

Students and Courses Web Application

Objective

The main objective of this assignment is to develop a web application for managing students, courses, student's registering for courses. The application consists of HTML based user interface. The application server will be written in PHP 8.x. The backend database will be MySQL 8.x.

Materials

1. The data model for the application is the provided ER diagram
2. A mockup of web browser interface for the application is provided. This is just an example. You should design your own user interface for this, preferably.

Required Tasks

1. Create the database schema from the provided ER diagram .mwb file. Or, you can also import the SQL file, but you need to create the database first and import SQL scheme file.
2. Implement the HTML interface pages (views), including Forms to accept user data. Note the use <SELECT> elements to pick a course. You need to read HTML forms documentation on how to build this. The data for SELECT comes from a list. This was demonstrated in class lectures.
3. Implement php-based app server using MVC methodology. Views should be HTML with php code to present the data. Controllers will coordinate the access of data from models. Controllers will also process the posted data and invoke model methods to add the data. The model classes will interact with the database using PDO libraries.

Use the class demo presented as an example of how to develop MVC for each page.

Models are implemented as Classes with methods for specific interaction with the database. The models generally correspond to Entities. I.e., Students, Courses, Credentials and Registrations. The methods should support CRUD (create , read, update and delete - we are not implementing update and delete in this project). In some instances, a method may requires read from multiple DB tables (SELECT with JOIN).

4. You can start with implementing of read and present data first with already added data from phpMyAdmin or mySQL workbench. Then work on adding new data.
5. Test the code for all cases. Test the models first. Then implement the view and controller files.
6. Submit your export of database, and zipped top level application folder.

Things to Learn

Below is a partial list of concepts this assignment is intended for you to learn and gain experience

1. Steps in developing a php-based web application using HTML browser interface and mySQL database
2. MVC methodology to implement the software
3. User of HTML GET and POST methods
4. Use of PDO in php for mySQL database access.

Evaluation

In all homework programming assignments this term, developed models and software should be clear and concise. The model should produce a database schema without errors.

Your work should be your own. Do not copy another students work. Both students will get Zero grade on copying.

Submission Dates

Assigned : Sunday, Nov 3, 2024

Due: Submit completed project is due by Wednesday, Nov 13, 11:55 pm

Submit the following files:

A full export of your database, structure and data. You can do this from phpMyAdmin.

A zipped folder of all your PHP, HTML, Javascript, and CSS (if any) files. Make sure you submit the top level folder.

Notes:

Note - you are mainly doing INSERT and SELECT into and from data Database tables. course, or add registration. There are joins across tables.