SCHOOL OF COMPUTER SCIENCE

PRIFYSGOL
BANGOR
UNIVERSITY

ICP 3046
Web Based Applications
Labs 5 to 7: Databases

Introduction

Your e-commerce site requires a database. In this lab you will create the MySQL tables required for your e-commerce store, and populate them with sample data. You will then use this data to show a list of products in your e-commerce store, and allow a user to register and log on. **This is assessed, and forms 20% of the mark for the module.**

You have three lab sessions plus your own time to complete the work.

Lab Exercise

1) Consider the following features of the e-commerce store that you are developing and create appropriate MySQL database tables to hold required information. [10%]
    a. The ability to list products from your store on the homepage.
    b. The ability to view details of a product on the product details page.
    c. The ability for a customer to register on your site and log in once registered.
    d. The ability to send a customer a confirmation email once payment is received.
    e. The ability to view details of products ordered by a customer, along with their shipping address, billing address and payment method.

2) Populate the table containing details of the products, and the table containing details of the customer with some sample data. Ensure you add at least 5 records to each table. [5%]

3) In your *application_top.php* file, write code to connect to your database. Display an error message if the connection cannot be established. [5%]

4) Take the login form you created in lab 2, and change the login function so it checks for a valid username and password combination from your database, as opposed to using the static values in includes/configure.php. Remember to test it thoroughly with valid and invalid combinations of username and password. At this stage the password may be stored in the database as plain text. [10%]

5) Take the registration form template you developed in lab 2, and modify it to be a self-processing form. When a user completes the form there should be a check that their selected username is not already in use. If the username is available then the user details, including their password and email address can be added to the users table of your database. At this stage the password may be stored in the database as plain text. Ensure you write *functions* to check if the username is in use, and to add the user details to the database. [20%]

6) Take the product listing page template you developed in lab 2, and populate it with the sample data from your database. Link each product that is listed through to the product details page by passing a parameter in the URL. Ensure you write a *function* to get the details of all products from the database. [20%]

7) Take the product details page template you developed in lab 2, and populate it with data from your database. This means you will be able to display details for each product. The product to be displayed is to be identified through a parameter passed in the URL (e.g. a product ID). Ensure you write a *function* to get the product details from the database. [20%]

8) Ensure there is a form on your product details page that allows you to submit details to the basket page, including the quantity of the product that your visitor wishes to purchase and a unique identifier for the product. [10%]

Submission

Use **Blackboard** to submit your PHP source code files, and an SQL script to create and populate your database tables, as a zip archive. Each file must:

- Contain a program header
- Include an appropriate level of comments
- Follow a consistent style of indentation
- Follow consistent naming conventions

The deadline for submission is announced on the Blackboard system. Late submissions will be penalised in line with School policy.

As well as the requirements above, marks for this laboratory exercise are awarded for:

- Valid html and css
- Use of good programming practices, such as code-reuse and appropriate input validation
- Comments, layout and code structure
- Conceptual understanding

When submitting work it is your responsibility to ensure that all work submitted is:

- Consistent with stated requirements
- Entirely your own work
- Submitted on time.

Please note that there are **severe penalties** for submitting work which is not your own. *If you have used code which you have found on the Internet* or *from any other source* then you **must** signal that fact with appropriate program comments.

To obtain a mark you **must** attend a laboratory session and be prepared to demonstrate your program and to answer questions about the coding. Non-attendance at labs will result in your work not being marked.