

CM-CVC Assignment 1

by Josh Lloyd

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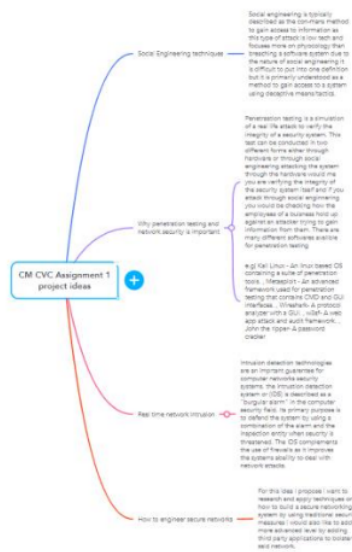
Assignment 1 innovation and research

05 March 2024 12:59

Joshua Lloyd
2205191
BSc Network & Cyber security

Task 1

05 March 2024 12:59



Question 1 - I was assigned to create a mind map with a few ideas of projects which I could use to build upon for this assignment and also to get a general idea for dissertation work for my final year here a just a few ideas I came up with and would like to look into further.[1,2,3,4]

Question 2 - I was then asked to choose an idea I would like to carry further to do research on this would include different methods of research onto the topic itself and also adopt a research philosophy around my project to carry forward with.

For my project proposal I have chosen to go with why network security is important through the project I want to create a network and use penetration techniques to test the security of the created network

Task 2

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For task two I must create a single aim and several objectives for my project to help me visualise what I want to achieve by the end of this project I can also use it to keep track of my progress and reference back to later on if anything needs to be changed or slightly adjusted.

Aim:

My primary focus for this project is going to be studying the importance of penetration testing and network security and why it is vital to a network system.

Objectives:

- Research penetration testing methods / tools
- Research different network security methods and applications
- Compare penetration tools and explain what they are used for and how they are applied
- Explain how social engineering is a threat to network security
- Configure my own network and use the methods and tools researched to make it secure.

My Research philosophy:

The research philosophy I will be adapting for this project is epistemology under pragmatism as I feel it best describes my way of thinking and logic when trying to find problems to solutions.

The definition of a pragmatist is someone who believes that whatever works is fit for the purpose of describing reality.

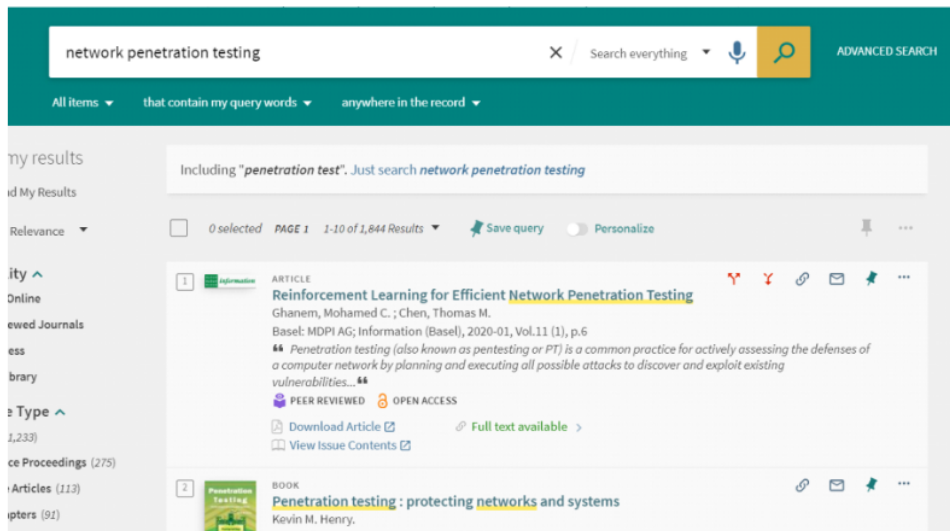
Pragmatists uses a hacker type mind, they believe that an argument can be true and false at the same time. This means that pragmatists believe something can be right in the moment however wrong in another time and space.

A Pragmatist only considers concepts relevant if they support an action although they realise that there are different ways of interpreting the work and conducting research no single point of view can provide the entire picture as there may be multiple realities.

Search tools & Databases:

Search tools are tools which can be used to gather and compile information through the use of additional software on the search platform for example google is a search tool or "search engine" which allows its users to find information for research or general queries however not all information on google is reliable as anyone can post information onto the platform so that's why more reliable search engine such as googles secondary search engine 'google scholar' or more reliable sources such as published journal articles and books from academic libraries.

The most reliable resource provided to me at this current time being scholar and the universities library I will be using these databases to search for material I can use when looking for reliable information relating to my chosen topic I can do this by searching key words such as "Network or penetration" to find the best results quickly and efficiently. To further build upon this I can also use different searching strategies to find suitable results to conduct research these methods are used to more accurately locate useful texts when conducting research one method I have already mentioned is searching for keywords as by only searching for the most important thing you want to find eliminates any other random articles that may pop up as a result of not filtering them out. Another searching method which is quite commonly used is filter searching on most if not all websites that deal with information will have a filter option this allows you to enter set conditions of the material you wish to find this eliminates any material which does not meet said requirements meaning it is not relevant to your search leaving you with results you can use.



Here is an example of keyword searching technique you can see from the three words in the search bar they have been taken and referenced with publishing's that hold either one two or all of the keyword entered producing material based around what I wanted to find.

Task 3

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For this final task I will be looking at different search methods for finding reliable information to use when continuing with the progress of this proposal I will be looking at different methods that increase the validity, reliability, generalisability and ethical considerations.

As previously stated in task two the two most common search methods being keyword lookups and filter searching when conducting research into my chosen topic I will be making use of these search methods as they are a simple way to find reliable information through my chosen database as it holds academic material which would also increase the validity of the information I receive therefore making my project more accurate. My chosen database also provides the information of the writers so I can also cite and give them credit for their work more easily eliminating any element of unethical practise.

To add on to the reliability of the information I will be accessing since my chosen database only holds published and peer reviewed content it eliminates any false information unlike google not anyone can post material into the database it first has to go through a vetting process before it is posted so the chances of false information being published is unlikely making it a more reliable source for me to use during my research for the project.

Data collection is an important factor when conducting research it allows the researcher to gather primary data which is invaluable when working on a project there are a few methods of collection we can use when collecting data these methods are also split into two categories qualitative and quantitative data

Qualitative data is primarily collected from methods such as interviews and focus groups meaning qualitative data is best collected from a smaller number of participants there are a few reasons to this as time to conduct the collecting may be short and resources stretched, there are a limited amount of people who have experience in the field of study and there may be limited people with the knowledge in the area.

Some example of qualitative data collection are:

- Interviews
- Focus Groups
- Observations[4]

Quantitative data is primarily dealing with a large number of participants which means the data is most likely dealing with a lot of numbers this can be a disadvantage as you may not be able to get through all the data due to time and resources being stretched there are also a limited amount of experiments you can make from the data meaning the data may be less valuable.

Some example of quantitative data collection are:

- Surveys
- Questionnaires[4]

For my project I will be collecting data through secondary research found from academic articles and publishing and also through focus groups and surveys I will be asking what people think makes a secure system/device and what security measures they can think would be a good thing to implement into a system and what they personally would like to have in their own devices the reason for this is that I can give me an idea of what security measures I can add into the system to make it more appealing for public use and then when the system has been created hold another focus group and get them to use the system and test it for any holes and then listen to feedback and make improvement as necessary.

Example of feedback form:

Network Security feedback

Submit title

1. What would describe a secure device/system to be?

2. What security measures do you think makes a secure system

3. What measures do you take to secure your devices?

☐ Virus

☐ 2FA (2-factor authentication)

☐ Password managers

☐ Password Protection

☐ Security questions

☐ None of the above

4. What would you add to improve the system? (Answer after testing)

5. Would use this system again?

☐ Yes

☐ No

References

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GRADEMARK REPORT

FINAL GRADE

GENERAL COMMENTS

59/100

Total:	59
1. Engagement with Literature Skills	
+ Some use of citations included. – could be extended and used throughout to support all task answers. + Reference list format. Good.	8
2. Knowledge and Understanding Skills	
T1: - Knowledge and understanding of Unit1 topic 1 concepts could be documented. T2: + A research philosophy is defined and documented for the project. T3: + Relevant strategies for data collection are documented and selected. Good. +/- Different types of quantitative and qualitative 'analysis' could be more clearly outlined and supported by citations.	8
3. Cognitive and Intellectual Skills	
T1: + Evidence of relevant concept and project idea analysis is documented. T2: + A single Aim and relevant Objectives have been documented. Good. T3: + Some relevant strategies to enhance validity, reliability, generalisability and ethical considerations are documented. – Could	14

be extended and supported by citations.	
4. Practical Application Skills	
T1: + Use of software to create the Mind-map. Clearly structured. T2: + Appropriate research engines identified. + Search strategies used to identify relevant research related to the project area. Good. - Research databases not identified. Some additional search strategies could be documented. T3: + Data collection method clearly mentioned. Example documented (screenshot). - Not designed a used to acquire some feedback to improve the focus of the project.	1 3
5. Transferable Skills for Life and Professional Practice	
+ Format and presentation quite good and clear. Some grammar errors in places. On-time/Late: OT.	1 6

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