

Title: Ultimate Course Search: Indexing Multimedia Learning Materials for Semantic Querying

Abstract

Multimedia is the main support for online learning materials and the size of multimedia learning materials is growing with the popularity of online programs offered by Universities. Ultimate Course Search (UCS) is a tool that aims to provide efficient search of course materials. UCS integrates slides, lecture videos and textbook content into a single platform with search capabilities. The keywords extracted from the textbook index and the power-point slides are the basis of the indexing scheme. The slides are indexed on the keywords and the videos are indexed on the slides. The correspondence between the slides and video segments is established using the meta-data provided by the video recording software when available and by image processing techniques. Unlike a classical document search in which the user would be looking where the keywords are found, the search of learning materials in UCS is different because the user is also looking where the search words are better explained. We propose a keyword appearance prioritized ranking mechanism that integrates into the ranking the location information of the keyword from the slides.