Progress Report Template

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GROUP: F25_4440_G13

F25_4440_G13 - Work Log

Date	Student Name	Number of Hours	Description of work
2025-10-20	Ifeoluwa Aribo	0.5 hr	Met with instructor to review project scope, tools, and proposal feedback.
2025-10-20	Ifeoluwa Aribo	1 hr	Team meeting to set objectives, divide tasks, and plan analysis workflow.
2025-10-24	Ifeoluwa Aribo	2 hrs	Helped structure the proposal and created GitHub repository.
2025-10-24	Ifeoluwa Aribo	2 hrs	Installed MobSF and AndroBugs. Configured environment for analysis.
2025-11-07	Ifeoluwa Aribo	1 hr	Installed Android Studio and AVD emulator. Verified ADB connectivity.
2025-11-07	Ifeoluwa Aribo	0.5 hr	Identified installed emulator packages. Retrieved package names and paths for Reddit and Tim Hortons.
2025-11-07	Ifeoluwa Aribo	0.5 hr	Attempted to pull APKs. Fixed path and permission issues.
2025-11-07	Ifeoluwa Aribo	0.5 hr	Created organized folder structure on Kali for APKs, reports, and tools.
2025-11-07	Ifeoluwa Aribo	1 hr	Set up Python environment for AndroBugs. Installed dependencies. Confirmed Python 2.7 compatibility.
2025-11-07	Ifeoluwa Aribo	0.5 hr	Cloned AndroBugs repository. Reviewed directory structure and scripts.

Date	Name	Time	Description
2025-11-07	Ifeoluwa Aribo	0.5 hr	Tested AndroBugs with Python 3 and found syntax issues. Switched to Python 2 and validated execution.
2025-11-07	Ifeoluwa Aribo	0.25 hr	Confirmed Python 2 installation. Ran AndroBugs help menu to check available options.
2025-11-07	Ifeoluwa Aribo	1 hr	Conducted AndroBugs security scan on Reddit.apk. Reviewed the analysis report.
2025-11-07	Ifeoluwa Aribo	0.5 hr	Analyzed Reddit findings. Noted implicit intents, non-SSL URLs, and exported components.
2025-11-07	Ifeoluwa Aribo	0.5 hr	Summarized Reddit results. Prioritized security issues and recommendations.
2025-11-07	Ifeoluwa Aribo	1 hr	Conducted AndroBugs scan on Tim Hortons.apk. Reviewed detailed analysis report.
2025-11-07	Ifeoluwa Aribo	0.5 hr	Compared Reddit and Tim Hortons vulnerabilities. Highlighted similarities and differences.
2025-11-07	Ifeoluwa Aribo	0.5 hr	Documented all results. Organized reports and prepared summary files.
2025-11-07	Ifeoluwa Aribo	0.5 hr	Researched Python 3 compatible AndroBugs forks to improve workflow.
2025-11-16	Ifeoluwa Aribo	1.5 hrs	Attempted to install and run Docker on Kali Linux to deploy MobSF. Resolved dependency conflicts and service startup errors. Successfully started MobSF container and accessed the web interface.

2. Description of work done

< What I've Done So Far >
I have successfully set up the entire required toolchain for mobile security analysis, including MobSF, AndroBugs, Android Studio, and the AVD emulator. I extracted the Reddit and Tim Hortons APKs from the emulator, resolving path and permission issues, and created an organized project directory on Kali. I completed full static security scans for both applications using AndroBugs, analyzed the reports, and identified key security issues such as exported components, cleartext traffic, weak intents, and insecure URLs. I created detailed summaries for each app and performed a comparative analysis of their security postures. I also contributed to team-wide tasks, including project proposal organization

and GitHub repository setup. I also worked on configuring the Mobile Security Framework (MobSF) by installing Docker on Kali Linux, which presented several configuration challenges that were successfully resolved.

<The issues I encountered>

I encountered two primary technical challenges. First, the AndroBugs framework was incompatible with Python 3, throwing syntax errors. Second, I faced ADB permission and path issues when attempting to pull APK files from the Android emulator. Additionally, I faced significant issues installing and running Docker on Kali Linux. The problems included:

- **Dependency Conflicts:** Kali's rolling release environment led to conflicts between the Docker package and existing system libraries.

- **Service Startup Failure:** After installation, the Docker daemon failed to start due to permission issues and conflicts with existing containers or services.

- **MobSF Container Deployment:** Even after Docker was installed, initially pulling and running the MobSF Docker image encountered network timeouts and container port configuration issues.

<These are my planned next steps>

My planned next steps are to conduct complementary dynamic analysis using the MobSF tool on both APKs, perform dynamic analysis, and investigate certificate and network security aspects. I will also continue researching a Python 3-compatible fork of AndroBugs to modernize the workflow. Finally, I will contribute to drafting the final project report by integrating my findings.

AI Use Section:

- **Table of AI Tools and Specific Use:**

AI Tool Name	Version, Account Type	Specific feature for which the AI tool was used
OpenAI ChatGPT	GPT-5.1, Free Account	Helped with MobSF setup, Docker troubleshooting, ADB command guidance, and clarifications during environment configuration.

AI Tool Name	Version, Account Type	Specific feature for which the AI tool was used
OpenAI ChatGPT	GPT-4o Mini, Free Account	Assisted in identifying Python errors and confirming AndroBugs execution steps.
OpenAI ChatGPT	GPT-4o Mini, Free Account	Used to troubleshoot Docker installation errors on Kali Linux and resolve MobSF container deployment issues.

- **Value Addition:** What value did you add over and above what AI did for you.
  I provided all the raw data, specific details, and context from my actual work sessions. I executed all suggested commands myself, correcting inaccuracies based on my specific environment. The AI tools were used for guidance and structuring information, but I performed all the technical work, wrote my own analysis summaries, verified all APK findings through my own testing, and refined instructions to match the actual tools and configurations. The value I added was the genuine work, expertise, and effort captured in the logs, which formed the entire substance of the report.

- **Appendix: Prompt History**

  - **Context for AI use:** Separate prompts were used during the project for technical guidance, such as "How to set up MobSF with Docker?" and "How to resolve Python syntax errors in AndroBugs?"

  - "Convert this Python 2 socket code to Python 3 with proper error handling"

  - "I'm getting 'ModuleNotFoundError: No module named 'Crypto' when running on Kali Linux"