Soil Moisture Sensor

Design Proposal

11/19/2015

Jonathan White

Yubraj Budhathoki

Prepared for

Software Engineering I

Instructor: Mrs. Kussmann

McNeese State University

**Project Name**

Soil Moisture Sensor

**Project URL**

<https://github.com/msu-ybudhathoki/Arduino>

**Project Scope**

The goal of this project is to use Arduino to determine the amount of water in the soil. In real world, the soil moisture sensor with Arduino can be used in the garden to determine when the plant needs water or when the plant is over flooded with water and take action accordingly. Deliverables include:

* A website that has a graph of time and the data.

**Date**

November 19, 2015

**Project Background and Description**

Arduino is an open-source computer hardware and software company, project and user community that designs and manufactures microcontroller based kits for building digital devices and interactive objects that can sense and control objects in the physical world(Wikipedia).

We use soil moisture sensor to collect the amount of moisture in the soil. We run our test on three different states of soil, the dry soil, the humid soil and the flooded soil. We collect the data from this soil and draw the graph based on the readings from the data and finally we derive a conclusion.

The data from the readings of soil moisture sensor can be used to determine water content of the soil in three states of the soil.

**Project Scope Overview**

A website with a graph showing the moisture of the soil in a week day period for three different states of the soil (dry, humid and flooded).

**Projected Schedule**

* Get a soil sample: By November 23, 2015
* Set up Arduino and soil moisture sensor: By November 24, 2015
* Code for Arduino: By November 25, 2015
* Run sample tests: November 26, 2015 – December 2, 2015
* Website to display the data and graphs: December 3, 2015 – December 4, 2015
* PowerPoint Presentation: December 5, 2015 – December 6, 2015

**Cost Estimate**

40 hours

**Deliverables**

Design – Jonathan and Yubraj, November 19, 2015

Website – Jonathan and Yubraj, December 8, 2015

PowerPoint presentation -- Jonathan and Yubraj, December 8, 2015

**Future Tasks**

Automatic watering for plant.

**Affected Parties**

Jonathan White, Yubraj Budhathoki, Kay Kussmann

**Team Profile:**

Jonathan White

Qualifications: Programming, Hardware knowledge, website development, Arduino

Yubraj Budhathoki

Qualifications: Design, programming, Arduino code, Setting up Arduino.

**Potential users:**

Gardeners, home owners, students.

**Plan of work:**

Jonathan White

* Design
* Get a soil sample
* Set up Arduino and soil moisture sensor
* Run sample tests
* Create a website and sketch a graph

Yubraj Budhathoki

* Design
* Set up Arduino and soil moisture sensor
* Set up code for Arduino
* Run sample tests
* Create PowerPoint presentation

**Contact Information**

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Kay Kussmann = [kkussman@mcneese.edu](mailto:kkussman@mcneese.edu)

**Approval and Authority to Proceed Section**

Jonathan White \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Yubraj Budhathoki \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Kay Kussmann \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_