Team 1 Open Source Air Quality Monitoring

Week 2: January 10th 2022 - January 17th 2022

Sponsor: Dr [David Burnett](mailto:dburnett@pdx.edu)

Advisor: Dr John Acken

Team Members: [Adam Dezay](mailto:adezay@pdx.edu), [Manuel Garcia](mailto:manga2@pdx.edu), [Brandon Hippe](mailto:bhippe@pdx.edu), Mercedes Newton

**Team Review:**

* Team further curated questions and discussed our project proposal in preparation for our first meeting with Dr. Burnett. Questions listed below:
  + Size constraints? (Will affect battery life)
  + Sensor accuracy requirements, Eco2 vs Real CO2?
    - Our current constraints are that the Ec02 sensors we have looked into require extensive autocalibration and would have too long of start ups for a low power application.
  + Anemometer implementation?
    - Indoor applications will have low air speed so traditional anemometers might not make sense unless we placed it in an air duct.
  + Micro controller requirements?
    - We are currently looking at the esp32 because it has built in wifi and a deep sleep.
  + Web server preferences?
    - Current thoughts are to use a raspberry pi, running a web server, that we are able to access remotely.
  + Should we use open WSN and if so what microcontroller should be implemented?
    - Our team would prefer not to.
  + What is our budget? What will be provided by our sponsor?
    - We will require a maximum of $300 to create 1 unit, factoring varying prices and component requirements.
* Team conducted research and began brainstorming potential solutions.
* Team discussed power consumption in components
* Team developed rough draft of project proposal
* Team delegated tasks for the current week with emphasis on the project proposal and research, specific tasks are listed below.

**Individual Review**

Adam Dezay: Developing project Gantt chart, documented project in the project proposal

Manuel Garcia: Conducted initial research and began weighting benefits of specific components, assisted in documenting projects in the project proposal.

Brandon Hippe: Further developed python script for component power consumption estimations, sensor research, assisted in documenting project in the project proposal

Mercedes Newton: Curated team Report, further documented project in the project proposal