












































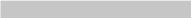



























































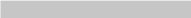




























































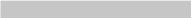
















ID		Task Mode	Task Name	Duration	Start	Finish	Predecessors
1			Project ACIS	162 days	Sun 12/17/17	Mon 5/28/18	
2			Get Started	26.88 days	Sun 12/17/17	Fri 1/12/18	
3			Create GitHub Repo	1 day	Sun 12/17/17	Sun 12/17/17	
4			Create GitHub Wiki	1 day	Sun 12/17/17	Sun 12/17/17	3
5			Create GitHub Tasks	1 day	Sun 12/17/17	Sun 12/17/17	4
6			Meet With Adviser	0.88 days	Tue 12/19/17	Tue 12/19/17	
7			Add Meeting Notes	1 day	Tue 12/19/17	Tue 12/19/17	
8			Meet With Sponsor	2.88 days	Wed 1/10/18	Fri 1/12/18	
9			Preparing Slides And Questions	2 days	Wed 1/10/18	Thu 1/11/18	
10			Add Meeting Notes	1 day	Fri 1/12/18	Fri 1/12/18	9
11			Plan	28.13 days	Fri 1/26/18	Fri 2/23/18	
12			Requirements	6 days	Fri 1/26/18	Wed 1/31/18	
13			Write Project Schedule Draft	1 day	Fri 1/26/18	Fri 1/26/18	
14			Review Project Schedule Draft	1 day	Sat 1/27/18	Sat 1/27/18	13
15			Revise Project Schedule Draft	1 day	Sun 1/28/18	Sun 1/28/18	14
16			Review Revised Project Schedule	1 day	Mon 1/29/18	Mon 1/29/18	15
17			Approve Project Schedule	1 day	Tue 1/30/18	Tue 1/30/18	16
18			Submit Project Schedule	1 day	Wed 1/31/18	Wed 1/31/18	17
19			Project Schedule	2 days	Sun 2/18/18	Tue 2/20/18	
20			Write Project Schedule Draft	1 day	Sun 2/18/18	Sun 2/18/18	
21			Review Project Schedule Draft	1 day	Sun 2/18/18	Mon 2/19/18	20
22			Revise Project Schedule Draft	1 day	Mon 2/19/18	Mon 2/19/18	21
23			Review Revised Project Schedule	1 day	Mon 2/19/18	Mon 2/19/18	22

Project: Schedule Date: Tue 5/15/18	Task		Inactive Summary		External Tasks	
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	Milestone		Duration-only		Deadline	
	Summary		Manual Summary Rollup		Progress	
	Project Summary		Manual Summary		Manual Progress	
	Inactive Task		Start-only			
	Inactive Milestone		Finish-only			




















ID		Task Mode	Task Name	Duration	Start	Finish	Predecessors
24			Approve Project Schedule	1 day	Mon 2/19/18	Tue 2/20/18	23
25			Submit Project Schedule	1 day	Tue 2/20/18	Tue 2/20/18	24
26			Block Diagram	6.13 days	Sat 2/17/18	Fri 2/23/18	
27			Create High Level Block Diagram	1.13 days	Sat 2/17/18	Sat 2/17/18	
28			Create Component Level Block Diagram	1 day	Sat 2/17/18	Sun 2/18/18	27
29			Create Motor Block Diagram	0.63 days	Sun 2/18/18	Sun 2/18/18	28
30			Create Sensor Sensor Block Diagram	1 day	Sun 2/18/18	Mon 2/19/18	29
31			Create Processor Block Diagram	0.63 days	Mon 2/19/18	Mon 2/19/18	30
32			Create Lights Block Diagram	1 day	Mon 2/19/18	Tue 2/20/18	31
33			Create Software Block Diagram	0.63 days	Tue 2/20/18	Tue 2/20/18	32
34			Review Block Diagrams	1 day	Tue 2/20/18	Wed 2/21/18	33
35			Revise Block Diagrams	1.88 days	Wed 2/21/18	Wed 2/21/18	34
36			Approve Block Diagrams	2 days	Wed 2/21/18	Thu 2/22/18	35
37			Submit Block Diagrams	1.13 days	Thu 2/22/18	Fri 2/23/18	36
38			Barcode Detection	32 days	Thu 2/1/18	Sun 3/4/18	
39			Research Barcode Detection Libraries	10 days	Thu 2/1/18	Fri 2/9/18	
40			Prototype OpenCV Barcode Detection	3.88 days	Fri 2/9/18	Sun 2/11/18	39
41			Finalize OpenCV Barcode Detection	2 days	Sat 3/3/18	Sun 3/4/18	40
42			Image Stitching	59 days	Sat 1/13/18	Mon 3/12/18	
43			Research Methods To Use OpenCV For Image Stitching	21 days	Sat 1/13/18	Fri 2/2/18	
44			Prototype OpenCV Image Stitching	2 days	Sat 2/10/18	Sun 2/11/18	43
45			Finalize OpenCV Image Stitching	3 days	Sat 3/10/18	Mon 3/12/18	44
46			Defect Detection	91 days	Wed 1/3/18	Tue 4/3/18	

Project: Schedule Date: Tue 5/15/18	Task		Inactive Summary		External Tasks	
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	Project Summary		Manual Summary		Manual Progress	
	Inactive Task		Start-only			
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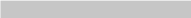
















ID		Task Mode	Task Name	Duration	Start	Finish	Predecessors
47			Research OpenCV Defect Detection	2 days	Wed 1/3/18	Thu 1/4/18	
48			Prototype OpenCV Defect Detection	5 days	Fri 1/5/18	Tue 1/9/18	47
49			Finalize OpenCV Defect Detection	3 days	Sun 4/1/18	Tue 4/3/18	48
50			Main Application	6 days	Thu 3/29/18	Wed 4/4/18	
51			Research What Control Should Main Application Have	2 days	Thu 3/29/18	Fri 3/30/18	
52			Design Main Application	6 days	Fri 3/30/18	Sun 4/1/18	51
53			Design The Different components Of The Application	1 day	Sun 4/1/18	Sun 4/1/18	52
54			Design Config File	1 day	Sun 4/1/18	Sun 4/1/18	53
55			Design The Interface Between The Classes	1 day	Sun 4/1/18	Mon 4/2/18	54
56			Prototype Main Application	5 days	Mon 4/2/18	Tue 4/3/18	55
57			Finalize Main Application	2 days	Tue 4/3/18	Wed 4/4/18	56
58			Magazine	18.75 days	Wed 3/28/18	Sun 4/15/18	
59			Research Magazine Design	2 days	Wed 3/28/18	Thu 3/29/18	
60			Design The Magazine	1 day	Thu 3/29/18	Fri 3/30/18	59
61			Design Safety Locks	1 day	Fri 3/30/18	Sat 3/31/18	60
62			Design CPU Holding Frame	1 day	Sat 3/31/18	Sat 3/31/18	61
63			Design Magazine Movement	1 day	Sat 3/31/18	Sat 3/31/18	62
64			Design Magazine Loading Mechanism	1 day	Sat 3/31/18	Sun 4/1/18	63
65			Research Magazine Parts	2 days	Sun 4/1/18	Sun 4/1/18	64
66			Order Magazine Parts	1 day	Sun 4/1/18	Mon 4/2/18	65
67			Prototype Magazine	5 days	Mon 4/9/18	Fri 4/13/18	66
68			Finalize Magazine	2.75 days	Fri 4/13/18	Sun 4/15/18	67
69			Frame	88 days	Sat 1/27/18	Wed 4/25/18	



































Project: Schedule Date: Tue 5/15/18	Task		Inactive Summary		External Tasks	
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	Project Summary		Manual Summary		Manual Progress	
	Inactive Task		Start-only			
	Inactive Milestone		Finish-only			




















ID		Task Mode	Task Name	Duration	Start	Finish	Predecessors
70			Design The Frame	4 days	Sat 1/27/18	Sun 1/28/18	
71			Research Frame Parts	1 day	Sun 1/28/18	Mon 1/29/18	70
72			Order Frame Parts	2 days	Mon 1/29/18	Mon 1/29/18	71
73			Prototype Frame	5 days	Mon 3/5/18	Wed 3/7/18	
74			Finalize Frame Build	5 days	Mon 4/23/18	Wed 4/25/18	
75			Lighting	11 days	Fri 4/6/18	Mon 4/16/18	
76			Research Lighting	1 day	Fri 4/6/18	Fri 4/6/18	
77			Design Lighting	2 days	Fri 4/6/18	Sat 4/7/18	76
78			Order Lighting Parts	1 day	Sat 4/7/18	Sun 4/8/18	77
79			Prototype Lighting Parts	2 days	Sat 4/14/18	Sun 4/15/18	
80			Finalize Lighting	2 days	Sun 4/15/18	Mon 4/16/18	79
81			Enclosure	9 days	Sun 4/1/18	Tue 4/10/18	
82			Research Enclosure Material	1 day	Sun 4/1/18	Sun 4/1/18	
83			Design Enclosure	3 days	Sun 4/1/18	Mon 4/2/18	82
84			Order Enclosure Material	1 day	Sun 4/8/18	Sun 4/8/18	83
85			Prototype Enclosure	2 days	Mon 4/9/18	Tue 4/10/18	84
86			Finalize Enclosure	1 day	Tue 4/10/18	Tue 4/10/18	85
87			Motor	104 days	Mon 1/1/18	Sat 4/14/18	
88			Research Arduino Motor Control	5 days	Mon 1/1/18	Fri 1/5/18	
89			Design Stepper Motor Placement	1 day	Sun 1/28/18	Sun 1/28/18	88
90			Choose Motors	2 days	Mon 1/29/18	Tue 1/30/18	89
91			Order Motors	1 day	Tue 1/30/18	Tue 1/30/18	90
92			Prototype Motor Drivers	5 days	Thu 4/5/18	Mon 4/9/18	91
























Project: Schedule Date: Tue 5/15/18	Task		Inactive Summary		External Tasks	
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	Summary		Manual Summary Rollup		Progress	
	Project Summary		Manual Summary		Manual Progress	
	Inactive Task		Start-only			
	Inactive Milestone		Finish-only			

ID		Task Mode	Task Name	Duration	Start	Finish	Predecessors
93			Finalize Motor Driver	5 days	Tue 4/10/18	Sat 4/14/18	92
94			Image Capturing	9.88 days	Wed 3/28/18	Fri 4/6/18	
95			Research Camera	1 day	Wed 3/28/18	Wed 3/28/18	
96			Order Camera	1 day	Wed 4/4/18	Wed 4/4/18	95
97			Finalize Image Capturing	2 days	Thu 4/5/18	Fri 4/6/18	96
98			Communication Between Arduino And Pc	2.88 days	Wed 4/25/18	Fri 4/27/18	
99			Design The Protocol Between Main Application And Arduino	3 days	Wed 4/25/18	Thu 4/26/18	
100			Prototype Communication Between Arduino And Pc	2 days	Thu 4/26/18	Fri 4/27/18	99
101			Finalize Communication Between Pc And Arduino	2 days	Fri 4/27/18	Fri 4/27/18	100
102			Power Supply	18 days	Sat 4/7/18	Wed 4/25/18	
103			Calculate Power Requirements Based On Parts	2 days	Sat 4/7/18	Sun 4/8/18	
104			Research Power Supply	2 days	Sun 4/8/18	Mon 4/9/18	103
105			Order Power Supply	1 day	Mon 4/16/18	Mon 4/16/18	104
106			Test Power Supply	2 days	Mon 4/23/18	Tue 4/24/18	105
107			Finalize Power Supply	1 day	Tue 4/24/18	Wed 4/25/18	106
108			Safety Locks	12 days	Mon 4/23/18	Fri 5/4/18	
109			Research Safety Locks	2 days	Mon 4/23/18	Tue 4/24/18	
110			Order Safety Locks Parts	1 day	Wed 4/25/18	Wed 4/25/18	109
111			Prototype Safety Locks	1 day	Thu 5/3/18	Thu 5/3/18	110
112			Finalize Safety Locks	1 day	Fri 5/4/18	Fri 5/4/18	111
113			Sensors	5 days	Sun 3/18/18	Thu 3/22/18	
114			Research Sensors	2 days	Sun 3/18/18	Mon 3/19/18	
115			Order Sensors	1 day	Tue 3/20/18	Tue 3/20/18	114



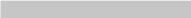
















Project: Schedule Date: Tue 5/15/18	Task		Inactive Summary		External Tasks	
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	Project Summary		Manual Summary		Manual Progress	
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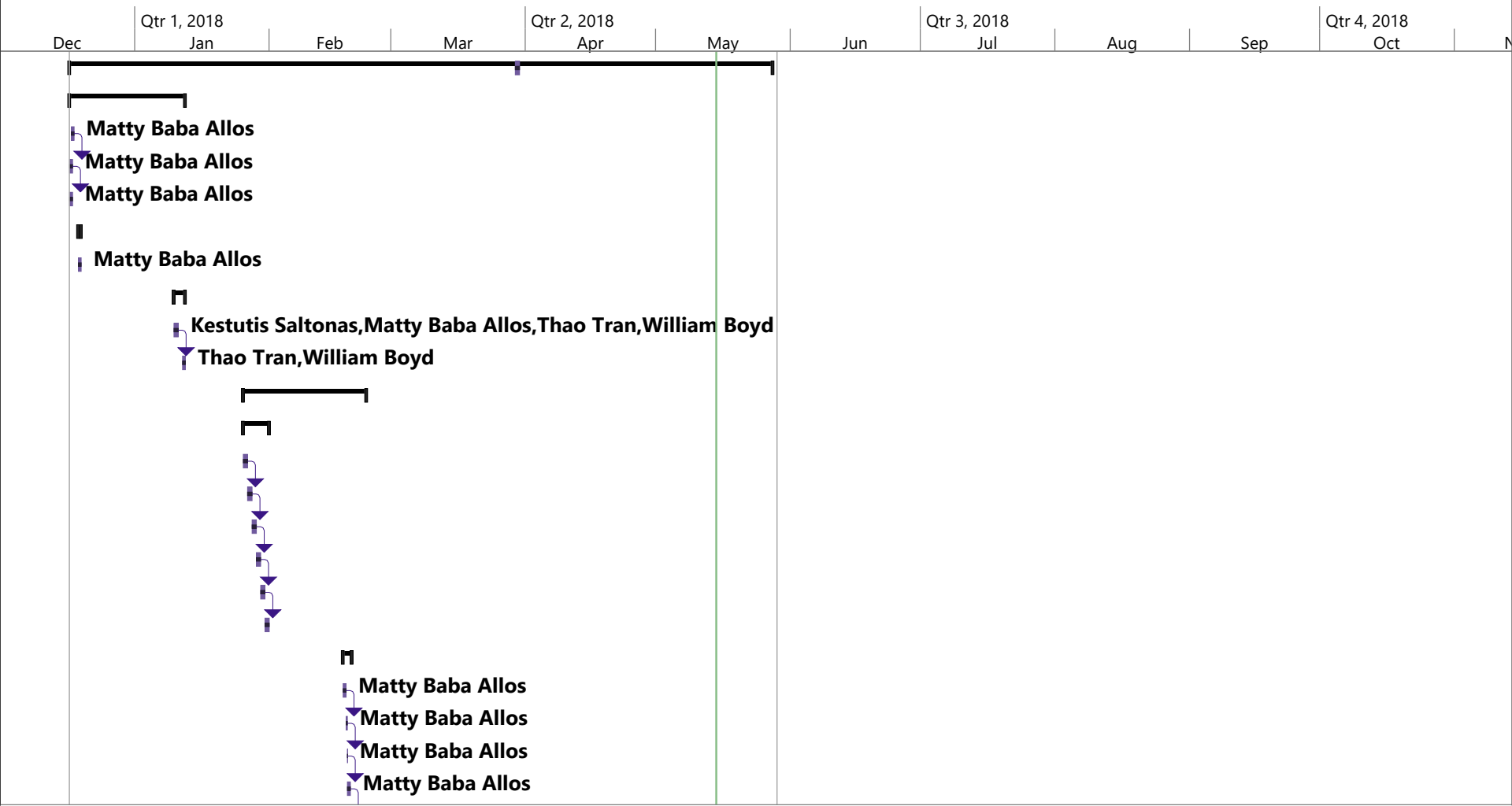
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116			Prototype Sensors Software	1 day	Wed 3/21/18	Wed 3/21/18	115
117			Finalize Sensors	1 day	Thu 3/22/18	Thu 3/22/18	116
118			First Term Project Assessment	2.25 days	Fri 3/23/18	Sun 3/25/18	
119			Write First Term Project Assessment Draft	1.13 days	Fri 3/23/18	Fri 3/23/18	
120			Review First Term Project Assessment Draft	0.5 days	Fri 3/23/18	Sat 3/24/18	119
121			Revise First Term Project Assessment Draft	0.25 days	Sat 3/24/18	Sat 3/24/18	120
122			Review First Term Project Assessment Document	0.38 days	Sat 3/24/18	Sat 3/24/18	121
123			Approve First Term Project Assessment Document	0.25 days	Sat 3/24/18	Sat 3/24/18	122
124			Submit First Term Project Assessment Document	0.5 days	Sat 3/24/18	Sun 3/25/18	123
125			Test	3 days	Mon 4/30/18	Thu 5/3/18	
126			Unit Testing	2 days	Mon 4/30/18	Tue 5/1/18	
127			UI Testing	2 days	Tue 5/1/18	Tue 5/1/18	126
128			Integration Testing	2 days	Tue 5/1/18	Wed 5/2/18	127
129			System Testing	2 days	Wed 5/2/18	Thu 5/3/18	128
130			Product Documentation	5 days	Sun 5/6/18	Thu 5/10/18	
131			Write Product Documentation Draft	1.13 days	Sun 5/6/18	Sun 5/6/18	
132			Review Product Documentation Draft	2 days	Sun 5/6/18	Mon 5/7/18	131
133			Revise Product Documentation Draft	2 days	Mon 5/7/18	Tue 5/8/18	132
134			Review Product Documentation Schedule	2 days	Tue 5/8/18	Wed 5/9/18	133
135			Approve Product Documentation	2 days	Wed 5/9/18	Thu 5/10/18	134
136			Submit Product Documentation	0 days	Thu 5/10/18	Thu 5/10/18	135
137			Project Report	10 days	Mon 5/14/18	Wed 5/23/18	
138			Write Project Report Draft	3 days	Mon 5/14/18	Tue 5/15/18	

Project: Schedule Date: Tue 5/15/18	Task		Inactive Summary		External Tasks	
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	Project Summary		Manual Summary		Manual Progress	
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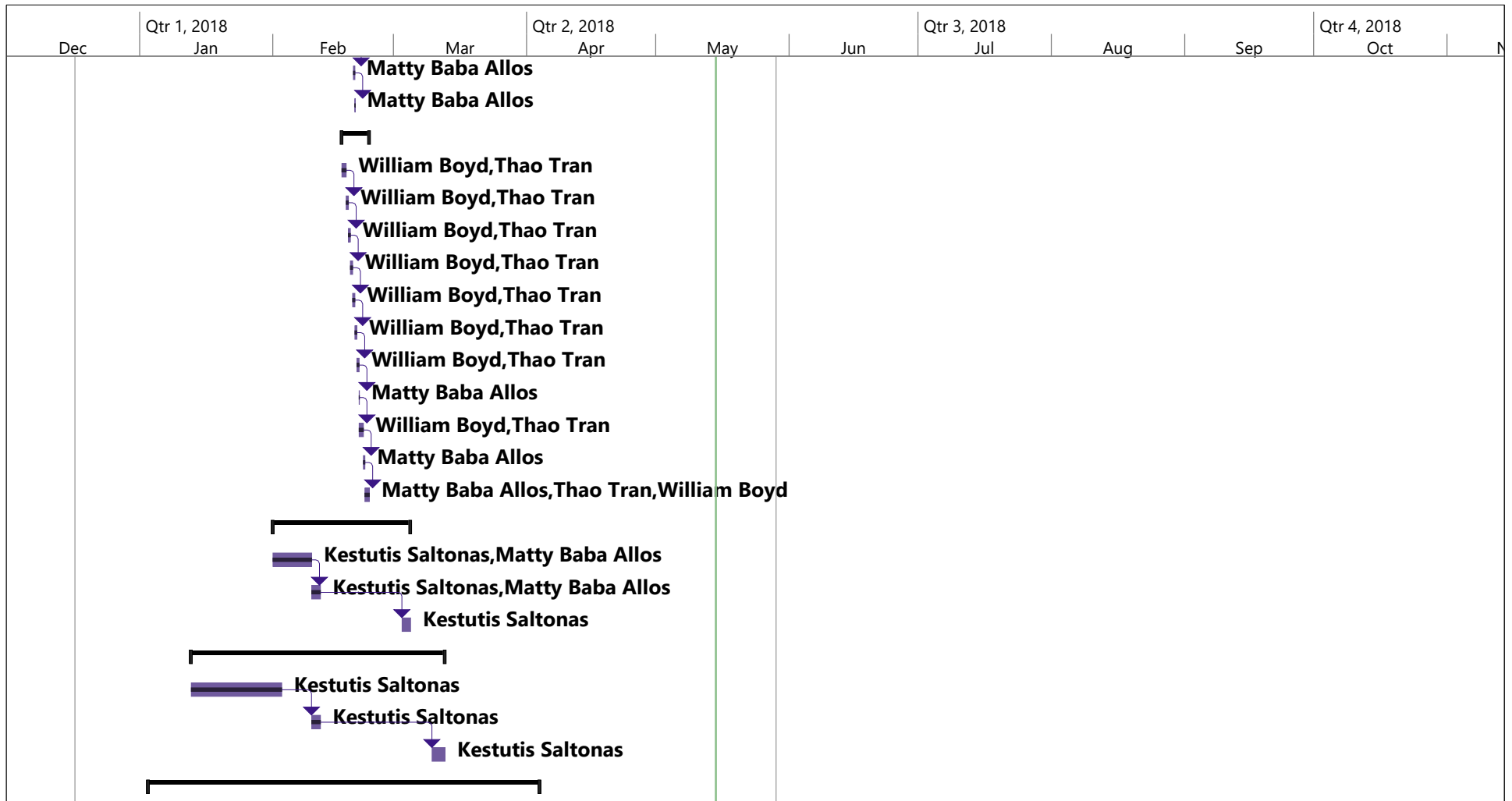
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139			Review Project Report Draft	3.88 days	Tue 5/15/18	Thu 5/17/18	138
140			Revise Project Report Draft	3.88 days	Thu 5/17/18	Sat 5/19/18	139
141			Review Project Report Document	3.88 days	Sat 5/19/18	Mon 5/21/18	140
142			Approve Project Report Document	3.88 days	Mon 5/21/18	Wed 5/23/18	141
143			Submit Project Report Document	0 days	Wed 5/23/18	Wed 5/23/18	142
144			Final Project Assessment	13 days	Mon 5/14/18	Sat 5/26/18	
145			Write Final Term Project Assessment Draft	8 days	Mon 5/14/18	Fri 5/18/18	
146			Review Final Term Project Assessment Draft	3.88 days	Fri 5/18/18	Sun 5/20/18	145
147			Revise Final Term Project Assessment Draft	3.88 days	Sun 5/20/18	Tue 5/22/18	146
148			Review Final Term Project Assessment Document	3.88 days	Tue 5/22/18	Thu 5/24/18	147
149			Approve Final Term Project Assessment Document	3.88 days	Thu 5/24/18	Sat 5/26/18	148
150			Submit Final Term Project Assessment Document	0 days	Sat 5/26/18	Sat 5/26/18	149
151			Project Poster	27 days	Tue 5/1/18	Mon 5/28/18	
152			Design Project Poster	3 days	Tue 5/1/18	Wed 5/2/18	
153			Do Project Poster	7 days	Wed 5/2/18	Sun 5/6/18	152
154			Revise Project Poster	2 days	Sun 5/6/18	Mon 5/7/18	153
155			Review Project Poster	1 day	Mon 5/7/18	Tue 5/8/18	154
156			Approve Project Poster	0.63 days	Tue 5/8/18	Tue 5/8/18	155
157			Submit Project Poster	0 days	Mon 5/28/18	Mon 5/28/18	156

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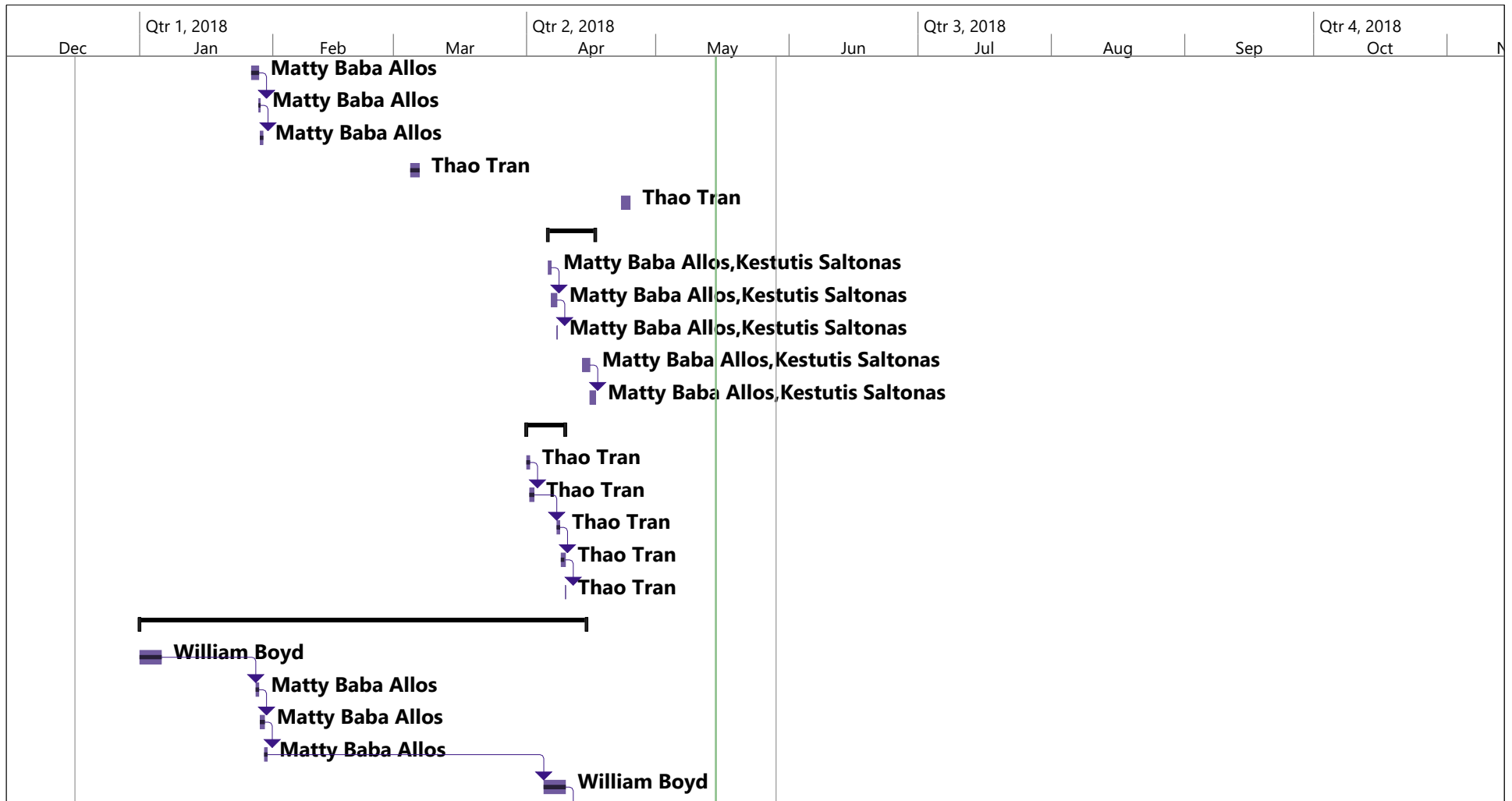
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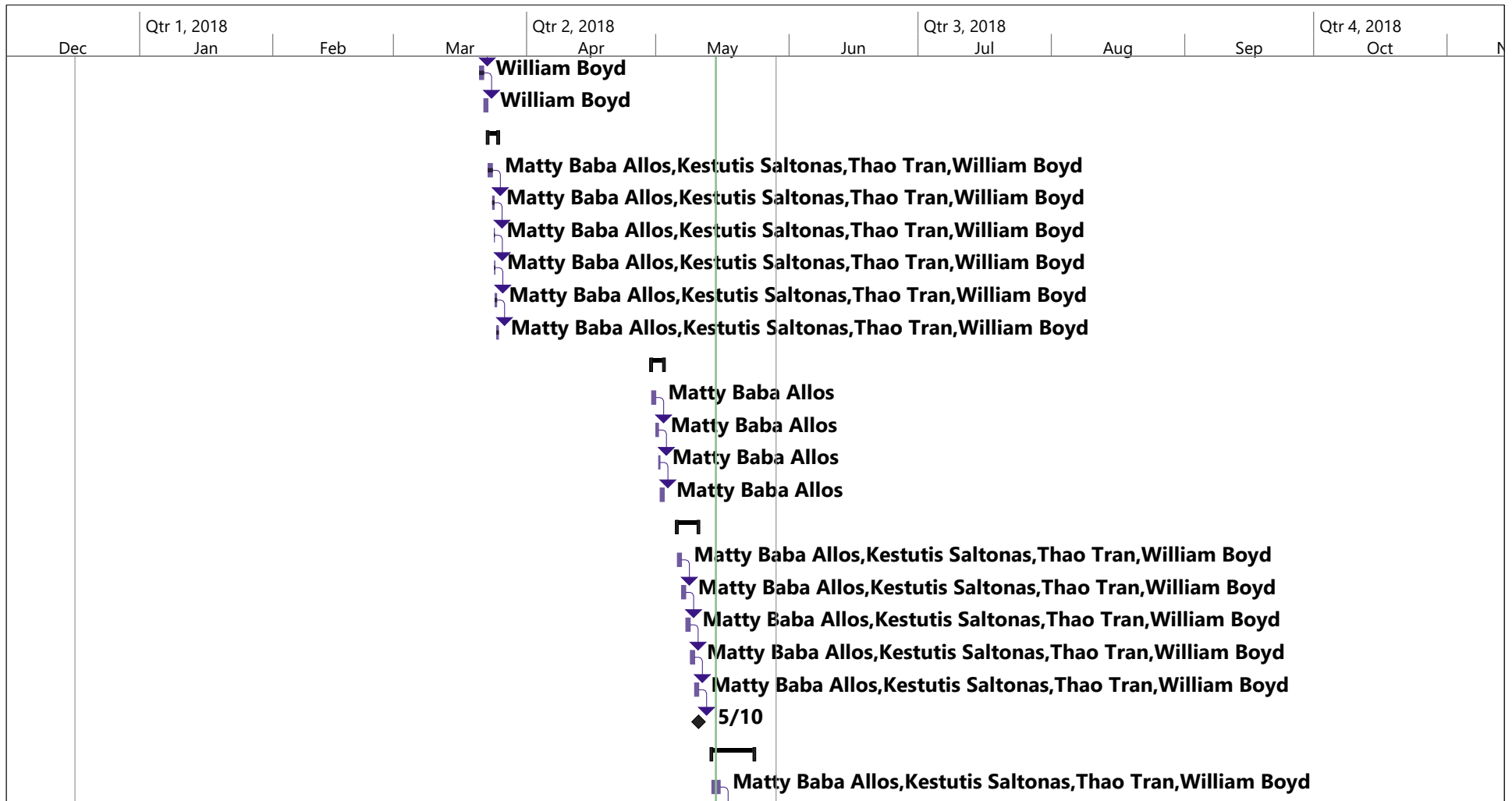
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