**Reflective Review of the Research Methods and Professional Practice**

ePortfolio website: <https://craig-watts.github.io/CraigWatts.github.io/index>

Page location:

Our team, named 'Team Nebula', was initially made up of four individuals, all with diverse skillsets and experience, and we decided to use each person's unique skills for the team project.

Our first Zoom meeting took place on Friday the 7th of May 2021, with the minutes for that meeting and all the subsequent weekly meetings here. We had to develop and agree on a team project contract with assigned roles and discuss an approach to the initial project planning. We needed as a team to establish early on roles and responsibilities. Establishing the teams' positions would then ensure clear demarcation points for the various team members on their responsibilities and accountabilities. The team selected these roles and obligations from the first meeting and understood each member's strengths.

This understanding of the individual's roles enabled the team to work effectively where each member knew their role, which then created flexibility as the demands on the team changed through the module. This flexibility was highlighted when my wife fell ill; I needed the team to take on some of my actions. There was no detriment to the team performance, this in my opinion, was due to the trust within the team and the ongoing communication and collaboration. Indeed, as Elyousf et al. (2021) states in their study on the impact of e-leadership, "team collaboration, behavior and trust remain as the prevailing antecedents in VT member performance"

Throughout the module, the team worked very effectively; however, we could have looked forward more to the work required at the end of the course and prepared weeks earlier.

From the initial meeting, I took on a few weekly tasks within my sphere of accountability to create and set up a Kanban board on Trello and keep it updated weekly and set up the weekly Zoom team calls. We decided to rotate the chair and minute-taker in the team meetings, which I felt kept everyone actively involved.

We had another member join our team in week three; because we already had roles and responsibilities established, it made it easier for him to move into the group without any friction and take up his position and responsibilities.

The team's main task for the module was to set up a website that could then be security tested by another team utilising penetration testing tools, and our team would carry out the same testing on their site. Initially, there were several problems in getting a website established with each of us taking an action to set up our websites, the most successful in being used as the team website. To deal with the complexities of setting up the website, two specific members who had more experience in this area took the lead and got one website up and running, ready for testing by the other team. The same two members took the technical lead in carrying out the other team's site penetration testing utilising the tools required.

We used multiple tools to see which ones returned the best results and then concentrating our efforts in that area. For example, I had more success using Nmap because of my router configuration than others, so I focused my efforts on that. On doing some analysis of penetration testing methods, I found that we had been using a breadth-first methodology discussed by Nosco. et al. (2020), in their paper "The Industrial Age of Hacking."

There was some cross-training on different scanning systems so that the whole team could be involved in the penetration testing. Indeed as Nosco et al. (2020) express in their paper "The Industrial Age of Hacking," we were utilising a journeyman and apprentice approach whereby the more experienced team members coach the level below. Due to the team working well together and the cross-training involved, all team members could be part of the testing phase creating different results.

During the whole module, there was a requirement to produce seminar slides and contribute to the slides and seminar discussions. The team approached this collaboratively with the slides template being online and team members contributing to it during the week. To ensure the team's contributions were made timely, we established deadlines that would enable editing before the seminars.

The teams' design proposal in Unit 6 outlined how we intended to proceed in the other teams' website penetration testing. It explored the methods and tools we would utilise within a set timeframe. During the actual testing, we faced difficulties with the other team site being available for testing. We also found other tools which we had not considered during the design proposal stage. In future, we would include an element of flexibility on timings and the ability for more testing as extra tools were discovered. This delay in accessing the other team's website meant that testing was carried out for as long as possible to glean as much data as possible right up to our imposed deadline.

The experience the team gained with the seminar slides was used in the creation of the executive summary. A template was created with everyone making contributions to the executive summary over time and resulting from the penetration scanning. This collaboration enabled online editing and contributions right up to the deadline we had imposed for a final review. Our weekly Zoom meetings involved ongoing studies of work already completed and actions to be carried out to enhance the executive summary.

In conclusion, we started with a different level and type of skillsets; however, this meant that each person could make an individual contribution to the overall team. I felt the practical aspects of the module enabled the team to stretch their abilities whilst also having the security of bouncing ideas off each other. There was constructive feedback in each of our team Zoom calls with individuals encouraged to pursue areas that they may not have done if working alone. This meant that we had a more holistic approach to the module as a whole with a more rounded result and more significant growth individually.

References:

Elyousfi, F., Anand, A. & Dalmasso, A. (2021) Impact of e-leadership and team dynamics on virtual team performance in a public organisation. Available from : <https://www.emerald.com/insight/content/doi/10.1108/IJPSM-08-2020-0218/full/pdf?title=impact-of-e-leadership-and-team-dynamics-on-virtual-team-performance-in-a-public-organization> [Accessed 20.07.2021]

Nosco, T. Ziegler, J. Clark, Z & Mareero, D. (2020) The Industrial Age of Hacking. Available from: <https://www.usenix.org/system/files/sec20-nosco.pdf> [Accessed 21.07.2021]