WI-FI HACKING WITH A RASPBERRY PI

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BACKGROUND

Project is about cyber security and creating awareness of threats.

Build hacking prototype.

Retrieve hardware and software information and penetrate Wi-Fi network.

Objective is educate campus community.

Give suggestions to the Wi-Fi network owners found vulnerable.

FUNCTIONAL REQUIREMENTS

Detect available Wi-Fi networks and hidden networks.

Retrieve information about each network detected.

Convert Mac address to vendor names.

Where possible penetrate Wi-Fi network with weak encryption.

Community the importance of strong passwords.

TESTING STRATEGIES

Unit testing and system testing Unit testing: Testing individual source codes. **Five Python scripts** System testing: Hardware and Software integration Kali Linux, Raspberry Pi and Python.

TESTING DESIGN

Unit Testing: Run each script Then simultaneously, from scanning available networks to the hacking script. **Each script function.** System Testing: All libraries installed in same directory Minimized time for penetration to avoid over heat on Raspberry Pi.

<u>TEST REPORT</u>

Tool built detects available networks and hidden ones.

Save all information on a CSV file.

Read Mac address column and convert to vendor

names.

SSID	ENCRYPTION	RADIO FREQUENCY	MAC ADDRESS	CHANNEL	ENCRYPTION TYPI	SIGNAL
TP-LINK_D21F	TRUE	2.457 GHz	18:D6:C7:85:D2:1F	10	wpa2	-14
UWC-Guest	FALSE	2.412 GHz	40:01:7A:AF:B9:A0	1	None	-58
UWC-CAMPUS	TRUE	2.412 GHz	40:01:7A:AF:B9:A1	1	wpa	-59
eduroam	TRUE	2.412 GHz	40:01:7A:AF:B9:A2	1	wpa	-59
WiFi-Support(Limited	FALSE	2.412 GHz	40:01:7A:AF:B9:A3	1	None	-60
UWC-WifiPortal	FALSE	2.412 GHz	40:01:7A:AF:B9:A4	1	None	-58
UWC-Guest	FALSE	2.437 GHz	40:01:7A:BE:80:40	6	None	-52
UWC-CAMPUS	TRUE	2.437 GHz	40:01:7A:BE:80:41	6	wpa	-51
eduroam	TRUE	2.437 GHz	40:01:7A:BE:80:42	6	wpa	-49
WiFi-Support(Limited	FALSE	2.437 GHz	40:01:7A:BE:80:43	6	None	-49
UWC-WifiPortal	FALSE	2.437 GHz	40:01:7A:BE:80:44	6	None	-47
UWC-Guest	FALSE	2.437 GHz	40:01:7A:BE:E2:80	6	None	-76

TEST REPORT

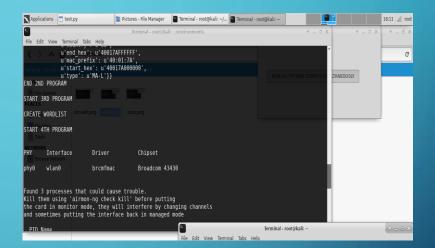
Testing has been conducted on three networks.
 With different passwords in length and difficulty level.

- passwords:
 - **First password contain numbers only.**
 - second password contain numbers and alphabet characters.
 - Third password has numbers, alphabets and special characters e.g. %_134Zdyou.

TEST REPORT

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<u>REFERENCE</u>

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DEMO

Run two Python scripts. > First script run two scripts simultaneously. > Detect available networks, then convert Mac addresses of detected networks to vendor names. Last script crack passwords. > Weak password, has digits only. > Strong password, has digits, alphabets and special characters.

THANK

YOU