Textbook to narrative film! Boring to interesting!

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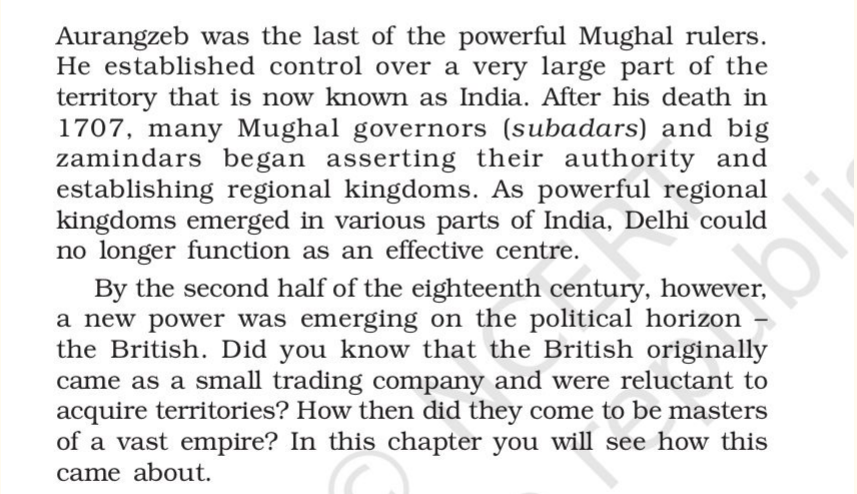
Motivation

- Most of you will remember how boring classes were in school!
- Students get bored when teachers read out passages from textbooks, but are **more enthusiastic to watch videos and pictures!**
- Teachers may not have interest/skills/resources to collect pictures and videos relevant to a topic
- For e.g., while teaching about the history of India, students would be interested to see pictures of people, places, monuments, coins etc..

Solution

- An **automatic video generator** which creates a video from a textbook chapter (in pdf/text format). The video will be a narration (with subtitles) of the whole chapter while showing (titled) images relevant to the current paragraph.

- For e.g., this passage talks about Aurangzeb and Mughal empire, so we can show pictures of them while narrating this passage



Aurangzeb was the last of the powerful Mughal rulers. He established control over a very large part of the territory that is now known as India. After his death in 1707, many Mughal governors (*subadars*) and big zamindars began asserting their authority and establishing regional kingdoms. As powerful regional kingdoms emerged in various parts of India, Delhi could no longer function as an effective centre.

By the second half of the eighteenth century, however, a new power was emerging on the political horizon – the British. Did you know that the British originally came as a small trading company and were reluctant to acquire territories? How then did they come to be masters of a vast empire? In this chapter you will see how this came about.

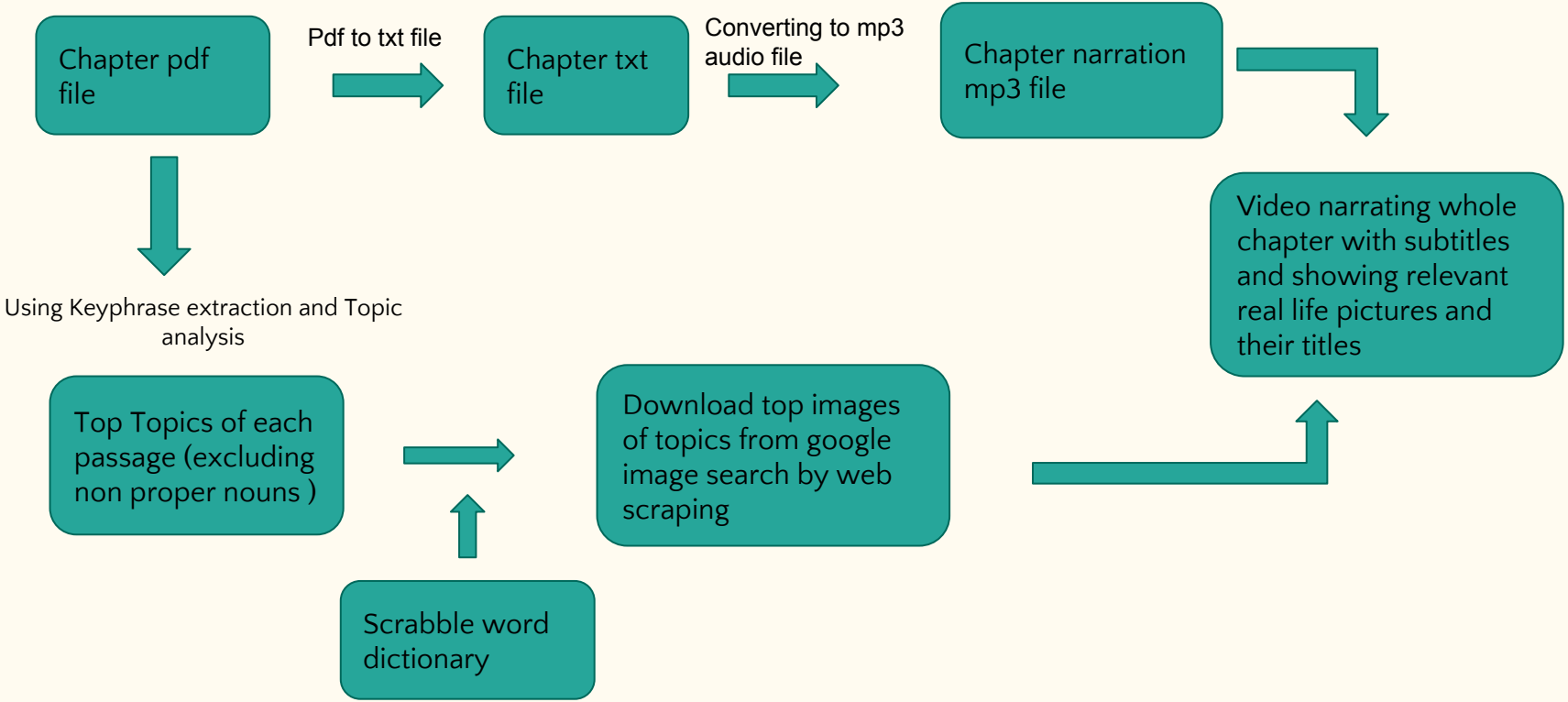
Why is it good?

- Makes learning **fun and interesting!**
- Students will pay more attention in class and retain knowledge much better by associating pictures to information
- Listening to the text (with good pronunciation) while watching the subtitles would help students get better at speaking and understanding English

When is it good?

- It works well for subjects with a lot of factual information like **history, geography, biology** etc.. where looking at relevant pictures is actually useful
- Doesn’t work well with subjects like mathematics and physics

Overall architecture



Future work

- The main challenge is to improve the **keyphrase extractio**n part of the process to show more important and relevant images to the current paragraph.
- Currently, we are looking at passages individually for topic analysis. It would be better to l**ook at the whole text** to gain some information about the overall theme of the text.
- We could use **bigram and trigram statistics** to further learn correlations among appearance of words and use it to extract key phrases.
- Build models using **TFIDF vector representation**, this gives lower weights to words which occur too frequently in the whole text, allowing us to extract keyphrases unique to the current paragraph.
- Add more features like **picture as input**, can convert **more domains of text**..