

sddec18-22 Automower (Autonomous Lawn Mower)

Weekly Report #3

Reporting Period: 2/14/18 - 2/21/18

Client: Micron Technologies/Ryan Marion

Advisor: Dr. Jones

Team Members

Sam Tinklenberg - Team Leader

Andi Li - Meeting Facilitator/Software Dev

Bryton Hayes - Test Engineer

Grant Duncan - Software Lead

Joel Seaser - Hardware Lead

Summary of Weekly Report

This week we made a lot of educated design decisions based on our collective research. We created a document to better convey our specific goals and included features for the final product, which helped us gain a higher understanding of our project. Our funding has also been approved, so as soon as Dr. Jones gets the go ahead we will buy our parts.

Previous Week Tasks Completed

General Tasks:

- Features analysis
- Lightning talk #2

Specific Tasks:

- Basic power consumption calculations
- Secured funding
- Mobile Application
 - UI framework
 - Weather api started
- Make design decisions
 - Drive train
 - RC-scale customizable kit
 - 8-inch wheels
 - Components
 - Found wifi and compass modules
 - Perimeter loop
 - Found servo and LIDAR sensor

Tasks In Progress for this Week.

General Tasks:

- Project plan v2

- Calculations for motors and power for batteries and perimeter wire

Specific Tasks:

- Complete bill of materials
- Mobile Application
 - Ui improvements
 - Implement weather API
- Begin writing code for the microcontroller.
 - Implement and test low level features on roomba.
 - Start merging libraries for our lawnmower.
 - Continue testing existing open source libraries.

Tasks Up for Next Week

General Tasks:

- Draft microcontroller code
- Getting final proposal for parts for drivetrain
 - Motors and controllers
- Finishing parts list for perimeter wire

Specific Tasks:

- App scheduler and weather implementation
- Finish bill of materials and approximate cost

Division of Work

Team Member	Contributions	Hours this week	Total Hours
Sam Tinklenberg	Set up git, work of design, code.	4	9
Andi Li	Research, created timeline, and continued on the mobile application	4.5	9.5
Bryton Hayes	Block diagram, features analysis	5	11
Grant Duncan	Worked on app	6	11
Joel Seaser	Drivetrain and Purchasing Spreadsheet	6	11

Summary of Weekly Advisor Meeting

When we met with Dr. Jones we went over what the final goals of our project. However, we did not have a concrete list. So this week Dr. Jones told us to create a mockup of what our goals are. We also went over our final design decisions and got his input. Dr. Jones also went over what has made groups successful in the past years. He outlined these things and discussed them with us.