

ASSIGNMENT BRIEF

HTU Course No: 30201140	HTU Course Name: Security
BTEC UNIT No: Unit 5 (K/615/1623)	BTEC UNIT Name: Security

Assignment Brief Number: 7

Version 2



Assignment Brief

Student Name/ID Number	
HTU Course Number and Title	30201140: Security
BTEC course number and title	Unit 5 (K/615/1623) Security
Academic Year	2021/2022 (Spring Semester)
Assignment Author	Eng. Moath Sulaiman
Course Tutor	Eng. Moath Sulaiman, Eng. Yazan Al-Masri
Assignment Title	Delivato
Assignment Ref No	Assignment 7
Issue Date	16-5-2022
Formative Assessment dates	
Submission Date	Thursday 17-6-2022, 11:59PM
IV Name & Date	Eng. Sami Mashaqbeh

Submission Format

The submission for this assignment is:

1. An individual written **detailed report** that provides thorough, evaluated or critically reviewed technical information on all of the points illustrated in the *Assignment Brief and Guidance* section. A security policy should be included in the document as Appendix.
2. A 15-minute **presentation** as per the instructions in the assignment brief. An oral discussion/viva will follow the presentation.

General notes:

- Your report should:
 - o be written in a concise, formal business style using single spacing and font size 12.
 - o make use of headings, paragraphs, subsections, and illustrations as appropriate,
 - o be supported with research and referenced using the Harvard referencing system.
 - o PDF format and Not exceeding 30 pages.

Note: Soft copies submissions should be done through the university's eLearning system within the deadline specified above using the link: <http://www.elearning.htu.edu.jo/>

Unit Learning Outcomes

LO1 Assess risks to IT security.

LO2 Describe IT security solutions.

LO3 Review mechanisms to control organisational IT security.

LO4 Manage organisational security.

Assignment Brief and Guidance

Delivato is an international courier company well known as the most reliable delivery company in the world. A large number of high-profile business entrust Delivato to deliver their goods including Banks to deliver Credit cards, Ecommerce business to deliver goods of all types including high value electronics and governmental agencies like hospitals and embassies to deliver medication and documents respectively.

Customers are offered online service to track their shipments, and request pickups. They can also pay for their shipments online.

Delivato Datacenter is located in UK. They have branches in Europe, Middle east, Africa and US. As a standard, each branch will have a warehouse that processes physical shipments using a conveyer system that sorts shipments by area. Besides, there is the office area where HR, Account, IT and Management sit, next to a computer room that processes local shares, print servers and connectivity with UK datacenter to access the Main tracking system and accounting application; Last there is a warehouse for items storage, with in/out requests received by customers to be delivered to their outlets.

Delivato is planning to move their main tracking application to the cloud in a hybrid model architecture (some other applications will be still hosted on premise). However, they are having security concerns around the move of apps and data under a cloud provider after being hosted on premise for a long time.

You are hired by the management of Delivato as **Information Security Risk Officer** to evaluate the security-related specifics of its present system and provide recommendations on security and reliability related improvements of its present system as well as to plan the move to the cloud.

Part of your responsibilities is to ensure the confidentiality, integrity, and availability (C.I.A) of the data and related services. You did a security check on most of the applications, systems, policies & procedures, and devices and noticed the following:

- 1- Not all existing devices (endpoints) within the offices are well secured.
- 2- One subnet is used for all devices in all monitoring stations.
- 3- Data processed by conveyer system (related to the shipments) in each branch well be uploaded to the system on the cloud via Internet connection and will be stored there in a database server for analysis

and reporting. The transmission of data is done through a published web application over the Internet (front-end back-end architecture). Such information should be highly secured since it is considered of customer privacy and protected by law and regulations.

- 4- Customers are able to create profiles on an online tracking system hosted on premise and to be moved on the cloud. Such profile contains some personal and private information that should not be disclosed to other parties.
- 5- When you checked the current data centre as well as the warehouse in each branch, you noticed that the door is easily opened. So, shipments, servers and networking devices are easily accessed by anyone. You also noticed that the humidity and temperature inside the servers' room are not well controlled.
- 6- Some employees have VPN access to the data center to run some applications remotely.
- 7- Some other third parties are granted VPN access for support reasons, like the companies that provided and installed the conveyer system.
- 8- Very minor security procedures taken by Delivato as well as some misconfigurations on some network security devices like firewalls and VPN.

Your manager asked you to prepare a detailed report and a presentation regarding IT security for Delivato services and environment in general. The report is to be submitted to and discussed with the CEO to get approval for further security policy enforcement. In your report you should:

- A.** Discuss IT security risks that might put the customers' and Delivato's data into danger, taking into consideration all data situations (being entered, transmitted, processed, and stored). Your discussion should include:
 1. Identifying those IT security risks
 2. Proposing a method to assess them.
 3. Proposing a method to treat them.
- B.** Discuss risk assessment procedures
- C.** Explain how you can take benefit of the ISO risk management methodology (ISO 31000) by summarizing it and highlighting its application in IT security of this project.
- D.** Recommend ways to improve Delivato IT security via:

1. Describing different security procedures that Delivato could apply to protect customers & business critical data and equipment.
 2. Explaining data protection processes and regulations that might help Delivato to enhance IT security.
 3. Discussing the benefits of IT security audit and its impact to Delivato IT security.
- E. Discuss, in details, the security impact of any misalignment of IT security with Delivato policy.
- F. Design and implement a security policy for Delivato.
- G. Evaluate the suitability of the tools used in this policy
- H. A discussion of the roles of stakeholders in the Delivato to implement security audit recommendations.
- I. List the main components of an organisational disaster recovery plan, justifying the reasons for inclusion.

In your presentation, you should be able to cover the followings in front of your manager:

1. Identify and discuss the potential impact of incorrect configuration of some network security devices on IT security.
2. Implementing different techniques in network security (such as DMZ, static IP and NAT). You should provide a detailed recommendation and explanation based on the scenario above for each technique showing how it will enhance security.
3. Discussing the benefits and justification of using a Network Monitoring Systems.
4. Evaluating a minimum of three of physical and three virtual security measures that can be employed to ensure the integrity of IT security.

Learning Outcomes and Assessment Criteria		
Pass	Merit	Distinction
LO1 Assess risks to IT security		LO1 & 2 D1 Evaluate a minimum of three of physical and virtual security measures that can be employed to ensure the integrity of organisational IT security.
P1 Identify types of security risks to organisations.	M1 Propose a method to assess and treat IT security risks.	
LO2 Describe IT security solutions		
P3 Identify the potential impact to IT security of incorrect configuration of firewall policies and third-party VPNs. P4 Show, using an example for each, how implementing a DMZ, static IP and NAT in a network can improve Network Security.	M2 Discuss three benefits to implement network monitoring systems with supporting reasons.	
LO3 Review mechanisms to control organizational IT security		
P5 Discuss risk assessment procedures. P6 Explain data protection processes and regulations as applicable to an organization.	M3 Summarise the ISO 31000 risk management methodology and its application in IT security. M4 Discuss possible impacts to organisational security resulting from an IT security audit.	D2 Consider how IT security can be aligned with organizational policy, detailing the security impact of any misalignment.
LO4 Manage organizational security		
P7 Design and implement a security policy for an organisation. P8 List the main components of an organizational disaster recovery plan, justifying the reasons for inclusion.	M5 Discuss the roles of stakeholders in the organization to implement security audit recommendations.	D3 Evaluate the suitability of the tools used in an organizational policy.

STUDENT ASSESSMENT SUBMISSION AND DECLARATION

When submitting evidence for assessment, each student must sign a declaration confirming that the work is their own.

Student name:		Assessor name:
Student ID:		Eng. Moath Sulaiman
Is the student repeating this unit? YES NO		
Issue date: 16-5-2022	Submission date: 17-6-2022	Submitted on:
Programme: Computing		
HTU Course Name: Security		BTEC Course name: Security
HTU Course Code: 30201140		BTEC Course Code: Unit 5 (K/615/1623)
Assignment number and title:		
Assignment 7: Delivato		

Plagiarism

Plagiarism is a particular form of cheating. Plagiarism must be avoided at all costs and students who break the rules, however innocently, may be penalised. It is your responsibility to ensure that you understand correct referencing practices. As a university level student, you are expected to use appropriate references throughout and keep carefully detailed notes of all your sources of materials for material you have used in your work, including any material downloaded from the Internet. Please consult the relevant unit lecturer or your course tutor if you need any further advice.

Student declaration

I certify that the assignment submission is entirely my own work and I fully understand the consequences of plagiarism. I understand that making a false declaration is a form of malpractice.

Student signature:

Date: