



2023 Privacy and IoT Research Exploration

Morning Chat

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INTRODUCTION

Background & Goal Statement:

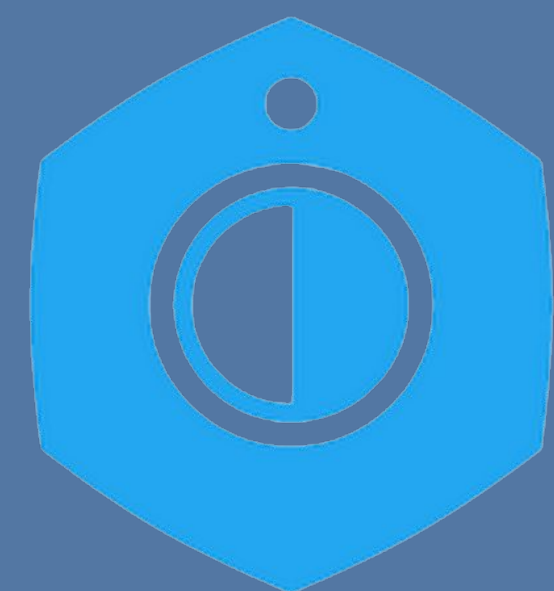
- With a growing, endless number of services and devices being developed every year, it is not uncommon to hear of issues surrounding trackers and privacy concerns regarding data. Our goals in developing a Mycroft device is to ensure user **security and confidence** that their data is not shared with other parties.
- During this project, we also aim to understand how data may be **tracked, collected, and used** through advertising and targeted content. It is incredibly important to educate others and help others be more aware of the services they use.

PROBLEMS ADDRESSED

Alexa has been known to collect data of different users in order to improve personalization experiences. However, their usage of data may not be as transparent.



Mycroft's data processes are done at the user's device, which will reduce the risk of data being exposed to the internet and any other people.



TIKTOK DATA & EXPERIENCE

Findings

TikTok seems to collect more data from the mobile users than browser users. TikTok is meant for mobile users and may suggest that the user base on mobile is much larger than browser users.

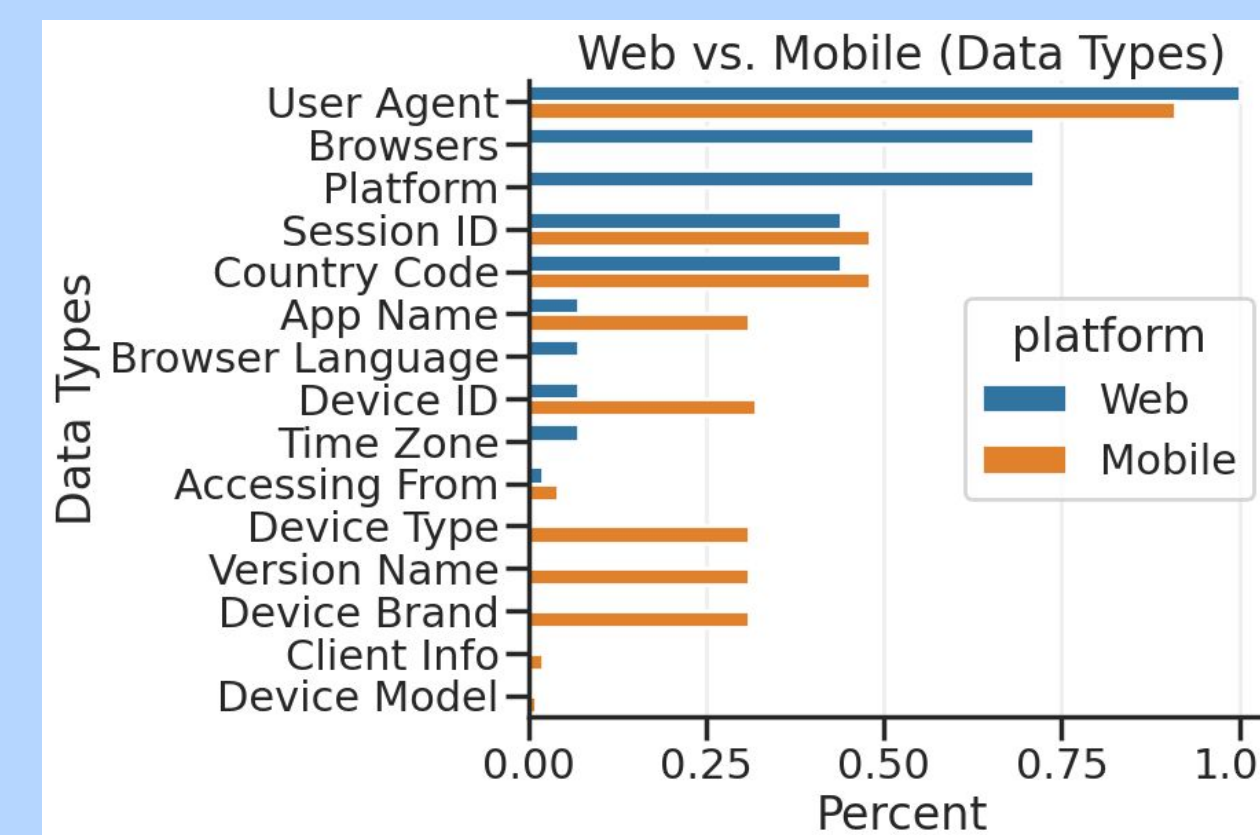


Figure 1: A comparison between the data types collected from TikTok in the browser versus the mobile app

ALEXA DATA & EXPERIENCE

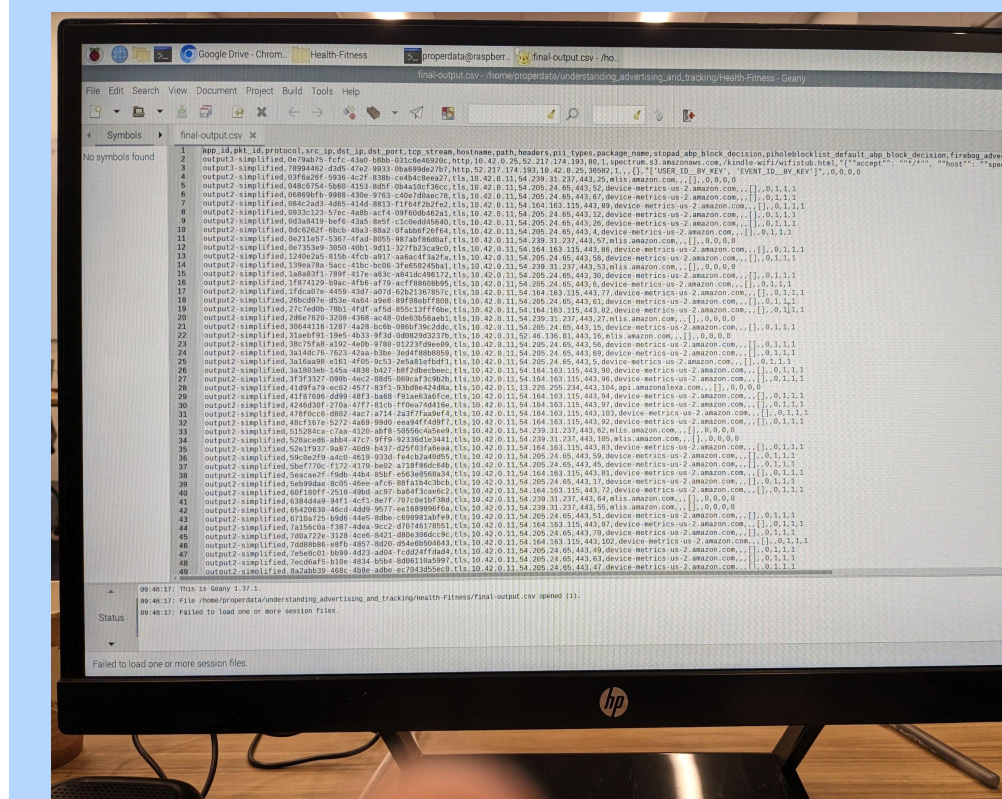


Figure 1: A whole page full of trackers found on an Alexa device

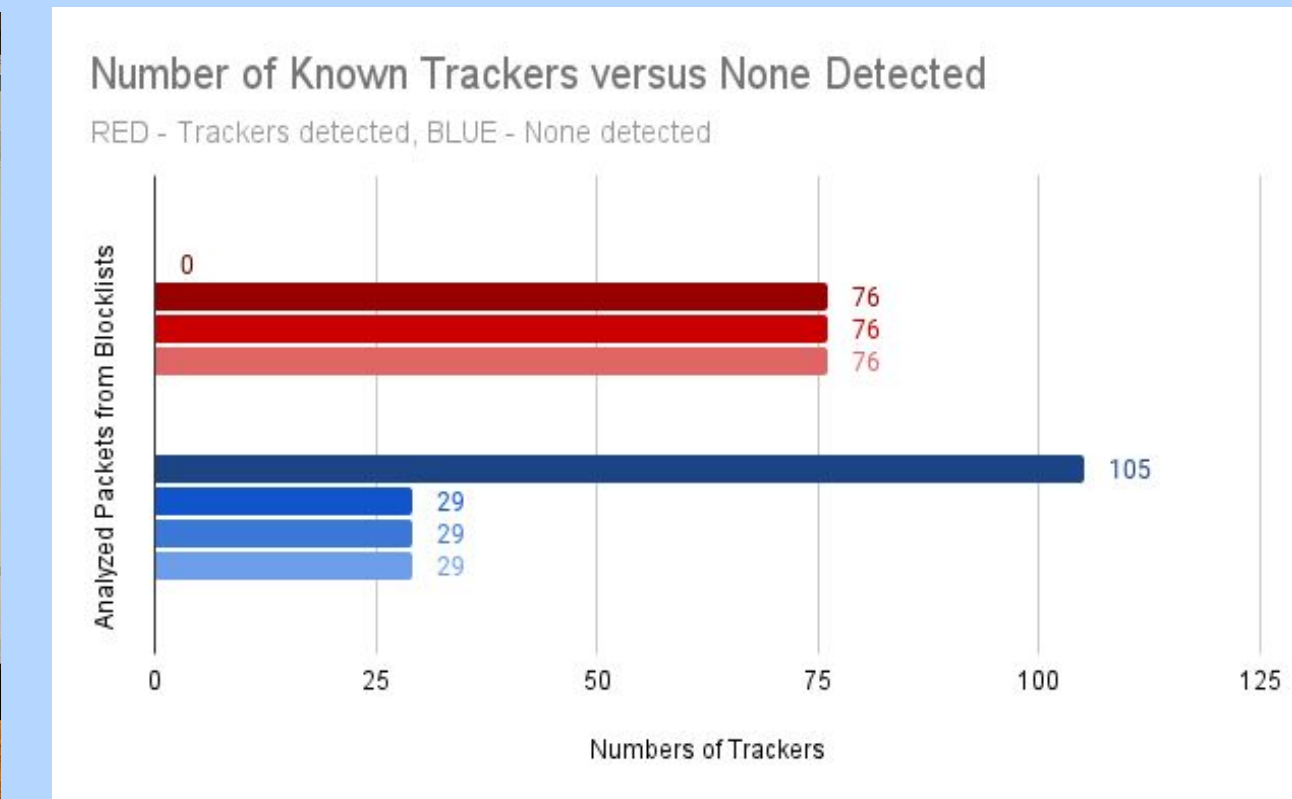


Figure 2: We had four blocklists to detect trackers. The red bars show the number of trackers detected while the blue shows none detected.

MYCROFT JOURNEY

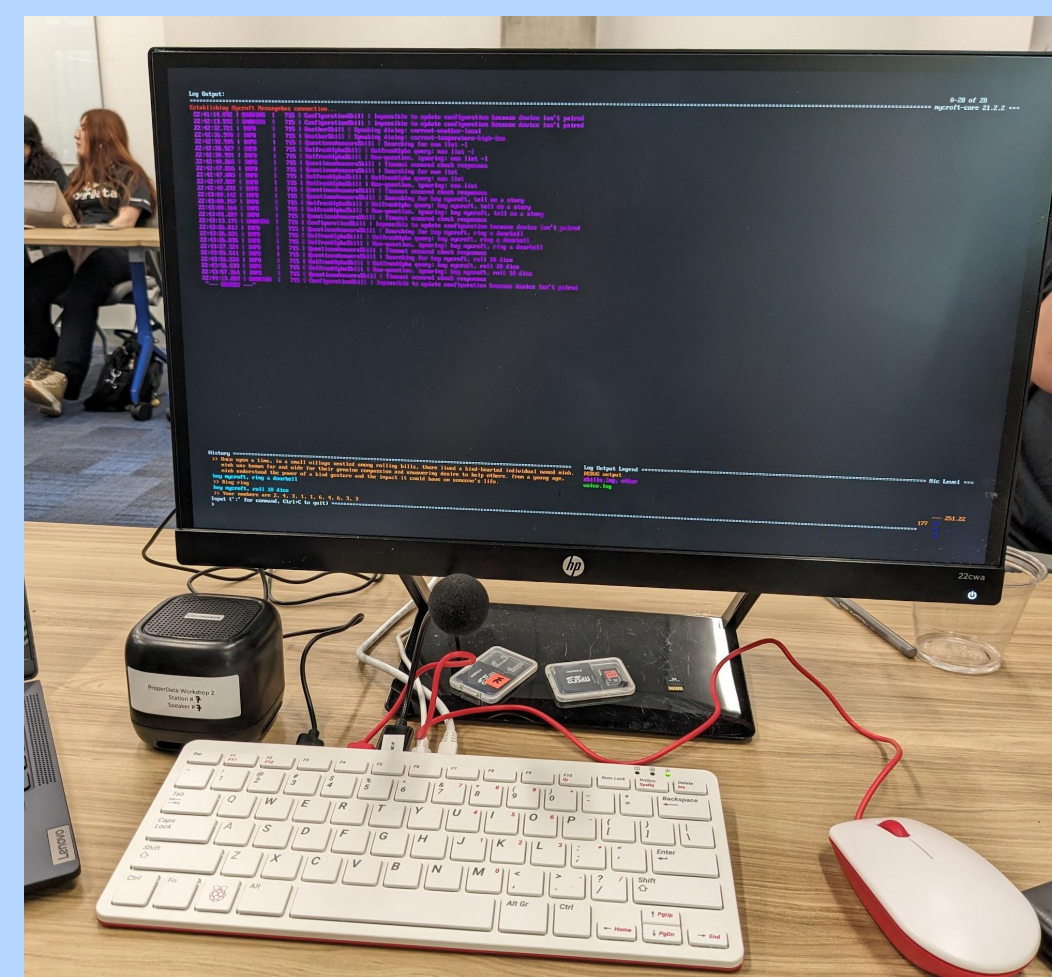


Figure 1: Our Mycroft setup and testing its skills

Features

- Current weather and news
- Doorbell (responds with a "ring ring" if called)
- Storytelling and joke telling

Future Steps

- Exercise routine generator for users who are passionate about fitness.
- Expand upon the weather command to recommend whether or not there are ideal conditions for exercising

Challenges

- We had to reflash our operating system SD cards a couple of times and spent hours trying to figure out why the voice input and audio output were not working on separate numerous occasions.
- Resolution: After our last reflash, Mycroft began being responsive to our setup. However, setting up audio input and output took a lot of troubleshooting. While we weren't able to create impressive commands due to lost time, we opted for a very basic command to understand the basics of input-output interaction with the device.

ACKNOWLEDGEMENTS

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