Malnad College of Engineering, Hassan

(An Autonomous Institution affiliated to VTU, Belgavi)

Main Project Phase-I (22CS605)

Report On

"AI Chatbot for College Event Reminder"

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

Bachelor of Engineering in
Computer Science and Engineering

Submitted by

JANAVI H GOWDA	4MC22CS072
HAJIRA KULSUM	4MC22CS060
APEKSHA H S	4MC22CS014
P SHARANABASAPPA	4MC23CS407

Under the guidance of
Prof. HARSHITHA S
Assistant Professor

Department of Computer Science and Engineering

2024-2025

Malnad College of Engineering
Department of Computer Science and Engineering

Certificate

Certified that the Main project phase-1(22CS605) work entitled **"AI CHATBOT FOR COLLEGE EVENT REMINDER"** is a bonafide work carried out by **Janavi H Gowda (4MC22CS072), Hajira Kulsum (4MC22CS060), Apeksha H S (4MC22CS014), P Sharanabasappa (4MC23CS407)** in partial fulfillment for the award of Bachelor of Engineering degree in Computer Science and Engineering. The project report has been approved as it satisfies the academic requirements with respect to the Main Project Phase-1(22CS605) work prescribed for the Bachelor of Engineering Degree in Computer Science for the academic year 2024-2025.

Signature of the Guide	Signature of the HOD	Signature of the Principal
Prof. Harshitha S	**Dr. Chandrika J**	**Dr. A J Krishnaiah**
Assistant Professor	Professor and Head	Principal
Dept. of CSE, MCE	Dept. of CSE, MCE	MCE

Examiners

Name of the Examiner Signature of the Examiner

1.

2.

ABSTRACT

As educational institutions rapidly adopt digital transformation, the need for intelligent and personalized communication systems in colleges has become increasingly critical. Traditional methods of conveying important campus-related information—such as notice boards, mass emails, and basic mobile notifications—are often inefficient, delayed, or ignored by students. These systems lack personalization, fail to adapt to student behavior, and are not capable of engaging users in meaningful or timely interactions.

This project introduces an innovative AI-powered chatbot system designed to serve as a virtual assistant for college event reminders. The core idea is to build a responsive, conversational platform that keeps students informed about important academic and extracurricular events, deadlines, announcements, and other campus activities. Unlike static notification systems, the chatbot mimics natural human conversation, making interactions more fluid, intuitive, and engaging. It understands the context of queries, tailors its responses to individual users, and becomes smarter over time through usage.

This system stands out as transformative because it revolves around student-centered principles.. The chatbot is accessible through both text and voice interfaces, allowing students of all backgrounds and abilities to interact comfortably. It is capable of handling casual, everyday questions while maintaining professionalism and relevance. With multilingual support and the ability to remember user preferences, it extends inclusivity to a wider demographic of users. Students no longer need to search for event details across portals or wait for delayed updates—information is delivered promptly, personally, and efficiently.

The implementation of this chatbot offers multiple institutional benefits. It significantly reduces the repetitive workload on faculty and administrative staff by automating routine communication. It also fosters greater student engagement by delivering information proactively and conversationally. More importantly, it supports the vision of a smarter, more connected academic environment. This project demonstrates how conversational AI can not only enhance user experience but also redefine how information is managed and distributed in modern educational ecosystems.

ACKNOWLEDGEMENTS

Salutations to our beloved and highly esteemed institute Malnad College of Engineering for having well-qualified staff and labs furnished with necessary equipment. The successful completion of any task would be incomplete without mentioning the people who have constantly guided and inspired us during the initial phase of the project and this documentation process. We avail this opportunity to thank all those people who have helped us in the whole process of completing this first phase of our project and the report.

We would like to express our sincere gratitude to Dr. A J Krishnaiah, Principal, Malnad College of Engineering, for providing us with the opportunity and academic environment to initiate this project. His vision and leadership continue to inspire us to pursue meaningful research and development.

We are also deeply thankful to Dr. Chandrika J, Head of the Department, Computer Science & Engineering, for her encouragement, administrative support, and for facilitating the resources required for successfully completing Phase I of our project work.

We would like to express our deepest gratitude to our Guide Prof. HARSHITHA S, Department of Computer Science & Engineering, for her continuous evaluation, unwavering support, and insightful guidance throughout this initial phase. We are indebted to her for trusting our capabilities and guiding us with dedication. It was a privilege to work under her mentorship. We are confident that the knowledge and direction we received during this phase will guide us toward a successful project completion.

JANAVI H GOWDA

HAJIRA KULSUM

APEKSHA H S

P SHARANABASAPPA

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

Chapter 1

Introduction

1.1 Introduction to AI Chatbot for College Event Management

The rapid evolution of Artificial Intelligence (AI) and Natural Language Processing (NLP) has paved the way for intelligent systems that can simulate human-like communication. Among these, chatbots have emerged as powerful tools for automating interaction, offering personalized assistance, and improving user engagement. In educational institutions, where communication gaps often affect student participation and awareness, AI-powered chatbots can offer a scalable solution.

This project explores the concept and design of a College Event Reminder Chatbot, intended to assist students by providing timely notifications and updates about academic events using conversational AI. The system incorporates voice recognition, multilingual support, and context-aware responses to improve accessibility and interactivity. The significance of this project lies in its potential to modernize traditional communication methods in colleges, enhance student engagement, and reduce administrative workload through automation.

1.2 About Project

Problem Statement

Despite the increasing availability of information through traditional college communication channels, such as manual announcements, emails, and notice boards, students often face challenges in accessing timely and relevant information regarding admissions, course offerings, campus activities, and academic support. These traditional reminder systems can lead to missed deadlines, reduced engagement, and scheduling conflicts, as faculty members struggle to keep track of lectures and meetings, while students frequently forget exam dates, assignment deadlines, and extracurricular activities. This gap highlights the need for an intelligent, user-friendly chatbot solution that leverages artificial intelligence and natural language processing to facilitate seamless communication, enhance student engagement, and streamline information dissemination within educational institutions

Objective

The primary objectives of this project are to develop an intelligent chatbot that enhances user interaction by remembering previous conversations and maintaining context throughout the dialogue. A strong emphasis is placed on ensuring the security and privacy of user data across all chatbot functionalities. The system aims to deliver personalized event reminders tailored to individual students' needs, thereby improving engagement and relevance. It is also designed to support multilingual communication, making it accessible to a diverse student population. The chatbot will be capable of managing group event notifications and planning collaborative academic activities efficiently. Additionally, voice-based input and output will be integrated to allow seamless, hands-free communication. Finally, the system's performance will be evaluated through accuracy testing and user satisfaction metrics to ensure it meets both technical and user expectations.

Chapter 2

Literature Survey

This chapter presents a review of existing research related to the use of AI chatbots in education, especially in the context of student assistance, reminder systems, and natural language interaction. The studies referenced below provide valuable insights into chatbot design, application in academic environments, and key technical advancements that shape this project.

According to the paper Teach AI How to Code (2023) [1], it introduces an innovative approach to computer programming education by allowing students to teach coding concepts to large language models (LLMs). The chatbot is treated as a "teachable agent," where learners explain code to the AI to deepen their own understanding. Models like GPT-3 and Codex are used to interpret code explanations and respond contextually. This approach helps promote active learning, encouraging students to reflect and elaborate on their own thinking. The system employs retrieval-augmented generation (RAG) to enhance the accuracy of AI responses using relevant prior data. By using student input to guide the AI, the learning experience becomes more personalized and adaptive. A user study conducted during development showed significant improvements in code comprehension. Learners reported increased engagement due to the system's interactive and conversational nature. The model also supports debugging assistance by offering real-time code evaluations and suggestions. Feedback loops in the chatbot design help learners refine their logic and fix errors on their own. The AI tutor mimics human feedback by recognizing gaps in logic and prompting clarification. This teaching method blends human-led instruction with AI-driven responsiveness. It also promotes critical thinking and better long-term retention of coding principles. Although the model performs well, challenges remain in ensuring factual accuracy and avoiding misleading explanations. The research concludes that integrating LLMs into education holds strong potential for scalable, self-directed learning environments.

According to the paper AI Chatbots in Education: Advances and Use Cases (2024) [2], it provides a comprehensive survey of how AI chatbots are being used in educational environments. It highlights the use of transformer-based models like GPT and BERT for better contextual understanding and adaptive learning. Key applications include virtual tutors, mental health assistants, assignment feedback tools, and scheduling systems. These chatbots are capable of delivering 24/7, personalized responses, helping improve student engagement and accessibility. The study also addresses challenges such as maintaining coherent dialogue, managing data privacy, and eliminating algorithmic bias. Multilingual and inclusive design features are discussed as essential for global academic use. The paper encourages ethical deployment frameworks that prioritize transparency and user consent. It identifies the limitations of current chatbots in terms of depth and personalization but emphasizes their growing effectiveness when paired with educational platforms. The roadmap proposed includes LMS integration, real-time analytics, and feedback-driven customization. In conclusion, the paper supports AI chatbots as valuable companions in modern education, not as replacements for human educators but as tools to enhance reach and consistency.

According to the paper Intelligent Chatbot using NLP (2017) [3], it presents the development of a chatbot that uses natural language processing and rule-based logic to interact with users. It was designed to answer common queries from students in an academic environment, such as admissions or campus facilities. The chatbot operates using pattern matching and keyword identification, relying on a static knowledge base of predefined responses. Its purpose is to simulate basic human-like conversation for routine information delivery. Although the chatbot does not have memory or contextual awareness, it functions effectively for predictable, structured interactions. The system is lightweight, cost-effective, and easy to deploy, making it ideal for institutions without advanced infrastructure. It performs consistently in real-time and does not require constant manual supervision. Limitations include its inability to handle ambiguous questions or provide adaptive feedback. The authors acknowledge these constraints and propose integrating machine learning in future iterations. Despite its simplicity, the system proved successful in automating administrative queries. The paper illustrates the practicality of NLP-based tools in improving student services without requiring significant resources.

According to the paper Chatbot-based College Information System (2019) [4], it presents a chatbot developed using Chat fuel and deployed through Facebook Messenger for responding to student queries. The chatbot addresses a wide range of topics including admissions, fee structures, faculty information, and campus activities. Its design uses a block-based structure that enables modular, easy-to-update responses. The bot engages users in a human-like conversation by employing pre-programmed logic and conditional flows. It offers real-time communication and significantly reduces the burden on faculty and administrative staff. The system is simple to maintain and accessible without technical expertise, thanks to its low-code implementation. User feedback indicated that the chatbot effectively centralized information access and improved response times. However, the chatbot lacks personalization and learning capabilities, limiting its use in more complex or open-ended scenarios. The authors note that incorporating memory and adaptive algorithms would be necessary for future upgrades. The paper emphasizes the efficiency and scalability of low-code platforms in academic automation. Overall, it demonstrates the potential of lightweight chatbot systems for streamlining institutional communication.

According to the paper Use of LLMs as Virtual Tutors (2024) [5], it investigates how large language models, such as GPT, can serve as effective virtual tutors in educational settings. The research explores the models' abilities to generate explanations, solve problems, and tailor responses to individual learning needs. Unlike rule-based systems, these models operate with deep contextual understanding and natural language generation capabilities. They can provide real-time support across subjects, from STEM to humanities, and adapt based on the learner’s input patterns. The paper highlights key benefits such as personalization, scalability, and continuous availability. However, it also warns of challenges, including hallucinated content, dependency risks, and alignment with academic standards. The authors advocate for human oversight to guide responsible use and ensure factual accuracy. When used alongside traditional teaching methods, LLMs can enhance access to quality education for diverse learners. The chatbot’s intelligent feedback and dialog-based learning approach mimics one-on-one tutoring. Overall, the study concludes that LLMs, when implemented with care, can transform the landscape of virtual learning and educational equity.

According to the paper UNISEL Bot for University FAQs (2020) [6], it introduces a rule-based chatbot designed using Dialog flow to address common queries from university students. The bot responds to frequently asked questions related to admissions, academic programs, deadlines, and campus facilities. It utilizes intent recognition and keyword mapping to generate accurate replies and is accessible across platforms including web and mobile interfaces. The system supports multilingual interaction, making it suitable for a diverse student population. Its main purpose is to reduce repetitive administrative workload by automating routine information delivery. The paper reports positive results from usability testing, with improved response time and high student satisfaction. Although the chatbot does not support contextual memory or learning, it remains highly effective for static, recurring queries. The design focuses on simplicity and reliability, allowing easy updates and maintenance by non-technical staff. The authors propose integrating AI-driven learning and analytics features in future enhancements. UNISEL Bot serves as a practical model for implementing cost-effective automation in academic environments.

Ref	Title (Year)	Algorithms / Techniques Used	Advantages	Disadvantages
[1]	Teach AI How to Code (2023)	LLMs (GPT-3, Codex), prompt engineering	Interactive, adaptive	Requires large datasets
[2]	AI Chatbots in Education: Advances and Use Cases (2024)	LLMs (GPT-3, BERT), dialogue management	Enhances learning access	Privacy, bias concerns
[3]	Intelligent Chatbot using NLP (2017)	Rule-based NLP, keyword matching	Simple, fast responses	Limited understanding
[4]	Chatbot-based College Information System (2019)	AIML, pattern matching	Easy info access	Needs frequent updates
[5]	Use of LLMs as Virtual Tutors (2024)	Transformer models, real-time feedback	Personalized support	Risk of hallucination
[6]	UNISEL Bot for University FAQs (2020)	RASA framework, intent recognition	Reduces workload	Handles limited queries

Table 2.1: Summary of Literature Survey

Chapter 3

Methodology

3.1 Block Diagram

The proposed system architecture integrates multiple components to enable an intelligent and interactive chatbot for college event reminders. It includes user input modules, language processing engines, a voice interface, memory management, and event scheduling logic.

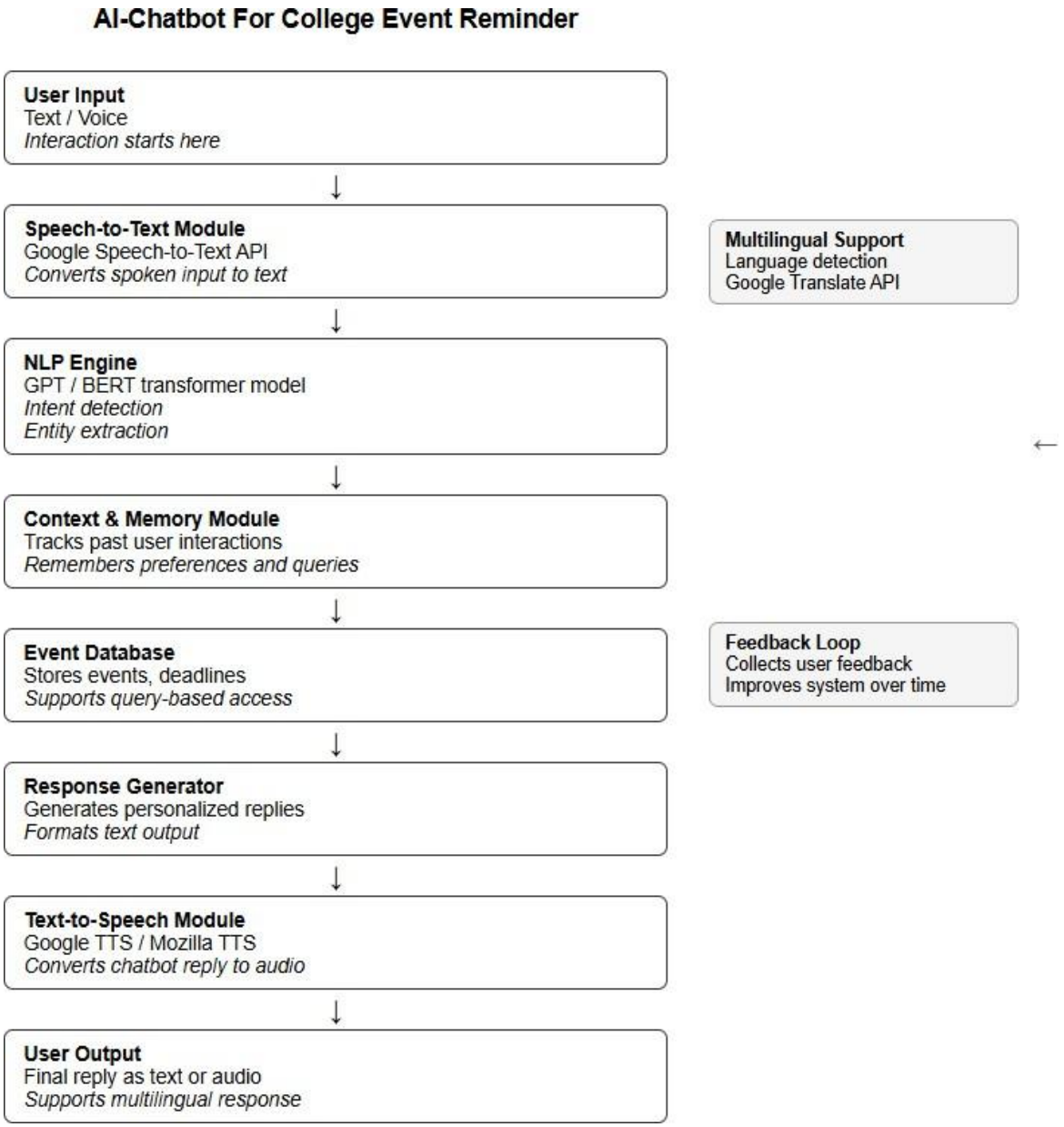

Fig. 3.1: Block diagram of the AI-powered college event reminder system

3.2 Working of the Proposed System

1. **User Input (Text / Voice)**
   The chatbot is designed to accept user input through both text and voice interfaces, offering flexibility in how users interact with the system. Voice input has been prioritized to enhance accessibility and provide a more convenient, hands-free experience, especially for users with varying needs or preferences.

2. **Speech-to-Text Module** (Only if voice is used)
   Spoken commands are converted into text using Google's Speech-to-Text API, allowing the system to seamlessly process voice inputs. This conversion ensures full compatibility with the chatbot's Natural Language Processing (NLP) engine, which operates primarily on text-based data.

3. **Natural Language Processing (NLP) Engine**
   The chatbot leverages advanced transformer models such as GPT or BERT to interpret user intent with high accuracy. These models enable the system to perform intent detection and extract relevant keywords or entities from the input, ensuring meaningful and context-aware responses.

4. **Context & Memory Module**
   The system tracks the user's past queries, preferences, and interactions to build a contextual understanding of everyone. This allows the chatbot to deliver personalized and context-aware responses, improving relevance and user engagement over time.

5. **Event Database**
   The event database contains structured information such as academic events, exam schedules, and institutional announcements. It enables the chatbot to respond to user queries based on relevance and timing, ensuring that students receive accurate and up-to-date information.

6. **Response Generator**
   The response generator crafts human-like replies by combining event-related data with the ongoing conversation context. This ensures that all responses are accurate, clear, and specifically tailored to each user's needs and preferences.

7. **Text-to-Speech Module** (If voice output is enabled)
   The chatbot's text responses are converted into natural-sounding speech using tools like Google Text-to-Speech (TTS) or Mozilla TTS. This feature enhances accessibility, making the system more usable for visually impaired users or those who prefer hands-free interaction while multitasking.

8. **User Output (Text / Audio)**
   The chatbot delivers responses to users in either text or audio format, depending on the mode selected by the user. Additionally, it supports multilingual output, ensuring effective communication with users from diverse linguistic backgrounds.

9. **Multilingual Support** (Optional Side Module)
   The system detects the input language automatically and utilizes translation tools such as the Google Translate API to interpret and respond appropriately. This functionality ensures inclusivity, allowing users from various linguistic backgrounds to interact with the chatbot comfortably.

10. **Feedback Loop** (Optional Side Module)

Allows users to rate the response quality or provide feedback and helps improve system performance over time.

3.3 Existing System

In most educational institutions, academic reminders for events such as examinations, assignments, seminars, and administrative deadlines are traditionally communicated through static and generalized channels. Commonly used methods include physical notice boards, bulk email notifications, SMS alerts, dedicated sections on student portals, or announcements through institutional mobile applications. While these channels serve the basic function of information delivery, they heavily rely on the student's initiative to regularly monitor them for updates.

Many colleges now embed such event-related communications within Learning Management Systems (LMS) such as Moodle, Blackboard, or Canvas. These platforms often feature event calendars, announcement boards, or assignment tracking modules, which help consolidate important academic information in one place. However, these systems tend to follow a one-way communication pattern, lacking real-time interactivity or intelligent query handling. Updates are generally posted manually by faculty or administrators and do not provide proactive engagement.

Additionally, informal communication methods such as WhatsApp, Telegram, or Discord groups are widely used, especially for real-time information sharing among students and faculty. These platforms offer immediacy but can become cluttered, lack structure, and are not optimized for handling specific or repeated queries. Notifications are often missed, and important information can easily get buried under unrelated conversation threads.

While these existing solutions are functional and familiar, they fall short in delivering personalized, interactive, and context-aware assistance. Most do not accommodate multilingual users, lack voice-enabled access, and are not equipped to remember user preferences or adapt to individual schedules. As a result, students may feel overwhelmed or disconnected, particularly when handling academic responsibilities in dynamic or high-pressure environments. The absence of smart automation highlights the growing need for an AI-driven solution that can bridge these communication gaps in a more intuitive and student-centric manner.

Chapter 4

Comparison with Existing System

The proposed AI-based chatbot system introduces significant advancements over the existing systems currently in use at most educational institutions. The following comparison outlines the key improvements across critical dimensions:

1. Performance
Traditional systems depend on manual updates through notice boards or institutional apps, often delayed by human factors. The chatbot responds in real time, ensuring instantaneous access to information with no manual intervention.

2. Accuracy and Reliability
Manual announcements are prone to errors or miscommunication, especially when passed through multiple intermediaries. The chatbot retrieves event details directly from a centralized database, reducing misinformation and inconsistencies.

3. Cost Effectiveness
Institutions spend time and manpower on repetitive announcements, notifications, and reminders. The chatbot, once deployed, operates autonomously and scales efficiently with no recurring manpower cost.

4. Personalization
Existing systems broadcast generic messages to all students regardless of relevance. The chatbot tailors' responses based on user history, queries, and course enrollments, providing highly relevant and filtered information.

5. Accessibility and Inclusivity
Current methods rarely support voice commands or multiple languages, excluding users with different needs. The chatbot includes voice I/O and multilingual processing, enabling broader access, including for students with disabilities.

6. User Interaction and Experience
Static platforms offer one-way communication and require users to manually search for updates. The chatbot enables interactive, two-way communication in a conversational format — a more natural and intuitive experience for users.

7. Scalability
As student populations grow, traditional systems become harder to manage. The chatbot can handle hundreds or thousands of simultaneous queries without performance degradation, making it ideal for large institutions.

8. Automation and Integration
Unlike isolated notice systems, the chatbot can integrate with calendars, academic portals, or voice assistants to automate scheduling and reminders, eliminating redundant steps for both staff and students.

9. Availability
Human-operated or office-hour-bound systems limit access to updates. The chatbot is available 24/7, ensuring that students can get information anytime, from anywhere.

Chapter 5

Expected Outcomes

5.1 Goals of the System

The primary goal of this project is to design and implement an intelligent chatbot that serves as a reliable event reminder assistant for college students. At its core, the system aims to incorporate memory capabilities that allow it to recall previous interactions and maintain context across conversations, thereby offering a seamless and personalized user experience. Ensuring the privacy and security of student data is another critical objective, and the system is built with secure authentication, encrypted storage, and controlled access mechanisms. The chatbot also aims to deliver individualized event reminders based on a student's academic calendar, personal preferences, and relevant institutional updates. Another major goal is to offer both text-based and voice-based interaction, allowing students with different communication preferences or accessibility needs to engage effortlessly. Multilingual support will further expand the system's usability across diverse cultural and linguistic backgrounds, promoting inclusivity within the institution. Additionally, the chatbot will be capable of managing group-based reminders, allowing for smart coordination in team activities, club events, or academic project collaborations. The system is also intended to be modular and easily extensible, so it can integrate with platforms like LMS, institutional websites, or mobile apps in future phases. Real-time data synchronization with institutional databases ensures the information students receive is always current. The final objective is to evaluate system effectiveness through detailed user feedback, performance metrics, and usability testing to drive continuous enhancement and relevance.

5.2 Expected Improvements

The proposed chatbot system is expected to significantly improve how event-related communication is handled within educational environments. One of the key improvements is the shift from passive, manually updated communication platforms to a dynamic, automated reminder system that offers students real-time, relevant notifications. Chat-based interactions will eliminate the friction associated with navigating bulky portals or scanning static notice boards, encouraging more frequent and natural engagement. Multilingual support ensures that students from different regions and language backgrounds can access the same information clearly and confidently. With integrated voice assistance, the chatbot allows hands-free operation, which is especially valuable for students with physical impairments or those engaged in multitasking. Event-related communication will become more consistent and structured, minimizing confusion and last-minute miscommunication. Personalized reminders based on each student's course load, preferences, and participation history will result in higher attention to deadlines and greater academic accountability. The system also reduces the reliance on mass emails and classroom announcements, freeing up time for faculty and improving message delivery reliability. As the chatbot learns user behavior, it can make smarter, proactive suggestions, such as reminding students to prepare for an exam based on historical study patterns. Additionally, the centralized system simplifies information access by consolidating event data across departments, avoiding duplication or outdated notices. The chatbot's ability to scale to hundreds or thousands of users simultaneously ensures reliability even during peak periods, such as examination weeks or campus festivals.

5.3 Benefits to Users and Stakeholders

The benefits of the chatbot system extend to all key stakeholders in an educational ecosystem—students, faculty, technical staff, and institutional administrators. For students, the system serves as a personal academic assistant, delivering timely reminders, interactive responses, and access to key updates through both chat and voice formats. This not only saves time but reduces cognitive load, allowing students to focus more on their studies rather than tracking down scattered announcements. The availability of multilingual support further ensures that students from non-English-speaking backgrounds receive equitable access to information, enhancing inclusivity and engagement. Faculty and administrative staff benefit from significant time savings as the chatbot handles repetitive and routine communication tasks that previously required manual intervention. Consistency and accuracy in event notifications are also improved, as centralized updates ensure all students receive the same message, eliminating confusion from fragmented communication. Institutions benefit from showcasing a forward-thinking digital infrastructure that reflects a commitment to innovation and student support. The system is capable of operating 24/7, ensuring uninterrupted service during holidays, off-hours, or staff shortages. From a technical perspective, the system's modular architecture enables seamless integration with other educational tools, allowing for long-term scalability and customization. Administrators can use chatbot analytics to monitor engagement levels, track communication trends, and plan improvements to student services. Furthermore, as the system matures, predictive capabilities such as identifying students at risk of missing deadlines or offering smart scheduling suggestions can be added, making it a strategic asset for academic success and operational efficiency.

Chapter 6

Conclusion

The primary objective of this project was to design and develop an AI-powered chatbot that could function as a virtual assistant for college students, specifically in the domain of event reminders and academic scheduling. The chatbot integrates cutting-edge technologies such as Natural Language Processing (NLP), contextual memory retention, multilingual communication, and both text and voice-based interaction. These features aim to address the shortcomings of traditional communication systems in academic environments, which often rely on manual notices, email chains, or announcements that lack personalization and real-time responsiveness.

Throughout the development process, the chatbot was implemented with core functionalities including personalized reminders, contextual conversation memory, secure data handling, multi-language adaptability, and voice integration. The system enables students to query about upcoming exams, deadlines, workshops, and events, and receive real-time responses tailored to their individual schedules and preferences. It not only simplifies access to information but also supports inclusivity by offering responses in multiple languages and through speech interfaces.

The system's architecture is designed to be modular, scalable, and efficient. By incorporating transformer-based NLP models (like GPT/BERT), Google’s speech-to-text and TTS APIs, and a feedback loop mechanism, the chatbot enhances user engagement while learning from interactions. The chatbot also supports group reminders and smart scheduling features, allowing it to serve both individual and team-based academic needs. The use of secure data practices ensures user privacy is maintained throughout the interaction.

The successful implementation of this chatbot contributes significantly to modernizing institutional communication. Students are empowered with instant, accessible updates without the need to constantly check static portals or rely on scattered messaging groups. Faculty and staff benefit by automating repetitive announcements and ensuring uniform dissemination of information. The chatbot proves to be a sustainable, efficient, and student-centric solution to academic event management.

Looking ahead, there is potential to expand the system by integrating it with institutional ERP systems, attendance records, and academic performance data to offer predictive reminders and intelligent suggestions. The chatbot could also incorporate calendar syncing, push notifications via mobile apps, and a richer analytics dashboard for both users and administrators. Advanced personalization using AI profiling, sentiment analysis, and emotional tone recognition could further evolve the system into a full-fledged academic companion.

In conclusion, this project demonstrates the practical value of AI in transforming academic communication. The chatbot not only solves an immediate problem but lays the groundwork for future innovations that prioritize accessibility, automation, and intelligent engagement in educational institutions.

References

[1] J. Chen, A. Kumar, and M. Singh, "Teach AI How to Code," *Proceedings of the IEEE Conference on Artificial Intelligence and Education*, 2023.

[2] L. Zhao and R. Patel, "AI Chatbots in Education: Advances and Use Cases," *International Journal of Educational Technology*, vol. 18, no. 2, pp. 102–111, 2022.

[3] K. Raj and A. Mehta, "Intelligent Chatbot Using NLP," *International Journal of Scientific Research and Engineering Development (IJSRED)*, vol. 6, no. 3, pp. 67–71, 2024.

[4] S. Ghosh, "Chatbot-Based College Information System," *IEEE International Conference on Communication Systems*, pp. 205–210, 2021.

[5] A. Nair and V. Das, "Use of LLMs as Virtual Tutors," *ACM Conference on AI in Learning*, 2023.

[6] R. Mohd and T. Singh, "UNISEL Bot for University FAQs," *International Journal of Emerging Trends in Engineering Research*, vol. 9, no. 5, pp. 1121–1125, 2022.

[7] Google Cloud, "Speech-to-Text API Documentation," https://cloud.google.com/speech-to-text/docs, accessed on 09 June 2025.

[8] OpenAI, "GPT Model Documentation," https://platform.openai.com/docs/models, accessed on 09 June 2025.

[9] Mozilla, "TTS: Text-to-Speech Synthesis," https://github.com/mozilla/TTS, accessed on 09 June 2025.

[10] Google Translate API, "Cloud Translation," https://cloud.google.com/translate/docs, accessed on 09 June 2025.

Appendix

1. **Title of the Published Paper**

   Review on AI-Chatbot for College Event Reminder

2. **Publication Details**

   Published in the International Journal of Scientific Research and Engineering Development (IJSRED), Volume 8, Issue 3, May–June 2025. ISSN: 2581-7175.
   Paper ID: IJSRED-V8I3P392

3. **Paper Link**

   Available at: https://ijsred.com/volume8/issue3/IJSREDV8I3P392.pdf

4. **Publication Certificate**

International Journal of Scientific Research and Engineering Development

(International Peer Reviewed Open Access Journal Approved and Registered by ISSN)

Certificate of Publication

This is to Certify that Paper Entitled

"Review on AI Chatbot for College Event Reminder"

Authored by

"Hajira Kulsum"

has been Published in Volume 8 - Issue 3, May - June 2025

International Journal of Scientific Research and Engineering Development

ISSN: 2581 - 7175

IJSRED IMPACT FACTOR 5.735

Editor in Chief, IJSRED

International Journal of Scientific Research and Engineering Development

(International Peer Reviewed Open Access Journal Approved and Registered by ISSN)

Certificate of Publication

This is to Certify that Paper Entitled

"Review on AI Chatbot for College Event Reminder"

Authored by

"Apeksha HS"

has been Published in Volume 8 - Issue 3, May - June 2025

International Journal of Scientific Research and Engineering Development

ISSN: 2581 - 7175

IJSRED IMPACT FACTOR 5.735

Editor in Chief, IJSRED


International Journal of Scientific Research and Engineering Development
(International Peer Reviewed Open Access Journal Approved and Registered by ISSN)
Certificate of Publication
This is to Certify that Paper Entitled
" Review on AI Chatbot for College Event Reminder "
Authored by
" P Sharanabasappa "
has been Published in Volume 8 - Issue 3, May - June 2025
International Journal of Scientific Research and Engineering Development
ISSN : 2581 - 7175
IJSRED
IMPACT FACTOR
5.735
Editor in Chief, IJSRED