

## **sdmay18-25: Autonomous health monitoring of transportation infrastructure using unmanned**

### **Week 6 Report**

October 7 - October 13

### **Team Members**

Nathan Conroy — *Software Lead*  
Quade Spellman — *Meeting Facilitator*  
Kevin Yen — *Hardware Lead*  
Rishab Sharma — *Report Manager*  
Isaac Bries — *Test Engineer*  
Molly Hayes — *Meeting Scribe*

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### **Summary of Progress this Report**

This week we achieved our major goal of creating a parts list for our UAS, with a specific part picked out by each member of our group. We distributed the work as shown below:

Isaac:

Lidar Sensor

Motors

Propellers/Blades

Rishab:

HD Camera

Battery

Quade:

Thermal Sensor

Nathan:

Flight Controller

Wireless Transmitter/Receiver

Electronic Speed Controller (ESC)

Molly:

Gimbal

Kevin:

Drone Frame

Remote Controller

Each member spent hours researching these topics, and picked the best one according to cost, compatibility, and other factors that would work best with our specific project needs. After completing this list, we sent it to our client and now are in the phase of actually buying these products, so we can start prototyping and testing.

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### **Pending Issues**

Are the parts that we picked out compatible with each other?

Now that we decided that buying a gimbal is good for us, is there a need to try to 3D print it?

How long will the parts take to come, and will they be available to us this semester?

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### **Plans for Upcoming Reporting Period**

For these upcoming weeks, we will confirm that the choices we selected for the parts is okay with our client,

and then we can start the purchasing process. Some of these items will take weeks, or months and we have to plan accordingly. Once the items start to come we will make sure they work and start distributing the work and split up into two major groups: software and hardware.

### Individual Contributions

Team Member	Contribution	Weekly Hours	Total Hours
Nathan Conroy	Continued research on flight controller. Did research on ESCs Started experimenting with Ardupilot and it's simulation environment.	6	41
Quade Spellman	Continued research for thermal camera and rc transmitters with minimal additional research into hd cameras and drone batteries. Also participated in discussion of part list recommendations and preferences.	6	22.5
Kevin Yen	Continued researching frame and radio transmitter and receiver. Came to a conclusion on an optimal part list recommendation that will be evaluated in the following weeks.	6	25
Rishab Sharma	Confirmed all the research for the battery and HD camera was correct, and decided as a group the parts list to send to our client/professor.	6	28
Isaac Bries	Compiled and formatted the group's research into a professional purchase proposal document. Calculated the price and performance of the UAS, using the parts suggested by each group member.	8	30
Molly Hayes	Continued gimbal research with recommended GoPro camera and Tarot frame in mind. Participated in discussion of parts list, compiled documents for midterm evaluation, and wrote executive summary for midterm evaluation.	6	27.5