**Diary Entry #3 – Week 4**

**Things learnt / to learn**

This week was the greatest week of learning for me so far, as I was mostly learning by doing. As mentioned, most of my learning was driven by looking at guides online and by the time I had collected enough information to make my system work I felt like I had browsed half the entire internet. This learning process of taking tid-bits from each tutorial felt extremely tedious, however I decided to stick it out so that I could provide a useful combination tutorial at the end of it. One positive of reading through the plethora of different sources was that I gained a much deeper understanding of what was going on behind the scenes, as I saw the processes used in many different contexts. Although not necessary for the actual tutorial process, I tried to include this important contextual information in my how-to as I felt it was valuable to have (and I knew that readers who weren’t concerned with it would simply ignore it). I prioritized learning about the QEMU system and how virtual networking worked so that I could have a deeper understanding when writing my how-to guide. This also helped significantly with getting my own machine to work.

Some things I would still like to learn about is emulating different devices such as routers within the VLAN. I would like to explore creating honeypots and using the VLAN capabilities of QEMU in a cyber-security capacity, as this is an area I’m completely unfamiliar with.

**Diary Entry #5 – Week 6**

**Things learnt / to learn**

This week I feel like I have dipped my toe into a vast area of networking. My discovery of the concepts of High-Interaction Honeypots and Deception technology has excited me to delve more into these areas. I now feel better equipped about the scope of where the project could go, as these areas appear to go quite deep and complex. I have also learned a great deal more about virtual networking and IP addresses, as well as some more about virtual machines.

I still don’t know exactly how I will implement any new features for the project, however this will hopefully come with some more research and conversations with Dr Bustard.

**Diary Entry #6 – Week 7**

**Things learnt / to learn**

This week I learned a lot more about how networking works with VMs. However there are a lot of areas that I need to learn more about; I am going to look into the source code of the Virt-Manager tool in order to try and better understand how it creates the isolated private network. Hopefully then I will be able to manually configure a private network myself. I also need to learn more about how KVM in general handles the networking of VMs, so that I can better provide information to others in my How-To guide. I also need to learn more about the emulation of different kinds of network devices and protocols, as currently the only devices being emulated in the network are PCs - whereas in attempting to emulate a full-scale network there are many different kinds of devices and servers running that would be very useful to emulate.

**Diary Entry #7 – Week 8**

**Things learnt / to learn**

This week my learning section is barren, as I spent my time working on my blog post for this Friday’s submission.

Next week however I intend to delve into the source-code of Virt-Manager in order to understand the inner workings of its network wizard, in the hope that I might be able to manually configure a private isolated network. This will help me to provide a more in-depth and valuable How-To guide to other future users.

**Diary Entry #9 – Week 10**

**Things learnt / to learn**

This week I discovered that looking into other people’s code is something that I am not totally comfortable with. I know from advice given to me from many sources that this is a skill of utmost importance to possess, so I will seek to learn a systematic way (if such a way exists) to analyze other developer’s code, and then endeavor to share this knowledge with the public to help other people new to this area. This will likely be included somewhere in my blog post or social media post. However for the time being, I am focused on improving my existing How-To guide and blog post.