Chatbot (BANDHU)

Sentiment Analysis on Interactive Conversational Agent/Chatbot

User Manual Version 1.0

Group 4

Emerging Technologies

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1. Introduction

In our increasingly digital world, AI-powered assistants, often referred to as chatbots, have become integral parts of our daily lives. These virtual helpers harness the power of artificial intelligence to interact with users, providing assistance and information in a conversational manner. Whether it's answering questions, scheduling appointments, or offering recommendations, chatbots offer a convenient and accessible way to access services and support. With their ability to understand natural language and adapt to user needs, they simulate human-like interactions, making them indispensable tools for businesses and individuals alike. As technology continues to advance, chatbots are evolving to become even more intelligent and capable, promising a future where assistance is just a conversation away. This project is focusing on creating a chatbot to be used by students to get their queries responded easily from the departmental website. The Departmental Enquiry Chatbot has the capacity to make friendly conversations; respond the course and faculty details; give the link for the academic calendar; answer the frequently asked questions; we present a chatbot system that uses machine learning techniques. So chatbots can learn from users to improve their results. We test our chatbots by testing real-world conversations.The results show that our chatbot can answer simple questions with higher accuracy than more advanced questions. Chatbots are designed tounderstand sentences, determine their meaning,and continue the conversation as need ed, but they cannot capture the user’s intent. It can enable the chatbot to not only respond to the user, but also understand them emotionally. Through our research, we focus on building a chatbot that responds based on the user’s emotions to create a more empathetic and human experience for the user. Frequently we tend to tend to pay our time interrelate with numerous chatterboxes on the net, mostly targeted at such functions or just amusement. The chatbots have embedded information that helps them acknowledge the user's question and provide an answer to it. The departmental enquiry chatbot project is meant exploitation algorithms that interpret user queries and understand user's message. This method is a web application that provides answers to the student's question. Students would really like simply question through the bot. The program analyzes the user's query and answers. Then the bot responds to the query, as if the real person were asking it. The program responds to the students' question with the help of algorithms.

1.1 Purpose of the Chatbot

A chatbot is a computer program designed to simulate human conversation. Its primary purpose is to assist users by automating responses to common questions, providing relevant information, or completing specific tasks. Chatbots can be used in various sectors, including customer support, marketing, and e-commerce, to enhance user engagement and provide 24/7 assistance. They streamline repetitive inquiries, reducing the need for human agents and allowing them to focus on more complex issues. Chatbots can handle high volumes of queries simultaneously, making them cost-effective and scalable.

1.2 Overview of Features

- **Streamline Communication:** Facilitate seamless communication within the department by serving as a centralized platform for inquiries, updates, and notifications, thereby fostering collaboration and transparency.

- **Enhance Efficiency:** The primary objective of the AI-powered Departmental Information Assistant is to improve the efficiency of departmental operations by automating repetitive tasks and providing quick access to relevant information.

- **Improve Decision-Making:** Provide timely and accurate information to departmental stakeholders, enabling informed decision-making processes based on real-time data and insights.

- **Support Organizational Goals:** Align the objectives of the AI-powered Departmental Information Assistant with the broader goals and objectives of the organization, contributing to its overall success and competitiveness.

- **User-Friendly Interface:** Develop an intuitive and user-friendly interface for the chatbot, ensuring ease of use for students, faculty, and staff from various colleges.

- **24/7 Availability:** Ensure round-the-clock availability of the chatbot to accommodate the diverse schedules of students, faculty, and staff across different time zones.

- **Personalized Assistance:** Incorporate machine learning algorithms to provide personalized assistance to users based on their preferences, academic history, and interaction patterns.

These features are designed to interact with users in most effective way.

1.3 Technology Stack

Facilitate seamless communication within the department by serving as a centralized platform for inquiries, updates, and notifications, thereby fostering collaboration and transparency:

❖ **Frontend:** The user interface is developed using HTML, CSS, and JavaScript to offer a responsive and intuitive user experience, easy-to-navigate user interface.

❖ **Backend:** The backend is implemented using JS, Firebase to manage user requests, process data, and handle user authentication securely. APIs are integrated to communicate with the AI models and deliver personalized advice.

❖ **Machine Learning (ML):** Departmental Chatbot is powered by machine learning models like ANN (Feed forward neural network), sequential model that analyze user inputs, and providing relevant information.

❖ **Database:** Firebase store user information, and pass id. These databases ensure data integrity and quick retrieval of advice for users.

❖ **Hosting and Deployment:** The platform is hosted on Localhost and ngrok for all user interactions.

Through this technology stack, departmental chatbot ensures a seamless communication within the department by serving as a centralized platform.

2. Who Should Use This Manual

This manual is designed for two types of users who interact with the Chatbot platform.

2.1 Students :

A departmental chatbot helps students by providing quick answers to common queries, such as course details, deadlines, and events, saving time and reducing the need for staff assistance. It offers 24/7 access to information, making it easier for students to stay informed and navigate department processes. Additionally, it can direct students to relevant resources or contacts, enhancing overall support and communication.

2.2 Faculties :

A departmental chatbot assists faculty by handling routine student inquiries, reducing their administrative workload and freeing up time for teaching and research. It streamlines communication, allowing faculty to easily share updates, resources, and announcements. Additionally, the chatbot can facilitate coordination by providing quick access to departmental policies, event schedules, and student support resources.

By utilizing this manual, all users can navigate the Departmental Chatbot platform effectively, ensuring optimal use of its features and capabilities.

3. Getting Started

This section will guide you through accessing the FinanceMate platform and ensuring your system is compatible.

3.1 Accessing the Website

To use the Departmental Chatbot platform, you must first ensure that your system and browser meet thenecessary requirements.

3.1.1 System Requirements

- ❖ Internet Connection
- ❖ Laptop/pc/mobile phone

3.1.2 Browser Compatibility

Departmental Chatbot works best on the latest versions of:

- ❖ **Google Chrome**
- ❖ **Mozilla Firefox**
- ❖ **Microsoft Edge**

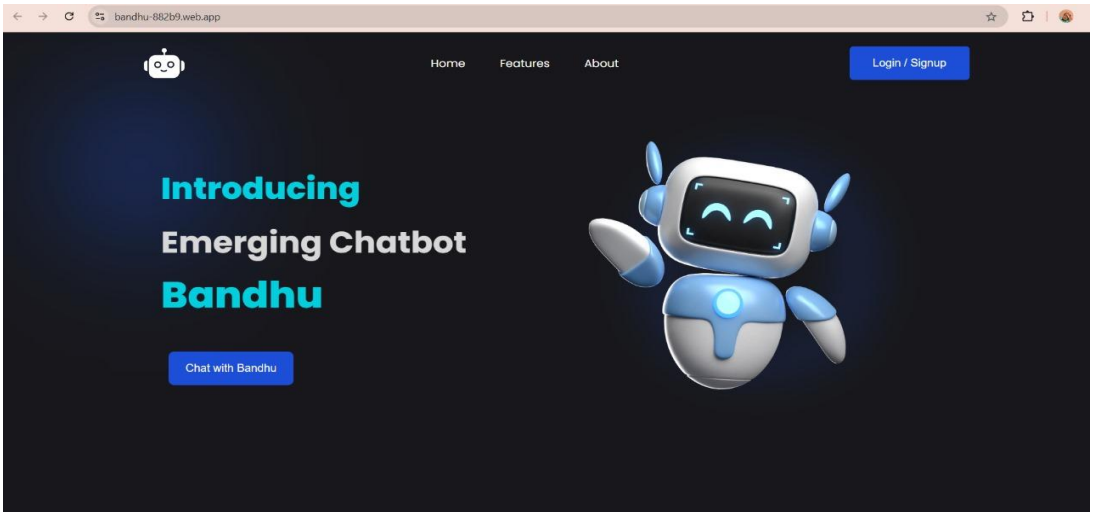
Ensure your browser is updated for the best experience.

4. Getting started with Home page

Get started with Departmental Chatbot by exploring our homepage for seamless communication.

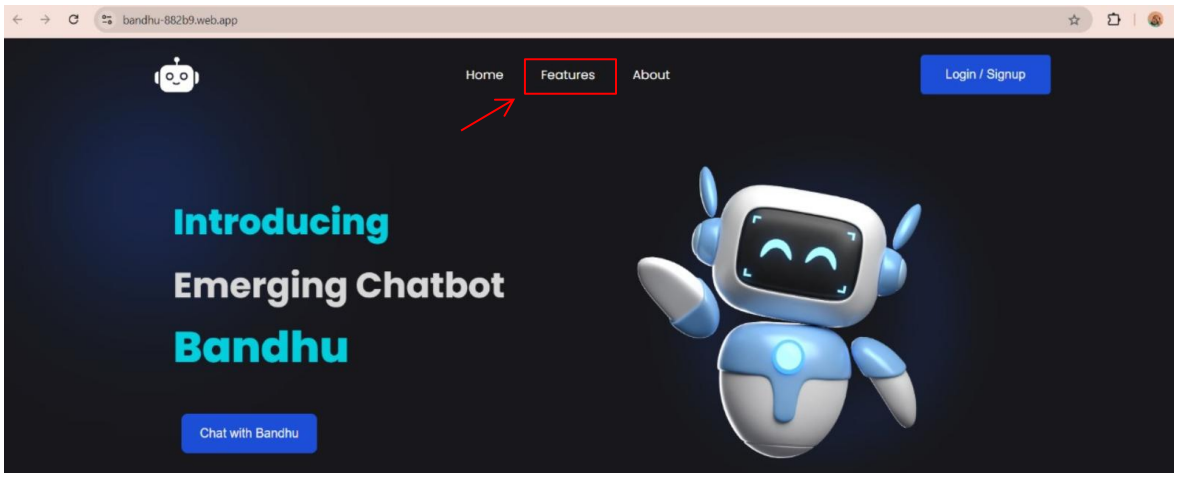
4.1 Home Page of the website

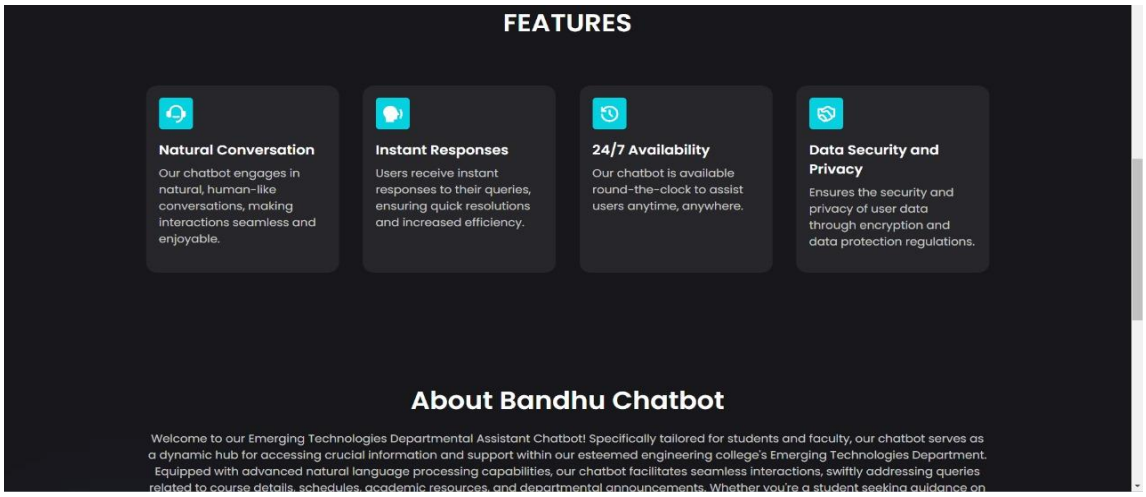
Once the website will be loaded you will be navigated towards Home Page



4.2 Features Page of the website

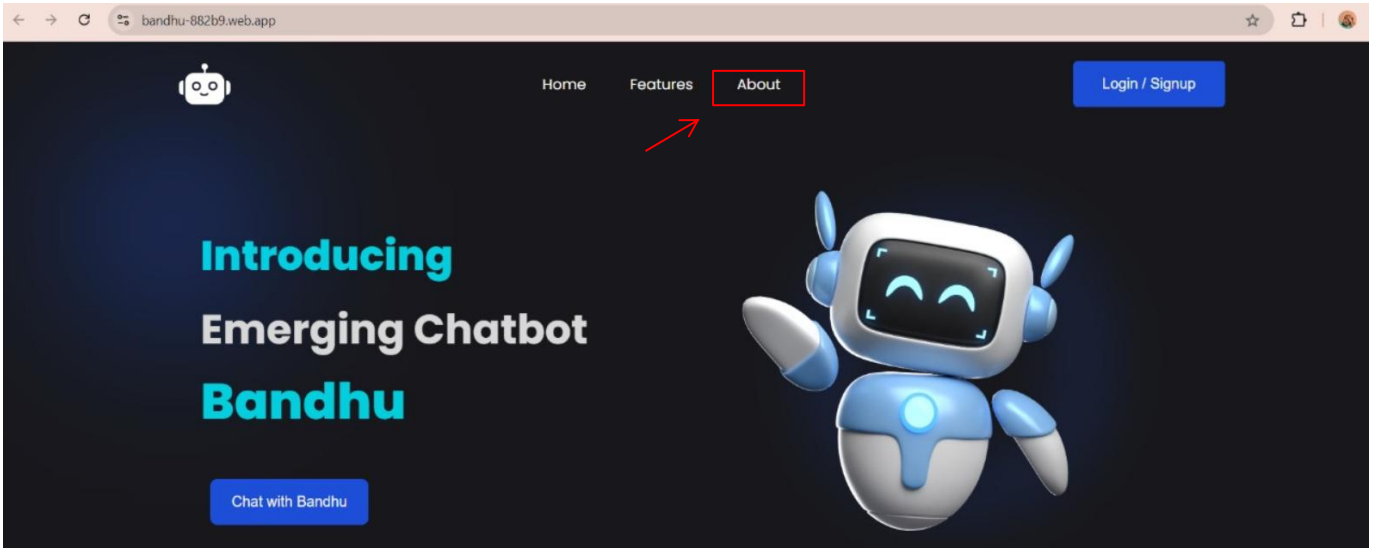
Click on the Features section into the Nav bar to navigate into it.





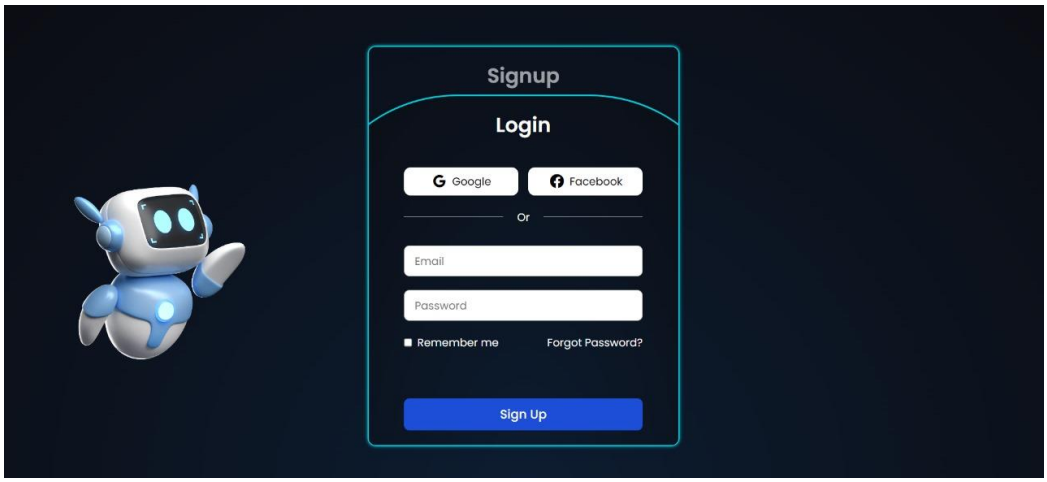
4.3 About us Page of the website

Click on the About us section into the Nav bar to navigate into it.



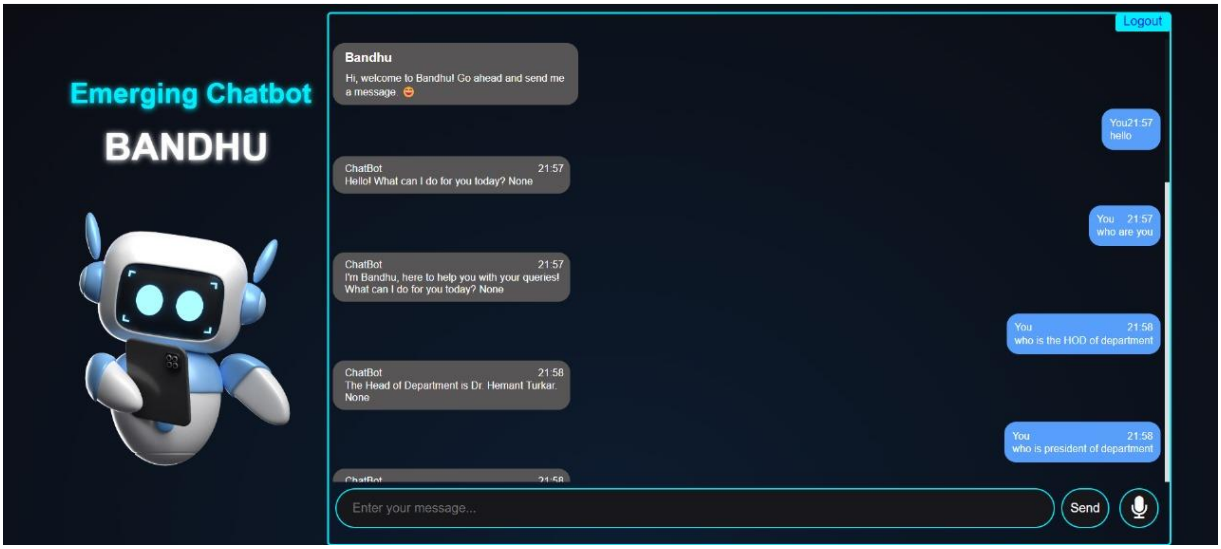
4.4 Signup / Login page

After signing up and logging in , the user can effectively communicate with the bot.



4.5 Get Chat Interface Page

This is the chat interface of the chatbot that will open after user signup & login.



User can ask query using voice command also in chatbot .