Project Name: Bharatlaw Text-to-speech task

Introduction:

In the era of information overload, the ability to quickly and effectively summarize large volumes of text is crucial. This project aims to develop an automated text summarization system that leverages the transformers package from Hugging Face, specifically the BART (BartForConditionalGeneration) model, to generate concise summaries. Additionally, the implementation incorporates a recursive chunking approach to handle lengthy texts by breaking them into smaller, more manageable pieces.

Problem Statement:

Develop a proof-of-concept solution to generate concise audio summaries of given documents

Objectives:

1. Implement an automated text summarization system using the transformers package and BART model.
2. Develop a recursive chunking mechanism to handle lengthy texts.
3. Ensure the generated summaries are concise, coherent, and capture the essential information.
4. Provide flexibility for customization, such as adjusting the length of the summary.

Resources:

- transformers package from Hugging Face
- BART (BartForConditionalGeneration) model
- Python libraries: torch, tensorflow, gtts
- gTTS (Google Text-to-Speech) for audio conversion

Proposed Solution:

The project proposes a Python-based solution that utilizes the transformers package from Hugging Face, specifically the BART model, for text summarization. The implementation includes a recursive chunking mechanism to handle lengthy texts effectively. The system breaks down the input text into smaller pieces, summarizes each piece, and then recursively combines the summaries until the desired length is achieved. The proposed solution aims to automate the summarization process, making it scalable and adaptable to various text lengths and domains.

Result:

The implemented system successfully generates concise and coherent summaries for lengthy texts, specifically focusing on legal judgments in the provided example. The recursive chunking approach allows the system to handle extensive documents efficiently, providing a final summary that captures the essential information. Additionally, the project includes a text-to-speech conversion feature using gTTS, enabling the generation of audio summaries for accessibility or convenience. The POC demonstrates the effectiveness of the proposed solution in automating the text summarization process.