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Problem Statement

Students sometimes have difficulty understanding certain subjects at school. Design an app that helps students understand various subjects better.

Problem Identified

As students of SCSE, we understand that the school is adopting the flipped classroom learning, where we are expected to view LAMS (Learning Activity and Management System) videos at home and to understand the content covered in these online recorded videos before attending lectures, tutorials and labs. The purpose is to prepare students so that they will not feel lost when the professors are going through the content. Implementing this new learning strategy places a great emphasis on recorded videos posted online to achieve the learning goals for a particular course. Learning is best conducted in an interactive environment. However, unlike face to face lectures, recorded videos can only be interactive to a certain extent as students are restricted from directly communicating their concerns and clearing their doubts on a particular topic covered in recorded lectures even after watching the video on repeat. While the "Discussion board" tool on NTUlearn exists with an aim to establish a communication link between students and lecturers outside the classroom environment to solve academic concerns, little to no discussion is observed taking place on that channel. We believe this may be due to the lack of awareness of such a tool's existence as well as the complicated procedure to create a discussion on the "Discussion board", which is set up on a separate page from the recorded lectures and requires discussions to be precisely labelled according to the topic or video for conversation to take place.

Solution Identified

Having identified the problem, our solution aims to encourage and greatly promote active discussion to take place conveniently for our users on the LAMS video. We have redesigned the webpage by incorporating a highly functioning commenting and replying system. The discussion forum located at the bottom of the recorded video facilitates easy viewing and direct access to the users. An active discussion also helps the professors to identify which are the common topics students have difficulties understanding. This brings to the professor's attention on topics which requires further explanation to our users.

There is also a timestamp feature when adding new question/comment. The timestamp allows students to explicitly link their question/comment to a specific time in the video. This allows them to quickly reference the time in the video and eliminates any unneeded ambiguity. Each user can vote on question/reply using the up and down arrow which they deem helpful or not. For each question/reply, the user is only allowed to vote once. This is to prevent users from abusing the vote system which may prevent actual helpful comment/reply from being seen by our users.

Additionally, our “Sort by” function enables students to sort questions by top in votes, oldest and newest comments. This allows the users to filter the comments according to their needs. The Sort by Top is the most important filter as it helps to push the more helpful questions with higher votes to the top, saving students the trouble from having to scroll through a long list of questions.

Benefits of solution

Feature	Benefit
Easy access to discussion forum	Promotes convenience
Sort by function	Efficiency in finding valuable comments
Timestamp	Improve clarity

Conclusion

In the flipped classroom concept, it is important that students have a good understanding of the subject matter before going for lectures and tutorials.

With this added convenience, it greatly aids the students in their learning. Students can now clear their doubts before attending lectures and tutorials to improve their understanding.

In summary, our solution aims to help students understand the subject matter better in our current learning environment, by integrating a discussion forum in the existing recorded lecture videos. Whenever students have doubts or do not understand the content, they can look through the discussion forum to see if there are any questions similar to theirs and read the answers posted.