WEEK 3 – TASK 3.2C

Credit Task.
Release Date: 29 March, Due Date: 15 April, End Date: 19 April.

Learning Outcomes

In this task, you will learn more about authentication and authorisation. This task will help you practice research in the area of cyber security. This is an important skill for security engineers and when studying at university.

Instructions

An **answer sheet template** is available on OnTrack as a `**Resources**'. Please download the answer sheet and fill it with your answers. To upload on OnTrack, you need to convert the answer sheet template document to **PDF**. MS Word includes built-in PDF conversation capability.

Both questions and their sub-questions must be attempted.

We are fighting the good fight. We are on the good side of the cyber world and we are in this together. We learn together and from each other.

Help is always available in SIT182. Please go to **Discussions** and ask your questions about this task in **Task 3.2C**. All students are encouraged to participate and help peers with their questions. Helping others is a great way to learn and think about aspects you may have overlooked. You can also seek help from tutors during online and face-to-face pracs. However, please note that pracs are primarily aimed for Pass-level tasks and tutors will only aim to provide you with suggestions about the more advanced tasks.

References: In cyber security, one of the most common referencing styles is **IEEE** – however, you are allowed to use any referencing style in this unit. Please refer to unit site > Content > Referencing - Hints & Tips for more information. *Submissions are automatically checked for plagiarism using Turnitin and the unit staff have no authority to help if you violate academic integrity.*

University education is about more than technical knowledge; a degree indicates that you can act as an independent learner gaining and building knowledge and skills on your own. This task is designed to help provide you with strategies and feedback on developing these skills, while also giving you an opportunity to learn further about authentication and authorisation, which are fundamental concepts in cyber security.

One crucial skill all cyber security professionals, and IT professionals in general, need is the ability to learn from textbooks, references, and other written forms. In Task 2.2C, you started this practice by exploring about 2 malwares through articles shared with you. In Task 3.2C, you are going to use a chapter of a textbook as your primary reference. Evidently, a textbook chapter is much more extensive than an article. Hence, along with learning different concepts covered in this chapter and becoming more knowledgeable about the topic, you will practice how to strategically navigate a verbose text to find the information you need. Remember as you progress in your degree, you will improve in this important skill.

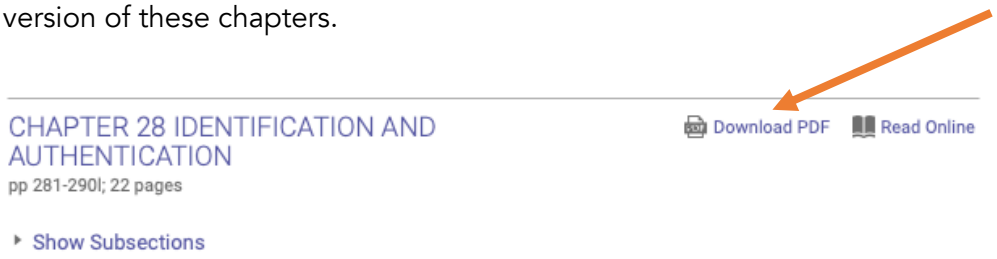
Useful guides on how to read a textbook chapter:

1. You may find this help video useful: https://youtu.be/wLRug0Rtrso
2. This text may also be helpful: https://www.baylor.edu/support_programs/index.php?id=42443

Accessing the Chapter:

The textbook we are using for this task is *Computer security handbook* by Seymour Bosworth, et al., John Wiley & Sons, Incorporated, 2014. This book is accessible via Deakin Library in e-format. Here is a direct link: https://ebookcentral.proquest.com/lib/deakin/detail.action?docID=1652940

Once you access the book, locate Chapter 28 and 29 in Part III of the book **(Introduction to Part III: Prevention: Technical Defenses).** You can then click on Download PDF to download the PDF version of these chapters.



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Let's get started.

Read through the chapters. Recall the tips shared earlier on how to best read a textbook. You will need to answer the following questions based on information provided to you in the textbook (i.e., Chapter 28 and 29). You may use external references when answering as well – however, your answers should primarily indicate to the tutor that you have understood what's covered in Chapter 28 and 29.

Note that some of the concepts in the textbook will be a step further on what is covered in the lecture (remember this is a Credit task). If you noticed terminologies that you couldn't make sense of, use Discussions on the unit site or use Google and try to make sense of them. Remember, you are practicing research skills!

Question 1: Answer the following questions in your own words – no quotes from the textbook are allowed. Aim to write concise and clear answers. Going over the word limit has no penalty, but overly long answers will not be accepted, and task will be marked as `re-do' (*e.g., question suggests up to 150 words and you submit 400 words!).*

1. What are the four principles of authentication? Briefly discuss each of them. (up to 400 words)
2. Give 4 arguments as to why password-based authentication is problematic. (up to 400 words)

3. Upon graduation, you become a security consultant for a prestigious firm. Your client is the Australian government. They are seeking expert advice about adoption of biometric technology for the mobile app of "my.gov.au". The mobile app allows access and management of your Medicare and Tax. Hence, a large number of users are expected to rely on the mobile app upon introduction to the market. Referring to the 4 requirements offered by Jain and et al., and challenges discussed in Section 29.6, which 2 biometric technologies you think are the best candidate for adoption in the app? Support your answer with arguments. (up to 500 words)

Note: Question 1 and 2 are common interview questions. Doing this task, you have covered some more interview questions and are better prepared for what's ahead (so, well-done!) Question 3 is a simple example of case study question – this type of question is more relevant to information security management type of career (does it interest you?).

Question 2: **Reflection point** – how difficult or easy did you find reading through the content of chapters. Did you use any of the tips suggested in useful guides in page 2? Share a few words of your experience when working through questions as a note-to-self.