

Blog 4

I read two research papers in this week.

- 1) Coronavirus Contact Tracing: Evaluating The Potential Of Using Bluetooth Received Signal Strength For Proximity Detection

<https://arxiv.org/abs/2006.06822v1>

Link to Wiki

<https://github.cs.adelaide.edu.au/2020-Mobile-and-Wireless-Systems/CovidGuard-F/wiki/Lokesh-Pathak---Coronavirus-Contact-Tracing:-Evaluating-The-Potential-Of-Using-Bluetooth-Received-Signal-Strength-For-Proximity-Detection>

- 2) Protecting Privacy of BLE Device Users

https://www.usenix.org/system/files/conference/usenixsecurity16/sec16_paper_fawaz.pdf

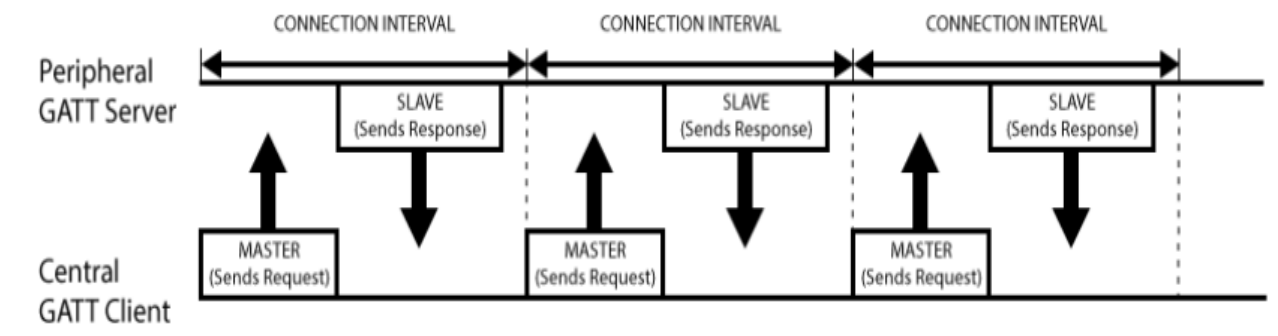
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What I learnt this week and outcomes ?

- 1) For detecting nearby BLE devices, I studied about BLE Scanner and its functioning.
- 2) Started work on creating a demo app to detect nearby Bluetooth devices using BLE Scanner.
- 3) Looked into BLE GATT for communicating between two devices, it makes use of the concepts of Client and server for communication.
- 4) It makes use of a generic data protocol called the **Attribute Protocol (ATT)**, which is used to store Services, Characteristics and related data in a simple lookup table using 16-bit IDs for each entry in the table.

Working of GATT



Coronavirus App Survey

Completed a 32 question survey for Secure Software Programming Course. The sample size was of 10 people of diverse background and there was an interesting conclusion which was that people are ready to compromise with privacy and security of data for **battery drain**.

Therefore , I did some research on how we can incorporate measures to resolve battery issue as much as possible;-

- 1) Not allowing server to store unnecessary cache data
- 2) Allowing the app to run in background. CovidSafe app on iPhone doesn't do that and it is therefore not a popular choice of apple users for contact tracing as battery drain is excessive
- 3) Having dark mode in app to save battery

Things to work on this week-

- 1) Implement the BLE Scanner functionality
- 2) Look into writing a working code for data transfer between two devices using GATT

