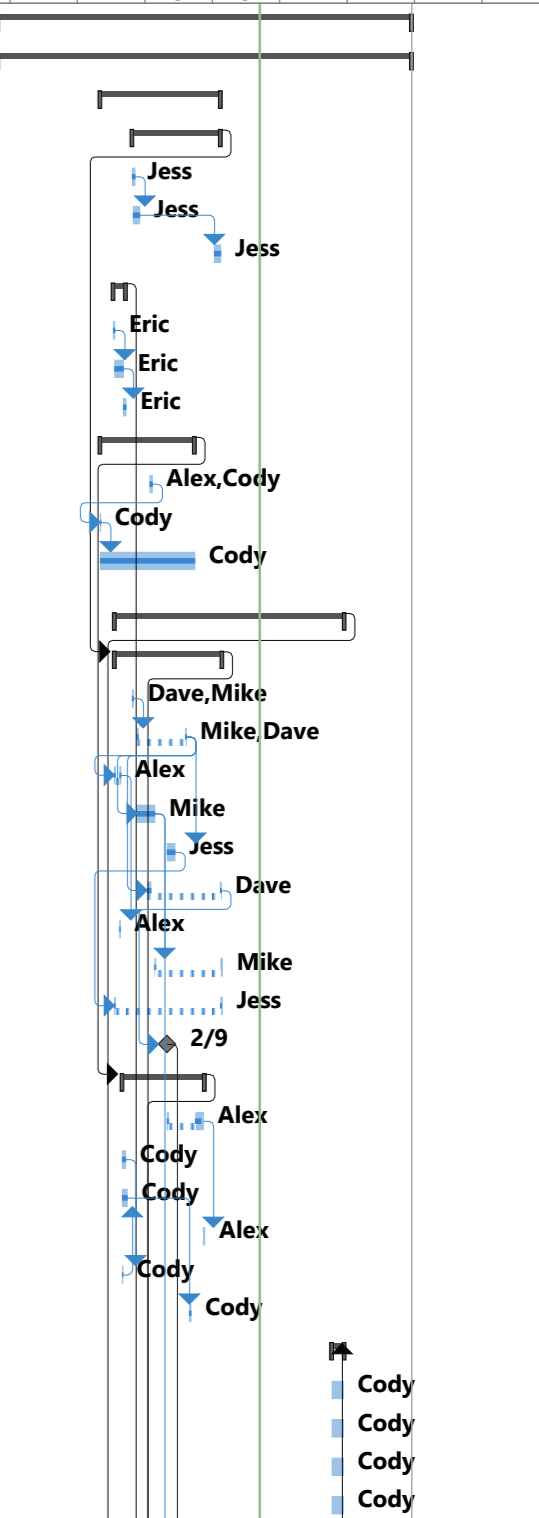


ID	Task Name	Work	Start	Finish	Predecessor	Resource Names	Actual Start	Actual Work	Remaining Work	Actual Finish	Sep 27, '15	Nov 22, '15	Jan 17, '16	Mar 13, '16	May 8, '16	Ju
											F	T	W	T	M	S
1	MSD II	1,514.25 hrs	Thu Dec 3	Tue May 17			Thu Dec 3	881.75 hrs	632.5 hrs							
2	Key Dates	0 hrs	Thu Dec 3	Tue May 17			NA	0 hrs	0 hrs							
22	Documentation	391.5 hrs	Wed Jan 13	Tue Mar 1			Wed Jan 13	391.5 hrs	0 hrs							
23	Electrical	18 hrs	Tue Jan 26	Tue Mar 1			Tue Jan 26	18 hrs	0 hrs							
24	Verify current documentation from Phase II	5 hrs	Tue Jan 26	Tue Jan 26		Jess	Tue Jan 26	5 hrs	0 hrs							
25	Update Phase II documentation (if applicable)	12 hrs	Tue Jan 26	Thu Jan 28	24	Jess	Tue Jan 26	12 hrs	0 hrs							
26	Create documentation for missing schematics and wiring diagrams	1 hr	Sun Feb 28	Tue Mar 1	25	Jess	Sun Feb 28	1 hr	0 hrs							
27	Mechanical	23 hrs	Mon Jan 18	Sat Jan 23			Mon Jan 18	23 hrs	0 hrs							
28	Verify current drawings from Phase II & I	4 hrs	Mon Jan 18	Mon Jan 18		Eric	Mon Jan 18	4 hrs	0 hrs							
29	Update drawings from Phase II & I (if applicable)	14.5 hrs	Mon Jan 18	Fri Jan 22	28	Eric	Mon Jan 18	14.5 hrs	0 hrs							
30	Create drawings/documentation for missing drawings	4.5 hrs	Fri Jan 22	Sat Jan 23	29	Eric	Fri Jan 22	4.5 hrs	0 hrs							
31	Software	350.5 hrs	Wed Jan 13	Sat Feb 20			Wed Jan 13	350.5 hrs	0 hrs							
32	Verify current software from Phase II & I	9 hrs	Tue Feb 2	Tue Feb 2		Alex,Cody	Tue Feb 2	9 hrs	0 hrs							
33	Ensure all documentation (software) in one location	2 hrs	Wed Jan 13	Wed Jan 13	32	Cody	Wed Jan 13	2 hrs	0 hrs							
34	Create pseudo code/flow diagrams for missing software documentation	339.5 hrs	Wed Jan 13	Sat Feb 20	33	Cody	Wed Jan 13	339.5 hrs	0 hrs							
35	Troubleshooting	193 hrs	Tue Jan 19	Tue Apr 19			Tue Jan 19	131.5 hrs	61.5 hrs							
36	Electrical	60 hrs	Tue Jan 19	Tue Mar 1	23		Tue Jan 19	54.5 hrs	5.5 hrs							
37	Identify loose connections in wires	2 hrs	Tue Jan 26	Tue Jan 26		Dave, Mike	Tue Jan 26	2 hrs	0 hrs							
38	Fix loose connections	7 hrs	Thu Jan 28	Tue Feb 16	37	Mike, Dave	Thu Jan 28	7 hrs	0 hrs							
39	Troubleshoot steering system	12 hrs	Tue Jan 19	Thu Jan 21	38	Alex	Tue Jan 19	12 hrs	0 hrs							
40	Troubleshoot brake & throttle systems	14 hrs	Thu Jan 28	Thu Feb 4	38	Mike	Thu Jan 28	14 hrs	0 hrs							
41	Troubleshoot enclosure system	10 hrs	Tue Feb 9	Thu Feb 11	38	Jess	Tue Feb 9	10 hrs	0 hrs							
42	Troubleshoot power system	3 hrs	Mon Feb 1	Tue Mar 1	38	Dave	Mon Feb 1	3 hrs	0 hrs							
43	Update documentation for steering system (if changed)	2 hrs	Thu Jan 21	Thu Jan 21	39	Alex	Thu Jan 21	2 hrs	0 hrs							
44	Update documentation for brake & throttle systems (if changed)	5 hrs	Thu Feb 4	Tue Mar 1	40	Mike	Thu Feb 4	2 hrs	3 hrs							
45	Update documentation for enclosure system (if changed)	5 hrs	Tue Jan 19	Tue Mar 1	41	Jess	Tue Jan 19	2.5 hrs	2.5 hrs							
46	Update documentation for power system (if changed)	0 hrs	Thu Feb 4	Tue Feb 9	42	Dave	Thu Feb 4	0 hrs	0 hrs							
47	Software	86 hrs	Fri Jan 22	Tue Feb 23	31		Fri Jan 22	77 hrs	9 hrs							
48	Troubleshoot steering code	9 hrs	Tue Feb 9	Tue Feb 23		Alex	Tue Feb 9	3 hrs	6 hrs							
49	Troubleshoot throttle code	30 hrs	Fri Jan 22	Sat Jan 23		Cody	Fri Jan 22	30 hrs	0 hrs							
50	Troubleshoot braking code	40 hrs	Fri Jan 22	Sat Jan 23	52	Cody	Fri Jan 22	40 hrs	0 hrs							
51	Update documentation for steering code (if changed)	3 hrs	Tue Feb 23	Tue Feb 23	48	Alex	NA	0 hrs	3 hrs							
52	Update documentation for throttle code (if changed)	2 hrs	Fri Jan 22	Fri Jan 22	49	Cody	Fri Jan 22	2 hrs	0 hrs							
53	Update documentation for braking code (if changed)	2 hrs	Thu Feb 18	Thu Feb 18	50	Cody	Thu Feb 18	2 hrs	0 hrs							
54	System Diagnostics	47 hrs	Thu Apr 14	Tue Apr 19	60		NA	0 hrs	47 hrs							
55	Program steering encoding information on GUI	8 hrs	Thu Apr 14	Tue Apr 19		Cody	NA	0 hrs	8 hrs							
56	Program speed encoding information on GUI	8 hrs	Thu Apr 14	Tue Apr 19		Cody	NA	0 hrs	8 hrs							
57	Program brake encoding information on GUI	8 hrs	Thu Apr 14	Tue Apr 19		Cody	NA	0 hrs	8 hrs							
58	Program throttle encoding information on GUI	8 hrs	Thu Apr 14	Tue Apr 19		Cody	NA	0 hrs	8 hrs							



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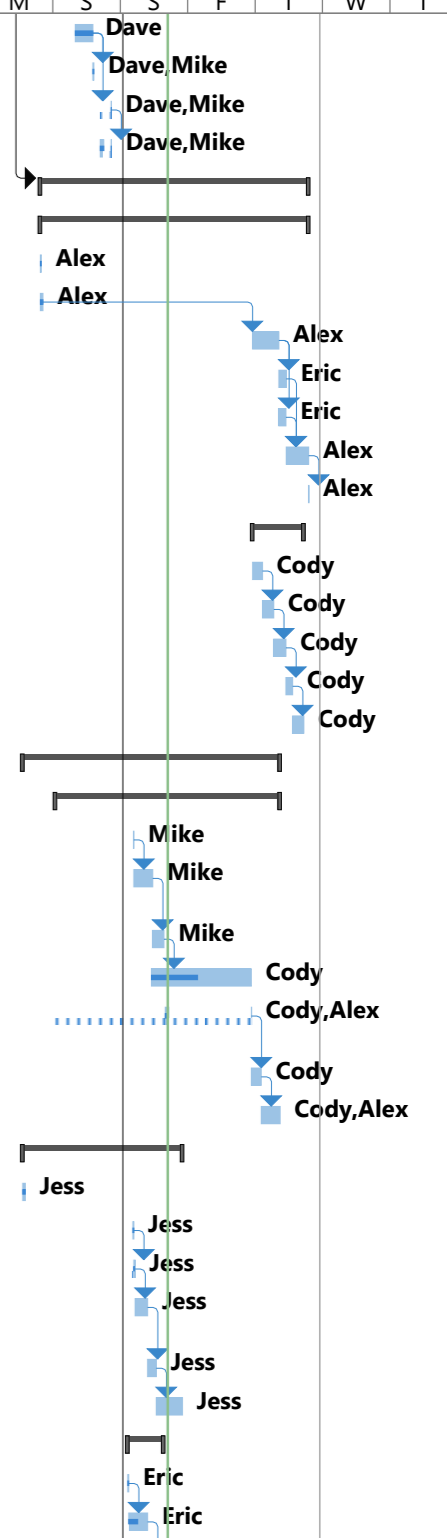
Task		Project Summary		Manual Task		Start-only		Deadline	
Split		Inactive Task		Duration-only		Finish-only		Progress	
Milestone		Inactive Milestone		Manual Summary Rollup		External Tasks		Manual Progress	
Summary		Inactive Summary		Manual Summary		External Milestone			

ID	Task Name	Work	Start	Finish	Predecessor	Resource Names	Actual Start	Actual Work	Remaining Work	Actual Finish	Sep 27, '15	Nov 22, '15	Jan 17, '16	Mar 13, '16	May 8, '16	Jun 5, '16
											F	T	W	T	M	S
59	Program GPS information on GUI	15 hrs	Thu Apr 14	Tue Apr 19		Cody,Alex	NA	0 hrs	15 hrs	NA						
60	Redesign of Main PCB	109 hrs	Thu Feb 11	Thu Apr 14	36,47		Thu Feb 11	109 hrs	0 hrs	Thu Apr 14						
61	Obtain current PCB file	1 hr	Thu Feb 11	Thu Feb 11		Alex	Thu Feb 11	1 hr	0 hrs	Thu Feb 11						
62	Identify key functions needed of main PCB	10 hrs	Thu Feb 11	Sat Feb 13	61	Alex	Thu Feb 11	10 hrs	0 hrs	Sat Feb 13						
63	Identify problem areas on current PCB	3 hrs	Tue Feb 16	Tue Feb 16	62	Alex	Tue Feb 16	3 hrs	0 hrs	Tue Feb 16						
64	Design new circuit for main PCB	16 hrs	Thu Feb 18	Sat Mar 5	63	Alex	Thu Feb 18	16 hrs	0 hrs	Sat Mar 5						
65	Redesign main PCB in board design software	73 hrs	Tue Feb 16	Thu Apr 14	64	Alex	Tue Feb 16	73 hrs	0 hrs	Thu Apr 14						
66	Receive feedback from SME on PCB design	3 hrs	Thu Apr 14	Thu Apr 14	65	Alex	Thu Apr 14	3 hrs	0 hrs	Thu Apr 14						
67	Update design based on SME feedback	2 hrs	Thu Apr 14	Thu Apr 14	66	Alex	Thu Apr 14	2 hrs	0 hrs	Thu Apr 14						
68	Send PCB File to D3 or other supplier to be printed	1 hr	Tue Mar 15	Tue Mar 15	67	Alex	Tue Mar 15	1 hr	0 hrs	Tue Mar 15						
69	Mount Sensors	60 hrs	Wed Jan 20	Tue Feb 23	27		Wed Jan 20	60 hrs	0 hrs	Tue Feb 23						
70	LiDAR Mount	26 hrs	Wed Jan 20	Tue Feb 2			Wed Jan 20	26 hrs	0 hrs	Tue Feb 2						
71	Identify aluminum available from Phase II (LiDAR)	5 hrs	Wed Jan 20	Thu Jan 21		Eric	Wed Jan 20	5 hrs	0 hrs	Thu Jan 21						
72	Order aluminum needed for mount (LiDAR)	0.5 hrs	Thu Jan 21	Thu Jan 21	71	Eric	Thu Jan 21	0.5 hrs	0 hrs	Thu Jan 21						
73	Identify if screws can be taken from MSD/Order screws	2 hrs	Thu Jan 21	Thu Jan 21		Eric	Thu Jan 21	2 hrs	0 hrs	Thu Jan 21						
74	Order lock and shroud (if needed) (LiDAR)	0.5 hrs	Mon Jan 25	Tue Jan 26		Eric	Mon Jan 25	0.5 hrs	0 hrs	Tue Jan 26						
75	Machine and drill mount aluminum pieces (LiDAR)	12 hrs	Mon Jan 25	Thu Jan 28	72FS	Eric	Mon Jan 25	12 hrs	0 hrs	Thu Jan 28						
76	Attach mount to golf cart (LiDAR)	3 hrs	Tue Feb 2	Tue Feb 2	75	Eric	Tue Feb 2	3 hrs	0 hrs	Tue Feb 2						
77	Place LiDAR on mount and wire	3 hrs	Tue Feb 2	Tue Feb 2	76	Eric	Tue Feb 2	3 hrs	0 hrs	Tue Feb 2						
78	Ultrasonics Mount	34 hrs	Thu Feb 4	Tue Feb 23	70		Thu Feb 4	34 hrs	0 hrs	Tue Feb 23						
79	Receive approval for 7 ultrasonics	1 hr	Thu Feb 4	Thu Feb 4		Eric	Thu Feb 4	1 hr	0 hrs	Thu Feb 4						
80	Determine if smaller ultrasonics can be used	4 hrs	Thu Feb 4	Thu Feb 4	79	Eric	Thu Feb 4	4 hrs	0 hrs	Thu Feb 4						
81	Order 2-3 more 7040 ultrasonics	1 hr	Thu Feb 4	Thu Feb 4	80	Eric	Thu Feb 4	1 hr	0 hrs	Thu Feb 4						
82	Order SCH40 PVC pipe	3 hrs	Tue Feb 16	Tue Feb 16	80	Eric	Tue Feb 16	3 hrs	0 hrs	Tue Feb 16						
83	Order PVC tee fittings	3 hrs	Tue Feb 16	Tue Feb 16	80	Eric	Tue Feb 16	3 hrs	0 hrs	Tue Feb 16						
84	Order PVC 90" elbows	3 hrs	Tue Feb 16	Tue Feb 16	80	Eric	Tue Feb 16	3 hrs	0 hrs	Tue Feb 16						
85	Order PVC 22.5" elbows	3 hrs	Tue Feb 16	Tue Feb 16	80	Eric	Tue Feb 16	3 hrs	0 hrs	Tue Feb 16						
86	Cut PVC pipe to desired lengths	1 hr	Thu Feb 18	Thu Feb 18	82FS	Eric	Thu Feb 18	1 hr	0 hrs	Thu Feb 18						
87	Put together PVC mount	1 hr	Thu Feb 18	Thu Feb 18	86	Eric	Thu Feb 18	1 hr	0 hrs	Thu Feb 18						
88	Attach mount to golf cart	8 hrs	Sat Feb 20	Tue Feb 23	87	Eric	Sat Feb 20	8 hrs	0 hrs	Tue Feb 23						
89	Attach ultrasonics to PVC mount and wire	6 hrs	Sat Feb 20	Tue Feb 23	88	Eric	Sat Feb 20	6 hrs	0 hrs	Tue Feb 23						
90	Remote Control Mode	39 hrs	Thu Mar 3	Thu Mar 17			Thu Mar 3	39 hrs	0 hrs	Thu Mar 17						
91	Create ROS node for remote	4 hrs	Sun Mar 13	Tue Mar 15		Cody	Sun Mar 13	4 hrs	0 hrs	Tue Mar 15						
92	Establish communication between ROS node remote control	22 hrs	Thu Mar 3	Tue Mar 15	91	Cody	Thu Mar 3	22 hrs	0 hrs	Tue Mar 15						
93	Test remote control node for ROS	1 hr	Tue Mar 15	Tue Mar 15	92	Cody,Mike	Tue Mar 15	1 hr	0 hrs	Tue Mar 15						
94	Debug RC input for throttle/brake	2 hrs	Thu Mar 10	Thu Mar 10	93	Dave	Thu Mar 10	2 hrs	0 hrs	Thu Mar 10						
95	Establish communication between remote control ROS node and cart systems	6 hrs	Mon Mar 14	Tue Mar 15	94	Cody	Mon Mar 14	6 hrs	0 hrs	Tue Mar 15						
96	Test functionality of remote control	4 hrs	Sun Mar 13	Thu Mar 17	95	Cody	Sun Mar 13	4 hrs	0 hrs	Thu Mar 17						
97	Emergency Stop	25 hrs	Tue Feb 9	Tue Feb 23	40,46		Tue Feb 9	25 hrs	0 hrs	Tue Feb 23						

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Task		Project Summary		Manual Task		Start-only		Deadline	
Split		Inactive Task		Duration-only		Finish-only		Progress	
Milestone		Inactive Milestone		Manual Summary Rollup		External Tasks		Manual Progress	
Summary		Inactive Summary		Manual Summary		External Milestone			

ID	Task Name	Work	Start	Finish	Predecessor	Resource Names	Actual Start	Actual Work	Remaining Work	Actual Finish	Sep 27, '15	Nov 22, '15	Jan 17, '16	Mar 13, '16	May 8, '16	Ju
											F	T	W	T	M	S
98	Order power relay	14 hrs	Tue Feb 9	Tue Feb 16		Dave	Tue Feb 9	14 hrs	0 hrs							
99	Splice in wires for switch	6 hrs	Tue Feb 16	Tue Feb 16	98	Dave, Mike	Tue Feb 16	6 hrs	0 hrs							
100	Add relay in emergency stop circuit	3 hrs	Fri Feb 19	Tue Feb 23	98FS	Dave, Mike	Fri Feb 19	3 hrs	0 hrs							
101	Test emergency stop system	2 hrs	Fri Feb 19	Tue Feb 23	100	Dave, Mike	Fri Feb 19	2 hrs	0 hrs							
102	Path Planning	92 hrs	Tue Jan 26	Thu May 12	35		Tue Jan 26	5 hrs	87 hrs							
103	GPS	61 hrs	Tue Jan 26	Thu May 12			Tue Jan 26	5 hrs	56 hrs							
104	Get GPS board printed	1 hr	Tue Jan 26	Tue Jan 26		Alex	Tue Jan 26	1 hr	0 hrs							
105	Get GPS board populated	4 hrs	Tue Jan 26	Tue Jan 26		Alex	Tue Jan 26	4 hrs	0 hrs							
106	Test GPS board functionality	25 hrs	Tue Apr 19	Sat Apr 30	105	Alex	NA	0 hrs	25 hrs							
107	Mount GPS board in enclosure	6 hrs	Sat Apr 30	Tue May 3	106	Eric	NA	0 hrs	6 hrs							
108	Mount GPS antenna on golf cart roof	3 hrs	Sat Apr 30	Tue May 3	106	Eric	NA	0 hrs	3 hrs							
109	Test GPS with created ROS node	20 hrs	Tue May 3	Thu May 12	107,1	Alex	NA	0 hrs	20 hrs							
110	Update system diagnostics for GPS	2 hrs	Thu May 12	Thu May 12	109	Alex	NA	0 hrs	2 hrs							
111	Waypoint Scheme	31 hrs	Tue Apr 19	Tue May 10			NA	0 hrs	31 hrs							
112	Draw out course on google maps	6 hrs	Tue Apr 19	Sat Apr 23		Cody	NA	0 hrs	6 hrs							
113	Extract that as valid points	2 hrs	Sat Apr 23	Thu Apr 28	112	Cody	NA	0 hrs	2 hrs							
114	Create storage on computer for valid points	6 hrs	Thu Apr 28	Tue May 3	113	Cody	NA	0 hrs	6 hrs							
115	Create ROS interface for accessing path planning	12 hrs	Tue May 3	Thu May 5	114	Cody	NA	0 hrs	12 hrs							
116	Use program to define path	5 hrs	Thu May 5	Tue May 10	115	Cody	NA	0 hrs	5 hrs							
117	Obstacle Detection	393 hrs	Tue Jan 19	Sat Apr 30			Tue Jan 19	120.5 hrs	272.5 hrs							
118	LiDAR Programming	167.5 hrs	Mon Feb 1	Sat Apr 30			Mon Feb 1	44 hrs	123.5 hrs							
119	Record test data (LiDAR)	3.5 hrs	Thu Mar 3	Thu Mar 3		Mike	NA	0 hrs	3.5 hrs							
120	Write algorithms for detecting obstacles and paths versus non-paths (LiDAR)	15 hrs	Thu Mar 3	Thu Mar 10	119	Mike	NA	0 hrs	15 hrs							
121	Test obstacle detection algorithms (LiDAR)	8 hrs	Thu Mar 10	Tue Mar 15	120	Mike	NA	0 hrs	8 hrs							
122	Create communication between LiDAR, computer, and subsystems	90 hrs	Thu Mar 10	Tue Apr 19	121	Cody	Thu Mar 10	40 hrs	50 hrs							
123	Develop algorithms correlating LiDAR obstacle detection with subsystem movements	6 hrs	Mon Feb 1	Tue Apr 19		Cody, Alex	Mon Feb 1	4 hrs	2 hrs							
124	Test LiDAR autonomus algorithms along with communication	10 hrs	Tue Apr 19	Sat Apr 23	123	Cody	NA	0 hrs	10 hrs							
125	Troubleshoot and fix LiDAR autonomous driving algorithms	35 hrs	Sat Apr 23	Sat Apr 30	124	Cody, Alex	NA	0 hrs	35 hrs							
126	Ultrasonics Programming	63.5 hrs	Tue Jan 19	Tue Mar 22			Tue Jan 19	16.5 hrs	47 hrs							
127	Test ultrasonics vision/ability to detect obstacles	15.5 hrs	Tue Jan 19	Tue Jan 19		Jess	Tue Jan 19	13.5 hrs	2 hrs							
128	Review current ROS nodes for ultrasonics	2 hrs	Thu Mar 3	Thu Mar 3		Jess	Thu Mar 3	2 hrs	0 hrs							
129	Create ROS nodes for ultrasonics	3 hrs	Thu Mar 3	Thu Mar 3	128	Jess	Thu Mar 3	1 hr	2 hrs							
130	Develop algorithms correlating ultrasonic obstacle detection and subsystem movements	10 hrs	Thu Mar 3	Tue Mar 8	129	Jess	NA	0 hrs	10 hrs							
131	Test ultrasonics autonomous algorithms along with communication	8 hrs	Tue Mar 8	Sat Mar 12	130	Jess	NA	0 hrs	8 hrs							
132	Troubleshoot and fix ultrasonics autonomous driving algorithms	25 hrs	Sat Mar 12	Tue Mar 22	131	Jess	NA	0 hrs	25 hrs							
133	Vehicle Simulation	34 hrs	Tue Mar 1	Tue Mar 15			Tue Mar 1	16 hrs	18 hrs							
134	Adapt simulation to accept external input	3 hrs	Tue Mar 1	Tue Mar 1		Eric	Tue Mar 1	3 hrs	0 hrs							
135	Implement stopping for obstacles in path	19 hrs	Tue Mar 1	Tue Mar 8	134	Eric	Tue Mar 1	13 hrs	6 hrs							



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Task		Project Summary		Manual Task		Start-only		Deadline	
Split		Inactive Task		Duration-only		Finish-only		Progress	
Milestone		Inactive Milestone		Manual Summary Rollup		External Tasks		Manual Progress	
Summary		Inactive Summary		Manual Summary		External Milestone			

ID	Task Name	Work	Start	Finish	Predecessors	Resource Names	Actual Start	Actual Work	Remaining Work	Actual Finish	Sep 27, '15	Nov 22, '15	Jan 17, '16	Mar 13, '16	May 8, '16	Jun 5, '16
											F	T	W	T	M	S
136	Implement basic obstacle avoidance	10 hrs	Thu Mar 10	Sat Mar 12	135	Eric	NA	0 hrs	10 hrs	NA						
137	Integrate simulation with Python control code	2 hrs	Tue Mar 15	Tue Mar 15	136	Eric	NA	0 hrs	2 hrs	NA						
138	Energy Monitoring System	30 hrs	Wed Feb 10	Tue Feb 23			Wed Feb 10	1 hr	29 hrs	NA						
139	Order EMS device for voltage and current	1 hr	Wed Feb 10	Thu Feb 11		Jess	Wed Feb 10	1 hr	0 hrs	Thu Feb 11						
140	Setup and connect device to batteries & test	4 hrs	Thu Feb 11	Thu Feb 11	139	Jess	NA	0 hrs	4 hrs	NA						
141	Connect device to Arduino for communication	15 hrs	Thu Feb 11	Thu Feb 18	140	Jess	NA	0 hrs	15 hrs	NA						
142	Test device and communications	5 hrs	Thu Feb 18	Sat Feb 20	141	Jess	NA	0 hrs	5 hrs	NA						
143	Mount device onto cart	5 hrs	Sat Feb 20	Tue Feb 23	142	Jess	NA	0 hrs	5 hrs	NA						
144	Occupant Monitoring System	21 hrs	Mon Feb 8	Tue Mar 1			Mon Feb 8	9 hrs	12 hrs	NA						
145	Determine proper position for ultrasonics	5 hrs	Mon Feb 8	Tue Feb 9		Dave	Mon Feb 8	2 hrs	3 hrs	NA						
146	Design mount in SolidWorks	2 hrs	Tue Feb 9	Thu Feb 11	145	Eric	NA	0 hrs	2 hrs	NA						
147	3D print mount	2 hrs	Thu Feb 11	Tue Feb 16	146	Joe	NA	0 hrs	2 hrs	NA						
148	Mount ultrasonics on cart and wire	4 hrs	Wed Feb 24	Thu Feb 25	145	Dave	Wed Feb 24	2 hrs	2 hrs	NA						
149	Write software to account for pedestrian movement within cart	8 hrs	Wed Feb 24	Tue Mar 1	148	Dave	Wed Feb 24	5 hrs	3 hrs	NA						
150	Pedestrian Proximity Warning System	77 hrs	Tue Feb 23	Tue Apr 5			Tue Feb 23	34 hrs	43 hrs	NA						
151	Review/test LiDAR and point cloud map	7 hrs	Tue Feb 23	Thu Feb 25		Mike	Tue Feb 23	7 hrs	0 hrs	Thu Feb 25						
152	Convert LiDAR point cloud to a 2D laserscan	5 hrs	Thu Feb 25	Sat Feb 27	151	Mike	Thu Feb 25	5 hrs	0 hrs	Sat Feb 27						
153	Set limitations/triggers for pedestrian proximities using LiDAR	12 hrs	Thu Mar 3	Tue Mar 8	152	Mike	Thu Mar 3	10 hrs	2 hrs	NA						
154	Design light and sounder control and feedback circuits	6 hrs	Wed Mar 2	Wed Mar 2		Mike	Wed Mar 2	6 hrs	0 hrs	Wed Mar 2						
155	Choose light	4 hrs	Tue Mar 1	Tue Mar 1		Mike	Tue Mar 1	2 hrs	2 hrs	NA						
156	Setup communication to buzzer/light to activate from triggers	4 hrs	Sun Mar 13	Tue Mar 15	153	Mike	Sun Mar 13	2 hrs	2 hrs	NA						
157	Test communications to buzzer/light & troubleshoot	4 hrs	Tue Mar 15	Thu Mar 17	156	Mike	Tue Mar 15	2 hrs	2 hrs	NA						
158	Test system	35 hrs	Thu Mar 17	Tue Apr 5	157	Mike	NA	0 hrs	35 hrs	NA						
159	Additional Mechanical Projects	211.75 hrs	Tue Feb 23	Tue May 10	69		Tue Feb 23	0.25 hrs	211.5 hrs	NA						
160	Weatherproofing	10 hrs	Tue Feb 23	Thu Feb 25			NA	0 hrs	10 hrs	NA						
161	Fill empty holes/gaps in enclosure	4 hrs	Tue Feb 23	Thu Feb 25		Eric	NA	0 hrs	4 hrs	NA						
162	Reinforce wire entry way on enclosure bottom	4 hrs	Tue Feb 23	Thu Feb 25		Eric	NA	0 hrs	4 hrs	NA						
163	Place sealant on any needed areas	2 hrs	Thu Feb 25	Thu Feb 25	161	Eric	NA	0 hrs	2 hrs	NA						
164	Brake Actuator Remount	40 hrs	Tue Feb 23	Tue Mar 15			NA	0 hrs	40 hrs	NA						
165	Remove welded on brake actuator	17 hrs	Tue Feb 23	Thu Mar 3		Eric	NA	0 hrs	17 hrs	NA						
166	Order material needed for new mounting of brake actuator	1 hr	Sat Mar 5	Sat Mar 5	165	Eric	NA	0 hrs	1 hr	NA						
167	Machine and drill brake actuator mounts	10 hrs	Sat Mar 5	Thu Mar 10	166	Eric	NA	0 hrs	10 hrs	NA						
168	Mount brake actuator back to cart	12 hrs	Thu Mar 10	Tue Mar 15	167	Eric	NA	0 hrs	12 hrs	NA						
169	Mount Stereo Cameras	24 hrs	Tue Feb 23	Thu Mar 10			NA	0 hrs	24 hrs	NA						
170	Determine needed location of cameras	6 hrs	Tue Feb 23	Thu Feb 25		Eric	NA	0 hrs	6 hrs	NA						
171	Create mounts for cameras	12 hrs	Thu Feb 25	Thu Mar 3	170	Eric	NA	0 hrs	12 hrs	NA						
172	Attach mounts to cart	4 hrs	Thu Mar 3	Thu Mar 3	171	Eric	NA	0 hrs	4 hrs	NA						
173	Place cameras in mounts and secure	2 hrs	Thu Mar 3	Thu Mar 10	172	Eric	NA	0 hrs	2 hrs	NA						
174	Testing	37 hrs	Thu Apr 14	Thu Apr 28			NA	0 hrs	37 hrs	NA						
175	Perform carts test plans	27 hrs	Thu Apr 14	Tue Apr 26		Cody	NA	0 hrs	27 hrs	NA						

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Milestone		Inactive Milestone		Manual Summary Rollup		External Tasks		Manual Progress	
Summary		Inactive Summary		Manual Summary		External Milestone			

ID	Task Name	Work	Start	Finish	Predecessor	Resource Names	Actual Start	Actual Work	Remaining Work	Actual Finish	Calendar																
											Sep 27, '15	Nov 22, '15	Jan 17, '16	Mar 13, '16	May 8, '16	Ju	F	T	W	T	M	S	S	F	T	W	T
176	Verify cart's functionality meets engineering requirements	10 hrs	Tue Apr 26	Thu Apr 28	175	Cody	NA	0 hrs	10 hrs	NA	Cody																
177	Documentation	100.75 hrs	Wed Feb 24	Tue May 10	174		Wed Feb 24	0.25 hrs	100.5 hrs	NA	←																
178	Make sure all schematics/wiring diagrams are up to date	9 hrs	Thu Apr 28	Tue May 3		Jess	NA	0 hrs	9 hrs	NA	Jess																
179	Make sure all mechanical drawings are present and up to date	2.5 hrs	Thu Apr 28	Sat Apr 30		Eric	NA	0 hrs	2.5 hrs	NA	Eric																
180	Create and update user manual for APM	10 hrs	Fri Apr 29	Tue May 3		Joe	NA	0 hrs	10 hrs	NA	Joe																
181	Create theory of operations document for cart	16 hrs	Tue May 3	Tue May 10	180	Joe	NA	0 hrs	16 hrs	NA	Joe																
182	Create senior design report	24 hrs	Fri Apr 29	Sat May 7		Joe	NA	0 hrs	24 hrs	NA	Joe																
183	Create senior design poster	15 hrs	Fri Apr 29	Thu May 5		Joe	NA	0 hrs	15 hrs	NA	Joe																
184	Videos	24.25 hrs	Wed Feb 24	Tue May 3	174		Wed Feb 24	0.25 hrs	24 hrs	NA	←																
185	Create video demonstrating throttle subsystem	6 hrs	Sat Apr 30	Tue May 3		Mike	NA	0 hrs	6 hrs	NA	Mike																
186	Create video demonstrating braking subsystem	5 hrs	Sat Apr 30	Tue May 3		Mike	NA	0 hrs	5 hrs	NA	Mike																
187	Create video demonstrating steering subsystem	6 hrs	Thu Apr 28	Tue May 3		Alex	NA	0 hrs	6 hrs	NA	Alex																
188	Create video demonstrating enclosure subsystem	1.25 hrs	Wed Feb 24	Thu Apr 28		Jess	Wed Feb 24	0.25 hrs	1 hr	NA	Jess																
189	Create video demonstrating emergency stop system	6 hrs	Sat Apr 30	Tue May 3		Dave	NA	0 hrs	6 hrs	NA	Dave																

Project: APM Phase III MSD II S
Date: Thu Mar 17, '16

Task		Project Summary		Manual Task		Start-only		Deadline	
Split		Inactive Task		Duration-only		Finish-only		Progress	
Milestone		Inactive Milestone		Manual Summary Rollup		External Tasks		Manual Progress	
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