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# EE 492 Weekly Report (DEC15-19)

## Week 11

**Project Title:** Efficient Measurement of Soil Microtopography to Aid the Verification of European Space Agency and NASA Satellite Observations of Soil Moisture

**Advisors:** Brian Hornbuckle, ISU Agronomy and ECpE; Josh Bertram, Collaborator  
Instructor

**Client:** Brian Hornbuckle, ISU Agronomy and ECpE

**Members (roles):** Brant Walsh (Key concept Holder, Team communication leader), Dillon McDowell (Team Webmaster), Yan Yao Chan (Team Leader)

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### Weekly Summary

The group received the components required for the simple switcher circuits, worked on the Kinect data acquisition and calibration as well as starting on the presentation document.

### Meeting notes:

11/2 Group Meeting

**Duration:** 4 hours (Brant Walsh), 5 hours (Dillon McDowell), 2 hours (Yan Yao Chan)

**Members Present:** All

**Purpose and Goals:** To work on the Kinect measurement calibration and to tinker with the simple switcher circuits.

**Achievements:** The integrated circuits are soldered onto respective adapters and basic circuit boards are acquired for future assembly.

11/3 Group Meeting

**Duration:** 3 hours (Brant Walsh), 3 hours 45 minutes (Dillon McDowell)

**Members Present:** Brant Walsh, Dillon McDowell

**Purpose and Goals:** The Kinect measurement is calibrated.

**Achievements:** Despite trying, the Odroid still could not interface with the Kinect.

11/5 Group Meeting with Advisor and Collaborator Instructor

**Duration:** 1 hour

**Members Present:** All

**Purpose and Goals:** The group presented each member's findings and received suggestions from both the advisor and the collaborator instructor.

**Achievements:** The group is to continue on the plan to work on the integration between the Kinect and the Odroid, power source and the presentation document required by the course instructor.

### **Pending issues**

The power drill has not been delivered yet, thus work on the power source is still on hold. Furthermore, the Odroid is still not able to pick up the Kinect's signal and capture any data.

### **Plans for next week**

To work on the power source once the power drill has been delivered. The group is also set to hopefully solve the issue between the Odroid and the Kinect. Finally, the group is to complete the presentation document prior to the meeting with the course instructor.

### **Individual Contributions for this week**

Brant Walsh (17 hours) – Attended the meeting with the advisor and the collaborator instructor. Worked on setting up the libfreenect driver on the Odroid and the Kinect scale calibration.

Dillon McDowell (9 hours 45 minutes) – Attended the meeting with the advisor and the collaborator instructor. Worked on the Kinect scale calibration.

Yan Yao Chan (5 hours 30 minutes) – Attended the meeting with the advisor and the collaborator instructor. Worked on the presentation document and the simple switcher circuits. Completed the weekly report.

### **Total contributions for the project**

Brant Walsh (42 hours 40 minutes)

Dillon McDowell (33 hours 40 minutes)

Yan Yao Chan (31 hours 55 minutes)