

EE / CprE / SE 491 – sdddec19-19

Printed Miniature Nutrient Sensors

Weekly 2 Report

2/10/19 - 2/17/19

Client : Dr. Liang Dong

Advisor : Dr. Liang Dong

Team Members

Jonathan Hugen
Samuel Keely
Jeremy-Min-Yih Chee
Clayton Flynn
Ritika Chakravarty

Weekly Advisor Meeting 2/14/19

This week, we discussed the problem statement, operating environment and intended users for the nutrient sensors. Dr. Dong also discussed how he would like to manufacture the nutrient sensors economically for our testing purposes. We also discussed the components for the schematic/ block diagram of the system.

Weekly Group Meeting 2/13/19

We discussed our views on the concept of design thinking and tried to plot out a schematic for the working of the sensors. We roughly discussed which sections of the project plans we would like to work on individually and which ones we should work on as a team. Lastly, we finalized a list of questions we would ask Dr. Dong during our weekly meeting.

Past Week Accomplishments

Jonathan Hugen:

- Attended the weekly meetings and got some basic design constraints from Dr. Dong
- Researched bonding methods for polymers

Samuel Keely:

- Attended the weekly meetings and discussed some basic design constraints

Jeremy-Min-Yih Chee:

- Attends weekly meetings to discuss and compile questions for Dr Dong, in order to get a detailed overview of the project.

Clayton Flynn:

- Attended weekly meetings

Ritika Chakravarty:

- Attended weekly meetings.
- Discussed and compiled a list of questions to ask Dr. Dong during our weekly meetings. This list will help us, as a group, to understand the project better.

Pending Issues

We currently have no access to market surveys regarding the sensors. Therefore, we are not completely sure how well this product was received and how it can be improved from the perspective of the customer.

Individual Contributions

| Member | Projects | Hours | Total Hours |
|---------------------|--|-------|-------------|
| Jonathan Hugen | - Attended meetings - Discussed questions to ask Dr. Dong - Research on ultrasonic bonding | 2.5 | 4.5 |
| Samuel Keely | - Attended meetings - Discussed questions to ask Dr. Dong | 2 | 4 |
| Jeremy-Min-Yih Chee | - Attended meetings - Discussed questions to ask Dr. Dong - Learned python | 4 | 4 |
| Clayton Flynn | - Attended meetings - Discussed questions to ask Dr. Dong | 2 | 4 |
| Ritika Chakravarty | - Attended meetings. - Summarize data for Project Plan. | 2 | 2 |

Plans For Upcoming Week

Jonathan Hugen

- Project plan
- Research bonding methods for polymers
- Research nano printing

Samuel Keely

- Project plan
- Further elaboration of sensor data and storage methods

Jeremy-Min-Yih Chee

- Record and compile answered questions from Dr. Dong during weekly meeting.
- Integrating the discussed topics into the project plan.
- Create/revise on project plan/reflection diagram.
- Started to learn python for optimizing the app.

Clayton Flynn

- Work on project plan
- Understand the current state of the sensor

Ritika Chakravarty

- Organize and summarize list of questions to ask Dr. Dong during our weekly meetings.
- Work on understanding the functionality and real world applications of the nutrient sensor.

- Creating a high level block diagram describing the working of the sensor.
- Improve Python skills.

Future Plans

Next week we hope to have a high level system schematic and all the relevant information for our project plans by early next week if our schedules permit. We also would like to meet the graduate students we will be working with. Lastly, we would like to obtain portions of the slideshow presentation that he has put together during the grant approval process for this project. His slideshow should have most of the information we need to understand the scope of the project. We are compiling any remaining questions about the project to send to Dr. Dong in an email so we can communicate over next week. We will soon be gaining access to the lab.