Senior Project, Spring 2014

Senior Project Website - Version 3

Student: William Marquez

Mentor and Instructor: Dr Masoud Sadjadi

User Management System

School of Computing and Information Sciences - Florida International University, Miami, FL 33199, USA

Problem

Manage Users

As in any other class, a student may drop from the Senior Project course any time before the final drop date of a semester. Also, students currently registered for the Senior Project course may not have fulfilled the minimum requirements and need to be removed from enrollment in the course. The Senior Project Website does not allow the Head Professor to manage any of the students in the system. Furthermore, the Head Professor does not have the ability to send an invitation for new users to join the system and create their own secure passwords.

Current System

Currently, the Head Professor, professors and students are using Version 2 of the SPW. This version covers the access and registration of a new user. A student can access the SPW using a valid username and password by being registered in the Senior Project Class. Faculty access is granted by the Head Professor. The Head Professor must register the new faculty member and enter a password on his or her behalf and then use his or her own email account to forward a copy of the password to the new user.

Version 2 also covers the selection of a project from a student point of view. However, the Head Professor must assure that students are choosing the most appropriate project for their skills. Also, the Head Professor must guarantee that certain projects are chosen over other projects with fewer priorities. For that, the Head Professor must tediously analyze case by case to ensure that projects and students are well matched. Presently, users can search for people, skills or projects. They can navigate through existing or past projects, create new ones and also see the current project he or she is enrolled in. Any user can create a new project by specifying a project title, a brief description, skills needed, delivery term and the maximum number of students that will work on the project. The users can as well edit their profiles and log out.

Moreover, for the sharing of documents, all users utilize a mutual repository. The SPW provides a common repository from where students, professors or the Head Professor can select an active project from a scroll down menu and upload a file to it. This file can be seen and downloaded by all active users, but only the Head Professor can delete it. Version 2 is currently in use by the Senior Project Class members.

Requirements

The general requirements for the Senior Project Website cover the following:

- The system shall allow the head professor to manually add users to the database of users (SPW3_904).
- The system shall allow the head professor to delete users from the database of users (SPW3_905).
- The system shall allow the head professor to modify users that are a part of the SPW (SPW3_906).
- The system shall allow the head professor to impersonate any other user and act on his behalf (SPW3_907).
- The system shall allow the head professor to bypass an activation link sent to new users (SPW3_908).
- The system shall allow the head professor to filter users based on their attributes to find a group of users more easily (SPW3_909).
- The system shall allow users to activate their accounts via an email activation link (SPW3_910).

System Design

The Senior Project Website was designed as a 3-tier architecture. More specifically, the Model View Controller. The models update persistent data and notify the controllers of these changes. The controllers update the views, when the models make changes, and respond to user action. The views are what the user interacts with and shows the user the most up to date information.

Object Design

The subsystem that I worked on was the User Management Subsystem. This subsystem is made up of the User Management Model, the User Management View, and the User Management Controller. The User Management Subsystem is to give the Head Professor complete control over all users and new users.

Implementation

The Senior Project Website was developed using HTML, Javascript, jQuery, and the CodeIgniter framework for PHP. The database is a MySQL DBMS that we manipulated using MySQL workbench. Below are the two solutions for the requirements to manually add a new user, to send new users an activation link via email, and to allow the Head Professor to act on behalf of another user.

Screen Shots

Figure 6.1 - Filter Users

Figure 6.2 - Edit A User

Figure 6.3 - Manually Add A New User

Summary

The Senior Project Website was extended to make the program more user-friendly and a more complete solution for future graduating classes and for the class Head Professor. The new functionality in the user management system gives the Head Professor more complete control over the users allowed to access the SPW.

My focus was to give the Head Professor the ability to manually add a new user and send an invitation for the new user to join the SPW. This invitation includes a unique link to the SPW that allows the new user to input his or her information, and the information requested from the user depends on his or her role in the SPW. Another focus was to allow the Head Professor to act on behalf of any user in the system. The Head Professor is now able to find any user in the system and perform any action on behalf of that user. When the Head Professor is finished, he can return to his proper role of Head Professor. My final focus was to let the Head Professor manage any user in the system. This includes the ability to delete users, change the status of users, bypass the activation of pending users, and edit the basic information for any user. The Head Professor can filter through all the users in the system and will be presented with all the above options on the page containing his results.

The above functionalities were the main requirements for the user management subsystem. As a result, the Professor, professor, and student are also able to view the current projects, take part in the projects and view their activities.

The other subsystems added to the SPW give the Head Professor control over project placement for students via the Matching Algorithm sub-system, and give all users a convenient location to share project files via the Project Repository sub-system.

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