
CSC 4244 : SECURITY IN APPLICATIONS

INDIVIDUAL ASSIGNMENT.

DUE DATE: 10TH OCTOBER 2023

Threat Assessment and Attack Surface Analysis

Objective: To develop a practical understanding of security threats, common attack vectors, and how to analyze an application's attack surface.

Instructions:

1. **Threat Analysis** (25 points):
 - Select a real-world computer application, website, or software product.
 - Identify and document at least three potential security threats that could target this application. These threats should encompass a range of attack types, such as data breaches, injection attacks, or privilege escalation.
 - For each identified threat, provide a brief description, potential impact on the application, and the attack vector that could be exploited.
2. **Common Attack Vectors** (25 points):
 - Choose one of the security threats you identified in the first part of the assignment.
 - Research and describe at least three common attack vectors associated with the selected threat. Explain how each attack vector works and its potential consequences.
 - Provide real-world examples, if available, to illustrate these attack vectors.
3. **Attack Surface Analysis** (25 points):
 - Analyze the attack surface of the selected application. Describe the various entry points or interfaces through which an attacker might interact with the application.
 - Consider both user-facing and backend components. Discuss how these entry points could be exploited by attackers.
 - Use diagrams, flowcharts, or any appropriate visual aids to illustrate the attack surface and potential points of vulnerability.
4. **Recommendations and Mitigation** (25 points):
 - Based on your threat analysis, common attack vectors, and attack surface analysis, provide recommendations on how to mitigate the identified security threats.
 - Propose security measures or best practices that the application's developers or administrators should implement to enhance its security.

- Justify your recommendations with explanations of how they address the specific threats and vulnerabilities you identified.

Submission Guidelines:

- Submit a well-organized report in PDF format.
- Include a cover page with your name, student ID, course title, and assignment title.
- Properly cite and reference any external sources used for your research.
- Submit your assignment by the specified deadline. 10th October 2023

Grading Criteria:

Your assignment will be evaluated based on the following criteria:

- Thoroughness and accuracy of threat analysis.
- Clarity and depth of explanation regarding common attack vectors.
- Quality and comprehensibility of the attack surface analysis.
- Effectiveness of recommended security measures.
- Proper citation of sources and adherence to submission guidelines.