

# **DASL UAV Antenna Gimbal**

## **Hardware Review 1**

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**Summary of Hardware Review:**

In Hardware Review 1, the team met with Dr. Oman to discuss the standings of their project. All required materials for the project have been purchased and gathered at this point in the teams progress. These materials can all be referenced in Table 1.

**Table 1: Bill of Materials Checklist**

Team			Team D1: Kalli Albright, Kaitlyn Barr, Dustin Branges, Daniel Johnson							
Vendor	Purpose	Part #	Part Name	Part No.	Dimensions	Material	Cost (\$/part)	Quantity	Total (\$)	Obtained (Y/N)
Spark Fun	Parts & Material	1	Arduino Pro Mini 5V	DEV-11113	1.3" x 0.7" x 0.126"	N/A	9.95	1	9.95	Y
		2	Break Away Headers - Straight	PRT-00116	N/A	N/A	1.5	-1	1.5	Y
		3	Break Away Male Headers- Right Angle	PRT-00553	N/A	N/A	1.95	1	1.95	Y
		4	Female Headers	PRT-00115	N/A	N/A	1.5	-1	1.5	Y
		5	Real Time Clock Module	BOB-12708	N/A	N/A	14.95	1	14.95	Y
		6	Jumper Wires Premium 12" M/F	PRT-09385	12"	N/A	4.5	1	4.5	Y
		7	Juper Wires Premium 6" F/F	PRT-08430	6"	N/A	3.95	1	3.95	Y
		8	Jumper Wires Premium 6" M/M	PRT-08431	6"	N/A	3.95	1	3.95	Y
		9	OpenLog	DEV-13712	N/A	N/A	14.95	1	14.95	Y
		10	FTDI Cable 5v	DEV-09718	N/A	N/A	17.95	-1	17.95	Y
<b>Total (\$)</b>									<b>75.15</b>	
Amazon	Parts & Material	11	5V Worm Gear Motor (9RPM)	A1610110DLX019E	N/A	N/A	14.5	1	14.5	Y
		12	Aodepen L298N DC Drive Controller	100752	1.69" x 1.69" x 1"	N/A	6.99	1	6.99	Y
		13	Velcro	N/A	N/A	N/A	2.98	1	4.29	Y
	Fabrication	14	Acetone	N/A	N/A	N/A	5.95	-1	5.95	Y
<b>Total (\$)</b>									<b>31.73</b>	
McMaster Carr	Parts & Material	15	Socket Head Screw (pkg of 25)	92185A988	10-32 3/8"	316 Stainless Steel	4.00	1	4	Y
		16	Hex Nuts (pkg of 100)	90257A411	10-32 3/8"	316 Stainless Steel	7.29	1	7.29	Y
		17	Socket Head Screw (pkg of 100)	91292A110	M3x0.5mm 5mm	18-8 Stainless Steel	4.53	1	4.53	Y
<b>Total (\$)</b>									<b>15.82</b>	
RAPIDLab	Parts & Material	18	Pivot Base	N/A		ABS	0.50	1	0.5	Y
		19	Mounting Braket	N/A		ABS	0.50	3	1.5	Y
		20	Cam	N/A		ABS	0.50	1	0.5	Y
		21	Close Ring	N/A		ABS	0.50	1	0.5	Y
		22	Mounting Braket Rev. 1	N/A		ABS	0.50	1	0.5	Y
		23	Motor Mount	N/A		ABS	0.50	2	1	Y
<b>Total (\$)</b>									<b>4.5</b>	
Home Depot	Testing	24	Mock Antenna	564-120#N	3/4" x 12"	Galvanized Steel	5.64	1	5.64	Y
		25	Testing Stand Plates					1	3.83	Y
		26	Testing Stand Screws					1	4.98	Y
Michael's		27	Testing Stand Blocks				1	5.49	Y	
<b>Total (\$)</b>									<b>19.94</b>	
<b>Project Total (\$)</b>									<b>147.14</b>	

**Previous Action Items Completed:**

The team is currently on track for their project. Table 2 shows the action items completed so far this semester and which team member(s) completed them.

**Table 2: Hardware Review 1 Action Items**

Action Item	Completed By
Meet with client	Kalli Albright and Daniel Johnson
Modify SolidWorks parts/assembly	Daniel Johnson
Print new parts	Daniel Johnson
Design testing apparatus and gather materials	Kaitlyn Barr
Find and buy a mock up antenna for testing	Kalli Albright

Write basic code for the system	Dustin Branges and Kaitlyn Barr
Finish buying and connect the Arduino, motor, and other electronics	Dustin Branges
Work to run motor provided by client	Kaitlyn Barr
Update bill of materials	Kalli Albright
Update website	Dustin Branges

Upcoming Action Items:

To prepare for Hardware Review 2, the team must build their system and be fully prepared with a functioning system (or at least 90% functioning). In order to accomplish this, all the necessary tasks are listed in Table 3, along with the team member(s) responsible for completing each task.

Table 3: Hardware Review 2 Action Items

<b>Action Item</b>	<b>Responsible Team Member</b>
Fully program the arduino	Kaitlyn Barr and Dustin Branges
Finalize arduino setup (hardware)	Dustin Branges
Redesign shaft to fit newly selected motor	Daniel Johnson
Update all drawings for any modified parts	Daniel Johnson
Build test apparatus	Kailyn Barr and Kalli Albright
Design holster for antenna	Daniel Johnson and Kalli Albright
Print new/modified parts	Daniel Johnson and Kaitlyn Barr
Assemble full system	All
Meet with client to show progress	All
Plan testing procedures	Kalli Albright
Update website	Dustin Branges
Individual Analytical Analysis	All