Minutes

Location: Shed
Date: Tuesday 28th November
Not In Attendance: N/A

Attendance: Daniel Knox, Daniel Carl Beauchamp, Dharius Robinson, Natalie Mclaren

What's Been Done since the Previous Meeting:

- As per previous minutes:
    - Testing sensor outputs expected values by having objects moving towards it
    - Test LoRaWan connections in Canterbury along the same river points we tested signals

Topics discussed:

- **Case:**
    - Dan Knox points out that the case wall has no thickness - make sure we add one.

- **Source code:**
    - Dan Knox suggets we use C structs for our settings to make it look nicer syntax wise.

- **Sensor:**
    - Dharius asks whether there is any efficient way to take variance its into account?
    - Dan Knox suggests several options:
        - Accumulative average - act as a smoothing
        - Windowing average - as you add one in, lose the oldest one
            - Downside of this - if river changes quite a bit, quite a heavy level of smoothing and not match true environment
        - Finally his prefered one would be having a window of about 30 secs - 1 min and taking the average of the mode of that one.
    - He explains it also depends on data we are collecting - is it historical or current?

- **Database:**
    - Dan Knox says Influx can help us with smoothing.
    - We can have shorter sampling windows on the device, then longer more profound ones done behind the scenes in Influx.
    - Dan Knox confirms we can index based on tags.
    - Dan Knox suggests we consider having tags as geohashes (although Influx doesn't support this - it is possible to have a second database i.e. Redis for metadata as such).
        - If we need data - call mysql DB.

        - If we need metadata - call Redis.
            - The LoRaWan address might be useful to store here.
    - Dan Knox says we need to work out our data-model and how it should interact with the DB.

What's Being Done/What was done:

- Focus on finding a way to work with the variance/smoothing
- Experiment with Influx
- Request additional adaloggers
- Continue with the engineering menu
- Look into Structs
- Produce 2nd case version

Further Discussion: