

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

Week 4 Report

September 23 - September 29

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*

Summary of Progress this Report

This week we started working on making our deliverables for our project. Mapping out the important deadlines and work needed to be done was an important step in our project planning. We discussed everything that was told to us by our client, and started giving every group member a specific topic to research. The goal is to come up with specific parts for each category, like HD cameras, LiDar sensors, etc., for our next client meeting.

Pending Issues

There was not that many issues that came up this week. The most important part of this week is for us to research and then propose our ideas to our client.

Plans for Upcoming Reporting Period

The plan for this upcoming week is to come up with a list of items for different parts of our project to discuss among ourselves and finally our client so we can start to place the orders.

Individual Contributions

Team Member	Contribution	Weekly Hours	Total Hours
Nathan Conroy	<p>During the week of 9/23 - 9/29, I worked on the project plan and the software scope and deliverables. For the project plan, I was tasked with the design section of the report.</p> <p>To fulfil the requirements of the design section, I used some research that other team members have done, with some additional research that I did, and wrote what was found into the project plan. I also created the block diagrams, and explained what the block diagrams represented, and the weighed the pros and cons of the various design proposals. As well for the project plan, I created 15 test cases that verify the drone meets our deliverables and goals</p> <p>As</p>	10	30

	<p>well as the design goals, I spearheaded the creation of the software scope and deliverables document. This document outlines the deliverables that the software team will do for the drone. This document will also be used in deciding what drone codebase to use for this project.</p>		
Quade Spellman	<p>I identified and analyzed possible roadblocks in the design process and documented these in the Project Plan. I also researched various thermal sensors designed for drones to come up with options at the best quality per price points</p>	3	14.5
Kevin Yen	<p>This week's work consisted of delivering the estimated timeline of the project for the Project Plan assignment. I planned and distributed the total workload between the two semesters and created a Gantt chart. Because I was not at the client meeting, all the "planned tasks" and estimated workdays on the Gantt chart were all based on our group discussion on Friday (9/29). I also did some additional research on estimated timeframe for various tasks. I was tasked with researching frames and remote controllers which will be needed by Tuesday (10/3) to come to a consensus of valid purchase options.</p>	7	17
Rishab Sharma	<p>This week we all had the task to research our individual parts to present to our client. My job was to research the HD camera and infrared parts that would best fit the drone we are using the best. I also helped come up with the deliverables and timelines needed for our project, while working on the Gantt chart.</p>	5	18
Isaac Bries	<p>I made a list of Lidar and Motor suppliers so that we can pick out which parts best fit our needs. If they did not have publicly available pricing, I reached out to them to obtain that information. We need to order parts soon so we have plenty of time to build, troubleshoot, and finalize the UAV construction. I found that Lidar sensors are much more expensive than I had anticipated, but the client had a specific model in mind, so I don't think the</p>	5	16

	<p>price will be a surprise. The major consideration with picking motors is that they must be compatible with the control system we choose. As drone-building is becoming a more common hobby/industry there is a lot more information on individual parts; choosing compatible motors/blades that fit our client's needs should not be a problem</p>		
Molly Hayes	<p>This week I focused my efforts on finishing my portion of the Project Plan, which was the requirements section, and starting to research gimbals for the camera for the drone. For the Project Plan, we decided to focus on getting a rough draft done and then make sure to go back and adjust as necessary. While researching the gimbal, I realized it is very dependant on what camera we use, so I will need to discuss that with Rishab at or before the next team meeting.</p>	6	17.5