Security Analysis Fall 2017

DIRECTIONS:

You are presented with TWO real-world security problems. Choose ONE for this assignment. You need to address all aspects of the task as if you were solving a problem or educating individuals about the topic you chose. **This is a written, technical analysis of the assigned topic.** This is an individual assignment.

OPTION 1: Horry County Schools

In 2016, the Horry County School System revealed that their servers were attacked with ransomware. The school system announced that it will pay the ransom however, the news media reported that the school system was having difficulty obtaining the required currency: Bitcoin. You have been asked to educate the public about the situation. Your task is to educate the public the two main technologies: bitcoin and ransomware. Explain how to obtain bitcoin and why the school system would have difficulty obtaining the ransom amount in Bitcoin. Also, explain the challenges of ransomware attacks and the supporting reasons on why the school system decided to pay. WHAT SHOULD BE DONE TO AVOID THIS IN THE FUTURE? Be sure to explain any related technologies in detail.

There were many news articles published, but here is an article to get started: http://wbtw.com/2016/03/07/horry-county-pays-nearly-10k-to-ransomware-hackers/

SUMMARY OPTION 2: Coastal Carolina University

Last year, Coastal Carolina University paid approximately \$1-million dollars in an alleged scam. Many people are coining the situation as a "phishing scam." Based on your research, explain phishing scams and provide examples. Would you call this a phishing scam or would you consider this some other type of malicious attack? WHAT SHOULD BE DONE TO AVOID THIS IN THE FUTURE? What internal systems failed? Be sure to explain any related technologies in detail.

There were many news articles published, but here is an article to get started: http://wbtw.com/2017/03/22/coastal-carolina-university-scammed-out-of-more-than-1m/

REFERENCES:

Provide references in the following format. FOR EVERY REFERENCE YOU USE, YOU MUST INCLUDE IT IN BOTH YOUR REFERENCE LIST AND AS AN **IN-TEXT CITATION** (if it's in the reference list, it goes in the text exactly where the reference was used – see the example prior to the Submission section).

FORMAT:

- Microsoft Word (NOT WORKS) or PDF.
- 1" Margins, single-space, 12pt Roman. Indent .5 for paragraphs. No double space between paragraphs. No exceptions.
- NO QUOTES ALL facts paraphrased
- Write in 3rd person only.
- Length: At least 1.5 pages, not more than 2.5 pages not including the reference section at the end of the paper.
- At least 3 citations, but <u>at least one of the five citations must be from a scientific paper</u> (ACM or IEEE preferred). See scholar.google.com
 - References Citation Format (Modified from APA format): (If no date, put n.d. as date).
 Place in ORDER USED in your paper.

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- Example with individuals as authors:
 LAST, F., LAST, F., & LAST, F. (YYYY). Title of work but do not capitalize. If Scientific Journal, Capitalize. Retrieved from GIVE ENTIRE URL.
- Example with company as author:
 Company Name. (YYYY). Title of work but do not capitalize. Retrieved from GIVE ENTIRE URL.
- Just a website, but no other identifying information:
 Website Title. (YYYY). Title of work but do not capitalize. Retrieved from GIVE ENTIRE URL.
- o Example References:
 - Webb, R. (2016). Horry County pays nearly \$10K to 'ransomware' hackers. Retrieved from http://wbtw.com/2016/03/07/horry-county-pays-nearly-10k-to-ransomwarehackers/
 - 2. Webopedia. (n.d.) What is ransomware? Retrieved from http://www.webopedia.com/TERM/R/ransomware.html
- o Example In-Text Citations
 - According to Webb (2016), the Horry County School system was hit with a ransomware attack.... Ransomware can easily affect a computer system via email (Webopedia, n.d.).

SUBMISSION:

 Submissions need to be in Word or PDF format. Documents will be submitted via the Turn-It-In tool in Moodle. All students must pass the quality review. Students must have a similarity score of less than 15%.*

Rubric

| | Missing | Inadequate | Marginal | Proficient | Distinguished |
|----------------------------------------------------------------------------------------------------------------------------------------------|---------|------------|----------|------------|---------------|
| Complete Covers all required aspects of the stated problem. Provided a well-developed analysis of the topic within page limits | 0 pts | 10 pts | 20 pts | 30 pts | 40 pts |
| Language & Delivery Ideas communicated effectively w/ language appropriate to the field. Sentence structure and word choice well- developed. | 0 pts | 8 pts | 16 pts | 23 pts | 30 pts |
| Citations Used proper paraphrasing (no quotes) and cited correctly according to ACM standards.* | 0 pts | 5 pts | 10 pts | 15 pts | 20 pts |
| Format Followed required format. | 0 pts | 5 pts | | 10 pts | |

^{*}Any acts of plagiarism will be considered a violation of academic integrity.