Progress Report 3

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Course : CSIS4495-001 Applied Research Project

Description of Work Done

This week, I completed the full package of my tool, including the front-end component. Using Flask, I structured the code and files in an organized format. The application is executed through app.py, and under the scanner directory, I created two scripts: net_scan.py and web_scan.py, which handle network security scanning and web application security scanning, respectively.

The web app consists of four main sections:

1. Installation – Installs the required tools for scanning.

2. Network Security Scan – Performs network vulnerability scanning.

3. Web Security Scan – Conducts web application security scanning.

4. Results – Displays scan results, including command outputs and AI-generated remediation suggestions.

Both scanning scripts execute specific security commands and integrate Ollama, an AI tool that analyzes the command outputs and provides remediation recommendations. Once a scan is completed, the raw output and Ollama's analysis are saved to files, which users can view in the results section.

This week, I faced several challenges in configuring everything while simultaneously working on the front-end, which took more time than expected. Initially, I planned to test, evaluate performance, and compare results, but I couldn't get to that stage. Next week, I plan to focus on testing and performance evaluation, along with comparing my automated network and web application scanning tool with manual penetration testing methods.

Repo Check-In of Implementation Completed

In the "Misc" folder, the file "JackieK_WorkLog.xml" contains my work log, providing a detailed breakdown of the hours spent and a comprehensive description of the research conducted.

Within the "Misc/codes/pen_testing" folder, the scripts I developed are stored. The app.py file serves as the main driver, managing the collaboration between the web application components.

The /templates folder contains the front-end files for each page, including:

- index.html (main interface)

- install.html (installation page)

- net.html (network security scan page)

- results.html (results and analysis display)

- web.html (web security scan page)

The /scanner folder houses net_scan.py and web_scan.py, which execute network and web security scanning commands, respectively. These scripts are also integrated with Ollama, an AI tool that provides remediation suggestions based on scan results.

Lastly, CSS files and output reports are stored in the /static folder.

Work Log

Date	Number of Hours	Description of Work Done
18-Mar-25	4	Worked on the front-end part of my script
19-Mar-25	4	
21-Mar-25	6	
23-Mar-25	6	