

ET4394 Wireless Networking

Wireshark Project : Capture and Lexical Analysis of SSIDs

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1. Methodology

- A script was created to sniff packets in order to extract the SSID names in the vicinity.
- Additional scripts were created in order to detect the presence of Hidden SSIDs.
- Processing scripts were created to extract the Longest Common Substring from the list and other Lexical Statistics
- The script was in various localities and the data has been tabulated below and inferences have been made.

2. Observations

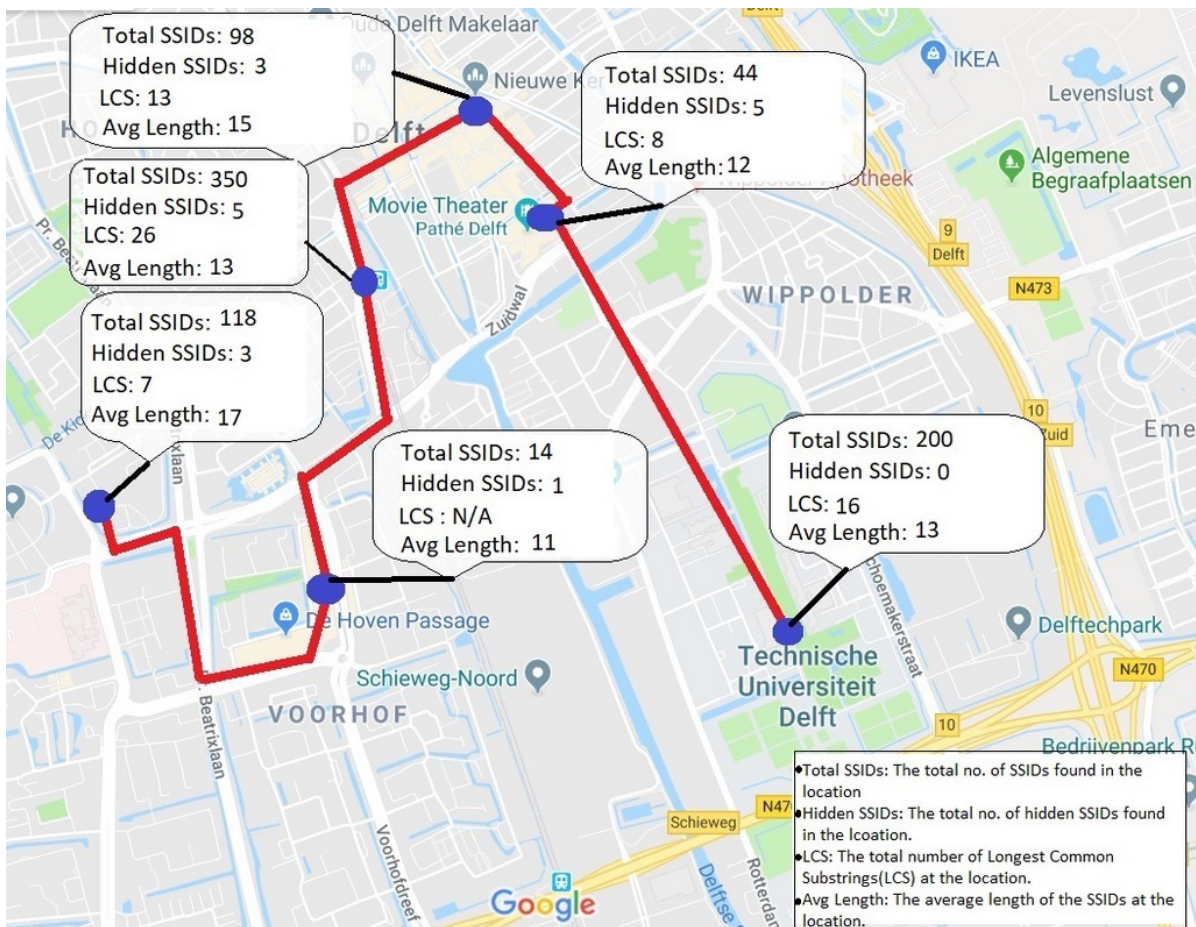


Figure 1: Geographical Distribution of SSIDs

	Longest Common Substring	Statistics		Hidden SSID	Most Common SSID visible in frames
		Unique SSIDs	Average Length		
11 : 25 AM EWI	TP-LINK_	49	12	0	TUvisitor = 26679 eduroam = 25814
12 : 16 PM McDonalds	03-00 HEMA KNOCK KPN-VGV7519 UPC24 Ziggo bart-wifi- ziggo	44	12	5	Wifi_D = 2188 KPN-VGV7519A935B3 = 247
12 : 52 PM Otellie	DIRECT- FREEWIFI H369A Heinen Jamin KPN-VGV7519 LaDelft Markt No13 PREDATOR VGV7519 Ziggo ankes ip infin iphone	98	15	3	Delft Free Wifi = 5985 LaDelft Markt = 5832
01:16 PM Delft Station	BBS-2 Babylon Cafe Namu Connexxion DIRECT- H368N H369A HP-Print- HZN24 Hotel IKEA Irion MMID_P NETGEAR Nederhorst Sitecom TELE2- TMNL- TP-LINK_ The Tax Company VFNL- VGV7519 Westvest WiFi- ZEVERSOLAR-08 Ziggo	350	13	5	Openfiber.nl = 2085 eduroam = 1689

	Longest Common Substring	Statistics		Hidden SSID	Most Common SSID visible in frames
		Unique SSIDs	Average Length		
01:54 PM EWI, TU Delft	Appel CasaMejaat 2 Connexion Elisabeth FRITZ! HotspotArriva_72 Huize IXUS510HS- Pinguin TP-LINK_ Xiaomi	90	13	0	eduroam = 32774 TUvisitor = 26078
03:48 PM EWI, TU Delft	NETGEAR13 Somo12 TMNL-173815 TP-LINK_	61	13	0	eduroam = 6941 TU Delft Open Dagen = 5771
04:05 PM De Hoven Passage	-	14	11	1	Jumbo-Hotspot = 126
07:51 PM Manasa' Dorm	DIRECT- FRITZ!Box Ziggo	63	17	3	FRITZ!Box 5490 = 35
08:34 PM Manasa' Dorm 2	DIRECT- FRITZ!Box NotPolitie_van_ Ziggo	55	17	3	Ziggo44790 = 30

Table 1: Dataset Collected

3. Inferences

- There were no hidden SSIDs on the campus.
- The longest common substring has been extracted from each dataset. This extracted list gives details on

Prefix of default SSIDs (Example : **Ziggo**, **TP-LINK_**, **NETGEAR**)

Location of the user (Example : **IKEA**, **Cafe Namu**, **HEMA**)

Multiple devices used by the same user (Example : **Babylon**, **PREDATOR**)

- Average SSID length over the entire dataset is 13.66
- Possible locations of free WiFi Hotspots (Example : **FREEWIFI**)
- SSIDs that hint the user's name (Example : **Elisabeth**)
- **Interesting SSIDs** : Wie is wifi?, Pretty fly for a wifi 2.4, wifi in de tein , Kool Kids Klub 2, SpiritOfEx-tacy, Spybox, pikachu, Restricted Zone 5 GHz, AirportPaidPremiumWiFi, Cheap Gigolo, Tell your wife to return my pants, Knock Knock, **NSA Surveillance Van**