24/09/2021 Meeting

**Meeting Room:** E10

**Meeting Time:** 11.30 – 12.10

**Attendees:** Kevin Taylor, Bill Liu, Laurence Prins, Aryan Srivastava, Shayne Crimp, Diego Ramirez

**Agenda:**

* Catch up on what work has been done since our last meeting
* Plans for the coming week
* Questions

# Mic

* Previously using RMS\*1000 for measuring SPL which was outputting a stream of data shown in the last meeting
* Had developed FFT code and determined that the mic was most sensitive to 3kHz signals. This is within the levels Aryan investigated about noise in an office space.
* Can only use the mic up to about 8cm with the kHz signal before completely dropping off.
* Planning to use the amplitude of the incoming wave along with the ping-pong method previously described to measure distance
* The mic would always be ready to receive. When the incoming sound is above a certain level, the MCU will start a timer.
* The mic is probably not operating correctly as 8cm is too short, it is probably just responding to the vibrations from the large SPL from the speaker
* We have tested multiple mics, still not getting a good output.
* We can only record for ~0.15s before using all the RAM on the Teensy. Considering using an SD card to store more values.
* Haven’t converted the input data into usable waveform data yet, this will be the next step.
* Other options are to try a different mic.
* Shayne can get us in contact with someone who has worked with the mics before to see if they can help.

# Speaker

* Hardware and software completed
* As soon as the microphone is working will be ready to start testing between devices
* Going to start developing code for communicating between devices in the meantime.

# Tuesday

* We have our final inspection on the 1st of October, will be having a practice on Tuesday in Link301 to get feedback.