**PROJECT PROPOSAL**

*Arduino Gardening Solar and Water sensor*

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## Project Abstract

The purpose of this device is to improve community garden’s efficiency by giving average sunlight and soil moisture in a local 1m3 dirt patch. The device utilizes an Arduino chip sensor and will utilize Arduino base code. The unit will be connected to a small metal rod and have two sensors attached for sunlight and moisture. The light sensor is the BH1750 and the moisture sensor is the FC-28 Moisture sensor. All input is serial and all output is serial.

## Conceptual Design

The COM3 Port in the Arduino chip will take the sensor information and log it inside of a serial file. The sensor Bh1750 and FC28 will report through other wise voltage differentiation for the FC28 or through the BH1750 the ambient light that the sensor reads. The MoistureSensor class will take the information and record the data into a global array. The LuxSensor class will do the same. The interface for the sensor reader will take the global array’s from both classes and record them into a final array.

Diagram

Description automatically generated

## Proof of Concept

<https://maker.pro/arduino/projects/arduino-soil-moisture-sensor>

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## Background

The goal of this project is to be able to provide an organized data package that is able to be sent through a text file to the COM3 port on the Arduino. The data package will contain lux sensor information and moisture sensor information. Later intent of this project is to be able to connect a display to the Arduino in order to be able to allow users to read an average lux/moisture reading from their garden in a 4ft. area.

The Arduino source code are from a tutorial on the websites linked above. They dictate the open source code and all that is required to compile the code is the Arduino software. The websites are shown accredited to an alias of a2 to MakerPro for the moisture sensor, and Christopher Laws’s git repository for the BH1750 Library from also MakerPro. The two tutorials do discuss how they are able to take the readings from both sensors and send them to a serial file.

The breadboard is a device that will also be needed to be utilized due to their being only one 5V pin on the Arduino. The breadboard will allow us to be able to attach many sensors for that one pin.

## Required Resources

* Arduino
* BH1750 Light Sensor
* ASX00004 (Lux Sensor)
* Breadboard (Power distribution)