Document Summarization and Converting It Into Audio

### 1- Document Upload and Text Extraction:

In order to load the file we have multiple libraries that support different formats. We have pypdf, pymudf and many others for pdf and for word we have python-docx. So we load the documents with the help of these libraries and extract text from it.

### 2- Text Summarization:

There are many models that we can use for text summarization. On hugging face, we have different transformers models available that are open source and completely free but can take much computational power. On other hand we have OpenAi, Gemini Api available that can also summarize the text but we have to pay for it.

### 3-Text-to-Speech (TTS):

For text to speech we have multiple options:

* **gTTS (Google Text-to-Speech)**
* **OpenAI's TTS (via API)**
* **Google Cloud Text-to-Speech** or **Amazon Polly**
* **ElevenLabs API**

From these options gTTS is free, and all the other options are paid.

# Approach:

We have two different approaches that we can do and achieve the results

1. We will load whole data from the document and pass it to the model. And then the model will generate its summary and then we can generate audio from it.
2. We will load the data from the document and break it into small chunks. And then summarize those small chunks and combine the summary of every chunk. An then we can create audio from it.