ACKNOWLEDGEMENT

The completion of this final year B.Tech project marks the culmination of collective effort, dedication, and teamwork. We would like to extend our heartfelt gratitude to all those who have contributed to the successful realization of this endeavour.

First and foremost, we express our deepest appreciation to Prof. Dr. Mayuri H. Molawade, whose unwavering guidance, encouragement, and support have been pivotal throughout this project. Your expertise and mentorship have steered us through challenges and inspired us to strive for excellence.

We are immensely thankful to the faculty members of Computer Engineering for their valuable feedback, constructive criticism, and encouragement. Their academic insights have significantly enriched the quality of our project.

We would also like to acknowledge the contribution of our fellow teammates. Each member has brought unique skills, perspectives, and dedication to the table, fostering an environment of collaboration and innovation.

Lastly, we are indebted to our families and friends for their unwavering support, understanding, and patience throughout this journey. Their encouragement has been our source of strength and motivation.

Hritik Singh, 2014110741
Arbaaz Yaseen, 2114110897
Shaikh Md.Gous, 211411089

ABSTRACT

In an increasingly globalized world, the need for accessible and adaptable educational resources transcending language barriers is paramount. This project, "Multilingual Education through Optical Character Recognition (OCR) and AI," endeavors to address this need by leveraging advanced technology. This self-contained abstract encapsulates the essence of our project, highlighting its significance, objectives, methods adopted, contributions, achievements, and potential applications.

The project addresses a critical issue in education, where language diversity often impedes access to quality educational content. By employing Optical Character Recognition (OCR) technology and an Artificial Intelligence (AI) model, this project aims to make educational resources accessible to a broader audience, irrespective of their native language.

To develop a system that can accurately extract and convert text from English-language PDF books. To create an AI model capable of teaching the extracted content in a chosen language, enhancing the accessibility of educational resources.

The project integrates OCR technology to extract text from English PDFs, followed by advanced language translation and AI techniques to adapt and teach the subject matter in the user's preferred language. This multidisciplinary approach combines image processing, natural language processing, and machine learning.

The project's applications extend to educational institutions, online learning platforms, and open-access repositories, offering an opportunity to make a global impact on education by ensuring that knowledge is accessible to all, regardless of linguistic constraints.

ANNEXURE A: List of Publications and Research Paper

Our paper titled "Multilingual Education through Optical Character Recognition (OCR) and AI" was published and presented at the MITADTSoCiCon 2024 IEEE conference. Below are the details of the publication:

Title: Multilingual Education through Optical Character Recognition (OCR) and AI

Authors: Arbaaz Yaseen, Hritik Singh, Shaikh Mohammad, Dr. Mayuri H. Molawade

Conference: MITADTSoCiCon 2024 IEEE Conference

Date: 23-April to 29-April 2024

Publication Date: 26-April 2024

Abstract: Our paper explores the application of Optical Character Recognition (OCR) technology and Artificial Intelligence (AI) in the domain of multilingual education. We investigate how these technologies can be leveraged to enhance the learning experience for users across different languages and domains. The study presents a comprehensive system architecture integrating OCR for text extraction from educational materials and AI models for content generation and translation. We discuss the implementation details, challenges, and potential impact of such a system on the field of education.

Presentation: Our paper was presented during a session at the MITADTSoCiCon 2024 IEEE conference. We delivered a detailed overview of the research methodology, results, and implications of the study. The presentation provided an opportunity for attendees to engage with us, ask questions, and discuss the findings in more depth.

LIST OF FIGURES

LIST OF TABLES