

sddec18-22 Automower (Autonomous Lawn Mower)

Weekly Report #7

Reporting Period: 21/03/18 - 28/03/18

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 finally got to test some microcontroller code and familiarize ourselves with the Arduino and Raspberry Pi platforms. We were also able to sit down with ETG and discuss our 3D model of the chassis and general plans. This week was a good segway into the physical development of our proof of concept, and we are very excited to test more code and build our device. We also started making connections in between our different devices. This included writing code for the HTTP server that will run on our rpi.

Previous Week Tasks Completed

General Tasks:

- Tested PWM motor control code
- Project plan v2
- Lightning talk - technical challenge

Specific Tasks:

- Meet with ETG about 3D model of chassis
- Code for post on http server.
- Connection between phone and rpi.

Tasks In Progress for this Week.

General Tasks:

- Design
- Research
 - 8020
 - Wheels (rear and casters)
 - Suspension
 - Other mowers

Specific Tasks:

- Order motor and controller

- More server and db code.

Tasks Up for Next Week

General Tasks:

- Test GPS code
- Order Reel blade to disassemble and brainstorming raising and lowering mechanism

Specific Tasks:

- More server and db code.
- Connect all three devices and get communications between them working.

Division of Work

Team Member	Contributions	Hours this week	Total Hours
Sam Tinklenberg	Bluetooth connection from phone to rpi, wrote code for post to http server, research, project plan v2.	8	35
Andi Li	Project Plan v2, raspberry pi to phone connection research	6	31
Bryton Hayes	Research PWM motor control and chassis options, draft code, test PWM code	10	39
Grant Duncan	Researched how to connect SQLite with Raspberry Pi 3 and how to use MySQL if SQLite doesn't work	5	34
Joel Seaser	Researched options for Chassis and wheels after talking to ETG	4	32.5

Summary of Weekly Advisor Meeting

We went into our meeting with Joel's model of our first prototype. Dr. Jones said this was a good start and that the diagram gave him a better understanding of what we wanted to do. He suggested that we go to ETG to have them comment and give suggestion on the model. We

told Dr. Jones about our issue with connecting the phone with the Raspberry Pi. He was worried that bluetooth wouldn't be the most stable connection, but we told him we planned on using the bluetooth to give the WIFI information to the raspberry pi and connect via WIFI. He told us to do a bit more research on the subject. Dr. Jones also gave us an arduino and raspberry pi to start testing code on.