## Kiernan Rodriguez

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## Google Cybersecurity Certificate Program

## PASTA worksheet Work Lab by Kiernan Rodriguez

**Introduction overview:**

In this project lab, I’m conducting an analytical process to demonstrate using the PASTA framework in cyber security. This method for PASTA is process for attack simulation and threat analysis. This follows a more iterative and dynamic approach. It emphasizes attack simulation to identify potential threats and vulnerabilities. PASTA employs various techniques, such as misuse cases, to assess risks and prioritize them based on their impact and likelihood. This project shows the overview of what is executed to combat the issue of a potential attack initiated in the situation.

Scenario:

Review the following scenario. Then complete the step-by-step instructions.

You’re part of the growing security team at a company for sneaker enthusiasts and collectors. The business is preparing to launch a mobile app that makes it easy for their customers to buy and sell shoes.

You are performing a threat model of the application using the PASTA framework. You will go through each of the seven stages of the framework to identify security requirements for the new sneaker company app.

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| **Stages** | **Sneaker company** |
| **I. Define business and security objectives** | Make 2-3 notes of specific business requirements that will be analyzed.   * *Users can create member accounts internally or by connecting external accounts.* * *The app must process financial transactions to transfer data.* * *The app should be in compliance with PCI-DSS regulations from legal government oversight.* |
| **II. Define the technical scope** | List oftechnologies used by the application:   * *Application programming interface (API)* * *Public key infrastructure (PKI)* * *Advanced encryption system (AES)* * *SHA-256* * *SQL*   *APIs facilitate the exchange of data between customers, partners, and employees, so they should be prioritized at a higher. They handle a lot of sensitive data while they connect various users and systems together. However, details such as which APIs are being used should be considered before prioritizing one technology over another. So, they can be more prone to security vulnerabilities because there’s a larger attack surface. It’s best to measure the framework of what’s needed to be done to prevent against criminal threat actors.* |
| **III. Decompose application** |  |
| **IV. Threat analysis** | List **2 types of threats** in the PASTA worksheet that are risks to the information being handled by the application.   * *Injection* * *Session hijacking* |
| **V. Vulnerability analysis** | List **2 vulnerabilities** in the PASTA worksheet that could be exploited.   * *Lack of prepared statements* * *Broken API token* |
| **VI. Attack modeling** |  |
| **VII. Risk analysis and impact** | List **4 security controls** that can reduce risk.  *SHA-256, incident response procedures, password policy, principle of least privilege* |