem, we developed a simple chatbot system that provides instant replies to students. The chatbot works on predefined questions and answers stored in the system. When a student types a question, the chatbot checks the stored data and gives the most suitable response.
The main purpose of this project is to provide quick, easy, and automated student support. This system reduces manual workload and improves communication between students and the institution.

Keywords : - Campus Chatbot,Student Support System,Website-Based ,MI model,Automated Response System,College Information System,Student Assistance,Academic Information Portal, Knowledge Base System,User-Friendly Interface,Web Technology (HTML, CSS, JavaScript)

1. INTRODUCTION

After studying previous systems and technologies, we decided to develop a simple rule-based Campus Chatbot for Student Support. Our system focuses on answering frequently asked questions related to exams, fees, admissions, syllabus, and events. Unlike advanced AI systems, our chatbot does not use complex machine learning algorithms. Instead, it uses a basic matching system to provide accurate and fast responses.
This literature study helped us understand the importance of chatbot technology and how it can be applied in the education sector. It also guided us in designing a simple, practical, and cost-effective solution suitable for our project level.
With the rapid growth of digital technology, educational institutions are moving towards automation to improve efficiency. Students frequently require information regarding exams, admissions, fee structure, assignments, syllabus, and academic events. Traditional methods of obtaining such information involve visiting administrative offices, which is time-consuming and inefficient.
The Campus Chatbot for Student Support is developed as a simple rule-based system to automate student query handling. The chatbot uses predefined questions and answers stored in a knowledge base. Unlike advanced AI chatbots, this system uses keyword matching techniques to provide accurate and quick responses.

1.1 Background of study

Many colleges still rely on manual communication methods for student support. These systems create delays, increase staff workload, and sometimes result in incorrect information delivery. With the introduction of chatbot technology, institutions can automate frequently asked queries. Chatbots have been widely used in customer service, banking, and e-commerce sectors. Applying this technology in education can significantly enhance student experience by providing instant and accurate responses.

1.2 Problem Statement

Students must physically visit departments for simple queries, Delays in response from administrative staff, Repetitive workload for college employees, Lack of 24/7 availability

2. LITERATURE REVIEW

For small institutions, rule-based chatbots provide a simpler and cost-effective alternative. They use keyword matching and predefined responses to handle frequently asked questions efficiently.
Several studies suggest that educational chatbots improve communication transparency and reduce administrative workload. Based on these findings, this project implements a basic rule-based chatbot suitable for campus-level deployment. In the education sector, some institutions have started using chatbots to guide students regarding admissions, course details, exam schedules, and campus activities. Research studies show that chatbots improve response time, increase student satisfaction, and reduce administrative workload. Students

prefer digital platforms because they provide instant information without waiting in queues.

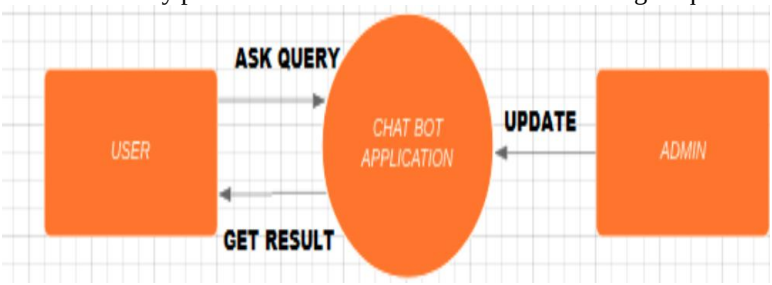

Fig -1: Project diagram

3. SYSTEM ARCHITECTURE

System architecture explains how different parts of the Campus Chatbot work together to provide responses to students. It shows the structure of the system and how data flows from the user to the database and back. The Campus Chatbot for Student Support is designed as a simple web-based application. It mainly consists of four major components:

1. User Interface (Frontend): The user interface is the part of the system where students interact with the chatbot. It is developed using HTML and CSS. Students type their questions in a chat box, and the response is displayed on the same screen. The interface is simple, clean, and easy to use.
2. Web Server (Backend): The backend of the system is developed using Python and the Flask framework. The backend receives the question entered by the student and processes it. It checks the question with stored data and decides which answer should be returned.
3. Database: The database stores predefined questions and their corresponding answers. When a student enters a query, the system searches the database for a matching question. If a match is found, the related answer is retrieved.
4. Response System: After finding the correct answer, the system sends the response back to the user interface. The student can then continue asking more questions.

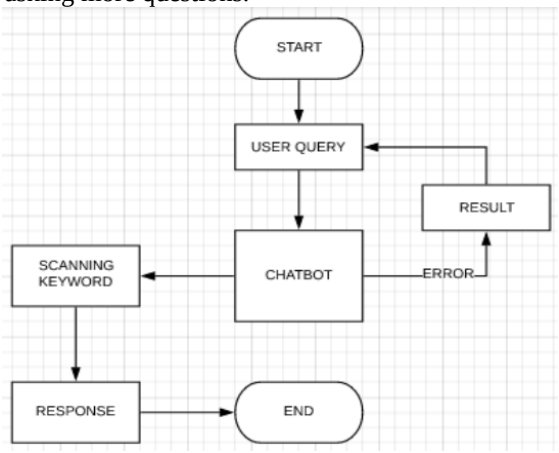

Chart -2:MI model diagram

3.1 User Interface Module

Simple chat window, Input text field, Response display area.

3.2 Result

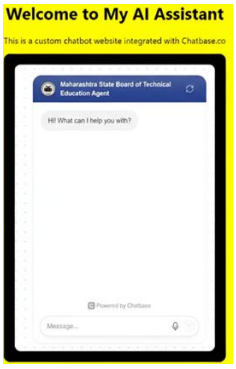

Fig.1 Chat Bot interface

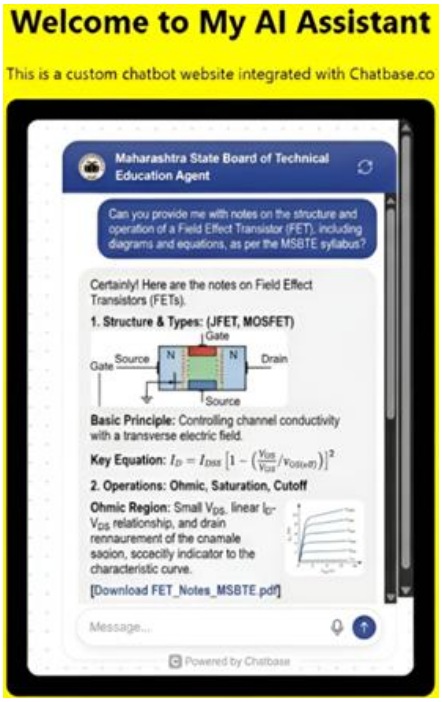

Fig.2 Active State of ChatBot

4. CONCLUSIONS

The Campus Chatbot for Student Support provides a simple, efficient, and automated solution for handling student queries. It reduces administrative workload and ensures quick access to academic information. The system is cost-effective and suitable for small and medium educational institutions.

5. ACKNOWLEDGEMENT

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