Willian Prado
Cybersecurity Student
at
City of Refuge

Laptop Refresh & Imaging SOP

Project Title: Laptop Imaging & SOP Workflow Optimization

Timeline: July 2025 – Present

Overview: This project involved the end-to-end refresh and reimaging of laptops donated for community use. I contributed to creating and executing a refined Standard Operating Procedure (SOP) that ensures laptops are restored, secured, and ready for distribution to families and students in need.

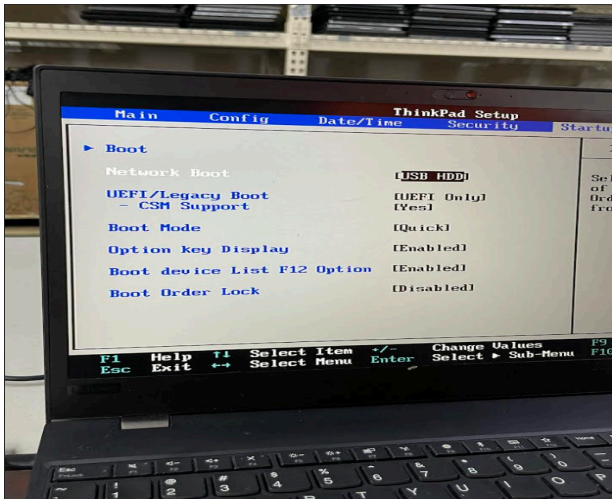
Project Summary: Imagine giving old laptops a second life! I worked with a tech team to clean them up, install a fresh copy of Windows 11, make sure they work properly, and personalize them so people can use them easily. Think of it like wiping a messy chalkboard clean, writing the right notes back on, and handing it to someone who really needs it.

What I Did:

- Refreshed 4 laptops (3 Dell, 1 ThinkPad) using a bootable USB with Windows 11
- Applied a detailed SOP to guide each step, from quality checks to final setup
- Collaborated with a teammate and improved our workflow for speed and accuracy

Technical Skills & Tools Used (with Explanations):

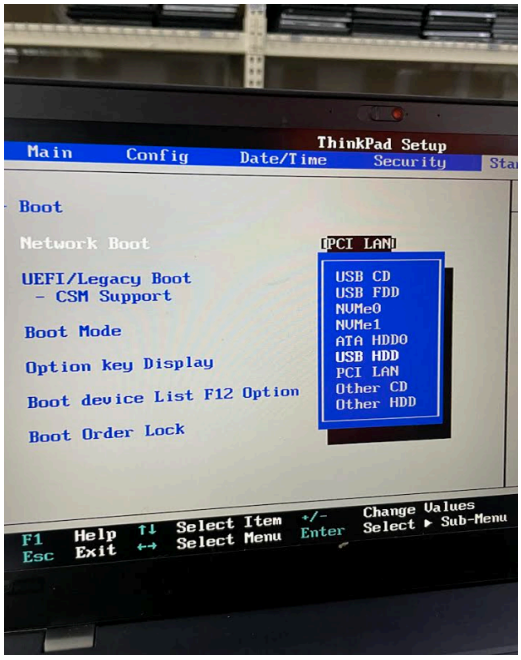
- **Operating System Installation:** I used a tool called Rufus to create a bootable USB drive containing Windows 11. This is like loading the operating system onto a flash drive so it can be installed on other computers. It's especially helpful when starting from scratch or fixing laptops with broken systems.



Willian Prado
Cybersecurity Student
at
City of Refuge

Laptop Refresh & Imaging SOP

- **BIOS Configuration:** BIOS (Basic Input/Output System) is the first screen a computer loads before Windows starts. It lets you change startup settings. I learned how to enter BIOS (using keys like F12 or F2), switch the boot mode to UEFI (modern startup method), and disable Secure Boot if needed. This step is necessary to let the computer accept and install Windows from the USB.



- **System Imaging Steps:**
  - **Deleted Old Partitions:** Before installing Windows, I erased everything on the laptop's hard drive to prevent conflicts and ensure a clean install.
  - **Installed Windows 11:** I selected the now-empty drive (called Unallocated Space) and began the OS installation.
  - **Skipped Wi-Fi Setup:** Skipping Wi-Fi helped avoid creating a Microsoft account during install, which saved time and avoided login issues.
- **Post-Imaging Setup:**
  - **Ran Batch Script:** I used a script (Setup.bat) stored on the USB. This script automated tasks like setting the wallpaper, adjusting time zones, installing essential apps (Chrome, Zoom), and creating desktop shortcuts.
  - **Windows Updates:** I checked for and installed updates multiple times until the system was fully up to date.
  - **Icon Customization:** Changed icons for shortcuts using files stored on the USB to create a consistent and clean user interface.

Willian Prado
Cybersecurity Student
at
City of Refuge

Laptop Refresh & Imaging SOP

- **Functionality Tests:** Opened the camera, recorded a short video, tested the microphone, keyboard, trackpad, and speakers to ensure everything worked.

Battery Diagnostics (with Explanation):

- I generated a battery report (a special webpage file) to check battery health.
- The report shows Full Charge Capacity vs. Design Capacity. If the battery's full charge is less than 50% of its original design, it should be replaced.
- For example, batteries showing only 700 mAh (milliamp hours) are very weak and won't last long, so I have to flag those for replacement.

Teamwork & Documentation:

- Worked with another IT professional to test and improve our SOP.
- Supported tagging of laptops that were damaged units for repair — a key process for managing large fleets of devices efficiently

What I Gained:

- Learned to install operating systems from scratch using industry tools like Rufus
- Built confidence navigating BIOS and understanding hardware-level settings
- Practiced writing and following technical documentation (SOPs)
- Improved my ability to diagnose and fix problems across different laptop brands
- Strengthened collaboration and communication skills through teamwork

Why It Matters: This hands-on experience is preparing me for real-world IT roles — especially in hardware diagnostics, OS deployment, and SOP design. I'm proud to help close the digital divide while sharpening my technical skills.

Let's Connect: If you're working on IT processes, system refresh projects, or documentation — I'd love to learn from you and share what I've learned too!