EEE3088F Week 2: Concept Proposal

Group Number:

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Enviro Sensing HAT Concept:

A general use environmental sensor HAT with the ability to measure light, humidity and temperature and save that data over the time period of one day. It is designed to connect to a microcontroller which is used to process and store the measured data in an ordered and organised way. This is useful for a variety of purposes involving the climate of small areas, as it measures three of the primary influences on climate. This ranges from greenhouse control to evaluating the viability of solar panels in an area, uses in which knowledge of the climate prior to installation or careful control of aforementioned climate is important. Other such uses include drying concrete, or simply for those who are weather enthusiasts and want cheap battery powered tools for measurements on the go. This HAT will be essential to any climate-controlled environment or climate investigation prior to a project.

Requirements:

Climate Control
- Must be able to transmit real time data
- Must store regular data samples
- Must be able to operate on Battery power in cases where the power supply cuts out
- Must be able to measure temperature, humidity and light (for uses such as greenhouses, book archives, server rooms etc.)
- Must be able to store data over time to evaluate if and when problems occur

Climate Investigation
- Must be portable and operate on battery power
- Must have a non-trivial battery life
  - Must therefore be power efficient

Hobbyist Usage
- Must have a display of sorts to show current data

Project Subsystems Block Diagram:

Link to Git Repo: