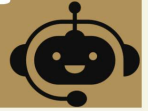# CIC's Chatbot & SamvaadGPT: A Fully Functional AI Chat Interface
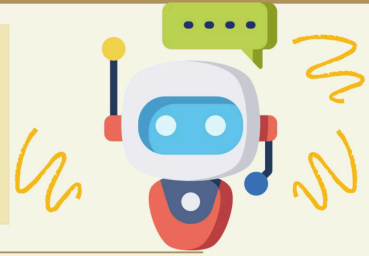
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ABSTRACT

This project explores the development and functionalities of an AI chat interface built upon the foundation of the Gemini's LLM. By leveraging the capabilities of Gemini through its API integration, the project aims to create a user-friendly platform for natural language interaction with the AI model. The interface is constructed using a combination of web development technologies: HTML provides the core structure, CSS delivers visual styling, JavaScript handles interactivity, and React serves as a framework for building reusable UI components, streamlining the development process.

This project also presents the development of a chatbot, named CIC Chatbot, designed to serve as a comprehensive information resource for students, faculty, and prospective students of CIC. The chatbot leverages the power of database to understand user queries and provide informative responses regarding various aspects of CIC.

INTRODUCTION

This project details the development of SamvaadGPT, an AI chat interface built using web technologies and integrated with Gemini's API. SamvaadGPT allows users to have natural language conversations with a large language model, providing informative and interactive experiences.

This project also details the development and implementation of a chatbot specifically designed to serve the needs of the CIC community.

FUNCTIONALITIES

SamvaadGPT

SamvaadGPT's functionalities extend far beyond simply providing answers to your questions. Here's a glimpse into the diverse capabilities it offers:

- It can be your personal guide, delving into various topics and providing comprehensive information. Whether you seek scientific explanations, historical accounts, or literary analysis, SamvaadGPT can lead you down a path of discovery.

- It can be your brainstorming partner. Pose your challenges, and it can offer suggestions, generate ideas, or even help refine your existing concepts. This AI companion can ignite your creativity and propel your projects forward.

- It can be your personalized learning assistant, catering to your specific needs. Ask in-depth questions, delve into complex concepts, or request explanations in a way that resonates with you. SamvaadGPT can tailor its responses to your learning style, making the educational journey more engaging and effective.

- Engaging in meaningful conversations often involves encountering diverse viewpoints. SamvaadGPT can introduce you to different perspectives on various topics. By presenting you with information from various sources and angles, it can broaden your understanding and stimulate critical thinking

CIC ChatBot

The CIC chatbot offers significant advantages, including enhanced accessibility to information 24/7, improved efficiency by automating responses to frequently asked questions, and the potential to foster a more connected college community. This project contributes to the growing field of conversational bots within educational institutions and serves as a model for other institutions seeking to leverage this technology.

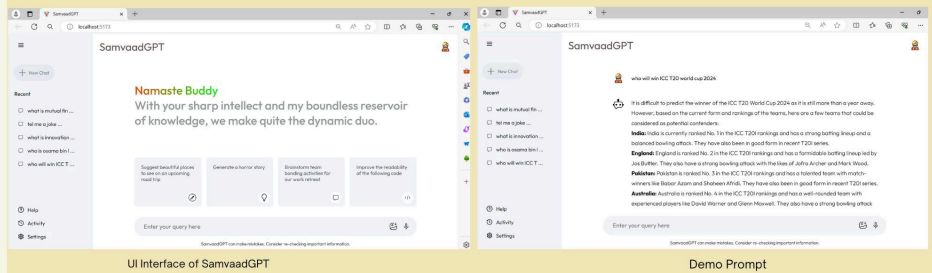The chatbot provides a user-friendly interface for interaction. This is a text-based chat window .

Users can interact with the chatbot by typing their questions in natural language. The chatbot will then process the query and deliver a response that addresses the user's needs.

RESULTS

SAMVAADGPT

SamvaadGPT's core functionality lies in facilitating natural language conversations between you and the powerful Gemini large language model. Built with user-friendliness at its forefront, SamvaadGPT utilizes a combination of HTML, CSS, and JavaScript to create an intuitive chat interface. Under the hood, React, a popular JavaScript library, takes center stage, ensuring a dynamic and interactive user experience. But the true power lies in the seamless integration with Gemini's API. This integration empowers SamvaadGPT to tap into the vast knowledge and capabilities of the Gemini.
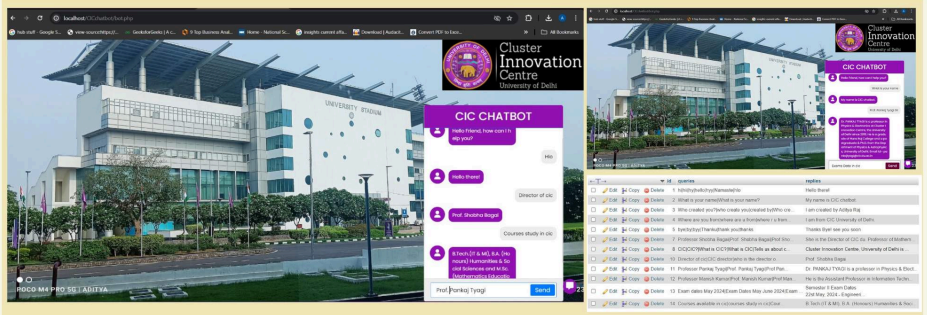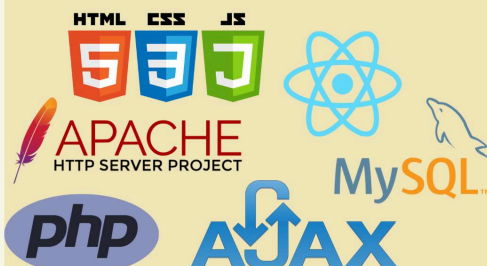

UI Interface of SamvaadGPT

Demo Prompt

CIC CHATBOT

CIC's chatbot is designed to serve as a comprehensive information resource for students, faculty, and other details related to CIC. This chatbot is built using XAMPP stands for "Cross-Platform (X), Apache (A), MySQL (M), PHP (P), and Perl (P)".

The interface is created using a combination of front-end and back-end technologies in which We use Apache for local web hosting service, MySQL for data storage and PHP, or Hypertext Preprocessor, is a server-side scripting language embedded into HTML as back-end and For frontend we use HTML to lay out a document's general structure and content, CSS for styling and AJAX (Asynchronous JavaScript and XML) calls to connect to back-end services and APIs and to retrieve data from the HTTP server.

TECHNOLOGY STACK

FUTURE DEVELOPMENTS

SamvaadGPT

While SamvaadGPT leverages the capabilities of a large language model (LLM) through the Gemini API, this dependency presents a potential limitation for future development. The current reliance on Gemini's API restricts SamvaadGPT's control over the underlying LLM's capabilities and its access to specific data sets. To achieve greater autonomy and potentially superior performance, future endeavors should focus on:

- Custom Data Set Creation: Curating a dataset tailored to the specific needs and target audience of SamvaadGPT. This dataset could include text and code relevant to the desired domains of expertise for the LLM.
- Independent LLM Training: Utilizing the curated dataset to train a custom LLM. This in-house LLM would be specifically designed to meet the requirements of SamvaadGPT, potentially leading to more accurate, relevant, and nuanced responses.

CIC ChatBot

While the current iteration of the CIC chatbot demonstrates promising results, there is always room for improvement. Here are some potential areas for future development:

- Expanding the knowledge base: Include additional data sources such as library resources, campus events, or career services information.
- Implementing sentiment analysis: Enhance the chatbot's ability to understand user intent and respond accordingly, potentially offering emotional support or de-escalating situations.