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COS 216 Practical Assignment 1

- Date Issued: **27th February**
- Date Due: **13th March** before **08:00**
- Submission Procedure: **Upload to the web server (`wheatley`) + clickUP**
- This assignment consists of **7 tasks** for a total of **80 marks**.

NB: Please read through the entire specification before asking questions on Discord/Email, as there is a high likelihood you question may be answered later in the specification.

1 Introduction

During this practical you will be creating a site to view and compare different cars and brands. The idea is to give users of the site the ability to look at different cars and see the specs helping them make the right choice of which car to buy. Users of the site can choose to view car models, view car brands, compare cars and even use the find me a car feature. **NB: It is important that you do not miss any practicals or you will fall behind. Each practical will have a portion of new work, that does not build on previous functionality.**

After successful completion of this assignment you should be able to create a web page which complies to the HTML5 standards and CSS styling. The specific web page for this assignment will showcase the following functionality:

- a navbar from where navigation to each component/part for each assignment should be showcased;
- The following tabs should be present in the navbar Cars, Brands, Compare, Find Me a car
- an "under construction" page which is the page displayed if the assignment/tab has not as yet been completed;

2 Constraints

1. You must complete this assignment individually.
2. You may ask the Teaching Assistants for help but they will not be able to give you the solutions.
3. You must produce all of the source files yourself; you may not use any tool to generate source files or fragments thereof automatically. **(This includes ChatGPT)**
4. You may not use any frameworks for this practical or any JavaScript.
5. Your assignment will be viewed using Chrome/Brave Web Browser (`https://brave.com/`) so be sure to test your assignment in this browser. Nevertheless, you should take care to follow published standards and make sure that your assignment works in as many browsers as possible.
6. You may utilize any text editor or IDE, upon an OS of your choice, again, as long as you do not make use of any tools to generate your assignment.
7. All written answers must be typed and clearly visible in the HTML of the web page, **no** paper based or PDF marking will be done.
8. All written code should contain **comments including your name, surname and student number** at the top of each file.

9. Your assignment must work on the `wheatley` web server, as you will be marked off there, in special cases (when Wheatley is offline) you may demo off your laptop or a local copy from the files you downloaded from ClickUP.
10. Although your files will be marked off wheatley your files **MUST** be uploaded to clickup before the due date otherwise you will receive no marks

3 Submission Instructions

You are required to upload **all** your source files (e.g. HTML5 documents, any images, etc.) to the web server (`wheatley`) and clickUP in a compressed (zip) archive. Make sure that you test your submission to the web server thoroughly. All the menu items, links, buttons, *etc.* must work and all your images must load. Make sure that your practical assignment works on the web server before the deadline. **No late submissions** will be accepted, so make sure you upload in good time. **The server will not be accepting any uploads and updates to files from the stipulated deadline time until the end of the marking week (Thursday at 3pm).**

The deadline is on Sunday but we will allow you to upload until Monday 8am. After this NO more submissions will be accepted.

You must therefore make sure that you `ftp` your assignment to the web server. Also make sure that you do this in good time. A snapshot of the web server will be taken just after the submission was due and only files in the snapshot will be marked.

IMPORTANT: ***No upload to ClickUP, No marks***

4 Online resources

HTML5 - `https://developer.mozilla.org/en-US/docs/Web/Guide/HTML/HTML5` and `http://www.w3schools.com/`

CSS - `http://www.w3.org/Style/Examples/011/firstcss`

HTML and CSS - `http://www.codecademy.com/en/tracks/web`

Standards compliance - `http://validator.w3.org/`, `https://jigsaw.w3.org/css-validator/`

FTP tutorial - `http://www.cyberciti.biz/faq/linux-unix-ftp-commands/`

5 Rubric for marking

Setup web server	5
Launch Page	
Layout + Logo	5
Navbar on all pages	3
Cars Page	
CSS	8
Layout	12
Brands page	
CSS	4
Layout	6
Find me a car page	
CSS	3
Layout	7
Compare page	
CSS	5
Layout	10
Under Construction Message for all to-be-implemented pages	5
HTML5 compliance	5
CSS compliance	2
Upload	
Does not work on `wheatley`	**-10**
Not uploaded to clickUP	**-80**
Total	**80**

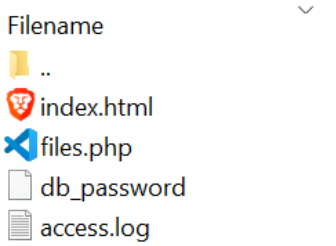
6 Assignment Instructions

Task 1: Setup the web sever ..... (5 marks)

The first time you `ftp` into the web server, your home folder will be created with a few files: *db_password, files.php, index.html* and/or *access.log* and *error.log*. Do **NOT** delete these files as they won't be created again and will be used in a later practical involving PHP. Complete the following steps to setup the web server:

Step 1: `ftp` into the web server, `wheatley.cs.up.ac.za`, using your user name and password that you use to login to the CS Portal.

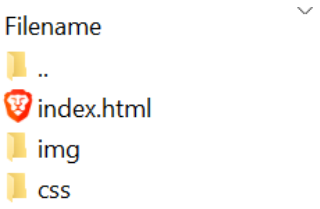
Step 2: Check whether the `access.log, error.log` files reside in your web server folder. Don't worry if they don't appear in your folder yet. Your directory should look similar to the following:



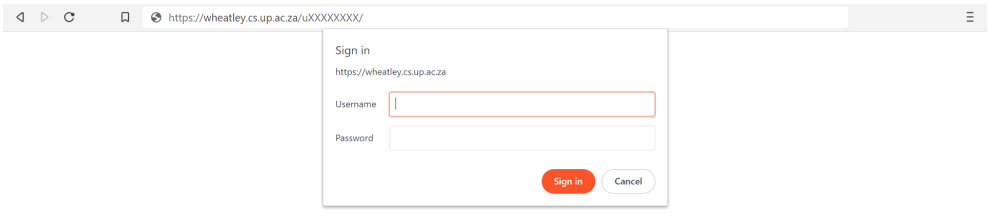
Step 3: Create a folder and name it **"COS216"**. Note that subsequent files and folders that you would create for the various practical and homework assignments should be contained in this folder.

Step 4: **For each practical assignment you will need to have a separate folder.** This means that you would have to create a copy of your website each practical and then build on it. **You will be penalised** if you do not follow this rule. For this practical assignment you should create a folder inside your COS216 folder and name it **"PA1"**.

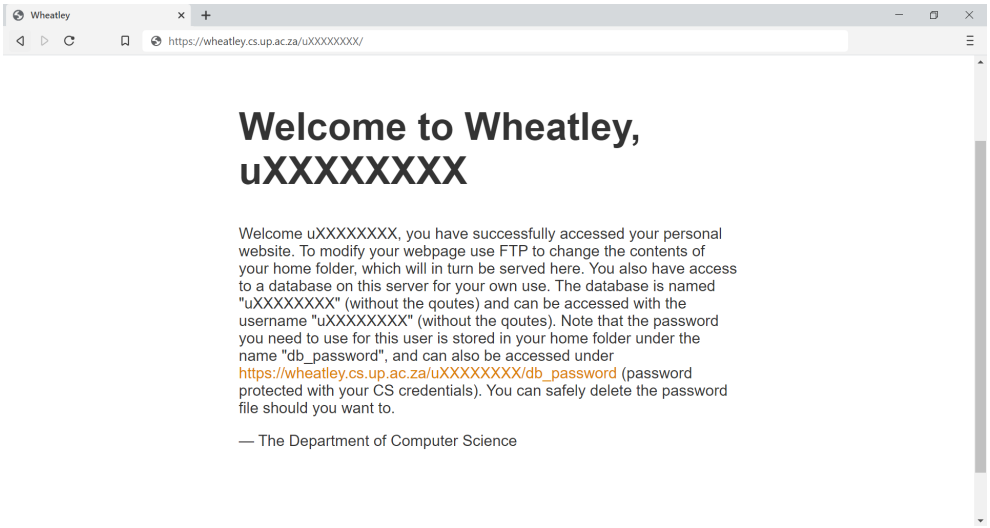
Step 5: For each practical assignment you should have your home page *index.html* (or any other suitable name) in the relevant PA folder. You should also separate all your resources into their own different folders (eg. img, css, js, etc.) within this folder. Your PA1 directory should look similar to the following:



Step 6: Check whether you can access your home folder via the web server by going to: `https://wheatley.cs.up.ac.za/uXXXXXXXX/`, where `XXXXXXXX` is your student number, in your web browser. You should see a pop-up that will ask you to login. The login details are the same as the CS Portal login. You will see something similar to the following:

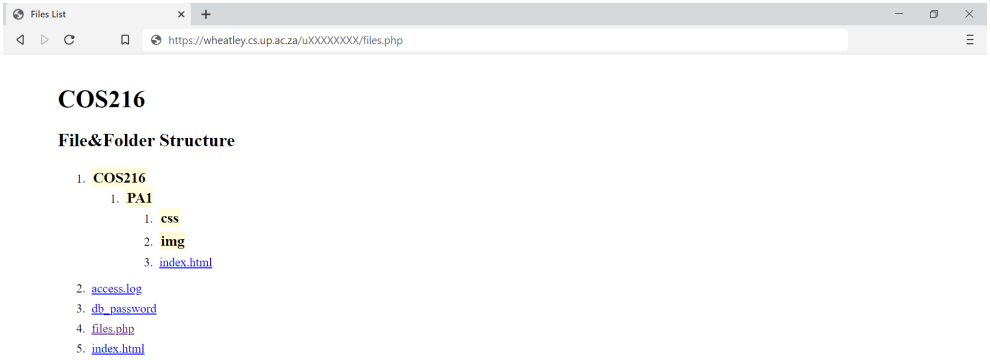


Step 7: Once logged in, you will see something similar to the following:



This page will serve as the launch page for your Car Site (see Task 2 for more details).

Step 8: Check that your file listing is correct on the web server by going to: `https://wheatley.cs.up.ac.za/uXXXXXXXX/files.php`, where `XXXXXXXX` is your student number, in your web browser. You will see something similar to the following:



NB: if there is no filename specified in the url don't forget to add the '/' to the end.

Task 2: Create a Launch Page ..... (5 marks)

This task requires you to create a Launch page that will link each assignment (and their pages) that you will be required to complete for COS216 this semester.

Your launch page will serve as the navigation to your cars database website. Choose a name wisely and make a logo for your website (This will be used throughout the site). Other than the page being intuitive to use, you need to design it to be aesthetically pleasing. You will be graded according to how the layout is chosen, use of colour, images, design, etc.

The page should include links to all your practical assignments i.e. a link that takes you to the home page for PA1, PA2, PA3, PA4, PA5 Remember to include an "Under Construction" page if the assignment has not been completed yet.

The Under construction page should be well designed, you are not allowed to use images that say under construction unless you have created them yourself. Consider different fonts and graphics

Save the HTML5 code for this page in a file called `index.html` and place it in the same directory on the web server as which `files.php, access.log, error.log` are in (you should already have an `index.html` file in the home directory so you can just update this). View the page on `wheatley`. You should be able to access your page using `https://wheatley.cs.up.ac.za/uXXXXXXXX/`

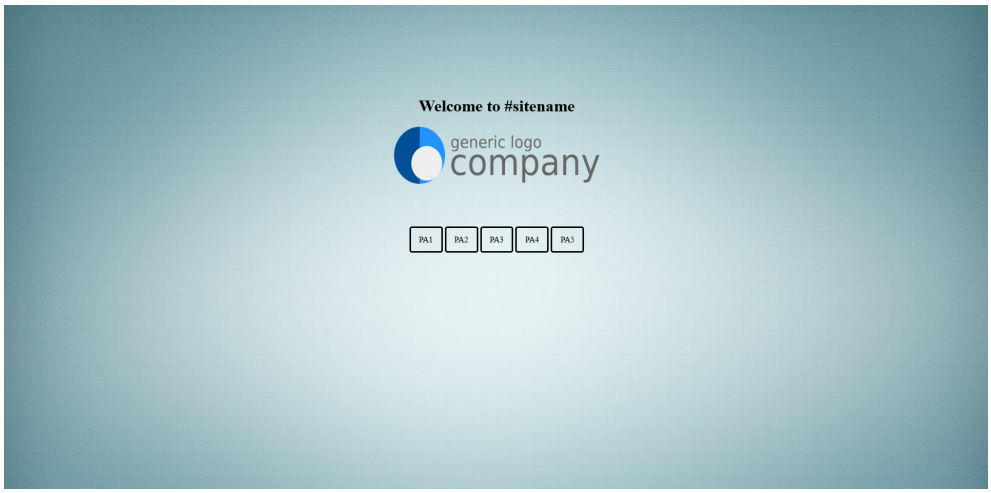
Alternatively you can call the page directly using the following `url` in your web browser:
`http://wheatley.cs.up.ac.za/uXXXXXXXX/index.html`

You should create a set of buttons that will link the pages for each practical assignment i.e. it will contain links that take you to the Car, brand etc. pages. (`https://www.w3schools.com/html/html5_semantic_elements.asp`).

You cannot use JavaScript or PHP in this practical. Remember to include an "Under Construction" page if the page has not been completed yet.

IMPORTANT: This index.html page would need to be group all your COS216 practicals together. This means that for each assignment this page needs to be updated!

An example of the Launch page can be seen below:



This is just an example. You do not have to copy the design, all that matters is that it looks presentable and it functions correctly.

Task 3: Create A NavBar to be used on all pages ..... (3 marks)

For this task to be completed make sure that all pages created in task 4,5,6,7 have a navbar that allows you to switch between the Cars,Brands,FindCar and Compare pages easily. This navbar should be consistent between all pages (i.e. the design should not change from page to page) however you are allowed and encouraged to have a way for the user to see what page they are currently on

Task 4: Create the 'Cars' page ..... (20 marks)

For this task you are required to make design a "Cars" page (`("index.html")`. This page simply shows a list of cars. It is up to you how you display the different cars but marks will be awarded for how efficient your layout is (i.e., ask yourself if its easy to read and navigate). For the time being you should use mock data. This page also serves as the home page for the website.

NB: You may NOT copy the design of existing websites but should rather use your own creativity.

Your page should have the following information:

- Searchbar - You should only have styled elements, no functionality needs to be implemented in this practical
- Filters (at least 2 of your choice) [(Automatic/Manual),Type,Fuel type,Brand] (just examples you do not

need to use these but you can if you choose) - You should only have styled elements, no functionality needs to be implemented in this practical. The filters can be anything that allows you to filter data, so make the design intuitive to use, for example, a dropdown with prefilled items or a checkbox to select multiple items to filter by (Filter results by multiple tags instead of just one).

- Sort - The ability to sort by name or year. You should only have styled elements, no functionality needs to be implemented in this practical
- Each car item should have the following (However you can add more if you like):
  - Car Picture
  - Model
  - Car Brand
  - Year
  - 3 other properties of your choice

Your page should at least have 5 mock car elements. Marks will be given according to layout, design, usage of colours.

The following CSS functionality needs to be incorporated into your design. You are free to add more styling as you prefer but remember it must still look professional.

- Backgrounds - colours, images, etc.
- Fonts - at most 3 and must be readable. At least 1 other font then the default Have a look at importing fonts instead of using the standard HTML fonts
- Text - colour and size
- Boxes - should include padding, margins, shadows and/or borders

Task 5: Create a Car Brands Page ..... (10 marks)

For this task you are required to make a Car Brands page (`"Brands.html"`). This page simply shows a list of Car brands. It is up to you how you display the different Car brands but marks will be awarded for how efficient your layout is

No Search/Filter/Sort is needed for this page

Your page should have the following information:

- Brand Logo
- Name

Your page should at least have 5 mock brand elements. Marks will be given according to layout, design, usage of colours.

The following CSS functionality needs to be incorporated into your design. You are free to add more styling as you prefer but remember it must still look professional.

- Backgrounds - colours, images, etc. Can use same as previous Task
- Fonts - at most 3 and must be readable. At least 1 other font then the default Have a look at importing fonts instead of using the standard HTML fonts. Can use same fonts as previous task
- Text - colour and size
- Boxes - should include padding, margins, shadows and/or borders

Task 6: Create a 'Find me a car page' ..... (10 marks)

For this task you are required to make a Find page (`"FindCar.html"`). This page will help you find the right

car for you. It is essentially an advanced filter page. The page should ask you some questions, for example do you need airbags, do you want a 2 seater. Based on the answers to these questions it will suggest at least 5 (max 8) cars for you. The questions can be a mix of Yes/No. User entered values, Selectors (e.g. Automatic/Manual) and any other inputs you select.

Your page should use an **HTML Form** with the following

- At least 6 Questions/Parameters that you will use to find the right car
  - 4 Required questions for the user
  - 2 Optional questions for the user
- A way to show the results of the search (Min 5, Max 8)

NB: NO functionality is needed for this practical, only design!

Task 7: Create a 'Compare page' ..... (15 marks)

For this task you are required to make a Compare page (`"Compare.html"`). This page will be used as a compare page for you to see which car is right for you. This page will allow you to pit 2 cars against each other and compare the different specifications, very similar to GSMArena. An example of the idea of the page can be found at `https://www.gsmarena.com/compare.php3?idPhone1=11633&idPhone2=12024`. For this task create a page where you have compared 2 mock cars on **6** different properties (e.g. Fuel efficiency). Also include a way of selecting a car to compare however this will only be implemented later.

NB: NO functionality is needed for this practical, only design!