Exercise 06: PhP, SQL, AJAX

Objectives:

To learn and use object oriented PhP along with SQL, and AJAX.

Work with your group (or by yourself).

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1 Run UwAmp server

UwAmp is a WAMP server (Windows Apache MySQL, PHP). You can download it by using the following steps. You can run it off a USB stick.

1.1 Download UwAmp

1) go to http://www.uwamp.com/en/?page=download
2) download .zip file .and extract the contents into a folder.
3) start UwAmp (as in last lab).

2 Warm Up: Try Some Examples

Download the examples from the assignment and try them out!

There is an "index.html" file that gives you access to all the examples. TRY THEM ON DIFFERENT BROWSERS (FIREFOX/CHROME ETC).

Make sure that ALL the PHP code you want to run is in a folder INSIDE www folder of UwAmp.

Also, make sure to type "localhost/…..<path from www to index.html> …/index.html" on a browser to access your server code.

3 Library application

You have already worked on creating a Library application in lab04. The books etc., all have the same requirement as in lab 4. In that exercise, all the work of validation was being done on the CLIENT side using javascript. This exercise is very similar, EXCEPT that all the validation is done on the SERVER side using PhP AND data is stored in a database.

For all requirements that follow, provide the required user Interface for the user using HTML/js (Example : buttons, textfields etc).

3.1 Basic requirements

There are TWO types of users in the system, student and librarian. A user will need to first sign up. After that, he or she can log in and use the system. Reminder – do the validations on the PHP side.

1) Sign up form

Field Label	Field Type	Validation rule
username	TextField	*Required. Must contain only alphabetical or numeric characters.
Password	Textfield	*Required. (Note: store in database using md-5 format. Look up md5() method in PhP).
Confirm password	Textfield	*Required.
Email	TextField	*Required.Must be in the form xxx@xxx.xxx x should be alphanumeric.

Phone	TextField	Must be in the form xxx-xxx-xxxx or xxxxxxxxxx x should be a number
Librarian or not flag	checkbox	Required. Boolean
First name	Text field	Required. Must contain only alphabetical characters
Last name	Text field	Required. Must contain only alphabetical characters.

2) Once a user logs in, his/her **username** should be displayed on the top right corner of all the pages till he/she logs out. (Hint: Make use of session variables. http://www.w3schools.com/php/php_sessions.asp).

3) If you are logging in as a librarian you should be able to perform the following functions

A. Add book (book id, book title, and author) – adds to a shelf in the library that is not full. Assume shelves have capacity of 20 books and that there are 4 shelves which names by “Art”, “Science”, “Sport” and “Literature”.

B. Delete book (book id) – removes the book from the library.
Hint: sql delete from book table in DATABASE.

C. View “borrow history” (username)
Hint: sql select from loanhistory table in DATABASE. Show entire history for the user.

D. View all the shelves. Also, by clicking on a specific book, the details of that book should be show on the same page.

Hint: Use sql join between shelves and books and show information.

4) If you are logged in as a student

A. View all the shelves. Also, on clicking on a specific book, the details of that book should be show on the same page.

Hint: Use sql join between shelves and books.

B. Borrow (book id) should be able to take a book on loan if it is available.

Hint: Use sql update books table.

C. Return (book id) return the book and make the book available.

Hint: Use sql update books table.

5) Use only AJAX for all requests from the front end. In php files, make connection to database, and do queries as needed.

**** use at least 5 PhP classes**: library, librarian, student, book, shelf.

3.2 Database access

1. You also have been given a database server for your team. Use that server for this project.
2. You can use the MySQL in UwAmp (i.e. localhost access) for initial TESTING purposes only.
3. Use W3school website (http://www.w3schools.com/sql/) to get more information about using MySQL database in your project. You will need to know "create table", "select", "insert","update", and "delete".
4. Create the following tables on the database. Make sure that each table has a primary key (the bolded and highlighted fields in tables below are primary keys).

name of table: users

UserName	Password	Email	Phone	Librarian	FirstName	LastName
Varchar(255)	Varchar(255)	Varchar(255)	INT(10)	TINYINT	Varchar(255)	Varchar(255)

name of table: books

BookId	BookTitle	Author	Availablity
INT(10)	Varchar(255)	Varchar(255)	TINYINT

name of table: loanHistory

userName	**BookId**	DueDate	ReturnedDate
Varchar(255)	INT(10)	DATE	DATE

name of table: shelves

shelfId	ShelfName
INT(10)	Varchar(255)

name of table: BookLocation

BookId	**ShelfId**
INT(10)	INT(10)

Please Make sure:

- Library starts out empty . Then, the librarian adds books to it.
- For passing JS variable to an external php file, you can use Ajax.

```
$.ajax({
   type:"POST",
   url: "example.php",
   data: {  info:  infoHere },
   success: function(data,status) {
      $("#display").html(data);
   }
 });
```

where display is the id on a div. Assuming that what you're echoing is all html.

you should submit database .sql file

Submission:

Zip your HTML and PhP files, and participation file (i.e. who worked on which part or if you worked together). Then, submit this zip file on black board. Remember there is only one submission per group. Make sure to include all the files that are needed in order to run your program.

Participation file is a simple txt file, which clarifies the specific participation of two members.