Portland State
UNIVERSITY

Erebus Labs

STEM SENSORS

SYSTEM ARCHITECTURE

Version 1.0

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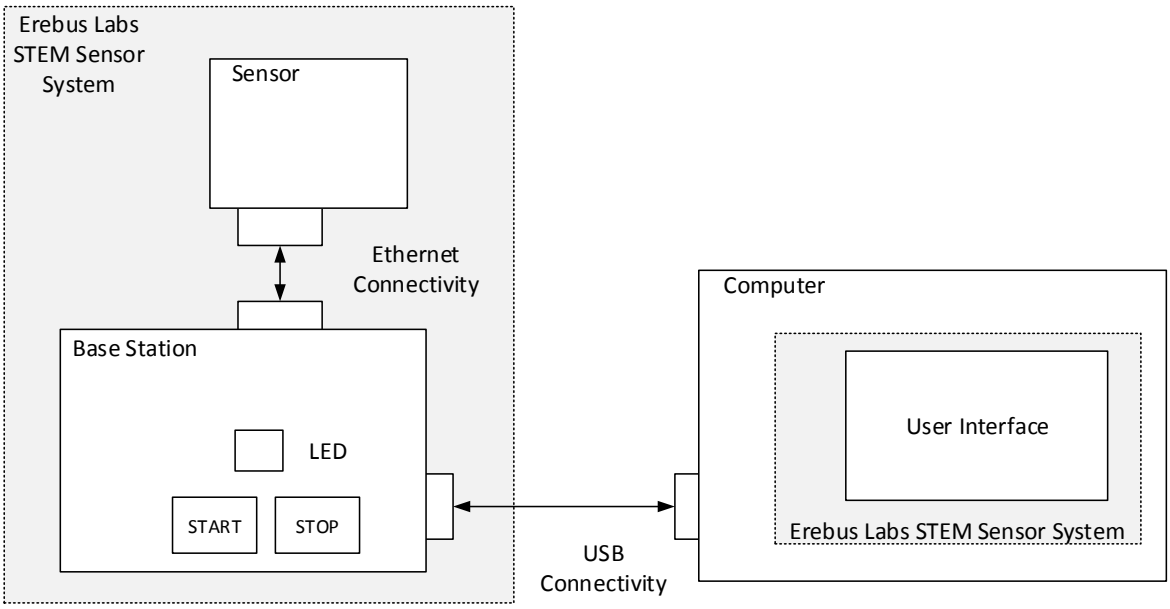
SYSTEM ARCHITECTURE



System

The operational product comprised of base units with attached sensors and a user interface.

Base Unit

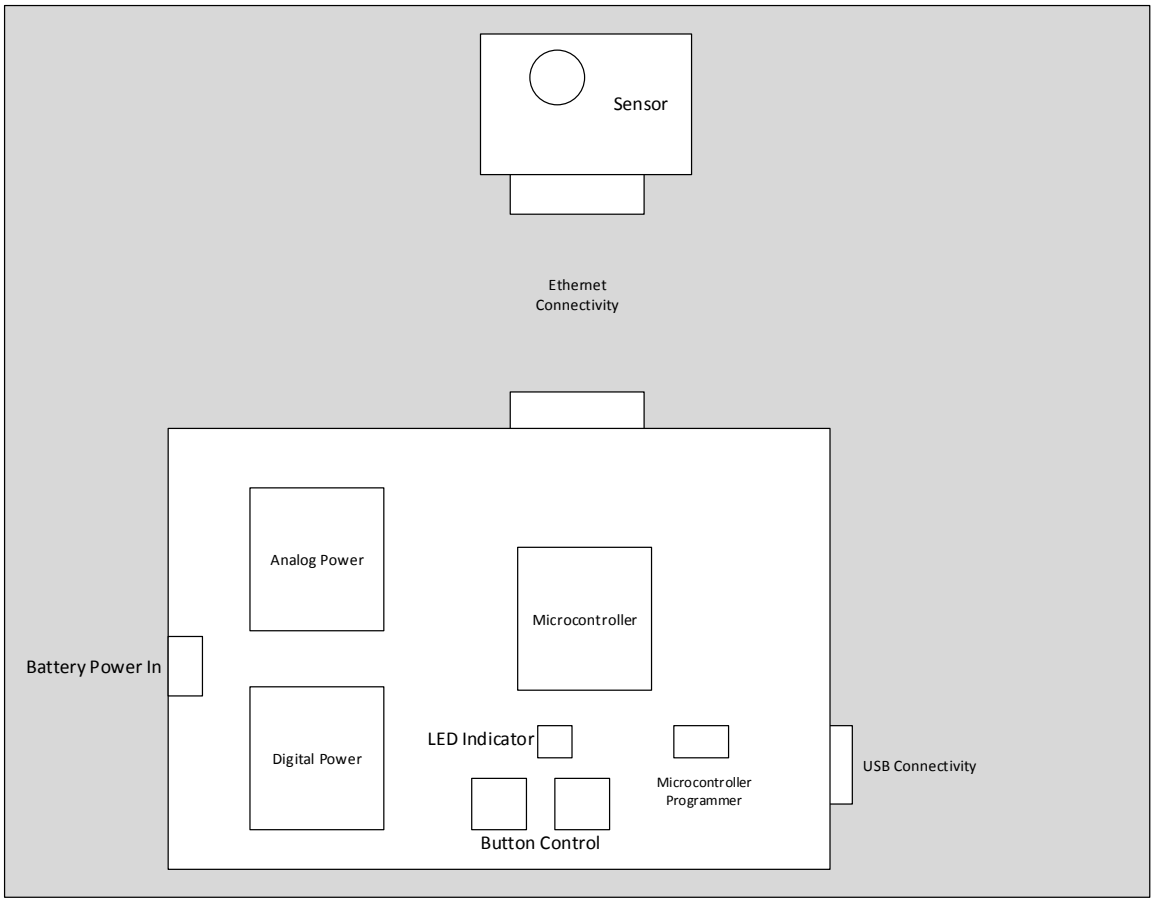
The central device that manages power, communication, and data storage, and has one or more sensors attached to it.

Sensor

The individual data collection devices such as VOC detectors and ambient light detectors that are attached to the base unit.

User Interface

The program that will be run on a laptop or desktop computer that allows the user to view and interact with the data collected.



Power

Provides 3.3V and 5V power for all peripherals both analog and digital. Sensors are powered from base station.

Microcontroller

System control including taking of samples and storing data. Reprogram capability.

User Control

User controllability with two buttons, Start and Stop sample collection, and an LED indicator.