



COS 216 Practical Assignment 1

- Date Issued: **26th February 2024**
- Date Due: **11th March 2024** before **08:00**
- Submission Procedure: **Upload to the web server (wheatley) + clickUP**
- This assignment consists of **8 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 your question may be answered later in the specification.

1 Introduction

During this practical you will be creating property listing website for **available properties in South Africa**. Each practical assignment will build on the other in an attempt to have a fully functional property listing website at the end of all the practicals. **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 Listings, Agents, Favourites, Calculators
- 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 (Monday 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
Lisitngs Page	
Layout	13
CSS	7
Agents page	
Layout	6
CSS	4
View page	
Layout	3
CSS	2
Calculator page	
Layout	6
CSS	4
Favourites page	
Layout	6
CSS	4
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

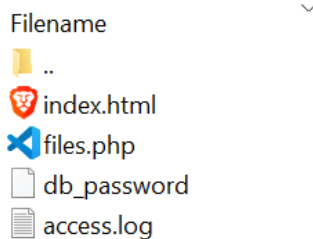
6 Assignment Instructions

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.

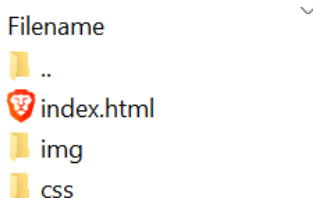
Step 2: Check whether the **access.log**, **error.log** files reside in your web server folder. Don't worry if they don't appear in your folder yet. Your directory should look similar to the following:



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:

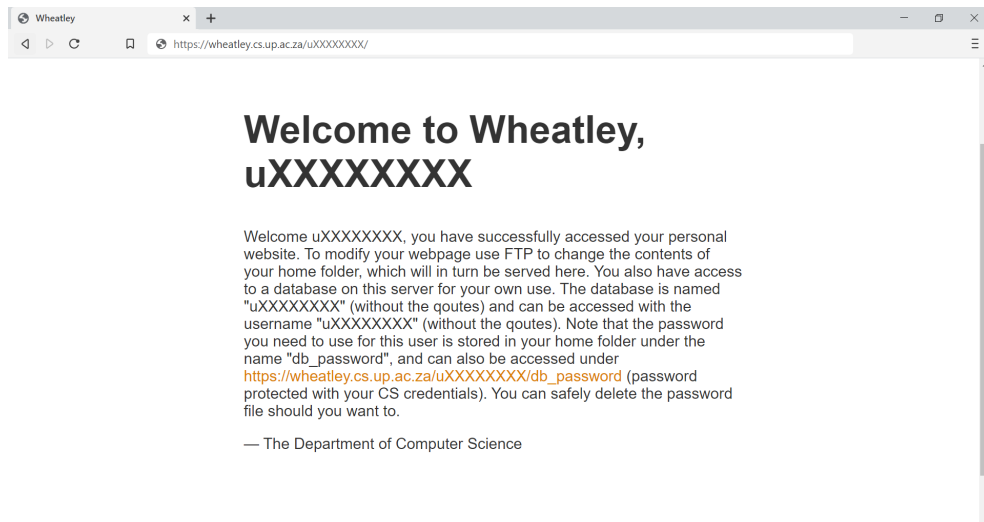


Step 6: Check whether you can access your home folder via the web server by going to:

<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:



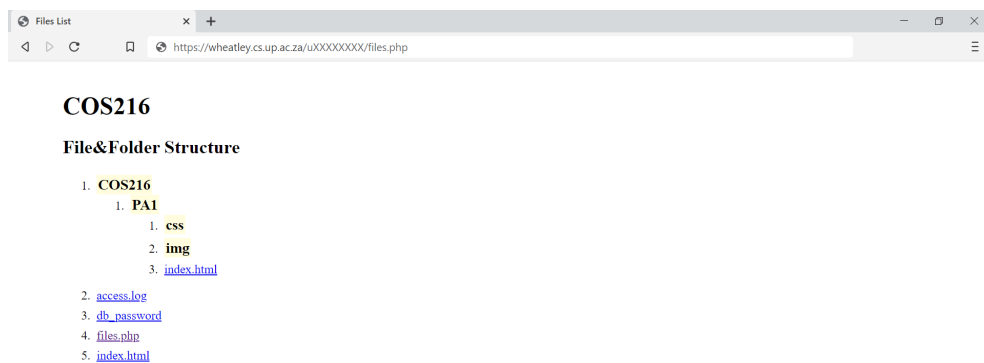
Step 7: Once logged in, you will see something similar to the following:



This page will serve as the launch page for your Property Listing 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 property listing 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/uXXXXXXX/`

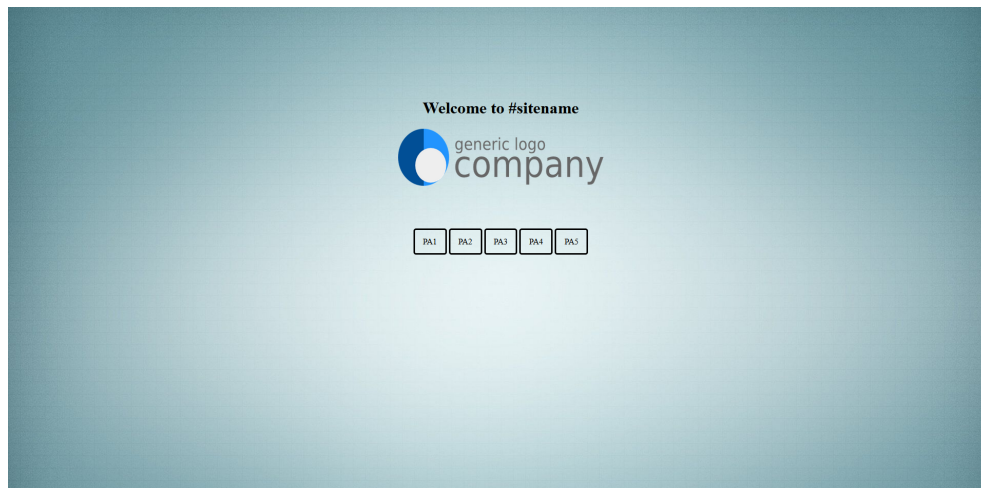
Alternatively you can call the page directly using the following url in your web browser:
`http://wheatley.cs.up.ac.za/uXXXXXXX/index.html`

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 Listing page for each PA. (`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, 8 have a navbar that allows you to switch between the Listings, Agents, Favourites and Calculators 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 'Listings' page (20 marks)

For this task you are required to make and design a "Listings" page ("`index.html`"). This page simply **shows available listings**. It is up to you how you display the different listings 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.

- Buy or Rent selector - You should only have styled elements, no functionality needs to be implemented in this practical.
- Filters (at least 2 of your choice) [Price range, Bedrooms, Bathrooms, Garages, Amenities] (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 Title or Price. You should only have styled elements, no functionality needs to be implemented in this practical.
- Each listing should have the following (However you can add more if you like):
 - Property Picture
 - Price
 - Location
 - Bedrooms
 - Bathrooms
 - Property title (Example title: 3 Bedroom House in Hatfield)
 - Some way (icon or button) to allow the user to add property to their favourites

Your page should at least have 5 mock listings. 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 than 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 the 'Agents' Page (10 marks)

For this task you are required to make a **Agents Brands page** ("**agents.html**"). This page simply shows a list of real estate agents. It is up to you how you display the different agents 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:

- Agency Logo
- Name
- Description
- Link to their website

Your page should at least have 5 mock agencies 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 than 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 'View' page (5 marks)

For this task you are required to make a View page ("view.html"). This page will allow you to view more information about the property like a detailed description, cycle through the images, etc. Basically all the information on the listing page with additional detail. Users will navigate to this page not through the navbar but by clicking on the listing image or on a "more info" button.

The information should be relevant to the property they clicked on. For this practical a mock property can be used, however in a future practical this will have to correspond to the correct property.

Your page should include the following:

- An image carousel to allow the user to cycle through the images (Cycling not required yet)
- All characteristics displayed on the listing page
- Detailed description
- At least 2 additional characteristics not on the listing page

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

Task 7: Create the 'Calculators' page (10 marks)

For this task you are required to make a Calculator page ("calculator.html"). This page will allow the user to calculate certain financial indicators. For example, "Bond repayment" and "Affordability" based on their monthly income. These are just examples and you are welcome to use others.

Examples for this page can be found at:

- Layout and design: <https://www.property24.com/calculators/bond>
- Formulas: <https://www.luxurypresence.com/blogs/real-estate-math-formulas/>

For this task create a page where you allow the user to calculate at least 2 indicators. One of the indicators should have at least 4 parameters and the other at least 2.

Your page should use a **HTML Form** with the suitable inputs for your indicators and an element to display the result. For this practical, hard code the result so that the marker can see that you display the result.

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

Task 8: Create the 'Favourites' page (10 marks)

For this task you are required to make a Favourites page "favourites.html". This page will display the properties that a user "liked" on the listing page. For each of the liked listings display the following:

- An image of the property
- Price
- Title
- Location
- Bedrooms
- Bathrooms

- A way to remove from “favourites”

Your page should have at least 3 mock listings as favourites.

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

