Final Project : Proposal

MOOC Lecture Video and Content Integration with Associated Textbook

1. Team Information

NetID : jaecho2@illinois.edu Team Member Count : 1
Captain : jaecho2@illinois.edu

---

2. What topic have you chose? Why is it a problem? How does it relate to the theme and to the class?

The chosen topic is *Intelligent Learning Platform and the integration of lecture videos with content of textbook*. Often when learning within the MOOC platform, students may tend to go through only the associated video lectures and power point slides.

The professor usually provides a textbook as a reference to support the materials covered in the videos.

As students we all dream of a world where we can read the associated textbook cover to cover (or perhaps just me) so that each point mentioned in the lectures can be corelated with a specific section within the text. This has the benefit of reinforcing the learning experience.

The problem is that we rarely have the luxury of time to read a textbook cover to cover, which may lead us to overlook valuable information. This project is an attempt to assist students with a tool that will build the association between a textbook and MOOC lecture, so that the full power of a textbook can be utilized to enhance and expand the learning experience.

---

3. Briefly describe any datasets, algorithms or techniques you plan to use

eBook version of textbooks are often in pdf format so will be utilizing libraries such as *pyPDF2* to extract text from the PDF file.

Will also be using the collection of subtitles within CS410 lectures as source dataset and the query.

---

4. How will you demonstrate that your approach will work as expected? Which programming language do you plan to use?

I will be creating the too using Python programming language.
In order demonstrate that the approach works, will have the tool provide a UI to verify from the user, the accuracy of the returned text section from the textbook. The input from the user can be used to verify the accuracy as well as being used to correct any inaccuracies.

---

5. Please justify that the workload of your topic is at least 20*N hours, N being the total number of students in your team. You may list the main tasks to be completed, and the estimated time cost for each task.

Since I am working on this project as a one person team, I expect that I will significantly go over the 20 hour workload to complete the tool.

Timeline
W8 - Proposal writeup, initial design
W9 - Research into algorithms and approach enhancements
W10 – Version 0.1 : basic features
W11 – Associated Technology Review
W12 – Version 0.2 : work on UI
W13 – Version 0.3 : start work on information retrieval algorithm, progress report
W14 – Function Test
W15,16 – Additional user test and submit