I found studying the Network Security module to be very informative. The assignments associated with the course have been challenging, not only from a learning perspective but also have brought up some moral considerations.

In the first unit of this module each person had to pick a website, which they would analyze for the duration of the course. Instructions were given to ensure no denial of service was performed on the website and only to find vulnerabilities. In the second unit, our task was to create an audit of the given website and build a list of vulnerabilities. Finding the information was not difficult as long as you knew what to search for. However; this is where the moral dilemma started to take effect. Collating information to use against someone or something led me to feel a bit uneasy.

Unit four introduced the technical skills needed to collect information about the website. This was a complex process as tools such ping and tracert did not provide any valuable information. Attempting to find and install tools also proved to be difficult. Thankfully the Vulnerability Assessments video within the unit was full of tools to steer me in the right direction. However, I did not feel that the topics covered were detailed or applicable enough to find vulnerabilities, which was frustrating. I resorted to watching multiple videos on YouTube and tutorials on Kali Linux, NMap and Nessus which made it possible to understand the tools necessary to find threats. I was shocked at how easy it was to obtain a list of threats and vulnerabilities. At one point during a Nessus scan, my computer's IP address was blocked by the website. At this moment, I remember the sudden feeling of panic that some authority would come bang down my door. Although I was working autonomously on this assignment, the module itself was about discussing and

collaborating with other students and when I reached out to other colleagues on the course this provided a lot of relief and reassurance that I was on the right track.

Overall, taking the time to reflect was a good way for me to check in with myself and reinforce my learning. I found that my reflection would come towards the end of the day and at odd times like brushing my teeth or having a shower. It allowed me to identify what went well during the day, what was an issue, and what I needed to work on for future tasks and topics I covered. One example of this was the Kali tutorial and trying to understand the different tests performed and more importantly, what the results meant. Having to reflect on my progress kept me grounded and avoided unnecessary frustration. I was aware of the areas that I wasn't able to recall and therefore could determine which topics I needed to re-visit in order to further understand them. During this module, there was so much information to digest, from the tutorials to the required and additional reading list, that it made me start to realise how little information is actually retained when you are passively taking information in.

Researcher Hermann Ebbignhaus, who formulated the 'forgetting curve', found that after 20 minutes of learning something, you are only able to retain 60%. An hour later, this reduces to 45%, and 9 hours later, it is as low as 38 %. After two days, the retained information is only 30% and after six days is 23% .[festo-didactic.co.uk, n.d]

This seems to me to be an accurate statement. I frequently sit down to study after a long day of work. In the moment, I feel I have grasped the topic that I am studying,

only to find that the following day, when I revisit the material, I am unable to remember large parts of it.

Each individual has their own way of performing tasks, just as each individual has their own way of memorising and processing information. Some people, like me, prefer the hands-on approach, and reading a tutorial is not enough to help me understand and retain information. I need to run a command manually and see the output in order to fully understand and recall information. This became evident when I ran the netstat command and Nessus scan and could visually see the information. Others may process information in an auditory way, or collaborative way by brainstorming with others.

An interesting article written by Saul McLeod, a psychology professor, dives into David Kolb's learning styles and discusses the stages of learning as well as the different learning styles, and how they complement each other.

The first stage is built upon existing or new experiences of a topic. The second stage is reflecting on the experience, paying attention to the difference between experience and understanding. The third stage is conceptualisation, where the reflection creates new ideas, and the final stage is experimentation, where the learner applies the experience to everyday scenarios. In order to retain information, it is essential for an individual to complete each stage.

The different styles mentioned in the article include Diverging, which is feeling and watching. Assimilating, which is watching and thinking. Converging, which is doing and thinking and lastly Accommodating, which is doing and feeling. [McLeod,s 2013]

Learners must identify which style suits them and how to apply the stages to ensure they are able to accurately retain information. This module has been an eye opener for me as I have always missed the reflection stage and moved directly from the first stage to the final experimentation stage. I now have the opportunity to apply reflective thinking to future modules to ensure I can more accurately retain information.

References :

festo-didactic.co.uk Forgetting curve - it's up to you!

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