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Video Annotation for Active E-Learning

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Abstract - Video annotation functions themselves will be beneficial for students in case of E-Learning or distance learning. The first benefit is the easier browsing of the video lecture. Annotation of video refers to the extraction of the information about video automatically, which can serve as the first step for different data access modalities such as browsing, searching, comparison, and categorization. The use of video lectures in distance learning involves the two major problems of searchability and active user participation. In our project, we will promote the implementation and usage of a collaborative educational video annotation functionality to overcome these two challenges. Different use cases and requirements, as well as details of the implementation, will be explained. We want to indicate not only that students perceive it as useful, but also that the learning effectiveness increases.

Keywords: eLectures, tele-teaching, video annotation, collaborative learning

1. INTRODUCTION

What is Video Annotation?

Video annotation functions themselves will be beneficial for students in case of E-Learning or distance learning. The first benefit is the easier browsing of the video lecture. Annotation of video refers to the extraction of the information about video automatically, which can serve as the first step for different data access modalities such as browsing, searching, comparison, and categorization.

1.1 Problem Definition

Now a day as a result of increase in digital media like camera, mobile phones assortment of digital videos is growing quickly. So there's got to efficiently store and retrieve theses videos from an outsized collection of video databases. Within the recent years several video retrieval systems are developed to browse, search and retrieve videos from giant databases.

The system mainly focuses on to improve use of video lectures which is more understandable to the students and trying to improve usage of collaborative educational video annotation functionality. To create interactive online learning system this is useful and increase searchability. Furthermore, suggest improvements to foster a culture of participation and an algorithm for the extraction of semantic data. Users will also find out only those contents or online videos whichever required and also requesting for extra materials.

1.2 Three main Key issues:

- **Searchability:**
 - ✓ Lots of videos are available of same domain
 - ✓ Major problem is grasping the information from videos
 - ✓ Searching specific and unspecific information from whole video
 - ✓ Above problem occur due to lots of multimedia data

- **User Active Participation:**
 - ✓ An idea is introduce for user communities
 - ✓ Create and share their own keyword with group of people
 - ✓ Create metadata
 - ✓ Create keyword other than exiting one

- **Video Annotation:**
 - ✓ Create annotation for videos
 - ✓ Video retrieval using annotation
 - ✓ Learning effectiveness when using lectures videos
 - ✓ Individual annotation compared with the annotation from learning in groups and experts

2. SYSTEM ARCHITECTURE

MODULES:

- Admin Module
 - ✓ Current Library keyword
 - ✓ Create tags
 - ✓ Upload Video
 - ✓ Scheduled Video Lecture
 - ✓ Ad Related Resources/Documents
 - ✓ Filter Keywords

- User Module:
 - ✓ Current Session:
 - Registrar themselves with Personal Details
 - Join Session with credential
 - Create tags with online chatting

 - ✓ Revision Session:
 - Revised Topic with desire timestamps
 - Download Related Document

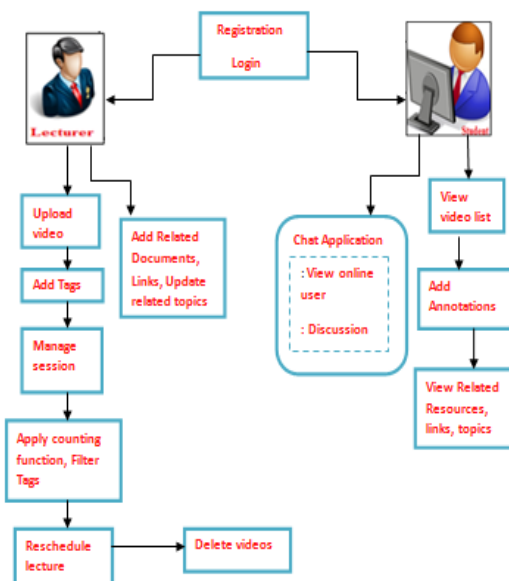


Figure.1 System Architecture

Here we considered first module as admin module or lecturer. Admin upload the videos with the tags. Also add additional documents for users more understanding purpose. Admin have authority to manage the session and reschedule that session. Updated related topics in between videos and add tags. Admin trying to find out the polarity of topic then again he will reschedule that session.

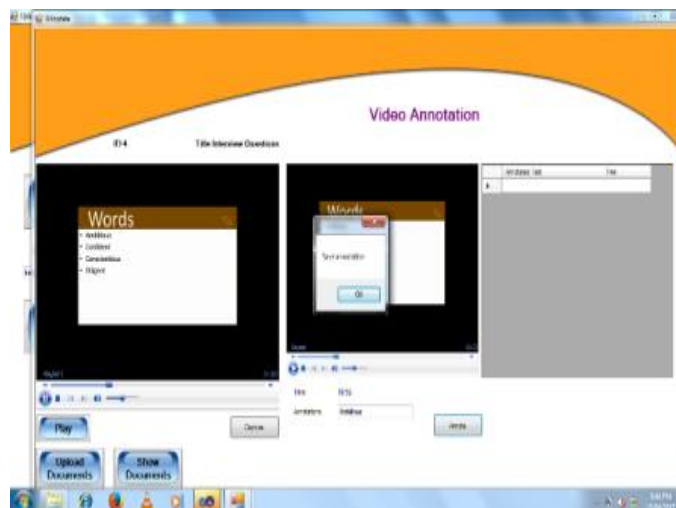
Second module is for student or user. User will play all the uploaded videos perform the annotation and also requesting for extra documents or any other related videos. If users have any difficulty related to any topic they will ask to admin. If user not interested to see complete video then he will jump to their interested topics.

Implementation:

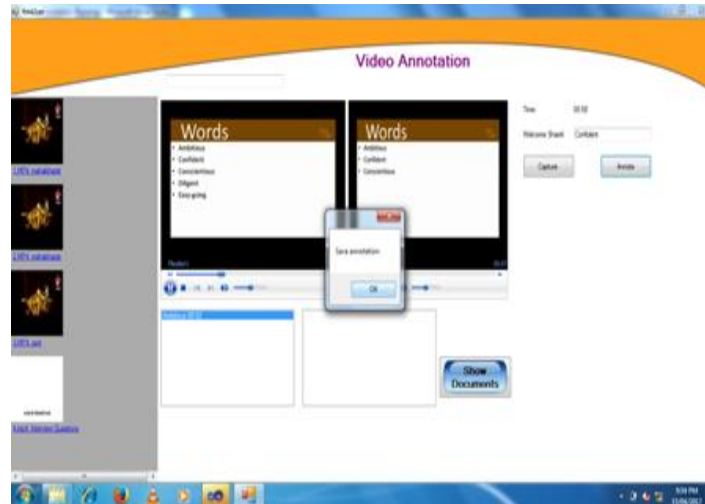
1. Login Form:



2. Admin Form



3. User Form:



3. CONCLUSIONS

In this paper, our proposed a collaborative video annotation function and illustrate several user studies and questionnaires. This study is beneficial to students those are interested in E-learning. System used the annotation for retrieving the data. Using this system we can retrieve exact data or jump to the desired point.

Also the learning effectiveness when watching e-lectures showed a tendency to be higher when students used the manuscript function in addition to watching the video.

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