

2023 Privacy and IoT Research Exploration

JordanCROFT

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ProperData

INTRODUCTION & GOAL

In the current digital landscape, personal data collection is pervasive and often begins on user devices across various application domains such as web browsing, mobile apps, and the Internet of Things (IoT). These devices gather a wealth of information about users and also poses significant privacy risks.

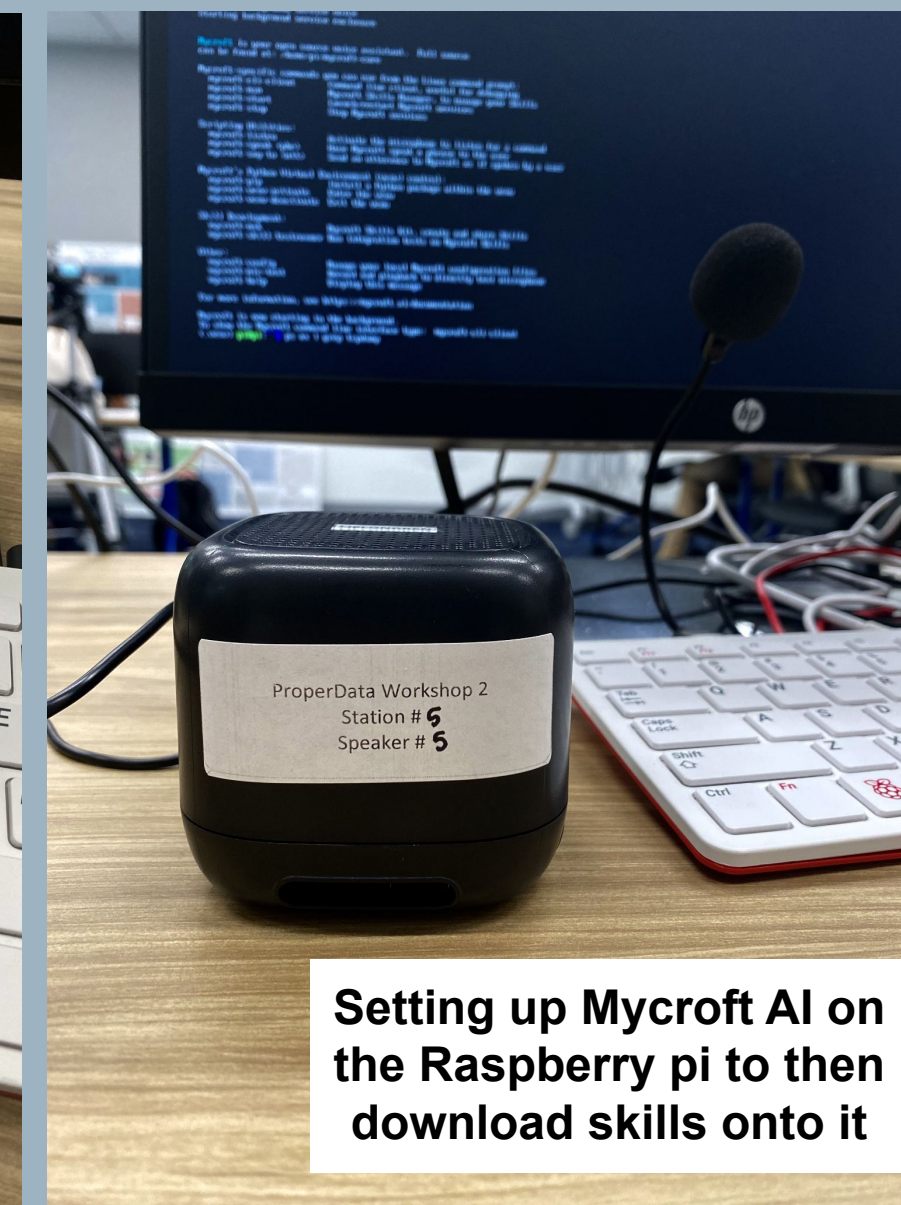
Cracking down on companies that collect and use our data can establish a safer and more privacy-centric digital landscape. Also increasing awareness of privacy concerns and the potential misuse of personal data can lead to a demand for stricter regulations and oversight, and greater knowledge about personal measures people can take to protect themselves.

AND THE WINNER IS

BUILDING MYCROFT



Speaker, SD card, and Microphone



Setting up Mycroft AI on the Raspberry pi to then download skills onto it

SETUP

I set up my Mycroft device by setting up the Raspberry Pi system by burning it onto an SD card. Once connected to wifi, I installed Picroft scripts and customized the startup file. To complete the setup, I installed git and mycroft-core. After rebooting the system, I troubleshooted any audio issues by configuring the USB speaker as the output device and testing its functionality.

SKILLS INSTALLED

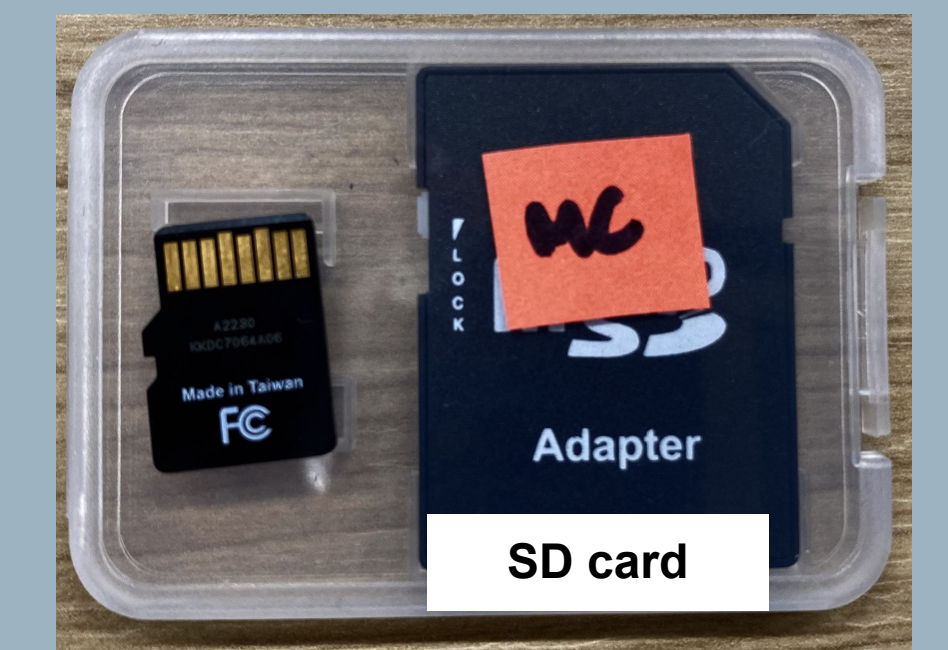
- Jokes
- Movie Master
- Weather
- Singing
- Laugh
- Learning

KEY FEATURES

Wake word: "Hey Mycroft"
Greater privacy and security for personal data

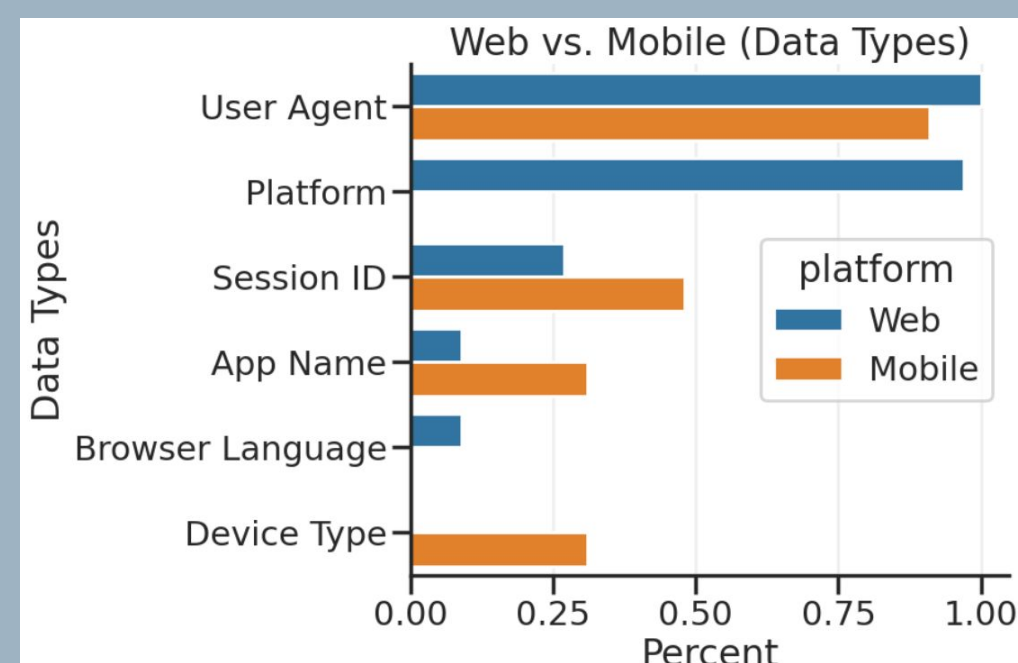
CHALLENGES:

Navigating the client
Troubleshooting errors



TIKTOK DATA

TikTok, like many other social media platforms, collects user data through various means, including HTTP requests and the utilization of cookies. When you interact with TikTok, the app sends HTTP requests to its servers, transmitting data about your device, location, IP address, usage patterns, and more. These requests enable TikTok to provide personalized content and recommendations.



Data Tracking Types

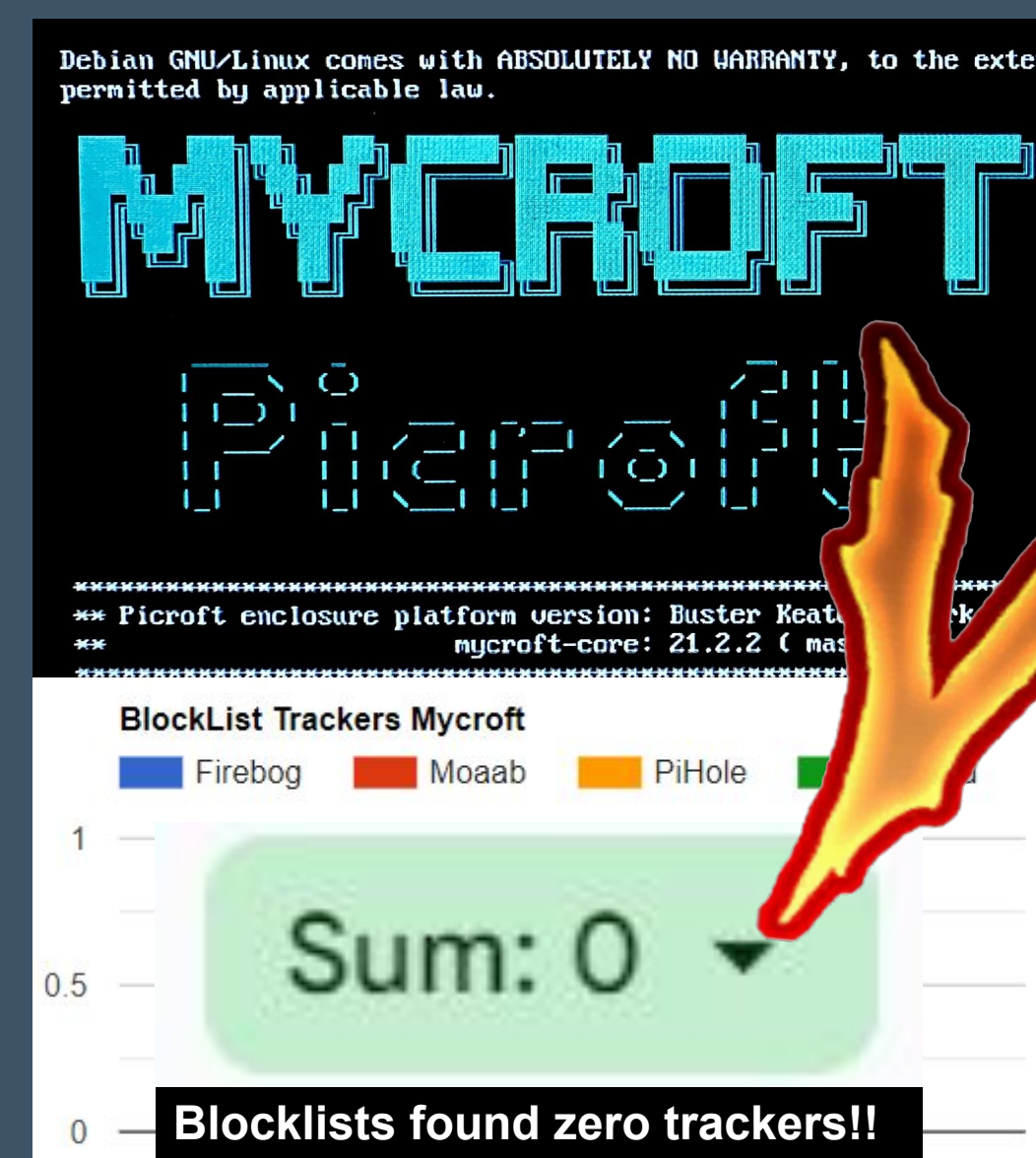
name	value	source	count	all_requests	percentage	domains
sec-ch-ua	"not a brand",v=	request headers	1004	1031	0.97	im-api.us.tiktok.c
referrer	https://www.tikto	request headers	938	1031	0.91	im-api.us.tiktok.c
sec-ch-ua-mobil	70	request headers	1004	1031	0.97	im-api.us.tiktok.c
user-agent	mozillars/5.0 (x11	request headers	1031	1031	1.00	im-api.us.tiktok.c
sec-ch-ua-platio	"firefox"	request headers	1004	1031	0.97	im-api.us.tiktok.c
content-type	application/json,	request headers	257	1031	0.25	mcs.us.tiktok.co
rq	qym05/7yy0z0f	query string	1	1031	0	msdk.us.tiktok.c
accept	/*	request headers	321	1031	0.31	im-api.us.tiktok.c
accept-encoding	gzip, deflate, br	request headers	436	1031	0.42	im-api.us.tiktok.c
accept-language	en-us,en;q=0.9	request headers	596	1031	0.58	im-api.us.tiktok.c
cache-control	no-cache	request headers	596	1031	0.58	im-api.us.tiktok.c
connection	keep-alive	request headers	168	1031	0.16	msdk.us.tiktok.c
host	msdk.us.tiktok.c	request headers	9	1031	0.01	msdk.us.tiktok.c
origin	https://www.tikto	request headers	236	1031	0.23	im-api.us.tiktok.c
pragma	no-cache	request headers	596	1031	0.58	im-api.us.tiktok.c
sec-fetch-dest	empty	request headers	260	1031	0.25	im-api.us.tiktok.c
sec-fetch-mode	cors	request headers	271	1031	0.26	im-api.us.tiktok.c
sec-fetch-site	same-site	request headers	218	1031	0.21	im-api.us.tiktok.c
tt_chain_token	iyjg1svy5aaq1	cookies	279	1031	0.27	im-api.us.tiktok.c
passport_csrf_t	1a284b129a500	cookies	279	1031	0.27	im-api.us.tiktok.c
passport_csrf_t	1a284b129a500	cookies	279	1031	0.27	im-api.us.tiktok.c
csrf_token	agqaypns1robn	cookies	279	1031	0.27	im-api.us.tiktok.c
sid_guard	00f7a6tchbaa1	cookies	279	1031	0.27	im-api.us.tiktok.c

Sample of a fraction of tracking requests recorded

MYCROFT

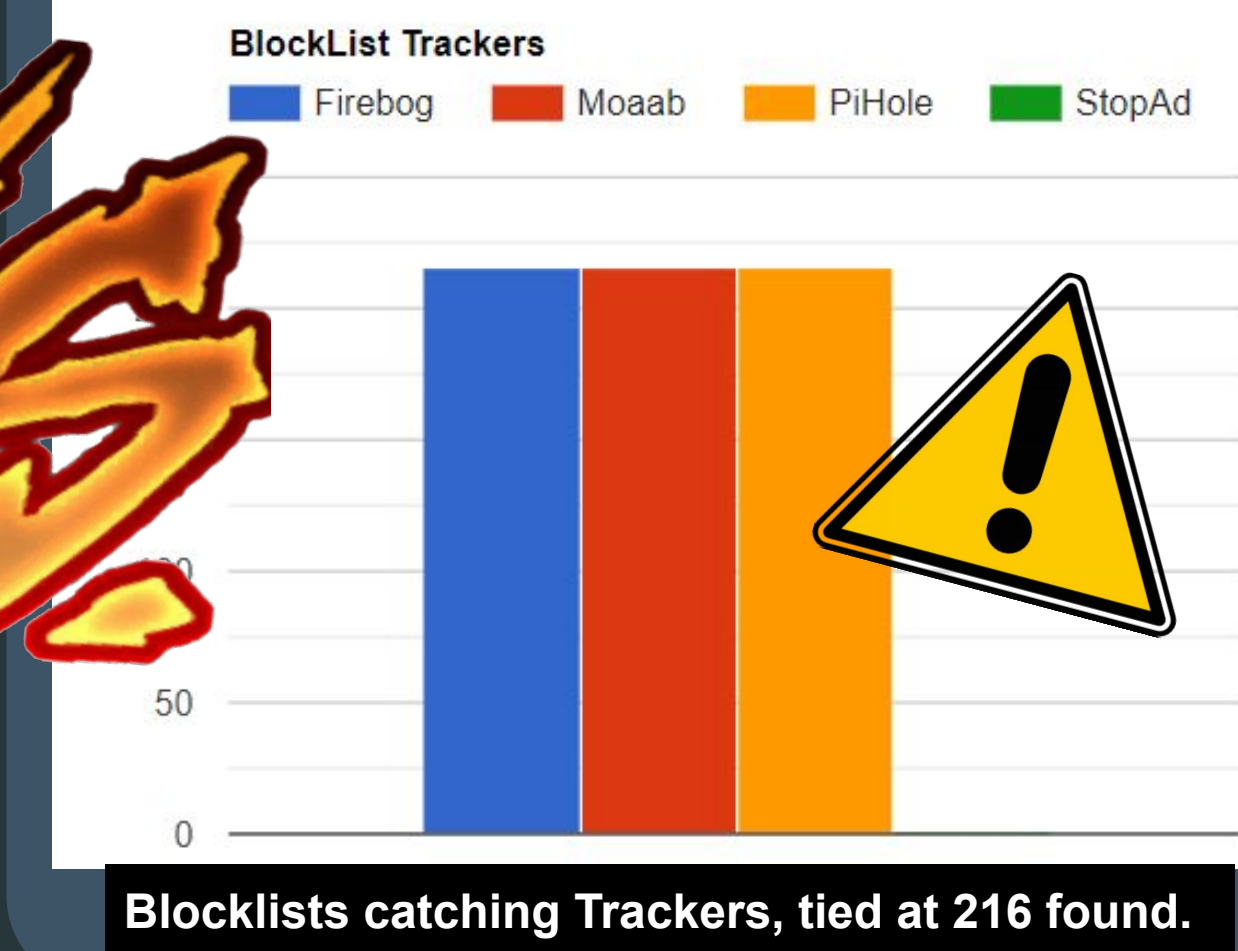
Mycroft doesn't continuously track users' data, thereby ensuring a higher level of privacy. Being open-source, its code is publicly available for scrutiny, providing transparency into its data handling practices.

Zero trackers found!!! →



Blocklists found zero trackers!!

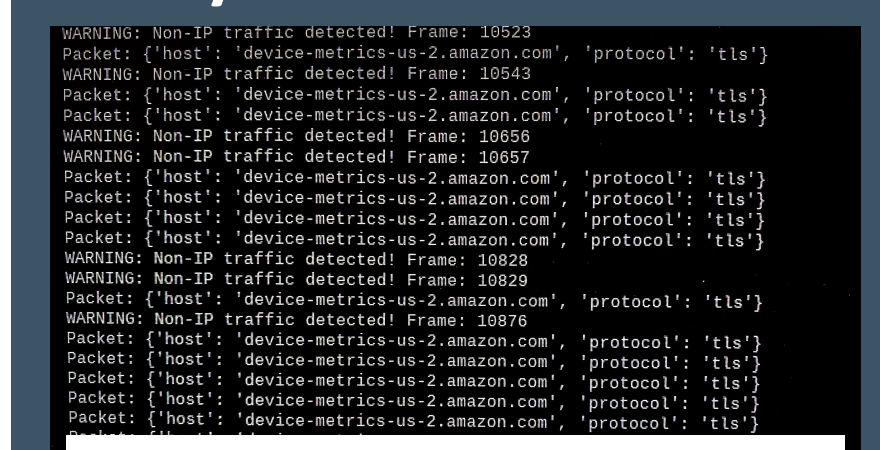
ALEXA



Blocklists catching Trackers, tied at 216 found.

RESULTS

It is apparent that when using alexa, the user is heavily tracked. This poses a huge privacy risk.



WARNING: So many trackers!!

ACKNOWLEDGEMENTS

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