**Group Project Assignment for Week 5: Initial Planning**

**Assignment Description:**

This week, each group will work on initiating their group project by setting the groundwork for the system design. The tasks for the week are as follows:

1. **System Requirements**: Create a document outlining the **key requirements** for your organizational cybersecurity system. Consider aspects such as access control, incident detection, automation, and risk management.
2. **UML Diagrams**: Submit an initial **UML Activity and Use-Case Diagram** detailing your initial system design concepts. These should capture the core functions and structure of your system.
3. **Group Timeline**: Develop a detailed timeline for the project, identifying major milestones, deadlines, and responsibilities.
4. **Role Assignment**: Submit a document listing **group member roles** and a description of each person’s responsibilities. This should align with the group project agreement form.

**Deliverables:**

* **System Requirements Document** (1-2 pages)
* **UML Activity Diagram**
* **SysML Requirements Diagram**
* **Group Project Timeline**
* **Role Assignment Document**

**Systems Requirements:**

1. Access control: limiting access to resources that are not necessary to specific users

* Who is accessing what?
* Is there a way to limit access to certain data that is on a need to know basis?
* Is RBAC active?
* How many employees are accessing the system at once?
* Is Two-factor authentication required for all employees?
* How is employee information being stored?
* When new employees are hired are they given access to all data?

1. Incident detection:

* Is there any anomaly detection for recognizing abnormal behaviors?
* Who is alerted when data is breached?
* What is your plan for incident detection?
* What are your system's vulnerabilities?
* Is there an alert system for when suspicious activities are found?

1. Automation:

* Is there a system in place to protect data when there is a breach?
* Does your system detect anomalies and how quickly are you alerted?
* Does your system perform regular backups?
* How would you rate your detection system?

1. Risk Management:

* Does the company have an insurance policy in place for potential ransomware attacks?
* How often are systems monitored?
* Are there measures in place to train employee awareness such as phishing simulations?
* How often are backup and recovery strategies reviewed?

**UML Diagrams:**

[**https://lucid.app/lucidchart/cab8377f-608a-4d41-b1ef-8dd9219bcd9b/edit?view\_items=FdXXS7PDiagV&invitationId=inv\_105be584-182b-4f14-bf76-3e1dfcd490c5**](https://lucid.app/lucidchart/cab8377f-608a-4d41-b1ef-8dd9219bcd9b/edit?view_items=FdXXS7PDiagV&invitationId=inv_105be584-182b-4f14-bf76-3e1dfcd490c5)

**Group Timeline:**

**Week 5:**

* Initial planning document (complete)

**Week 8:** (10/25/2024)

* Systems design and modeling
* UML/SysML diagrams
* Systems designs document

**Week 9: (11/04/2024)**

* Automation assignment
* Python scripts and functionality

**Week 12:**

* Data analysis and machine learning
* Data analytics report and python code
* Identify patterns/anomalies

**Week 13:**

* Risk management and disaster recovery
* Risk management plan document
* Risk assessment matrix

**Week 14:**

* Integration and testing
* System and test report
* Scripts and analytics tools

**Week 15:**

* Project Submission
* Live or recorded demo included
* Documentation, code, and slides submitted

**Group Members and Roles:**

**1. Project Manager: Tomi**

**○ Responsibilities:**

**■ Oversee project progress and ensure deadlines are met.**

**■ Coordinate communication between group members.**

**■ Develop the risk management and disaster recovery plan.**

As the Project Manager, Tomi is responsible for ensuring that the group

stays on track and meets all deadlines. This role involves overseeing the overall

progress of the project, ensuring that all tasks are assigned, and that team

members are completing their responsibilities on time. Tomi will also facilitate

communication within the group, acting as the central point of contact to avoid

miscommunication or overlap in efforts. In addition, Tomi will develop the risk

management and disaster recovery plan, ensuring the group is prepared for any

potential challenges or setbacks during the project's execution. This includes

identifying risks, creating mitigation strategies, and outlining recovery procedures

in case of system failures or data breaches.

**2. Systems Modelers: Benita, Jimmy**

**○ Responsibilities:**

**■ Create and maintain UML/SysML diagrams for system design.**

**■ Ensure the system architecture is accurately represented through modeling.**

Benita and Jimmy will work together as the Systems Modelers, responsible

for designing and maintaining the system architecture using UML (Unified

Modeling Language) and SysML (Systems Modeling Language) diagrams. These

diagrams are crucial for visualizing the system's structure, processes, and

interactions, ensuring that all components work together effectively. Their work

will provide the group with a clear understanding of the system's design and help

identify any potential weaknesses or inefficiencies. Benita and Jimmy will also

collaborate with the technical team to ensure that the models accurately reflect

the system’s implementation, keeping all stakeholders aligned.

**3. Python Developers: Dahab, Trung**

**○ Responsibilities:**

**■ Develop Python scripts for automation and data analysis.**

**■ Collaborate on the implementation of cybersecurity tools and solutions through scripting.**

Dahab and Trung will focus on developing Python scripts to automate key

processes and performs data analysis for the project. Their responsibilities will

include writing efficient, secure code to implement automation tasks, such as

scanning for vulnerabilities or processing large datasets. They will also work on

integrating Python scripts into the broader system architecture, ensuring

seamless functionality across all components. The Python Developers will play a

critical role in enhancing the efficiency of the project by reducing manual tasks

and ensuring the system's reliability. Additionally, they will assist the Data Analyst

by providing tools that facilitate data collection and processing.

**4. Data Analyst: Dahab, Saam**

**○ Responsibilities:**

**■ Perform data analysis and contribute to reporting findings.**

**■ Execute machine learning tasks as necessary for the project.**

In the role of Data Analyst, Dahab and Saam will be responsible for

performing detailed data analysis to extract insights from the information

gathered throughout the project. Their tasks will involve using various tools and

techniques to analyze system performance, identify trends, and generate reports

that provide valuable insights into the project's success. The Data Analyst will

also contribute to the machine learning tasks, developing algorithms to detect

anomalies or predict future threats. Their analysis will be instrumental in guiding

the decision-making process, ensuring that the project is data-driven and meets

the goals outlined by the team. Additionally, they will contribute to the final

reporting and documentation, providing data visualizations and summaries of

findings.