TNE20003 – Internet and Cybersecurity for Engineering Applications

Portfolio Task – Lab 7 Distinction Task

Aims:

- To develop a network client program to connect to a remote system and download data/information. Then to parse that information to extract data. Finally act on the downloaded data to fetch further information

Preparation:

- View "Internet Enabled Programming"

Due Date:

- All tasks in this lab are to be completed and demonstrated to your Lab instructor preferably during or at the end of the current lab, but if you do not complete the tasks you may demonstrate it at the beginning of your next lab class. To do this you must upload all documents up to Canvas to ensure that you complete and hand the task in on time. This submission is to be no later 9pm on the day of the next lab. For example if your lab is on the 18/9, then final submission is no later than 9pm on the 25/9.

Task 1

Take your completed CREDIT task and ensure that it is functioning as expected. We will now build onto that code by extracting further useful data.

You will be extending your program from the Credit task to parse the HTML data and search for any embedded HTML image tags. For each image embedded in the HTML, you need to download that image and save it to a disk file.

Task 2

You will need to extend your Python program in a number of ways:

- Ideally convert the code that downloads a URL to HTML into a function so that it can be called a second time to download images
- Parse the returned HTML code to extract any <img> tags
- For each image tag
    - Extract the path to download the image
    - From each path, extract the actual filename of the image
    - Construct a new URL to download the image and call your fetch function to download
    - Open a file in the program directory with the image name
    - Save the downloaded contents into that file

Hints:

As images are binary, you may want to ensure your fetch function works in binary and only convert to strings if required for the HTML and header parsing

Check your downloaded images by opening the file and seeing if it is a valid image

Assessment:

As a Distinction task, not completing this task will result in the maximum achievable base grade for your Portfolio being restricted.

To pass this task, you must demonstrate the functioning program to your Lab Supervisor. Your supervisor will ask you some questions about how the code functions to validate that it is your work. Upon successful demonstration and answering questions, this task will be marked as complete