Institutional Collaborations of OpenCourseware in the Cloud Era --- Experience of TOCWC

Abstract
Taiwan OpenCourseWare Consortium (TOCWC) was established in 2008. By the end of 2011, there are more than 27 members. All of them are higher-education institutes. Also, we have more than 400 courses, and 75% of them have video courseware. During the past few years, we have 2 major institutional-collaborating projects running. One is the metadata engineering. Another is the analytics aggregator for understanding the usage of our OpenCourseWare (OCW). Since 2009, we have built a metadata model for Taiwan OCW content by incorporating with other universities. Moreover, we have also built an indexing system based on this metadata model in order to search OCW content efficiently. The metadata model contains 8 categories and 47 fields in 2012. We wish this system could improve the discoverability of OCW content.

Keywords
OpenCourseWare, collaboration, cloud computing, metadata, web analytics

Introduction
Taiwan has population of 23 million. For each year, there are about 200K infants born. However, there are nearly 180 universities or colleges in Taiwan. Higher education is common and not expensive here. It provides an excellent environment to develop open education resource, especially for Chinese content. National Chiao Tung University (NCTU) had foreseen the trend and established the first OCW platform in Taiwan in 2008 to promote the OCW movement in Taiwan. TOCWC was established in Dec. 2008, where there was only 10 universities joined in. The TOCWC had 27 members joined in the year of 2011, majority top national universities. Also in 2011, TOCWC became one of the sustaining members of OCWC. For the past few years, TOCWC members has contributed more than 400 OCW courses. Mostly significant is that more than a half of them have video content. For the purpose of increasing utilization of these content, beginning in 2009, the TOCWC launched the project of building standardized metadata model for OCW. It is the first collaboration project in between TOCWC members. In 2011, TOCWC launched another new project to standardize the utilization reports of OCW content. One of the TOCWC members, Taipei Medical University (TMU), is appointed to build an automatic reporting aggregator based on cloud technology. This paper will demonstrate some details about these 2 projects.

Building Metadata Model for OCW
In 2009, we began to think how to let people find proper OCW content. The Taiwan e-Learning and Digital Archives Program (TELDAP), a national project, had a sub-project called “Development of Systems and Standards for Digital Archives.” The core team who is responsible for the implementation of the metadata is called “Metadata Architecture and Application Team (MAAT).” Under the cooperation of MAAT and TOCWC, we had design a standardized metadata model for OCW, which is based on IEEE Learning Object Metadata (LOM) and SCORM 2004. In the initial phase, we had signed agreements with member universities. We had called for participation for sample-filling metadata after the first draft of metadata model released in Jan. 2010. There were 6 members volunteered. This model had more than 70 fields. Participated members suggested a shorter model would be more feasible. In July 2010, the MAAT had released the final version of the metadata model for OCW. It has 47 fields in 8 categories, as shown in Fig. 1. Compare to the LOM, the TOCWC metadata model has less fields and less categories.

Building Cloud Reporting Aggregator for OCW
Google Analytics (GA) launched in 2005, which provide an excellent solution for analyzing the usage of a web. It can collect web analytic data, such as visitors, location, time to stay, pages each visit, real-time and easy. In 2010, TMU had shown the usage report of its OCW site by using Google Analytics. The most interesting observation was that more than one-third of visitors came from TOCWC (Wan, 2010.11). TMU, also became a board member in August 2011, has worked with TOCWC to assist members integrating GA into their OCW sites since 2011 (Wan, 2011.5). The second step is to collect standardized web analytics reports from members’ OCW sites. The Office of Biomedical Informatics, in TMU, had designed an automatic analytics aggregator (Fig. 3) by using common cloud tools, which has got support from TOCWC (Wan, 2011.11). We’ve combined the Google Group with the auto-email function of GA. TOCWC had organized 3 online workshops for implementing GA report in each member’s site. These new data from the TOCWC members had joined. Monthly data have been collected from 9 members automatically. In the next step, we will build a mass data analytics in order to know the visitor behavior better.

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References