

CS 410 Project Proposal

Team: TBD (Yes, it's "TBD". No, it's not to be determined.)

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I plan to work by myself, so I will be the captain.

I plan to implement a Chrome extension that augments the Coursera learning experience by adding [danmaku](#), i.e. user comments synchronized to the video timeline, to the lecture video playback. As the comments are synced to the video, they will allow knowledge sharing that are tied to specific time points in the video and give users an atmosphere of collective learning.

The project will include a Chrome extension written in JavaScript and a server end written in Rust or Python that stores the comments. The comments will be available for playback upon request. The extension will intercept Coursera API calls to get information about video playback, in particular when the playback is started and when the playback is paused. It will use the information to request comments that are synced to the next video segment. The length of the segment translates to how "synced" the synced comments are and its value is not decided yet. The extension will have some interface to allow users to input their comments and to display comments by other users. The interface style is TBD and can look like the danmaku style as in Niconico and Bilibili or the live chat style as in YouTube live streaming and Twitch.

To demonstrate the extension, I will use one of the lecture videos and go through it multiple times showcasing posting/viewing comments and their time-synced nature.

The programming languages that will be used in this project include JavaScript and at least one of Rust and Python.

I have no prior experience developing a browser extension, but I do have some experience writing web applications. I expect the workload to be at least 20 hours.