CS25010 Assignment
PHP

Adrian Shaw

October 2013

1 Schedule

Hand out	Hand in
Wednesday 30^{th} October	Friday 29^{th} November at 23:59 *online*

2 Objectives

1. To use PHP to create an application that runs over the web;
2. To gain experience with working with databases on the server side;
3. To write PHP code to access and display data from a database;
4. To write some SQL statements;
5. To write server-side code that maintains a session;
6. To integrate client side form checking into a server side application.

3 Details

You are provided with access to a database table, containing a list of mobile phones. The table contains nine fields:

ref, manufacturer, model, os, colour, screen, price, description, enteredby

The name of this table is *phones*. It is contained in the database called *teaching* on the PostgreSQL server *db.dcs.aber.ac.uk*. The userID you should use is *csguest*; the password has been supplied to you separately. The table was created using the following SQL command:

```
CREATE TABLE phones
(
ref INTEGER UNIQUE PRIMARY KEY,
manufacturer VARCHAR (20),
model VARCHAR (20),
os VARCHAR (30),
colour VARCHAR(10),
screen DECIMAL (2,1),
price DECIMAL (6,2),
description TEXT,
enteredby VARCHAR (10)
)
```

Your task for this assignment is to write some PHP and JavaScript in conjunction with (X)HTML forms, to do the following:

1. Start a session, and maintain it throughout, or until the user selects "logout" (for which a link must be provided). Ask the user's name, and then display it on every subsequent page. You need not worry about a password for this application; as you do not have anywhere on the database server that you could store usernames and passwords, this is not practical for this assignment.

2. Once the user has entered their name, provide listings of:

   - All the phone models (at least manufacturer, name, OS), with their price and description;
   - All models with a price greater than, or less than, an amount the user specifies. Also include the price in the output.

   This will probably use an (X)HTML table, but must use an SQL query to get the data.

   You may choose to display colour and screen size; however, you should not display the `ref` number, nor the `enteredby` fields, as these will be of no interest to the customer.

   You may choose to display the description in some other way, for example via a link, or a JavaScript *onmouseover*; this could improve the appearance of your site, though it is your choice.

3. From the page displaying models and price, allow the user to select phones (using a check box against the title). Keep a record of the phone(s) selected (e.g. keep a list of the ref numbers). Have a link called "Shopping basket" which displays the phones the user has selected, and their price, gives the opportunity to remove them from the basket, and displays the total price. (hint: you might want to use the *ref* number as the name for the check box, so your script can easily query the database for the selected phones).

4. The shopping basket page should allow the user to "check out" by entering their email address and 16-digit credit card number (postal address would also be desirable, but is over the top for this assignment). These fields should be checked on the client side, using JavaScript and regular expressions to ensure they are valid, before they are submitted. You may use HTML5 form checking if you wish, but email address at least should be checked using JavaScript (it is more rigorous). The user should be alerted if anything is not right.

   Clearly include a statement near the top of this page which makes it clear this is not a real shop! Perhaps use the following text: "This is not a real web shop; it is created as part of my university coursework. Please do not attempt to buy anything from this site, nor enter your real card details."

5. Write a page, linked from the main page as "about", which is a description of what you've done. This should include how you went about designing the site, your testing, and an evaluation. If something didn't work, show me you tried (and say why you think it didn't work, if you know) - you might get some marks for it anyway if you do this! Comment on any improvements you'd like to make and how you might make them.

   This page should also contain a declaration of originality, with text similar to that provided on the standard forms.

   How much you write will depend on how much you have to say, but as a guideline, it should probably be at least 40 lines (in an average size browser window of 12 point text). Do not neglect it; it will be worth a considerable percentage of the marks.

6. Your page should look professional, attractive and worthy of the (imaginary) company you're writing it for. Some marks will be awarded for the overall impression the page gives, regardless of how well it's designed technically. But please beware of copyright issues on any images you choose to include.

7. Should it validate? Well, although validation is not strictly a requirement of this assignment, if it doesn't, then you are likely to lose marks for the overall technical standard

(unless you can justify the validation failure in your *about* page). I'd expect you to write the site to (at least) XHTML 1.0 transitional, and preferably strict, XHTML 1.1 or HTML5.

4 Hand-in

This is IMPORTANT!!!

You should put your files in a directory on your Aberystwyth web site (`public_html` directory on central - M: drive) in a subdirectory called cs25010 (lowercase please). You must make sure the permissions are set correctly so I can view your assignment.

As explained in lectures, all PHP files must have permissions set to 700 (that is, owner read-write-execute; no permissions at all for others).

This means I cannot see the source, but I need to. To enable me to view it, include the following PHP code at the end of *each* PHP file you write, just before the `</body>` of the HTML:

```
<?php
$viewmonth=date("n");
if (($viewmonth==12)||($viewmonth<7))
{
if (isset($_POST["viewsource"])) {echo"<hr />";highlight_file(__FILE__);}
else echo('<form action="' . $_SERVER["PHP_SELF"] . '" method="post">
<p><input type="submit" name="viewsource" value="View source"/></p></form>');
}
?>
```

This code will give me (and anyone else) a "View source" button at the end of your page, any time between 1st December and 30th June. This prevents others seeing your code until after the deadline, and allows for moderation right until the end of the academic year. (You can check that it works by changing the conditional - but change it back, as it might prevent me from marking in December, and would allow others to view your code.)

I should then be able to access your assignment via:

`http://users.aber.ac.uk/xyz9/cs25010/index.html`

or

`http://users.aber.ac.uk/xyz9/cs25010/index.php`

(where `xyz9` is your userid).

I use a script to help my marking, as locating files can take a very long time otherwise. Failure to follow the above file naming instructions will cause me hassle, and will therefore be penalised.

I WILL CHECK FILE MODIFICATION DATES!!! If a file is modified in any way after the deadline, I will know, and you will get 0 marks (note to UNIX users: it's no good trying to spoof the date - you can't change the clock on Central and `cp -p` can't disguise the inode modification time). Note that changing file permissions will make it appear that the file has been modified (as it affects the inode). So your permissions must also be correct before the deadline.

You will also get 0 marks if I can't find your assignment, or if permissions prevent me from seeing it. So make sure you check!

I will not mark assignments in any location other than your Aberystwyth `public_html`.

I am sorry, I cannot be flexible about this; there are some who would take advantage if I were.

5 Marking scheme

I will be marking according to the following scheme:

Marks	Feature	What I look for
10	Session	*maintained throughout, use of* `$_SESSION` *variable*
10	Basket	*used, maintained by the session, able to add/delete*
20	Database use	*connection handled properly, SQL commands appropriate*
10	JavaScript/form validation	*I shouldn't be able to enter invalid data*
10	Code Quality	*neatness, comments, W3C (X)HTML valid (unless justified)*
20	Writeup	*how well it addresses issues encountered, reflection*
20	Overall impression	*worthy of a professional site*

6 Suggestions

1. Test as you go along! If things are failing, then read the error messages.
2. Remember the debugPrint() function that I showed you in lectures; this could be very useful to help you in finding out what has caused the error.
3. You can view the complete database at http://users.aber.ac.uk/ais/examples/phpdb/managephones.php - which uses the same page as we saw in lectures to create the phones table. However, you cannot change the table.
4. The PHP used for the above page can be found at http://users.aber.ac.uk/ais/examples/phpdb/managephones.txt (minus passwords!) - you may find this useful to refer to.
5. Going beyond the specification (e.g. allowing the user to display phones of a particular colour, screen size range, or OS) will impress me, and is likely to get extra marks, though a perfect project that does not exceed the specification would get full marks.

This assignment counts for 50% of the marks for CS25010. Note carefully the time of the deadline!

Adrian Shaw, October 30, 2013