

sddec18-22 Automower (Autonomous Lawn Mower)

Weekly Report #6

Reporting Period: 03/7/18 - 03/21/18

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 worked on the 3D model of the lawnmower to show in the talks and to help with proof of concept. We also worked on researching the WIFI and bluetooth connectivity of the robot to the app and database. We are still working on making rules and standards so our app and microcontrollers can communicate with each other in a universal manner. This will make things much easier when we start combining the different pieces.

Previous Week Tasks Completed

General Tasks:

- Begin drafting arduino code
 - PWM motor control
 - Parse NMEA sentences
- Purchase parts
 - Raspberry Pi
 - Arduino Mega
 - Sparkfun Venus GPS

Specific Tasks:

- Draft 3D model of chassis
 - (See Images at bottom of report)
- Mobile
 - Implemented Sugar ORM
 - Outline interface between Raspberry Pi, Arduino, and the app

Tasks In Progress for this Week.

General Tasks:

- Finalize 3D model of the mower
- Project Plan v2

- Research
 - Wi-fi connectivity
 - Bluetooth connectivity
 - Bump/ contact sensor

Specific Tasks:

- Talk to ETG about rigidity of the mower

Tasks Up for Next Week

General Tasks:

- Finish ordering chassis and motors
- Continue drafting microcontroller code

Specific Tasks:

- Connect the Raspberry Pi to the phone via Bluetooth

Division of Work

Team Member	Contributions	Hours this week	Total Hours
Sam Tinklenberg	Component connectivity, project plan v2.	6	27
Andi Li	Researched bluetooth connectivity with the raspberry pi, project plan v2	5	25
Bryton Hayes	Drafted microcontroller code, bump/pressure sensor and connectivity research	6	29
Grant Duncan	Finished implementing Sugar ORM	5	29
Joel Seaser	Created 3D model of the mower prototype	7	28.5

Summary of Weekly Advisor Meeting

We went into our weekly meeting with a pretty firm bill of materials, but Dr. Jones challenged us to provide a better conceptual idea of our plan for the chassis. He suggested that we speak with ETG about our idea of using c-channels and the overall rigidity of our proposed chassis.

Pictures of 3D Chassis model.

