

PST17: Case Study: Course Evaluation and Student Employment System Integration

Overview

The Hotel School Web and Database Team builds web and desktop database applications for internal and external consumption. As with many other shops represented here at HighEdWebDev 2006 (maybe even yours), much of what we do involves management of data in one form or another. We consume data from end user input (web end users, administrative staff using desktop applications, etc), locally constructed data (search and server log statistics), and university constructed data, and produce reports and applications based upon these data sources.

The PST17 poster illustrates the movement and integration of data from three sources (end user, administrative staff and university central systems) into and between two web applications

Student Employment System (SES)

Current student vital information (name, address, college, etc.) needed during the hiring process is loaded weekly from Cornell's central Student Records Datamart (SRDM). The mechanism for this is currently a manual download of a tab-separated-values file from a university service and import of that TSV into our local database.

On the employment application form the student applicant can add to or modify this information (in case the central records aren't up to date), and indicate what positions they are interested in. The successful candidates for Teaching Assistant positions (TA) have course and faculty information added to their SES record by staff in the Human Resources office.

Course Evaluation System (CourseEval)

Course enrollment information (course number, section number, student ID) used to determine what courses a student is eligible to evaluate is loaded weekly (more often during the course evaluation administration times (mid and end semester)). The mechanism for this is currently a manual download of a tab-separated-values file from a university service and import of that TSV into our local database.

During the period of course evaluation administration students are sent reminder emails encouraging them to complete online evaluations of the Hotel School courses they are taking. When an evaluation for a course is configured by the Hotel School registrar, the CourseEval system automatically queries the SES for a listing of TAs for that course. If found (and if the course is configured to include evaluation of TAs) the questionnaire presented to students includes a space for them to provide a quantitative assessment of the course's TAs in general, and a space for them to provide a freeform evaluation of one or more TAs.

Mechanics of Data Integration

The Hotel School maintains a central Oracle instance which acts as the core information storage mechanism for all web systems. Additionally, desktop administrative databases are replicated into Oracle on a regular basis. Business logic for access to information in an abstract manner is implemented in PHP libraries addressable directly by PHP software, or through remote procedure call mechanisms such as XMLRPC and SOAP.

The CourseEval software (implemented in PHP) directly calls SES methods to extract course TA information. The software architecture follows the software engineering principle of abstracting and consolidating access to and manipulation of the underlying data so that consumers of the resource can, programmatically, receive answers to questions such as "who are the TAs for this course?"