**CSC 8025 Computer & Network Security** Course Project and Grading Rubric [Sample only\*] (\*You can submit and complete own project) Points: 4\*100=400 (Four phases)

Percentage of Final Grade & Due: Please see on LMS and Syllabus

There are mainly **four phases** for this project.

**Project Phase 1**

The Project is due on the final day of the course. It is recommended that during the class you will able to submit an updated version of your project in various weeks throughout the course. The first submission of your project is an idea paper that describes what you would like to create for the project. You are an expert of network security analyzer and you have been tasked to analysis the computer network traffic. After discussing the project with the customer, who is me your professor, you will present an idea paper no less than 4 pages long in APA/MLA format. In this document, you will address the following headings pertaining to your project:

1. What are you building for your project? I have suggestions below that you can select from, or you can make up your own project.
2. Who are you building the project for? Discuss the client, your professor, and how you intend to build his application.
3. Where will you build the application? How the Wireshark is used for capturing and displaying computer traffic.
4. Why did you select this particular project to build? Is it personal or something you feel is comfortable for you? Explain your decision.
5. To complete the project, you will need an open source security tool such as Kali Linux. The

first step to installing Kali Linux is downloading and setting up a virtual Windows PC. Please see Kali Linux installation process.

machine on your

1. How many security tools are available on Kali Linux? Which one is best for your case/major?
2. Critically analysis 2-4 key security tools such as **Wireshark, Nmap, Nessus & Metasploit** with Kali Linux. Please see the sample report link: https://uh.edu/tech/isgrin/research- projects/educational-projects/project-reports/team7/
3. Create a technical scenario that can be used aforementioned tools and techniques.
4. Find out if your organization (for example, your school or business) uses switches, hubs, or both. Why does your group use these? You can find out by simply asking the network administrator or the help desk. Make sure you tell them that you are seeking this information for a class project.
5. Write a brief paper (1 page) explaining your findings and any changes you would make if you could. For example, if your organization uses only hubs, would you change that method? If so, why?

**Below you will find the project topic options. Select only ONE or create yourself ONE!**

* 1. **Packet capturing using Wireshark (Focus of this project and rubric for an example)**
  2. Design a secure communication network using encryption and deencryption process (please see week 1 presentation)
  3. Zero trust network security
  4. Neural network for computer and network security
  5. Machine learning (ML) for computer and network security
  6. Malware detection and classification
  7. Packet sniffing
  8. Decrypting caesar cipher
  9. Bug Bounties
  10. RFID blocking
  11. Encrypting images
  12. Web application firewall
  13. Website scraper
  14. Image steganography program
  15. Network traffic analyzer
  16. Password analyzer
  17. Graphical password authentication
  18. Keylogger software
  19. Case study: Please see sample- https://uh.edu/tech/isgrin/research-projects/educational- projects/project-reports/

**Project Phase 1: Grading Rubric Out of 100 Points**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Criteria** | **Levels of Achievement** | | | |
| **Content 70%** | **Advanced** | **Proficient** | **Developing** | **Not present** |
| Constructed the | **67 to 70 points** | **63 to 66 points** | **60 to 62** | **0 to 59 points** |
| proposal of your | The proposal | The proposal | **points** | The proposal |
| project according to | assignment is | assignment is | The proposal | assignment is not |
| the assignment | clearly | completed | assignment is | completed/submitted |
| instructions | completed | including | somewhat |  |
|  | including 2-4 | mentioned | completed or |  |
|  | more tasks | tasks only | missing task(s) |  |
| **Structure 30%** | **Advanced** | **Proficient** | **Developing** | **Not present** |
| Formatting of all | **24 to 30 points** | **24 to 30 points** | **1 to 16 points** | **0 points** |
| data/screenshots | Proper | Proper | Proper | Nothing submitted |
| required in the | formatting was | formatting was | formatting was |  |
| proposal | correct | mostly correct | somehow |  |
| instructions to | according to the | according to | incorrect |  |
| include formatting | Project proposal | the Project | according to |  |
|  | instructions | proposal | the Project |  |
|  |  | instructions | proposal |  |
|  |  |  | instructions |  |
| Congratulation for completion of your project phase 1. Great Job | | | | |