EEE3097S Weekly Review Submission

Meeting 1: DSLGRE001 ADMALI004 27/08/2021

We met for 1 hour via MS Teams

* Be sure to highlight the final decisions made around your tools.
* Reflect on your tutor meeting this past week.

**Final decisions around Project Management Tools:** Asana and Github

**Reflect on your tutor meeting this past week:**

Our tutor, Fraser Montandon, introduced himself and allowed us to introduce ourselves to each other. He asked about our general feeling around the project and coursework and asked us what our rough ideas were up to that point.

Fraser told us to look at requirements from Jamie’s thesis pdf to get ideas for Milestone 1 – We are planning to review these and gather questions to ask in our next meeting with our tutor.

We asked about the IMU data and how it is expected to be extracted. He said we need to do further research on IMU’s to determine this. He referred us back to Jamie’s thesis.

He gave further clarification on the confusion surrounding the project requirement of the 25% Fourier Coefficients extraction– make use of digital signal processing. 25% of spectral content extracted. Low pass filter to avoid aliasing. Frequency of reading samples. This feedback was very useful in understanding how to meet this requirement.

**Project Thoughts and Ideas**:

Research on IMU testing, look at alternatives for IMU. - We will be attempting to use our phones as a IMU since it has a built in gyroscope. Phyphox.org/remote-control can allow for this.

**Subsystem 1 of IP:** An extractor that will contain the data taken from the IMU

**Subsystem 2 of IP:** Will compress and encrypt the data

**Subsystem 3 of IP:** Having a built-in error checking/handling system

**Reduce power consumption ideas:** - Our tutor approved of the ideas for power consumption reduction

Switch off USB/LAN IC

Turn of HDMI

Throttle CPU

Disable Wifi & Bluetooth

Disable on-board LEDs

**Substitute for IMU:**

Could possibly use a phone to extract data, phones contain internal sensors to detect orientation and behave like a gyroscope. Phyphox.org/remote-control can allow for this. We can extract raw data and interpret it - Our tutor said this is a good idea to use.

Could possibly use the Matlab package that will be able to retrieve data from the IMU.

**Extract data:**

Our tutor told us to look through the MSc Thesis to see how data is extracted.

**What we plan to do until next review meeting:**

Meet with tutor on Monday

Complete Milestone 1:

Come up with requirements and specifications

Decide on tests for design project

Define IP subsystem in more detail

We plan to come up with a paper design of the system.