Cawangan Terengganu
Kampus Kuala Terengganu

PROJECT TITLE

UNIVERSITY PERSONAL ASSISTANT USING NLP ALGORITHM

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ABSTRACT

This project, "University Personal Assistant Using NLP," addresses the prevalent challenges faced by students and lecturers at Universiti Teknologi MARA. It aims to streamline class schedule management, enhance communication, and automate grading systems. The core functionality of the AI chatbot developed in this project includes university news and information, class booking, and improved productivity between students and lecturers. The study involves designing an NLP algorithm tailored for educational applications, ensuring minimal error in automated grading and efficient handling of university information queries. The implemented chatbot not only eases daily academic tasks but also provides valuable data insights, contributing to a more responsive and personalized educational experience.

PROBLEM STATEMENTS

1. **Manual Grading System:** Labor-intensive and time-consuming grading process.
2. **Communication Challenges:** Delayed responses and lack of real-time interaction.

OBJECTIVE

1. To study about an NLP algorithm in the Education domain.
2. To design and develop a university personal assistant using NLP algorithm.
3. To Evaluate the chatbot training loss and validation loss.

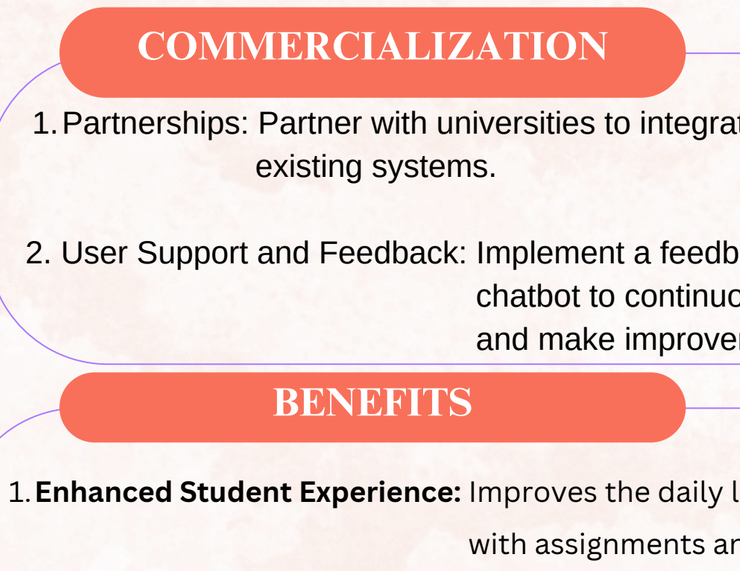
COMMERCIALIZATION

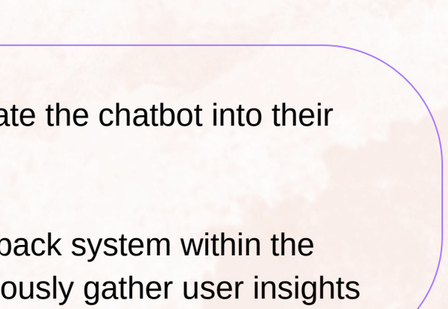
1. Partnerships: Partner with universities to integrate the chatbot into their existing systems.
2. User Support and Feedback: Implement a feedback system within the chatbot to continuously gather user insights and make improvements.

BENEFITS

1. **Enhanced Student Experience:** Improves the daily lives of students by assisting with assignments and university tasks.
2. **Optimized Resource Utilization:** Results in a more resource-efficient operation.
3. **Future-Proofing Education:** Helps institutions remain competitive and prepare students for a technology-driven future by implementing AI solutions.

FINDINGS AND RESULTS





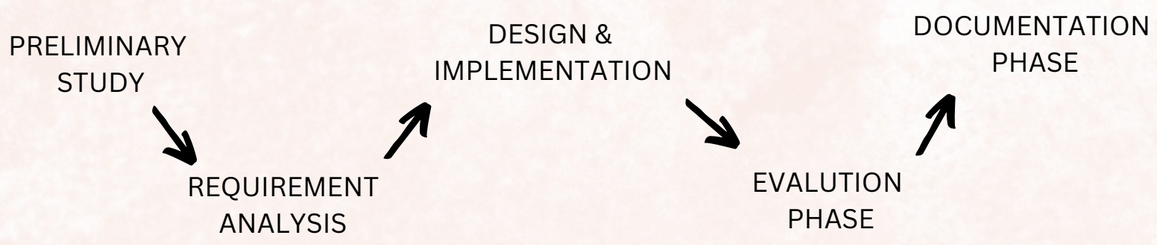
The implementation of advanced Natural Language Processing (NLP) algorithms in the University Personal Assistant AI chatbot has demonstrated high accuracy in understanding and responding to user queries. The more text in the dataset will make the training loss and validation loss decrease.

NOVELTY

The University Personal Assistant AI chatbot is a solution designed to significantly enhance the daily academic and administrative tasks for both students and lecturers. Utilizing NLP algorithms, the chatbot can understand and respond to user queries and commands effectively, handling variations in language, context, and user preferences with ease.

METHODOLOGY

The Preliminary Study phase, where NLP techniques in the education domain are studied through literature review and tutorials; the Requirement Analysis phase, identifying problem statements and project requirements; the Design and Implementation phase, developing system architecture and the first prototype through coding and debugging; the Evaluation phase, testing and refining the chatbot for accuracy and performance; and the Documentation phase, compiling a comprehensive report on all project phases and outcomes. This structured approach ensures the creation of an efficient system to enhance academic and administrative tasks for students and lecturers.



CONCLUSION

"University Personal Assistant Using NLP" project has shown significant potential in transforming how students and lecturers manage their academic tasks. This project highlights the power of AI in education, suggesting a future where tech-driven solutions make academic life more efficient, responsive, and user-friendly. Despite facing some challenges, the project's achievements lay a strong foundation for further research and development in this field. This project not only showcases the current capabilities of NLP in education but also opens doors for future innovations that can further enhance the academic experience.