

**Group number: 1713**

**Project title: IoT Monitor**

**Client &/Advisor: Geiger**

**Team Members &/Role:**

**Ian Harris: Team Leader - Web Role**

**Tim Lindquist: Key Idea - Leafnode Role**

**Gregory Steenhagen: Webmaster -Web Role**

**Steven Warren: Communication -Leafnode Role**

**Terver Ubwa - 3G Node**

**Khoi Cao - 3G Node**

### **o Weekly Summary**

This week we created a gantt chart for recording the work we need to get done each week to finish the project on time for this semester. We began gathering soil for the project for testing the hydrosopic sensor and found a room to do the testing in. Continued work on the information website as well as the user interface for the data viewing page. We were successfully able to view our web-page from the Iowa State network, but may need to do some additional configuration to access it externally. For testing purposes, we will be able to send data to our web app at least.

### **o Past week accomplishments**

- **Ian Harris:** With Charlie's (Gregory) help, was able to get our website up and running on the public domain. We have an endpoint that we can send data to, and a url we can view it at.
- **Gregory Steenhagen:** Continued work on the website UI.
- **Khoi Cao:** Worked on project documentation. Worked on getting 3G module
- **Terver Ubwa:** collected soil sample with Tim. Programming the 3G module
- **Tim Lindquist:** This week we worked on the getting all the project documentation into one document. I also spent some time looking through the datasheet for the NRF24I01+ module. On friday Terver and I made a trip to Dr. Geigers farm to collect some sampling dirt for running the hygrosopic sensor testing.
- **Steven Warren:** Programming with the NRF24I01+ modules. Creating a Gantt Chart

with the group. Wrote up the Design Documentation with the group.

### Pending issues

- **Ian Harris:** Exploring a potential issue where we may not be able to access our web application without being on campus, or having a VPN connection to iowa state's network.
- **Gregory Steenhagen:** Getting the server to route users to the info web page as default.
- **Khoi Cao:** Getting 3G sim card.
- **Terver Ubwa:** Getting the 3G module to start transmitting to the web space.
- **Tim Lindquist:** Need tarp and jars for hygrosopic testing. Range testing.
- **Steven Warren:** Deciding on the library to go with for the NRF24I01+ modules.

### o Individual contributions

<u>NAME</u>	<u>Individual Contributions</u>	<u>Hours this week</u>	<u>HOURS Cumulative</u>
Ian Harris		4	23
Gregory Steenhagen	Worked on webpage UI.	3	15.5
Khoi Cao	Worked on 3G module	3	17
Terver Ubwa	Collected soil sample and programming the 3G module	2	19
Tim Lindquist	obtained soil for sensor and wrote some of documentation	5	29
Steven Warren	NRF24I01+ library research	4	28

### o Plan for coming week

- **Ian Harris:** Start building out our web application, specifically a landing page and allocated space for our future work.
- **Gregory Steenhagen:** Continue working on UI for the info page, as well as the data

management page.

- **Khoi Cao:** Testing on 3G module
- **Terver Ubwa:** Get the 3G module to start transmitting to our web space
- **Tim Lindquist:** Do a distance test of the two different types of radios. (Snow permitting)
- **Steven Warren:** Decide on the Library to use and then begin programming the chips for “network” enabled.

#### **o Summary of weekly advisor meeting**

Discussed updates for each part of the group. Displayed our Gantt Chart and how we could improve it for the future. We also talked about options for testing how our communication would work through biomass such as corn. Information about the discussion with Dr. Kaleta was relayed to professor Geiger and a strategy for testing was confirmed. Presented a timeline for how the rest of the semester's goals would play out. Received Dr. Geiger's input on how to sync clock time on the modules to save power.