CMP408 - Mini Project Proposal (55% of Total)

Project Description (maximum 500 words):

This project aims to monitor the performance and usage of a home network using a Raspberry Pi device. The Raspberry Pi will be connected to AWS IoT, an S3 bucket, and various AWS services to collect, store, and view data on the network's speeds, number of attached devices, response time, and any new devices that join the network. The project will also incorporate an LKM (loadable kernel module) that will flash an LED attached to the Raspberry Pi when an alert, such as an unusual increase in network activity or a new device joining the network, occurs. This will allow the user to monitor a home network and be notified of any potential issues or security concerns easily and visually.

List 3 relevant sources of information you have looked at already which are relevant to this project:

docs.aws.amazon.com. (n.d.). *Connect a Raspberry Pi or another device - AWS IoT Core*. [online] Available at: https://docs.aws.amazon.com/iot/latest/developerguide/connecting-to-existing-device.html

Make: DIY Projects and Ideas for Makers. (n.d.). *Build a Raspberry Pi Scanner that Tracks the Devices Connected to Your Local Network - Make:* [online] Available at: https://makezine.com/projects/build-raspberry-pi-network-scanner

FMADIO. (n.d.). *Raspberry Pi Network Monitor in AWS*. [online] Available at: https://www.fmad.io/blog/raspberry-pi-network-monitor-in-aws

Does your project involve other humans in any way? (i.e. intend to create survey materials, use other's personal data etc).

No, this project does not involve other humans in any way. It is solely focused on monitoring and analysing the performance and usage of a home network.

If yes, describe why you need to involve others in this project.

N/A