La Trobe University

Department of Computer Science and Information Technology

CSE1IIT Web Assignment Semester 1 2019

20% of your IIT grade.

Objective

Demonstrate your knowledge and understanding of web development and website design.

Due Date

SEE LMS FOR DUE DATE.

Delays caused by computer downtime cannot be accepted as a valid reason for a late submission without penalty. Students must plan their work to allow for both scheduled and unscheduled downtime.

The LMS will be configured to allow you to submit as many times as you like, the most recent version will be marked.

Late submissions will incur a 5% penalty for each day that it is late.

If you change your submission after the due date it is considered a late submission and will incur a 5% penalty for each day that it is late

Copying, Plagiarism

This is an individual assignment. You are explicitly instructed not to work in groups.

Plagiarism is the submission of somebody else's work in a manner that gives the impression that the work is your own. For individual assignments, plagiarism includes the case where two or more students work collaboratively on the assignment. The Department of Computer Science and IT treats plagiarism very seriously. When it is detected, penalties are strictly imposed.

Submission Guidelines

You are required to upload your solutions to the LMS in a zip file.
This ZIP file MUST include all the images, PHP, HTML and CSS files that your website needs to function.
HOWEVER you do not need to include the IIT_Assets directory in your submission.

You are NOT permitted to use any sort of automated code generation tools or programs

Your website MUST work on the **webprog.cs.latrobe.edu.au** web server and display correctly in Google Chrome installed on the PCs in our computer lab room.

Problem Description

This assignment continues on from the content you have completed in lab 8

You will be designing a functioning online shopping system for an online business.
This particular business doesn't have a physical store and functions entirely online.
For this reason it is very important for them to have a well-designed web page.

The online shop will be written with PHP, HTML5 and CSS. JavaScript will not be permitted.

You have been provided with some partially completed code. Along with some implementation documentation to guide you.

The online shop system must allow customers to search for products of their interest and add them into a shopping cart.

When the user is ready to buy they will navigate to the view cart page where they will view the items in the cart.
The user will then enter their username and click confirm order.
If the user does not have an account, they will need to sign up using the sign up form.

Once the order has been confirmed the user is shown a receipt of the order.

The online shop will have two special pages.
CustomerList.php will list the details of all the customer in the database.
OrderList.php will list the details of all the orders in the database.
These special pages are for the business owners, and are not intended for customers.

Pages that are intended for customers should not display unnecessary technical details such as the ProductIDs or CustomerIDs.

Rules and Requirements

- The site must run correctly on webprog.cs.latrobe.edu.au server
- The site must run correctly in Google Chrome that is installed in BG 116.
- All CSS styles MUST be placed into a CSS file. (shopstyle.css)
  There must be no CSS code in your HTML/PHP files
- JavaScript is not allowed in this assignment, do not use any JS code. This includes but not limited to: <script> tags, and onclick attributes.
- Your site MUST use relative URLs for all resources (including images and hyperlinks).
  The only exception to this rule is the hyperlink to the brands website.
- When you submit your assignment please include all the files your site needs to operate (including the database directory) However, you MUST NOT include the IIT_Assets directory.
- Your code must be HTML5 compliant please use the HTML5 validator (see the end of Lab08 for instructions)
- The website should have a consistent look and feel. All the pages should have the same layout and the navigation bar should always be visible to the user.
- You website must be secure from SQL Injection attacks and Cross site scripting attacks.
- Make sure you have read this document and all relevant documentation.
- You are not expected to implement any sort of password authentication system (unless you do bonus task 2)
- You are not expected to implement a payment system, you can assume that when a customer completes an order the money magically appears in the businesses bank account.
- Your site must contain at least one CSS animation (but still keep it professional).
- The site must have a logo (of your own design) at the top next to the heading.
- The search system needs to work and have links to go to the next and pervious pages (see Lab08).
- Your code must be indented and easy to read.

Your Task

You job is to take the partial solutions and make them into a fully functioning online store website.
Most of the PHP code is done for you, the real challenge is making the website look professional and attractive to potential customers.

Please make sure you have read the PHP and Database lectures. Lectures 5 and 14 in particular.

Making an online system like this can be overwhelming it is important to break the system down into smaller tasks.
Here are the tasks you need to complete BEFORE starting the assignment.

1. **Ensure you have completed Lab08** (at least up to Task 11)
2. Copy all the provided assignment code into the Lab08 directory.
3. View the provided files in a web browser and see how they function (if at all, some may have errors)
4. Open all the files in the lab08 directory in Notepad++ and read the code and comments provided.
5. Carefully read this document and any attached documentation on LMS.

Here are the main tasks you need to do for this assignment.

1. Get a navigation bar working.
2. Get the website functional.
3. Make the website look professional.
4. Complete any additional requirements.

If you get stuck on task 2 put it aside and work on task 3 until you can get help.
Web assignments like this sound easy enough but please don't underestimate the time required to complete this assignment. Start it as soon as possible.

Another thing to note about this assignment is how much code is reusable. Some files are very similar.

For this assignment the majority of the marks will be on the style and layout of the website.
That is, how it looks and feels. And also the quality of the code.

I highly recommend looking at what other successful online shops look like such as Amazon and eBay.
What things do they display on the page? What colours do they use? How big is the text?

When working with real clients they often do not know exactly want they want.
It's your job as a web developer to interpret their requirements and deliver a final product.

Please ensure your code is valid HTML5. Remember that just because 'it works' does not mean it is correct.
Use the HTML5 validator to check your HTML code (see lab08).

Task 1 - The Navigation bar

The first thing you should do is get a basic navigation bar working so that you can at least browse the website.

The navigation bar is just like what we did in lab 05.
The navigation bar MUST contain links to the following pages:

- Homepage.php (you may also name this file index.php if you like)
- ProductList.php
- ViewCart.php
- CustomerList.php
- OrderList.php
- SignUp.php

Please note that all the files on this website use the shopstyle.css file.
So any styles you put in shopstyle.css will apply to all the pages.

It's OK of the page is ugly at this point we will style it later.

Once you have the navigation bar finished, copy its code to all the PHP pages
except: ProcessOrder, AddToCart, EmptyCart and AddNewCustomer because they will not be visible to the user.

You navigation bar links should change colour when the user hovers the mouse over them.

Task 2 - Getting the website functional.

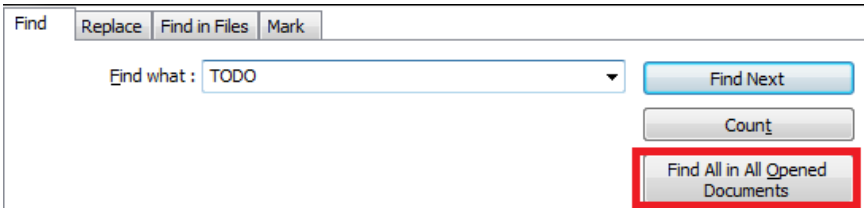
I have provided you most of the PHP code, you just need to fill in the blanks.
Don't forget to check over the Lecture notes they contain many handy examples.

I have provided you with a document called "Assignment 3 File Details" this file explains what each PHP file will do, and what SQL statements are required in each file.

Some of the PHP files are already fully functioning.

You should look though the PHP files and complete any of the TODO statements.

Open all the PHP files in Notepad++ and press **Ctrl + F** and search for the word "TODO".



If you get stuck work on Task 3 until you can get help.

Task 3 - Making the site look professional.

If you haven't already please visit https://css-tricks.com/snippets/css and http://learnlayout.com/ these website contain excellent examples of the things you can do with CSS and layouts.

What you should do is pick a file to focus on to start with (such as ProductList.php).

Then decide on a layout structure, where should the navigation bar go? Where should the heading go?
Some people like to draw a layout plan on paper of how they want the page to look before starting any code.

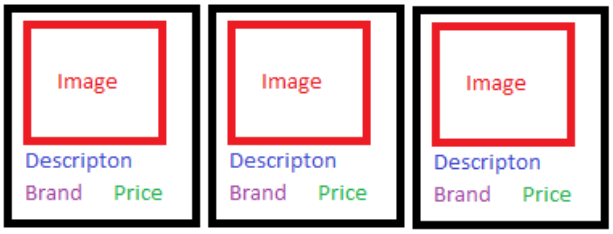
Look around at other people's websites and blogs for ideas.
As I said at the start of this course web design requires a large amount of self-directed learning.
There are plenty of online resources on working with HTML and CSS.

Once you have decided how you want your page to be structured think about what kinds of divs you will need.
Most website will have four major divs: container, header, navigation, and main.

HTML5 provides new semantic tags for these functions like <nav> and <section> you can use these if you like.
But and tags like we did in the labs are also acceptable.

I find that it makes things easier if you assign a random background colour to all the divs using CSS.
This makes it easier to see where the divs are.

Once you have the main site layout figured out you need to think about how the products should be displayed
Do you want them listed one per line or a side by side layout? (Examples below)



The layout and style is up to you - after all, you are the web developer.

Once you have all the layout looking the way you want it's time to assign colours and fonts.
I would advise against using bright colours, except maybe on the prices. Having a bright yellow background is not very aesthetically pleasing.

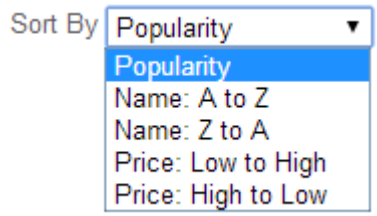
Remember that you are building a website for a business, you need to keep the page looking as professional as possible.

You can apply CSS to any item in the page, including buttons and form fields.

Finally once you are happy with the layout copy the relevant HTML code to the other PHP files.

Task 4 - Additional Requirement

On the search page (ProductList.php) provide the user a drop down list that allows the user to change how the results are sorted.



Results should be sorted by popularity by default.

NOTE: you're not allowed to use variables in your SQL, you can however have multiple prepare() statements and select the appropriate one based on a URL parameter using if() and elseif() statements.

Bonus Task 1

If you are feeling adventurous here is a challenge task you can do for extra marks.

Add an extra PHP page that shows the business owners a table (without any pictures) of all the products and shows:

- ProductID (which also functions as hyperlink to ViewProduct.php)
- Description.
- Price.
- Brand Name.
- Popularity
- Total Quantity (similar to popularity but also factors in the quantity ordered)
- Total Revenue that this product has generated.
- The products should then be sorted by the Total Revenue (Descending).
- (Optional) Any other statistic you feel might be useful to the business.

Bonus Task 2

You notice that anyone can access sensitive customer details.
The owners of the business request you put some kind of authentication (password protection) on both the customer list and order list pages to prevent unauthorised access.

There are a number of ways to implement such a system but the simplest would be HTTP Basic Authentication.
You can easily implement HTTP basic authentication in PHP.

A single hardcoded username and password (of your choice) will be sufficient.

NOTE: You **must** include a copy of the username/password in your assignment submission (in a text file).

Extra challenge:

Implement the password system such that it is able to check if the password is correct without storing the password itself anywhere.

It should be virtually impossible for anyone to figure out what the password is even if they have total access to all your files. This is a useful property to have because it means that even if your files were made public the password will still be secure.