30% project proposal

UIAS

Unauthorized Internet Access System

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Introduction

This project proposal addresses an issue concerning the repetitiveness of running routine wireless testing attacks against a network. The program will be capable of deauthing network clients, cracking wpa passwords, and bypassing captive portals.

Attack Options

This system will boast a total of three attack modes:

1. Captive portal bypass:

   In this mode the system will attempt to bypass the captive portal authentication (as can be found in airports, hotels, cafes etc).

2. Deauth mode:

   In this mode the system will attempt to deauth a target of your choosing or attempt to deauth all clients of a specific network.

3. Password cracking mode:

   In this mode the system will attempt to crack a network password.

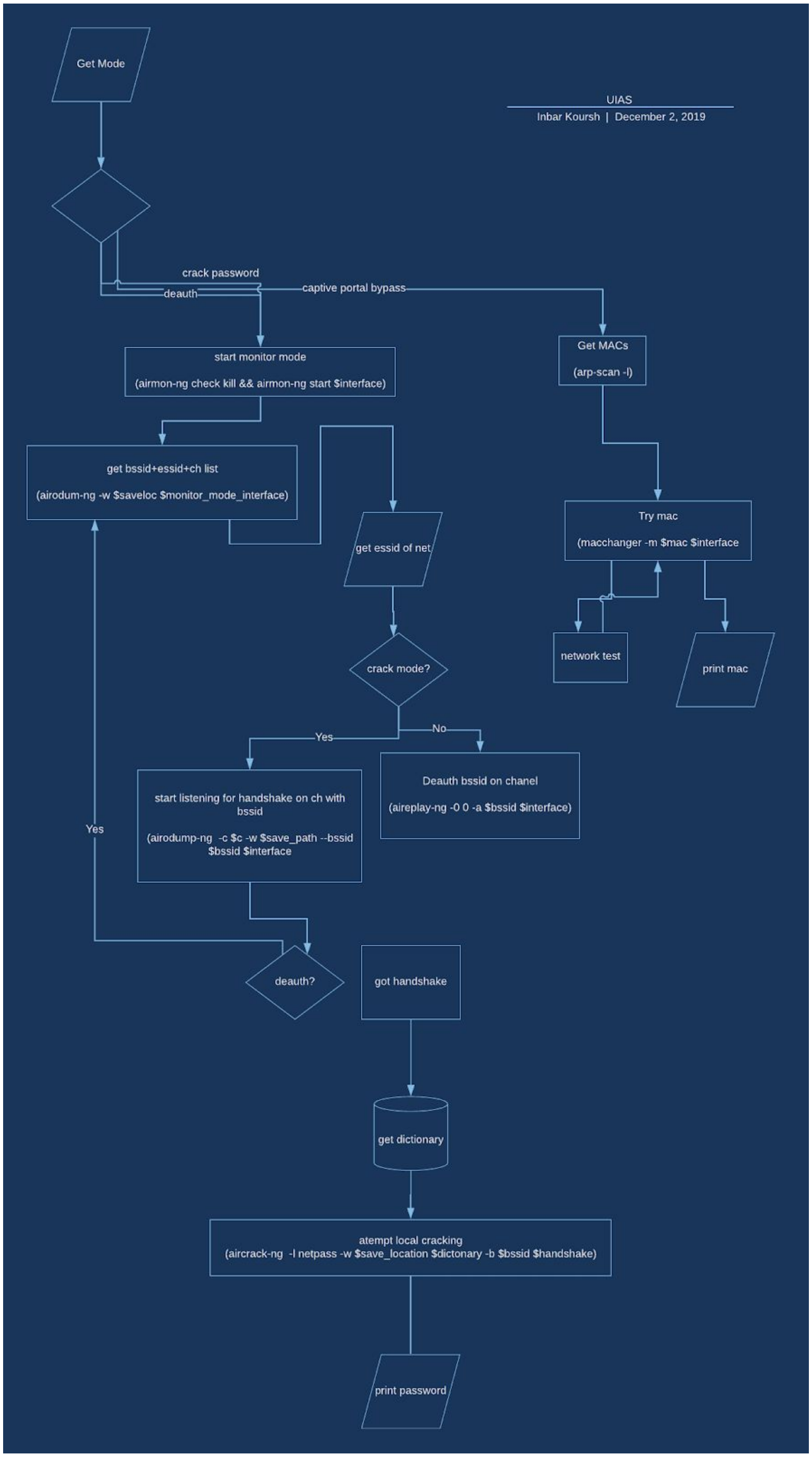
Attack execution

The aforementioned attacks will be carried out in the following ways:

1. The captive portal attack will work by spoofing an authenticated user. It will do so by spoofing the metric that is used commonly by captive portals to verify a users identity: their MAC address, this address that is inherent in all network devices can be both scanned and spoofed. The attack will proceed as follows:
    a. Scan the network for client mac addresses
    b. Spoof mac address
    c. Attempt to connect to the internet
    d. If failed goto step B
    e. You are now connected - quit program

2. The deauth attack will work by spoofing a deauthentication packet from the router, a packet that tells devices to disconnect from the router (**NOTE**: this attack is **illegal** to use without **permission** as it counts as a denial of service attack) the attack will work via the aireplay-ng tool

3. The password cracking option will operate by:
    a. Waiting for a client to connect (or deauth a client if you have permission)
    b. Capture the 4-way handshake exchanged by the connection
    c. The attempted cracking of said handshake using a pre-generated password list or a unique password list created by the network name as a seed



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```
(airmon-ng check kill && airmon-ng start $interface)
(arp-scan -l)
(airodum-ng -w $saveloc $monitor_mode_interface)
(macchanger -m $mac $interface
(airodump-ng  -c $c -w $save_path --bssid $bssid $interface
(aireplay-ng -0 0 -a $bssid $interface)
(aircrack-ng  -l netpass -w $save_location $dictonary -b $bssid $handshake)
```

Functions

The system uses a variety of functions:

1. static Arraylist<String> execute(String command, boolean sudo):

   Executes a command in linux (sudo or not) and returns an arraylist of the response (each entry is a line)

2. static boolean checkpackage(String packageS):

   Executes “which” command on the package name and checks the result to see if the program is installed

3. static ArrayList<String> change_mac(String mac):

   Changes the computer's MAC address to the requested mac by: taking down the wireless card, running “macchanger -m” on the requested address, and finally bringing the wireless card back up.

4. static boolean trymac(String mac):

   Runs change mac on the requested mac, trys 5 times to assert weather connection to network has been established, finally pings 8.8.8.8 (google dns server) and monitors packet loss, if packet loss is less than 100% returns true, if not or if ping failed, returns false

Data types

The program uses the following data types:

1. int
2. String
3. boolean
4. Arraylist<String>
5. Process
6. ProcessBuilder
7. InputStreamReader
8. BufferedReader
9. Exception
10. IOException
11. System
12. File
13. BufferedWriter
14. FileWriter
15. Object

Java Docs

This Github Repo also contains a javadoc file that goes into much further detail.