

# Project Specification

## Home Network Security Analyzer

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### Introduction:

The Home Network Security Analyzer is a tool that is used to scan a local home network to discover devices and find security vulnerabilities. It is designed to be an easy to use frontend for Nmap and the NVD database for simple checking of the security of devices on a network.

### Background:

One of the most overlooked aspects of Cybersecurity is the home network. As the average person has little to no computer literacy few people are aware of the level of security implemented on their devices and network, leading to many unknown vulnerabilities being potentially present in the average home network. This problem has been exacerbated by the rise of the Internet of Things and Working From Home, with Internet of Things massively increasing the potential number of vulnerable devices while Working From Home has created the possibility for an employee's compromised network to pose a security risk to a business and it's assets.

There are many tools dedicated to Cybersecurity that can be used to improve a home network's security, however most of these tools are designed for use by Cybersecurity specialists with most people lacking the knowledge and expertise to sufficiently use them. It is clear from the current environment that there is an need for a program that can be easily used to strengthen a home network, I hope to fill that gap with my project.

### Target Users:

This tool will alleviate the issues outlined in the previous section by allowing a user to scan their home network and find any security issues that need to be addressed. The program will have a simple interface and avoid using confusing jargon to remain usable to as many people as possible.

### Features:

The core features of the project are planned to be:

- < Scan a network to discover the connected devices.
- < Determine the security on the devices.
- < Generate a report on the programs findings.

The optional features of the project are planned to be:

- ⟨ Options to analyze all devices on a network or a specific device.
- ⟨ Give recommendations on changes to make to improve network security.

All of these features will be provided through a simple web based interface. While the planned features of the project may be complex and hard to understand for someone with poor tech literacy great consideration will be given to the design of the user interface to simplify and streamline the program's functions and results in a manner that avoids confusion and requires as little tech savviness as possible.

## Precedent:

The company runZero provides a program called "Network Discovery" that is similar to my planned program in a few areas, most notably it provides the functions of scanning a network to discover devices on it and check the security of devices. However the Network Discovery program differs from my project as it is aimed towards being deployed on large networks run by businesses and is a paid product with a free trial whereas my project will be aimed towards the average home network and be free to use.