

Cybersecurity in the Internet of Things

Class Assignment

Deadline: 30.05.2021 (15:00 CET)

Send to: schuiram@gmail.com

Name: _____

E-mail: _____

Case Study: The Jeep Hack

Resources:

- (link) [Hackers Remotely Kill a Jeep on a Highway | WIRED - YouTube](#)
- (link) [Black Hat USA 2015: The full story of how that Jeep was hacked | Kaspersky official blog](#)

Task: (Teamwork is encouraged)

- Summarize the jeep hack briefly in your words
- What IoT related challenges are being used? (see slide 4)
- What is the danger here? How could that attack be mis-used?
- What security principle (CIA) is attacked? (with explanation)
- Discuss how this attack could be mitigated (CIA?)

1) Summarize the jeep hack briefly in your own words.

**2) What IoT related challenges are being used against the car? Justify your decision.
(describe at least two from the list below)**

Hyper-connectivity	
Millions of new end-points	
Millions of new entry-points	
Plethora of Information	
More automation	
Physical limitations to devices	
Heterogeneous device landscape	

3) What is the danger here? How could that attack be mis-used? (Write a possible scenario in which this hack could result in a possible disaster)

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4) Which Security Principles (Confidentiality, Integrity and Availability) have been attached? Justify your decision.

5) Now that you know the attacked security principles, name a at least one way (one measure) how to mitigate this attack.

6) Describe the following for the scenario:

- a. Threat Actor: _____
- b. Threat: _____
- c. Vulnerability: _____
- d. Risk: _____
- e. Asset: _____
- f. Countermeasure: _____

7) How could defense in-depth help to address this vulnerability?

**“Cybersecurity Domains” might be able to address some of the issues with this threat?
(take one domain or sub-domain and describe briefly)**



Scoring: This assignment is not about right or wrong, but about the effort. Please show that you put the research in and tried to find a solution for the questions.