INTRODUCTION

Goal Statement:
The vision for our project was to learn how certain IOT devices, such as the Amazon echo and Alexa, can be used to violate the privacy of ordinary people. By creating our own voice assistant with the use of the Raspberry Pi and open sourced Mycroft software, we were able to learn how trackers could be used to steal information about its users without the user’s knowledge.

Skills Developed and Purpose

- Operating/Setting up the Raspberry Pi
- Using the command line in Linux Operating System
- Programming with Python
- Statistical Analysis
- Troubleshooting error codes
- Interpreting Data Produced from files (Wireshark, etc.)

Building Mycroft (Pi Experience)

- Our MyCroft supported Pandora and had a GPS function, NPR news on quick access, a weather function, and a quick and easy way to find the nearest national park.
- In the future, we hope to incorporate a skill that allows users to vocally control basic vehicle functions such as turning on the car or unlocking the car.
- Through working on the MyCroft, we learned how to troubleshoot skills that were potentially not working, utilize the features of Linux, and how to control and operate a Raspberry Pi.

RPI Data

Figure 2: Wireshark displaying the traffic from the Raspberry Pi and to the Wifi Router.

Figure 3: A graph displaying the information about the various different personas after being run through various Python scripts.

Figure 4: The box plot representation of the data shown in Figure 3.

Alexa Data

Figure 1: Jupyter Notebook used to run code that would assist in interpreting the data through Python and statistics.

Figure 5 L The trackers evident within the data associated with the Amazon Alexa.

Figure 5 R The trackers evident within the data associated with the Amazon Alexa.

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