**Task-6**

**Introduction**The Multilingual Educational Content Summarizer is a Streamlit-based tool designed to assist users in summarizing educational content, extracting keywords, analyzing readability, and translating the summary into multiple languages. This project leverages advanced natural language processing models such as BART and MarianMT to generate concise summaries and translations.**Background**In a global educational context, language barriers often hinder access to valuable content. This tool addresses this challenge by providing multilingual support and simplifying educational content, making it accessible for learners worldwide. The integration of NLP models enables automatic summarization and translation, offering a practical solution for teachers and students alike.**Learning Objectives**

* Understand the use of pre-trained NLP models like BART for summarization and MarianMT for translation.
* Learn how to integrate multiple NLP tasks such as keyword extraction and readability analysis into a single user-friendly interface.
* Explore the importance of readability metrics in educational content to ensure comprehension across different reading levels.

**Activities and Tasks**

* The user inputs educational content, and the system generates a concise summary using BART.
* The summarized text is translated into a target language, such as Spanish or Chinese, using MarianMT.
* The tool identifies key terms from the summarized content for easy reference.
* Readability scores are calculated using metrics like the Flesch Reading Ease and Flesch-Kincaid Grade to assess content difficulty.

**Skills and Competencies**

* Utilize pre-trained models like BART and MarianMT for text summarization and translation.
* Implement keyword extraction and readability metrics using libraries such as spaCy and textstat.
* Create an intuitive interface for users to input text, choose translation languages, and view results instantly.

**Feedback and Evidence** The tool provides instant feedback on the user's input through summary generation, keyword display, readability scores, and translations. This allows users to compare the original content with its summarized and translated versions. The readability analysis serves as evidence of how complex or simple the text is, offering insights for content improvement.

**Challenges and Solutions**

* Processing lengthy text within memory constraints posed a challenge. The solution involved truncating the input and summary to ensure the models handle the data efficiently.
* Maintaining the accuracy and fluency of translations, especially with domain-specific educational content, was managed by leveraging the MarianMT model trained on multilingual datasets.
* Extracting meaningful keywords while filtering out stopwords and punctuation was achieved through effective preprocessing using spaCy.

**Outcomes and Impact**The tool successfully simplifies and translates educational content, making it more accessible to non-English speakers and improving comprehension through readability metrics. It bridges the gap for multilingual education by offering easy access to summaries and key terms, enhancing the learning experience for students and educators globally.**Conclusion**The Multilingual Educational Content Summarizer is a powerful tool that combines summarization, translation, keyword extraction, and readability analysis into one platform. By utilizing state-of-the-art NLP models, it supports educators and students in creating more accessible, readable, and multilingual educational resources. Future improvements could include support for more languages and additional readability metrics to cater to a broader audience.