

RESEARCH AND BUILD TOOLS TO SUPPORT THE NETWORK SYSTEM PENETRATION TESTING PROCESS

GSP24IA07

PROJECT INFORMATION

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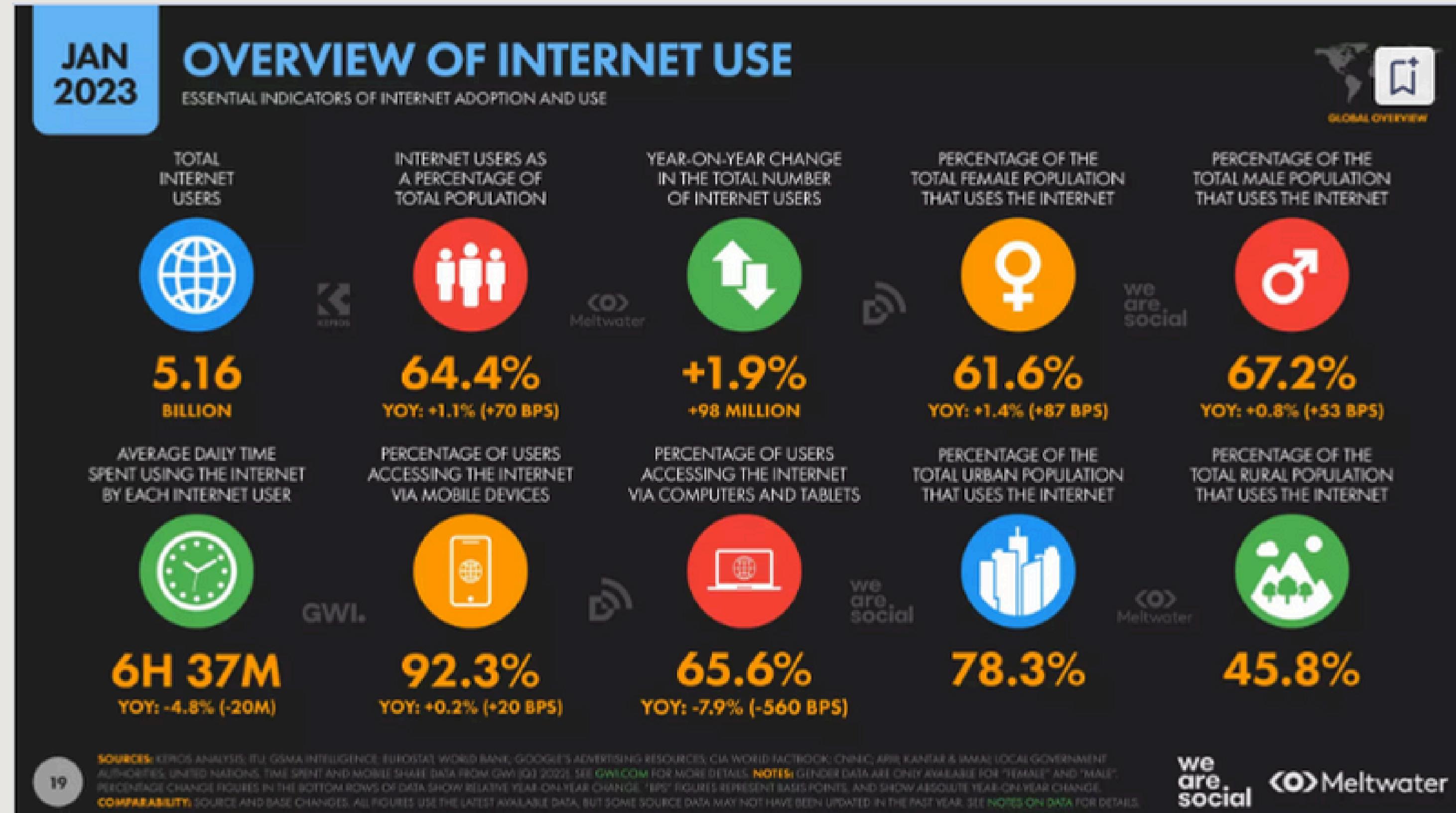


Content OutLine

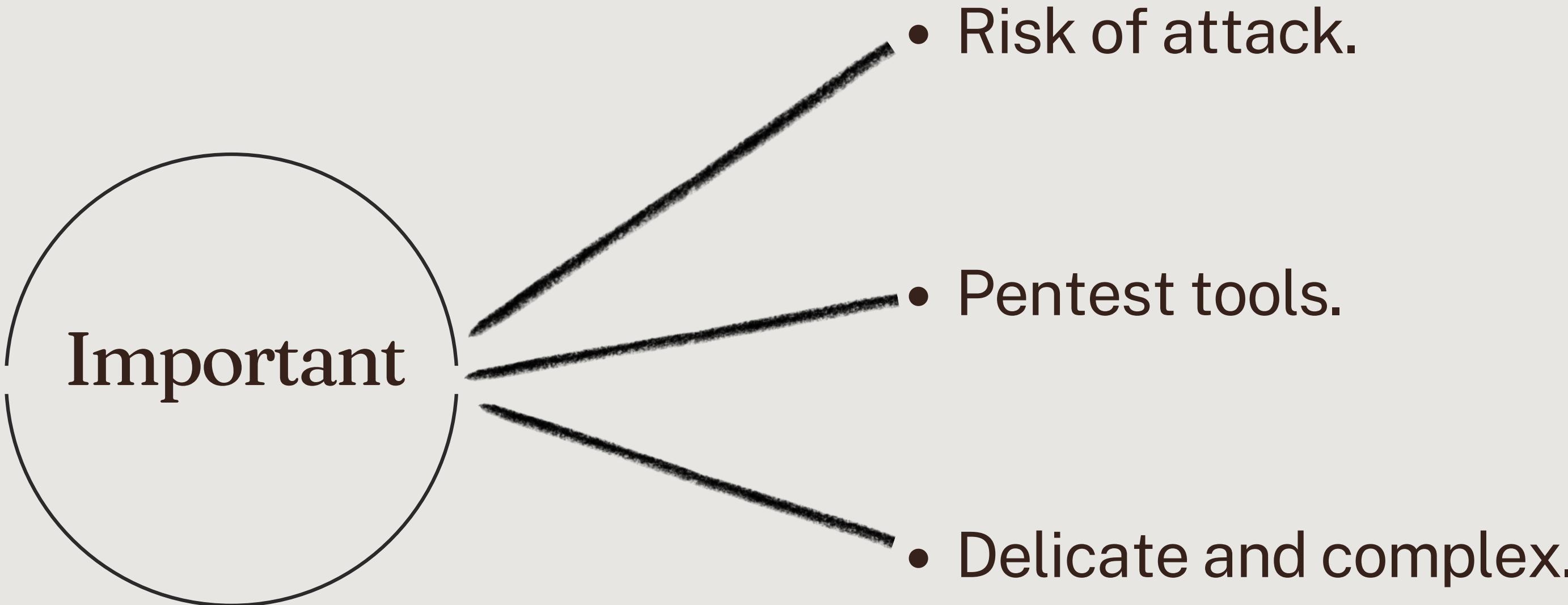
- 1. Introduction
- 2. Problems
- 3. Objectives
- 4. Solutions
- 5. Develop
- 6. Scope



I. Introduction

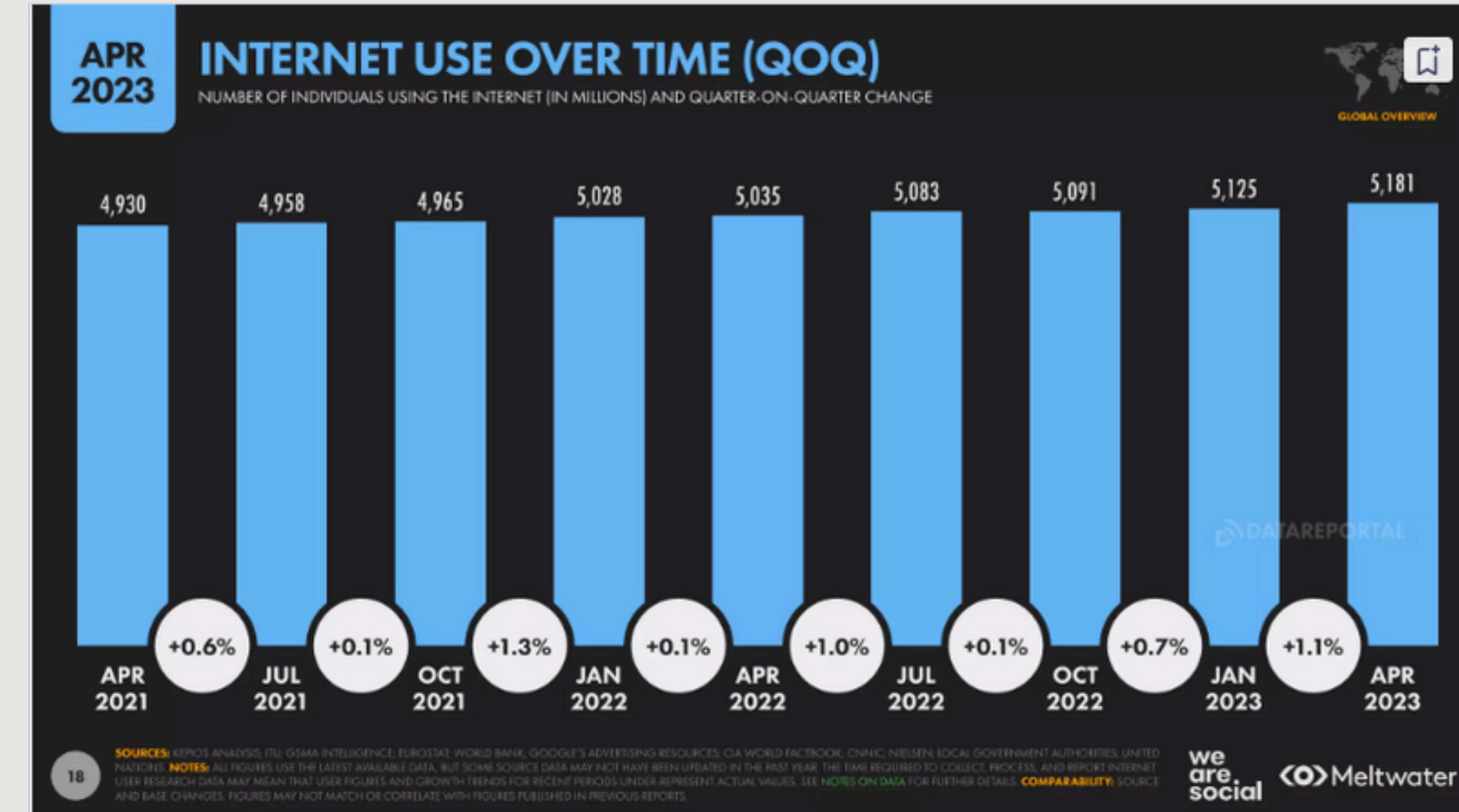
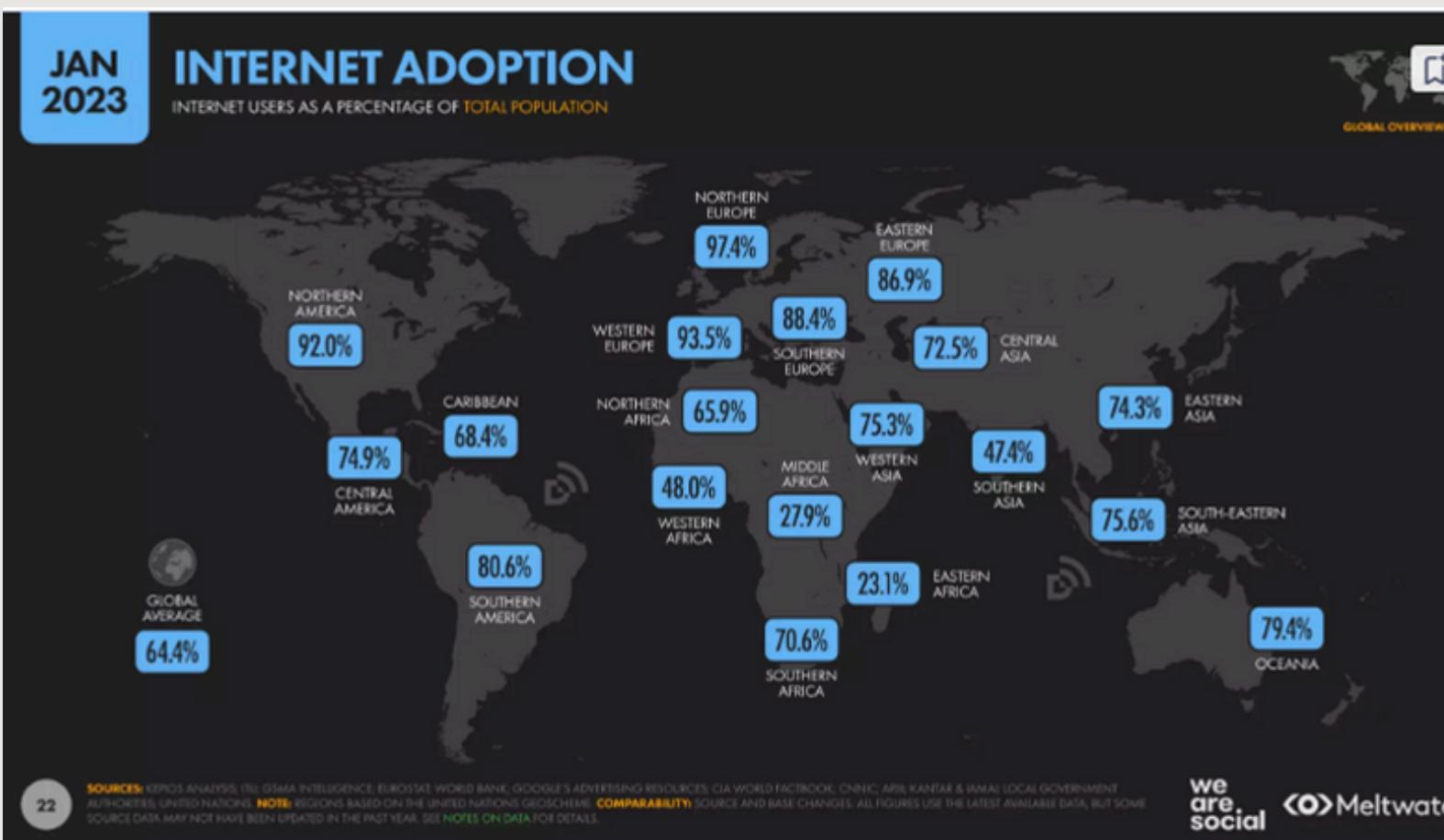


The importance of infrastructure penetration testing tools:



2. Problem

Growth of internet usage



The amount of time spent using the internet is tending to grow quarterly from April 2021 to April 2023 by 5%.



2. Problem

→ C soc.gov.vn/alert/canh-bao-an-toan-thong-tin-tuan-01-2024.169/

Linux: CVE-2023-6270, CVE-2023-0193,...

Samsung: CVE-2024-20808,...

Qualcomm: CVE-2023-33025,...

3. SỐ LIỆU, THỐNG KÊ

- **Tấn công DRDoS:** Trong tuần có **52.017** (giảm so với tuần trước **55.435**) thiết bị có khả năng bị huy động và trở thành nguồn tấn công DRDoS.



Cyber attacks in Vietnam from January 5, 2023 - January 15, 2023

→ C soc.gov.vn/alert/canh-bao-an-toan-thong-tin-tuan-02-2024.170/

Tenda: CVE-2023-50585,...

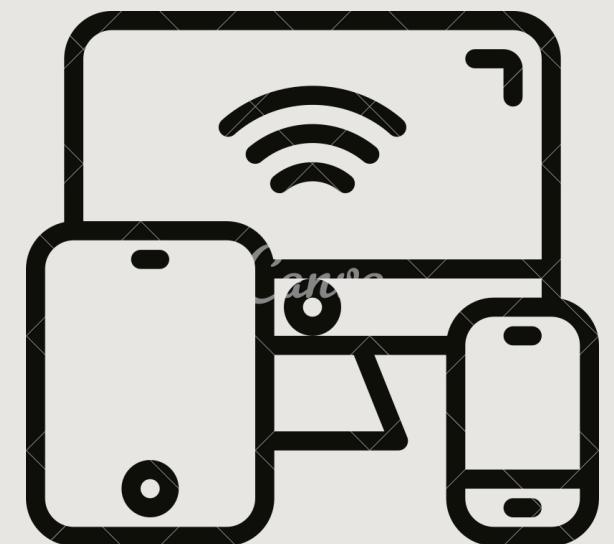
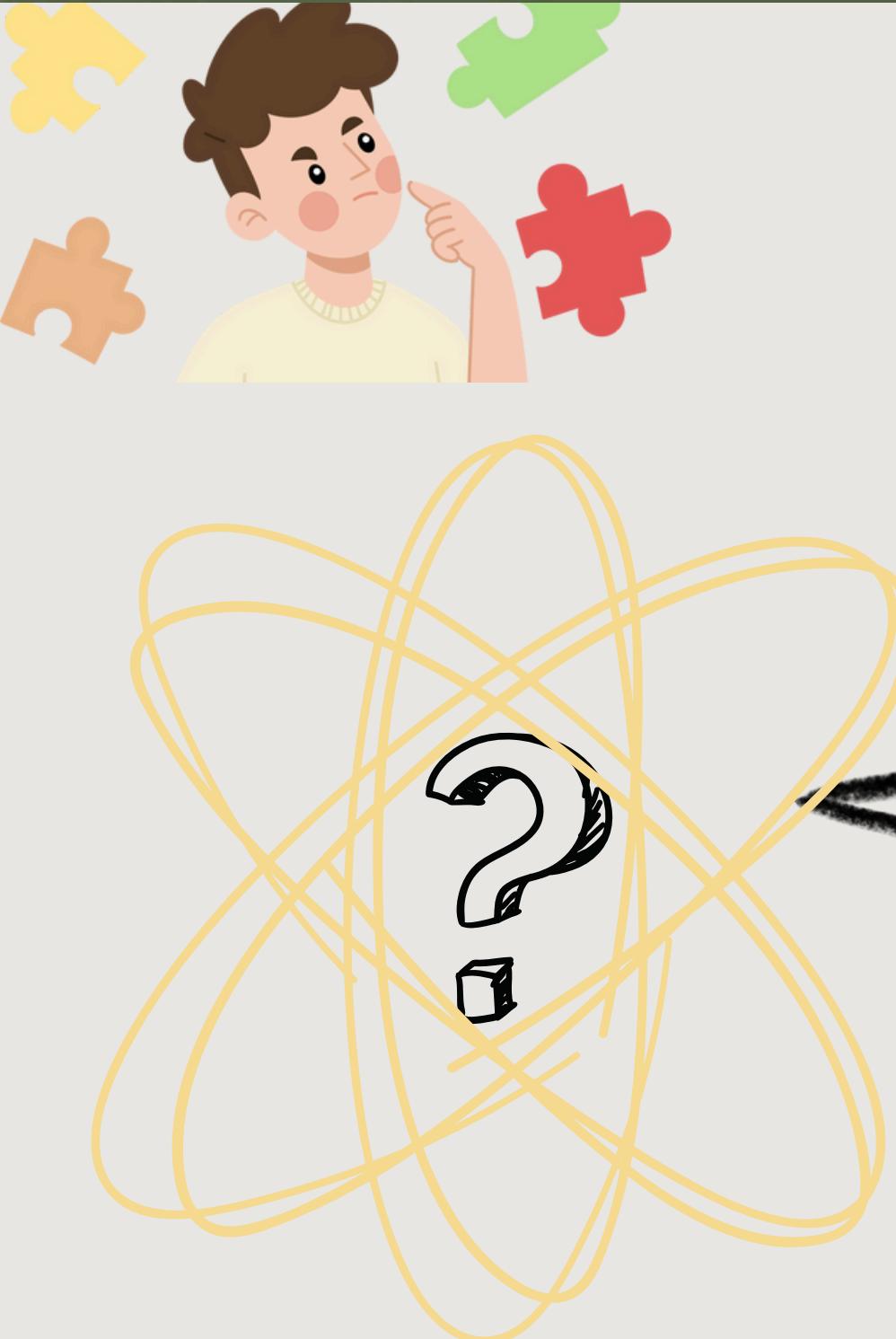
IBM: CVE-2023-47140, CVE-2023-47145,...

3. SỐ LIỆU, THỐNG KÊ

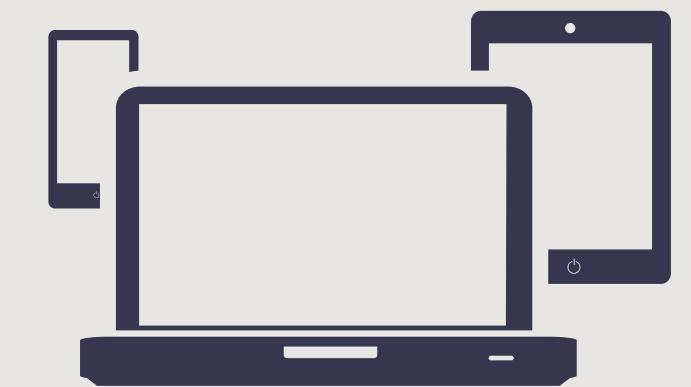
- **Tấn công DRDoS:** Trong tuần có **52.856** (tăng so với tuần trước **52.017**) thiết bị có khả năng bị huy động và trở thành nguồn tấn công DRDoS.

Trong tháng 5/2023, Trung tâm Giám sát an toàn không gian mạng quốc gia (NCSC) ghi nhận, cảnh báo 695 cuộc tấn công mạng, tăng 39,6% so với tháng 4 và giảm 17,9% so với cùng kỳ 2022...

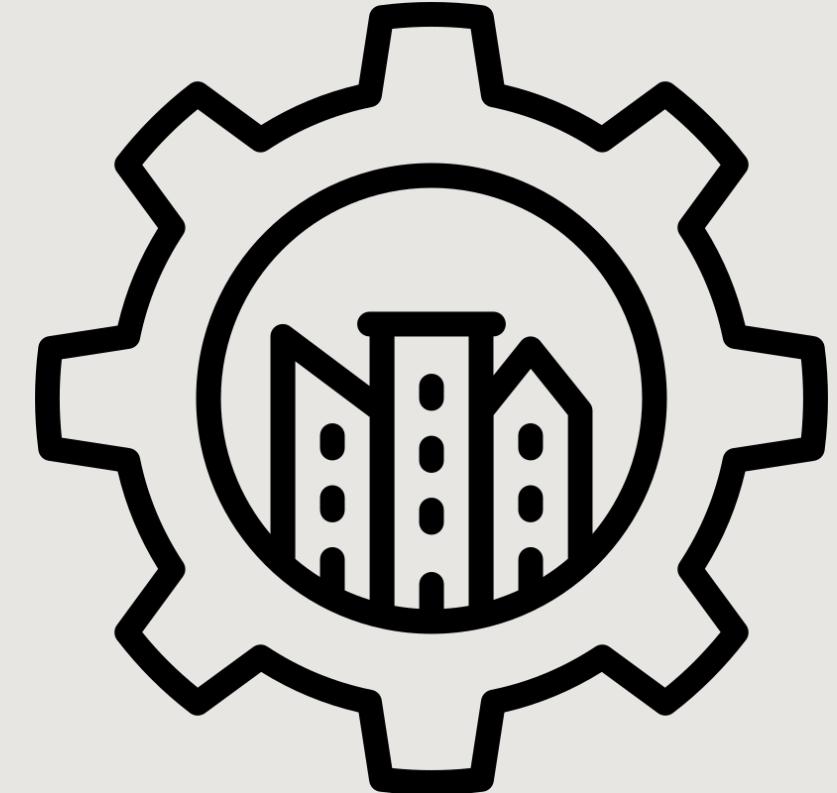
2. *Problem*



Infrastructures



Devices



3. Objective

- Understanding network infrastructure pen-testing: ethernet pen-testing, switch, router.
- Research on WiFi Penetration Testing.
- Building virtual network infrastructure supports testing.
- Build support tool based on open sources

Advantages

- The tools, nmap, airgedon, aircrack-ng, krack frag and wifijammer, because they are open source, can be integrated into the PenNet tool.
- The easy-to-use interface supports methods for looking up network devices and performing attack testing.

Disadvantages

- Hardware dependency: Some tool functions may depend on specific hardware, limiting usability on different devices.
- Misuse: The tool can be used for illegal or unethical purposes, such as attacking networks to which users do not have access.

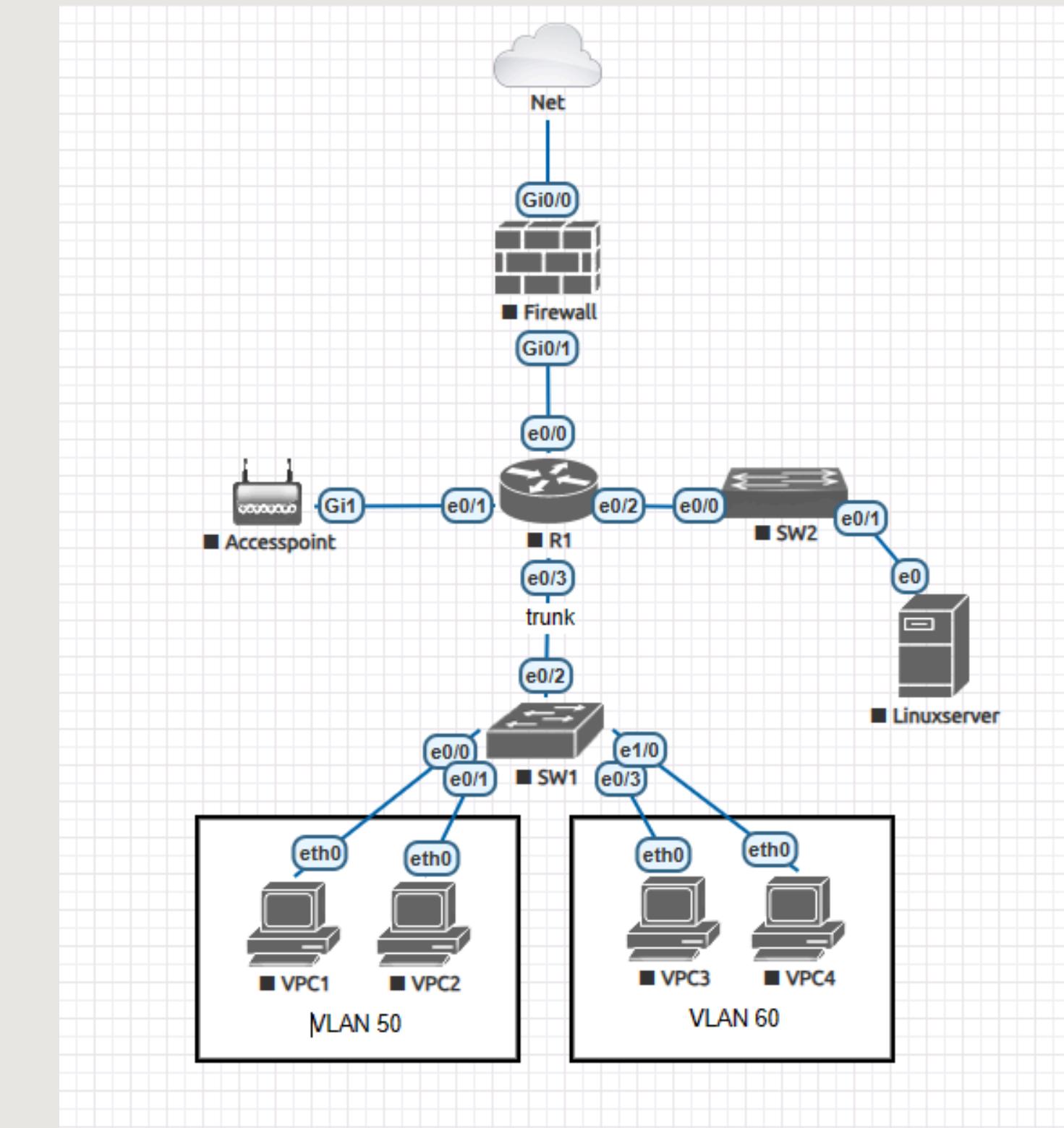
Network diagram

Device

- Router
- Switch
- Access Point

VMware

- Linux Sever

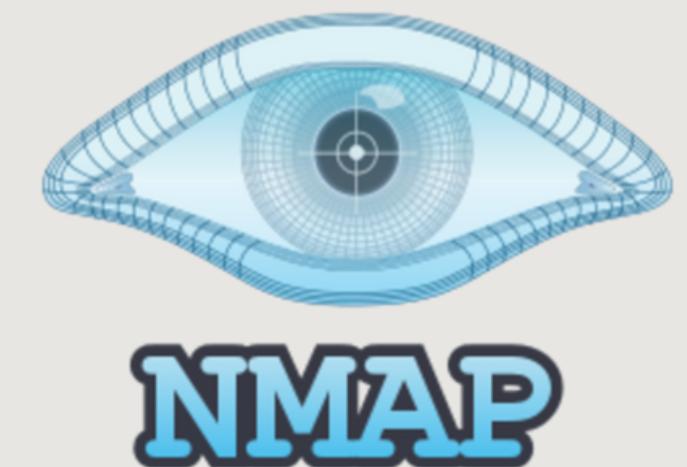


Technology

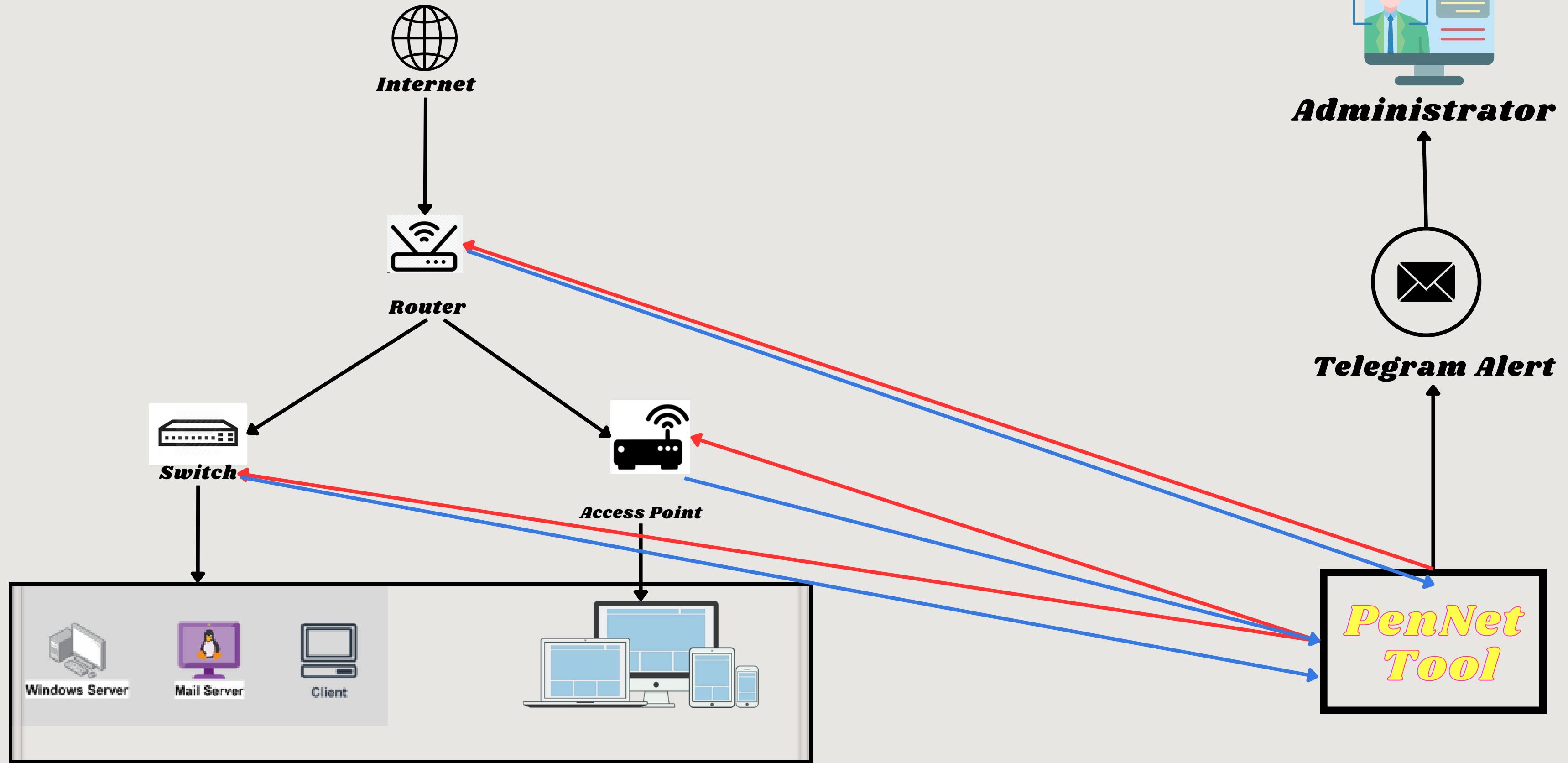
- Aircrack-ng tools.
- Nmap
- Krack
- Frag
- GNS3
- USB Wifi

}

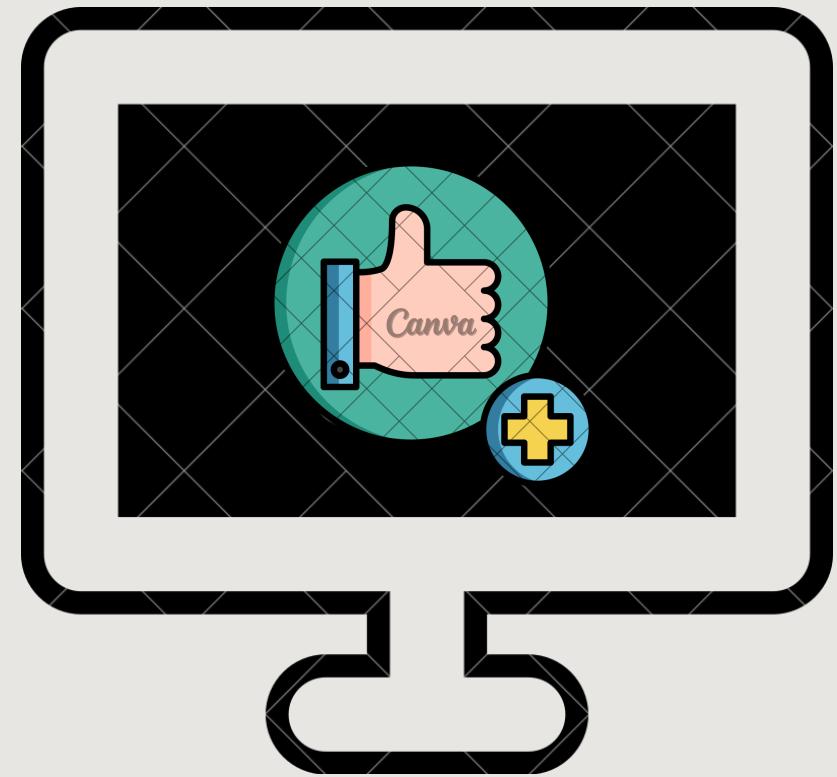
Linux



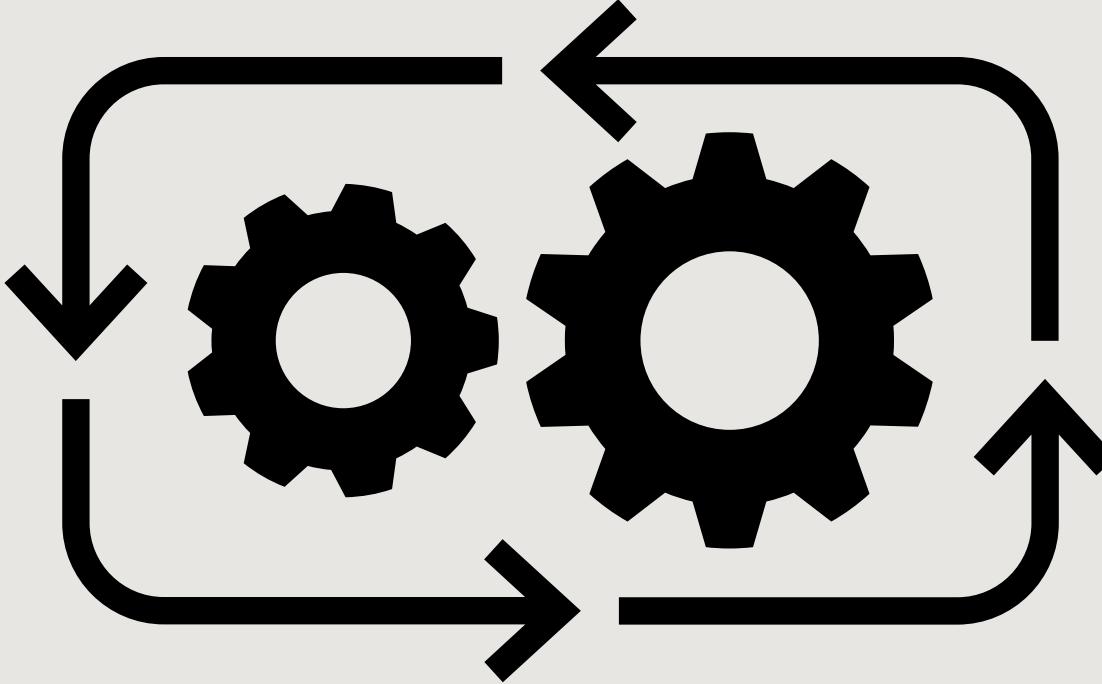
4. Solution



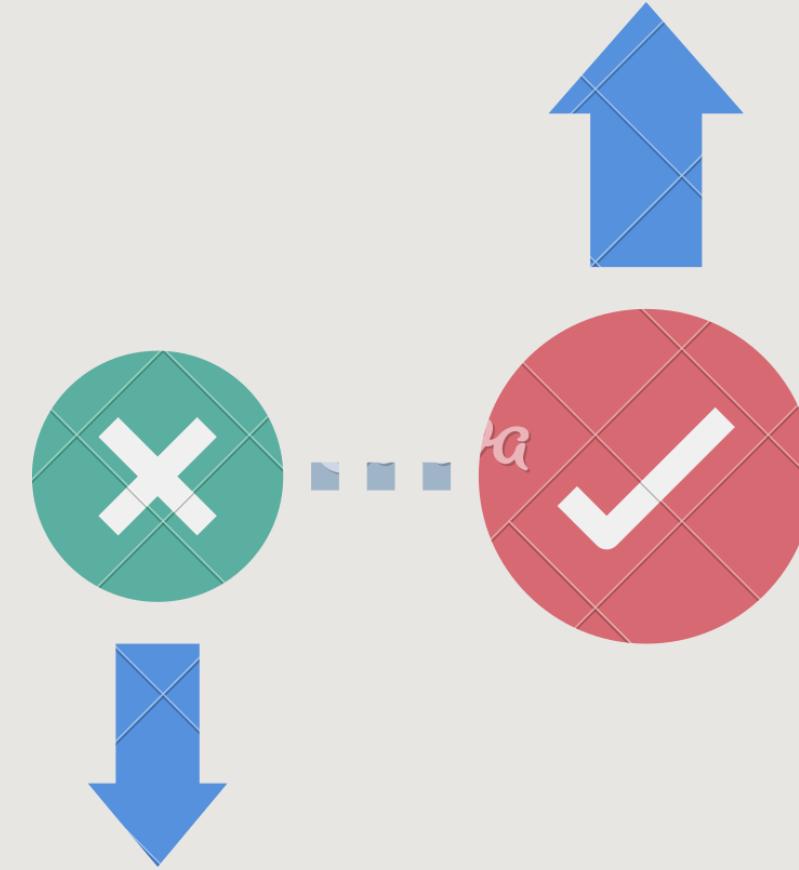
5. Develop



Improve UI
Monitor



Automation



Increased
accuracy

6. Scope

- PenNet tool is built with python running on linux platform, because linux will best support PenNet tool
- The tool will include many different functions, including self-written and open source functions

P E N N E T
T O O l



Model Building

THANK YOU

For Listening