














































































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: Fri 2/23/18

Task		Inactive Summary		External Tasks	
Split		Manual Task		External Milestone	
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: Fri 2/23/18

Task		Inactive Summary		External Tasks	
Split		Manual Task		External Milestone	
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
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: Fri 2/23/18

Task		Inactive Summary		External Tasks	
Split		Manual Task		External Milestone	
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
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: Fri 2/23/18

Task		Inactive Summary		External Tasks	
Split		Manual Task		External Milestone	
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
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: Fri 2/23/18

Task		Inactive Summary		External Tasks	
Split		Manual Task		External Milestone	
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
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: Fri 2/23/18

Task		Inactive Summary		External Tasks	
Split		Manual Task		External Milestone	
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
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

Project: Schedule
Date: Fri 2/23/18


Task




Inactive Summary




Split




Milestone




Summary




Project Summary




Inactive Task




Inactive Milestone




Manual Task




Duration-only




Manual Summary Rollup




Manual Summary




Start-only




Finish-only




External Tasks




External Milestone




Deadline




Progress



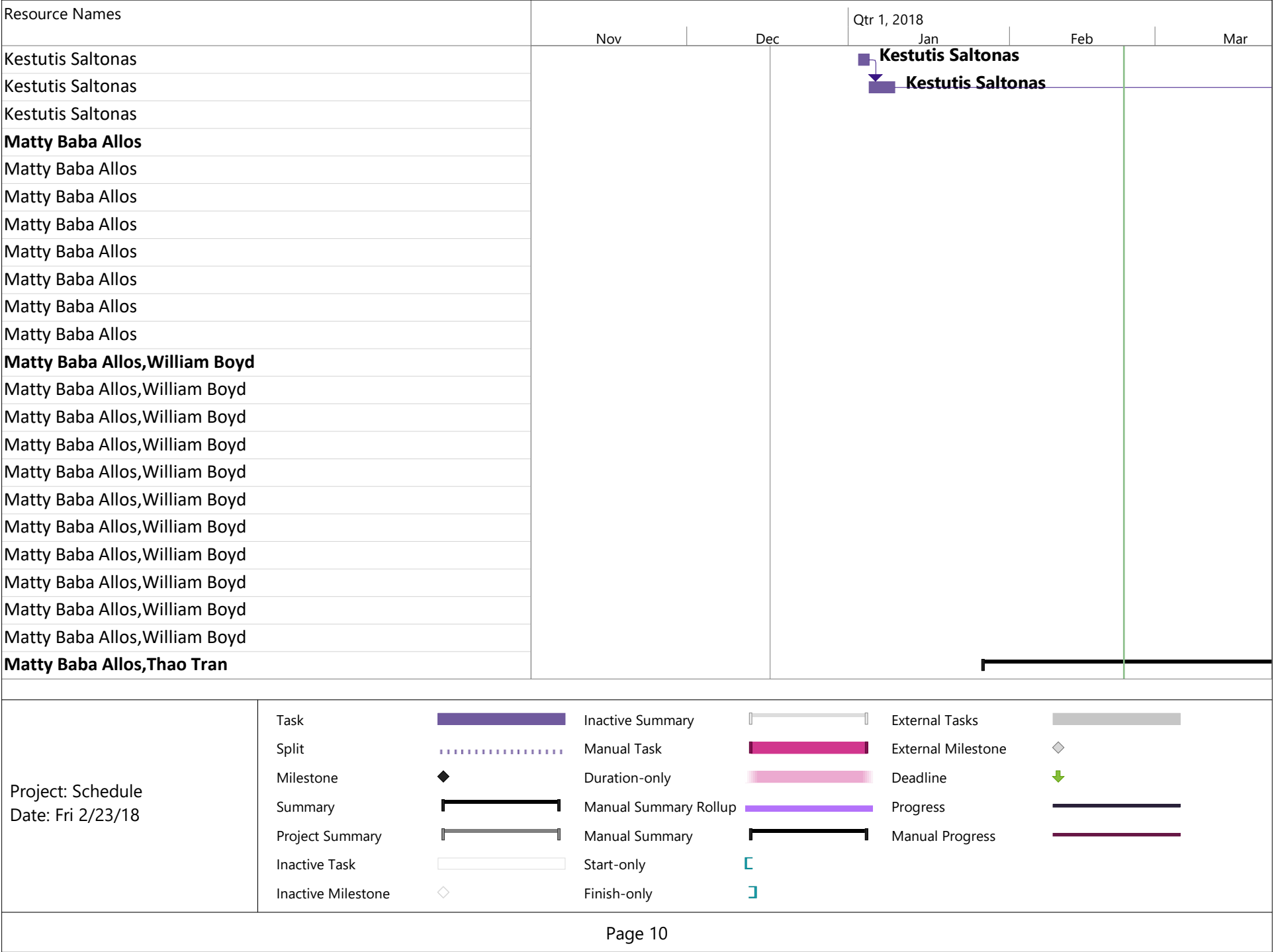
Manual Progress

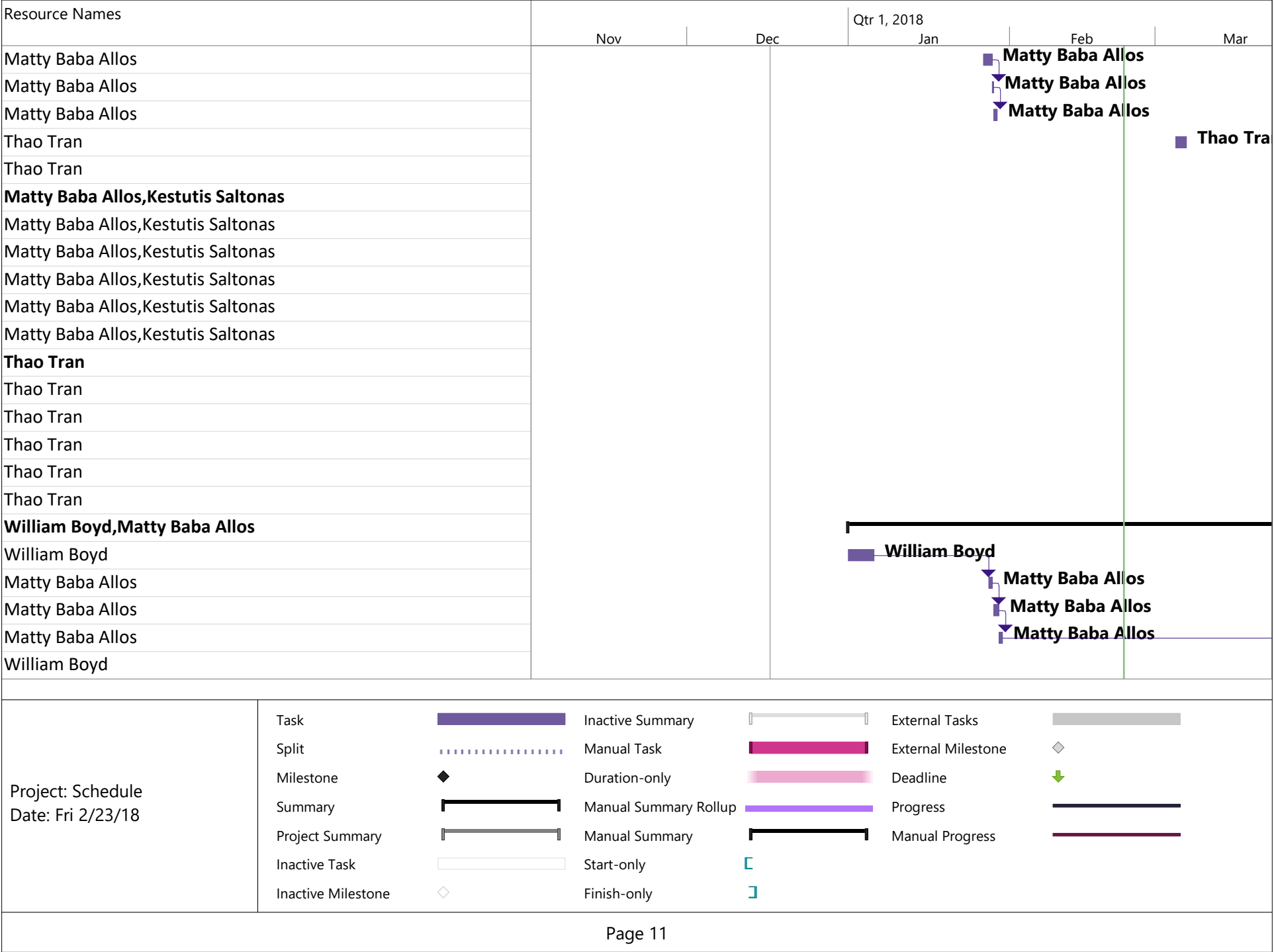























[illegible]

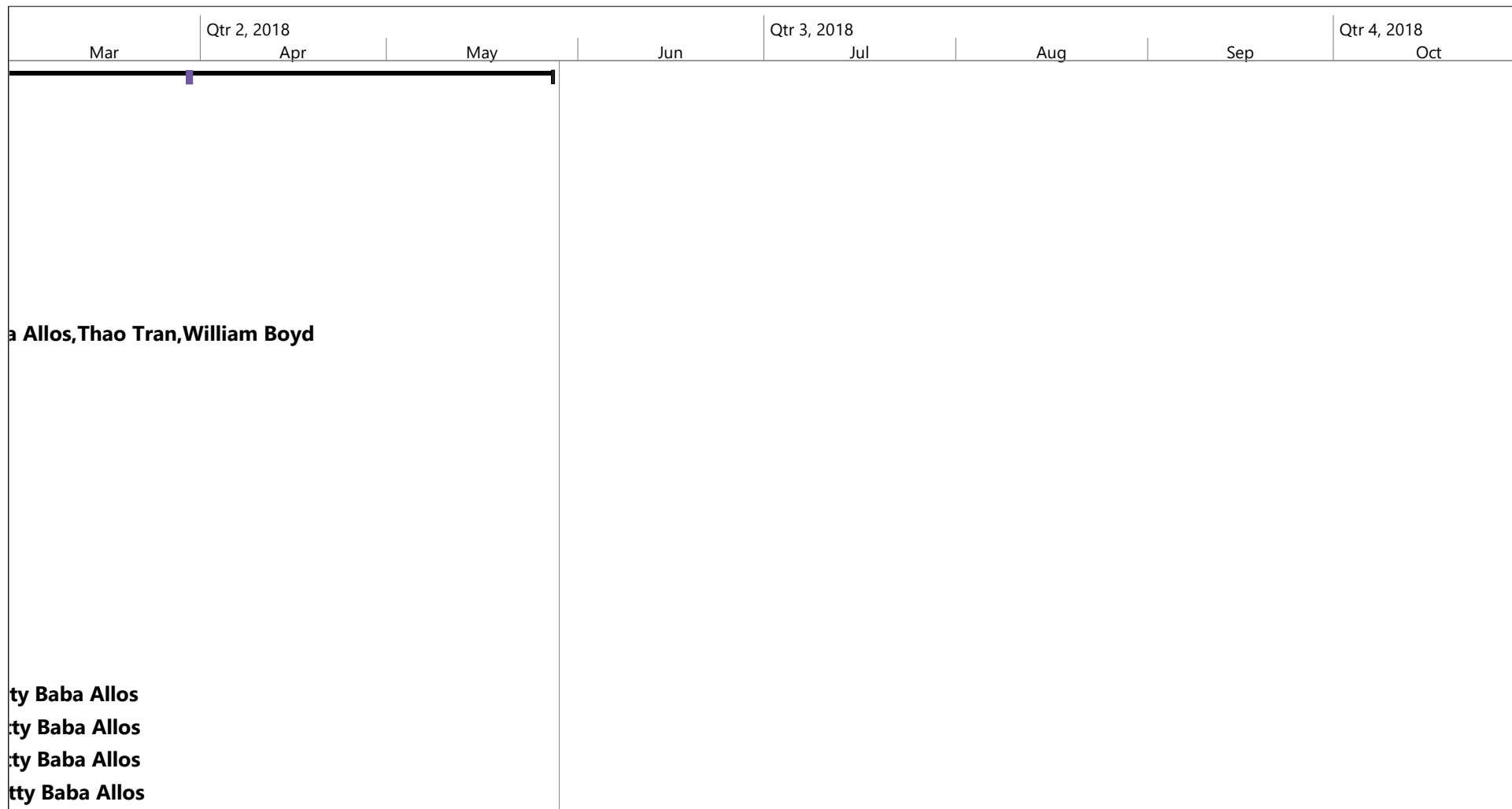
[illegible]






















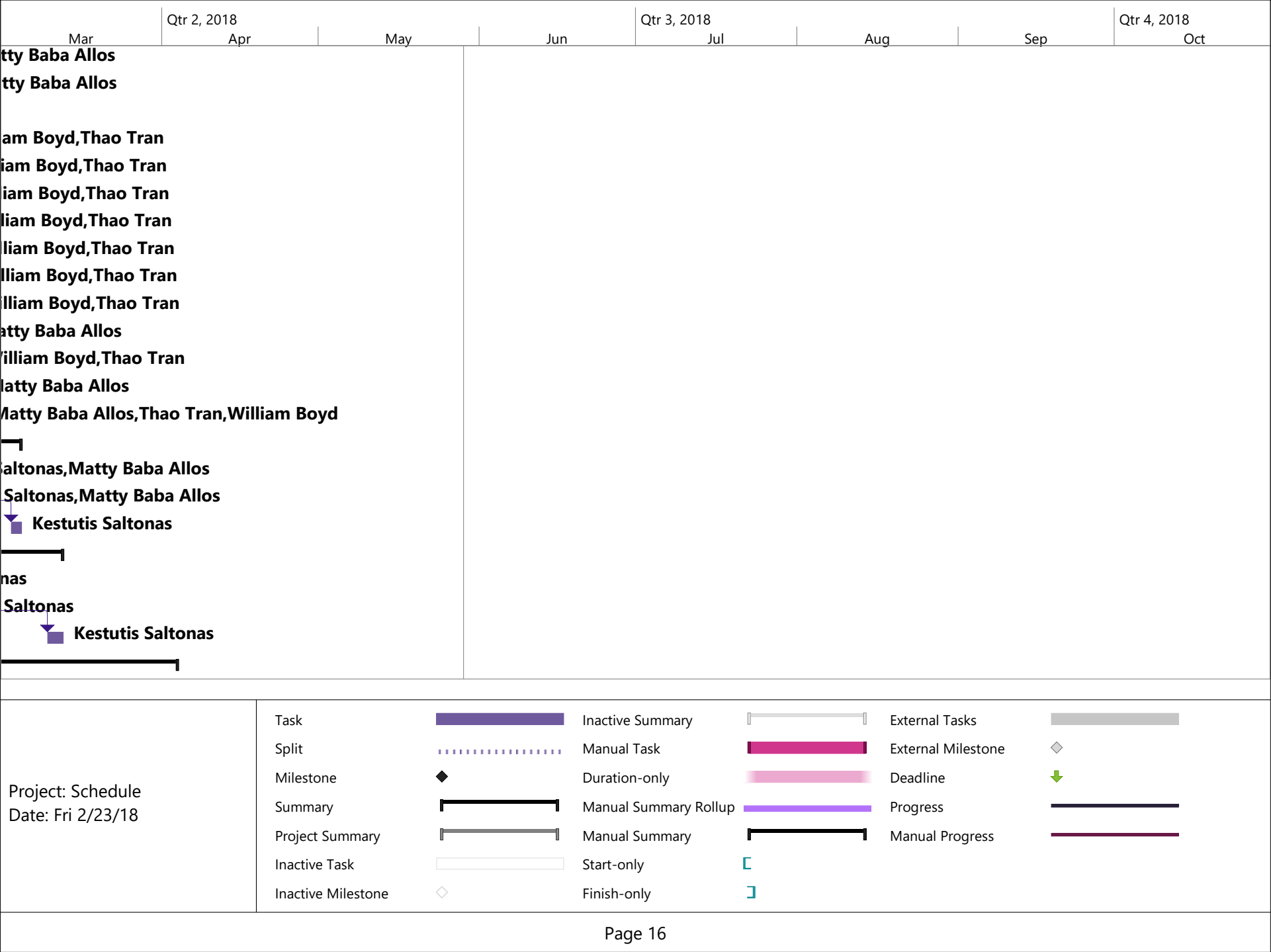


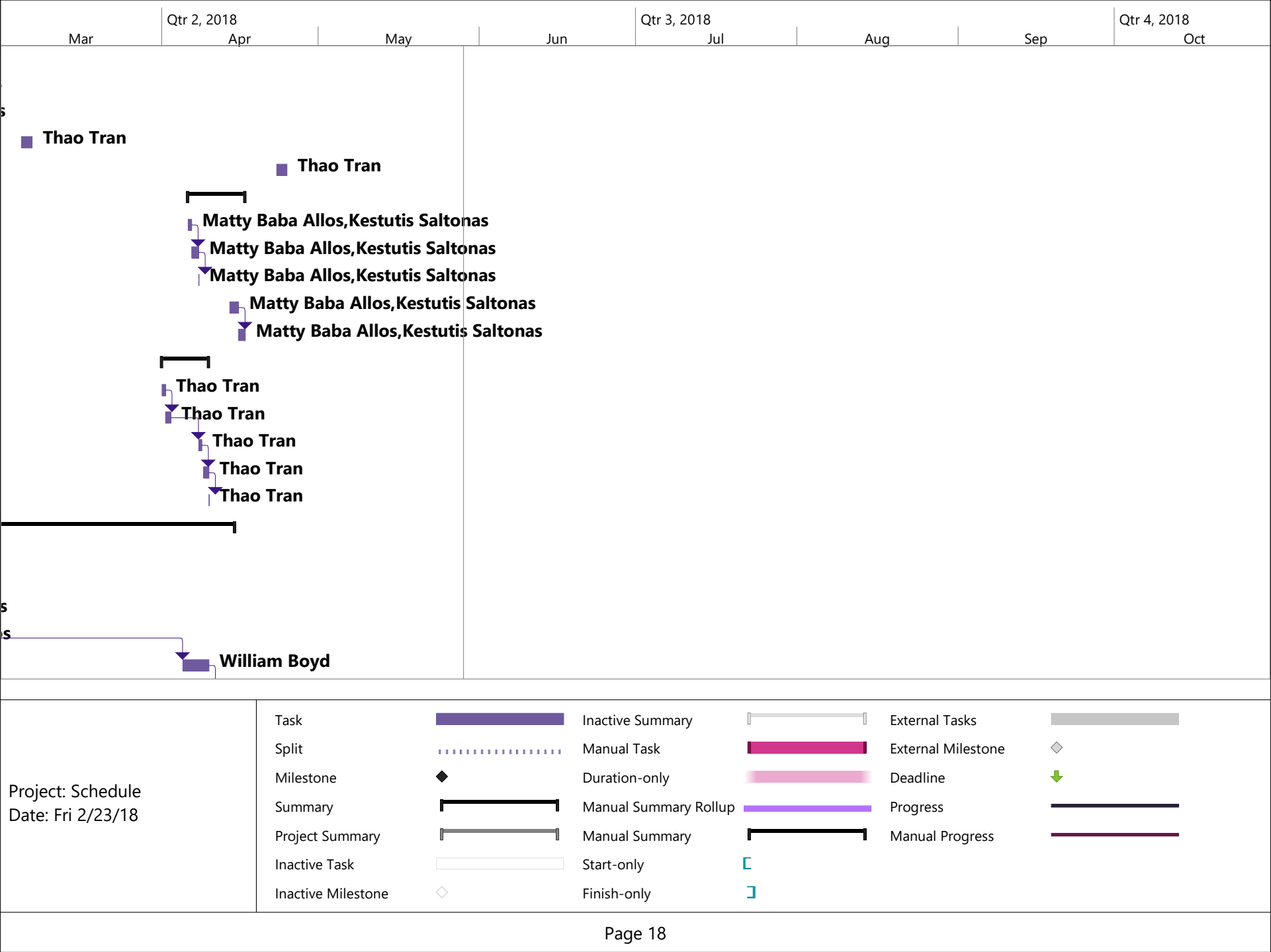
Resource Names	Nov	Dec	Qtr 1, 2018 Jan	Feb	Mar
William Boyd					
Matty Baba Allos,Kestutis Saltonas					
Matty Baba Allos,Kestutis Saltonas					
Matty Baba Allos,Kestutis Saltonas					
Matty Baba Allos,Kestutis Saltonas					
Thao Tran					
Thao Tran					
Thao Tran					
Thao Tran					
Matty Baba Allos,William Boyd					
Matty Baba Allos,William Boyd					
Matty Baba Allos,William Boyd					
Matty Baba Allos,William Boyd					
Matty Baba Allos,William Boyd					
Matty Baba Allos,William Boyd					
William Boyd					
William Boyd					
William Boyd					
William Boyd					
William Boyd					
William Boyd					
William Boyd					
William Boyd					

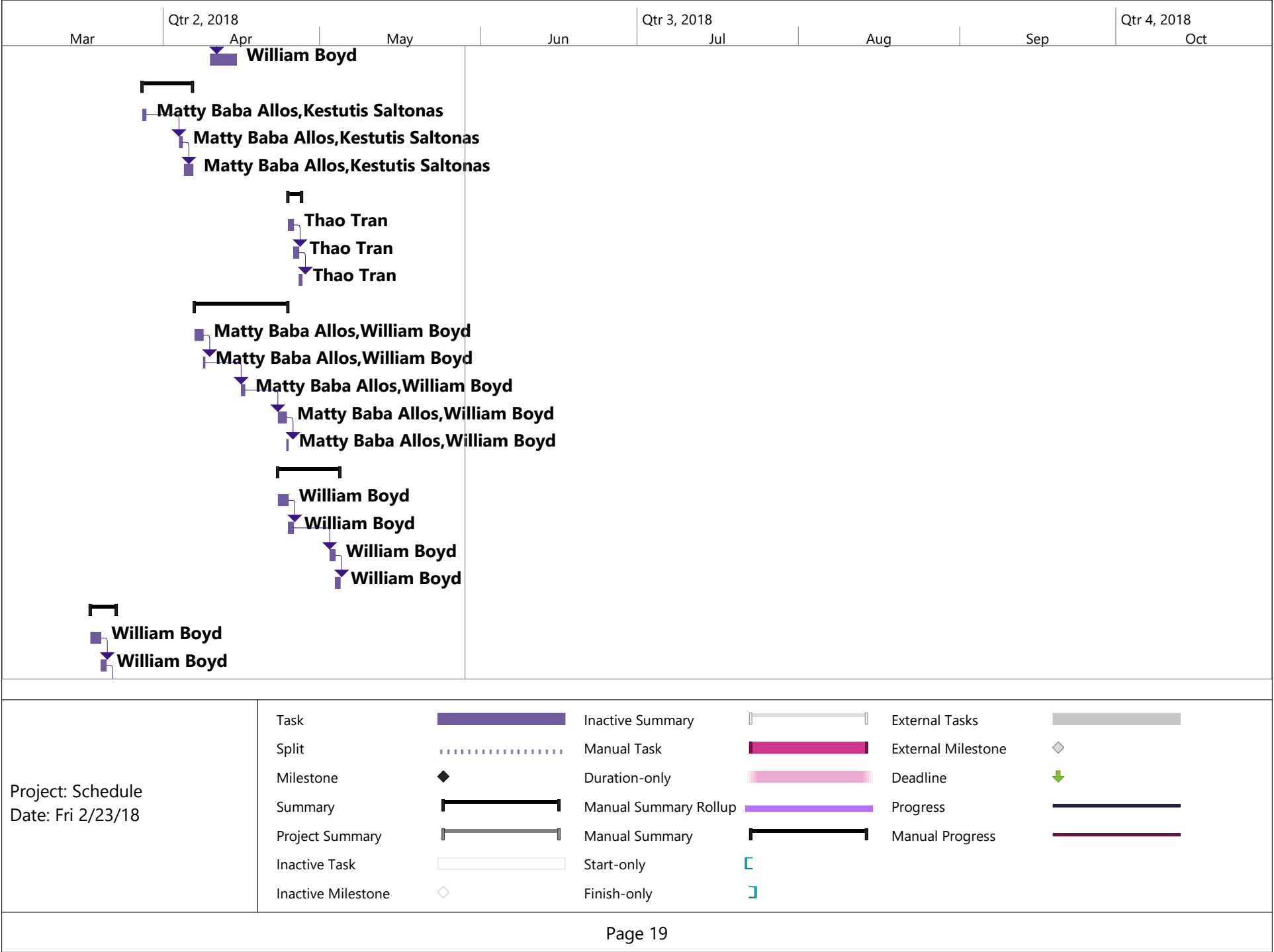
Project: Schedule Date: Fri 2/23/18	Task		Inactive Summary		External Tasks	
	Split		Manual Task		External Milestone	
	Milestone		Duration-only		Deadline	
	Summary		Manual Summary Rollup		Progress	
	Project Summary		Manual Summary		Manual Progress	
	Inactive Task		Start-only			
	Inactive Milestone		Finish-only			

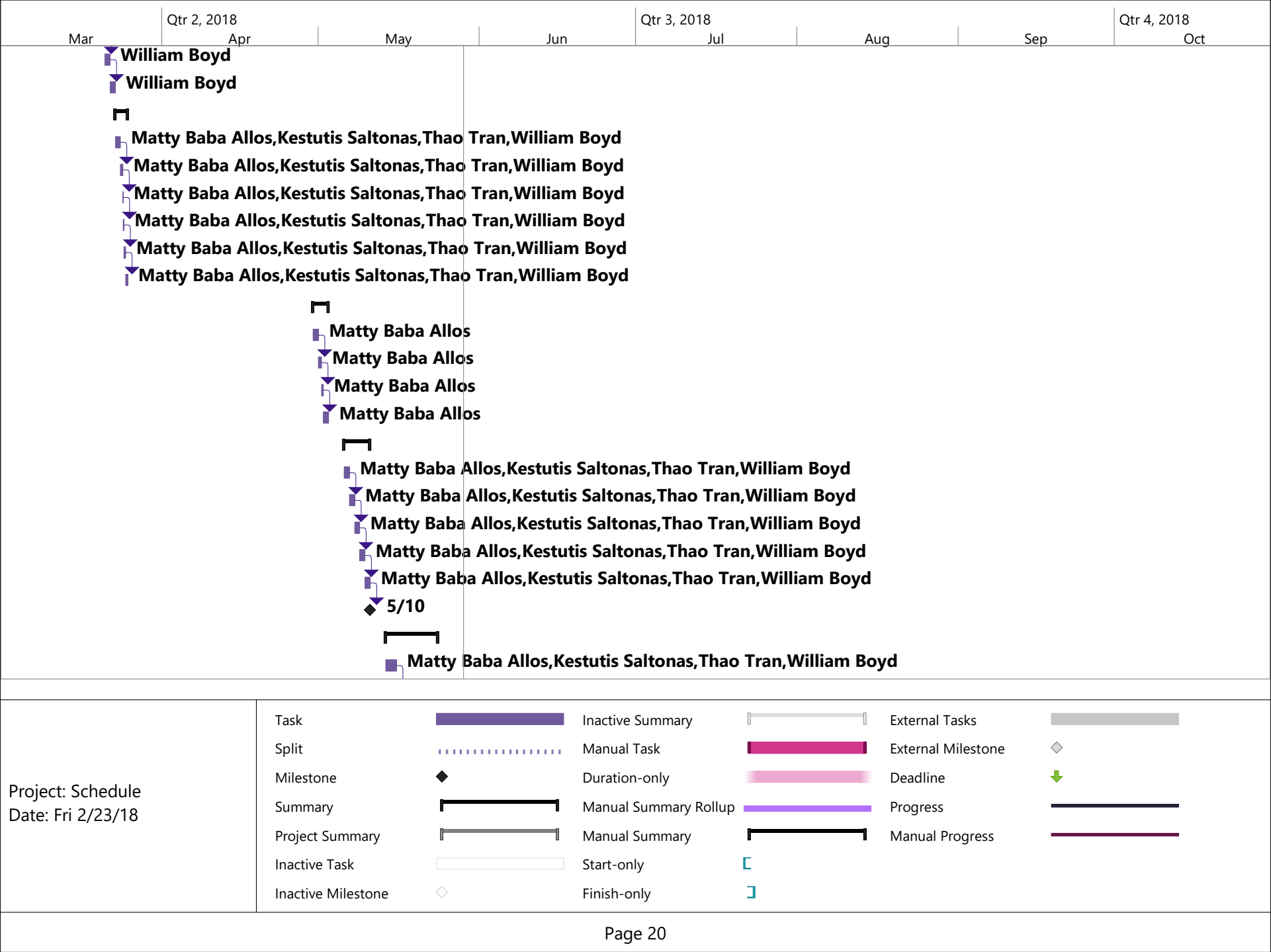


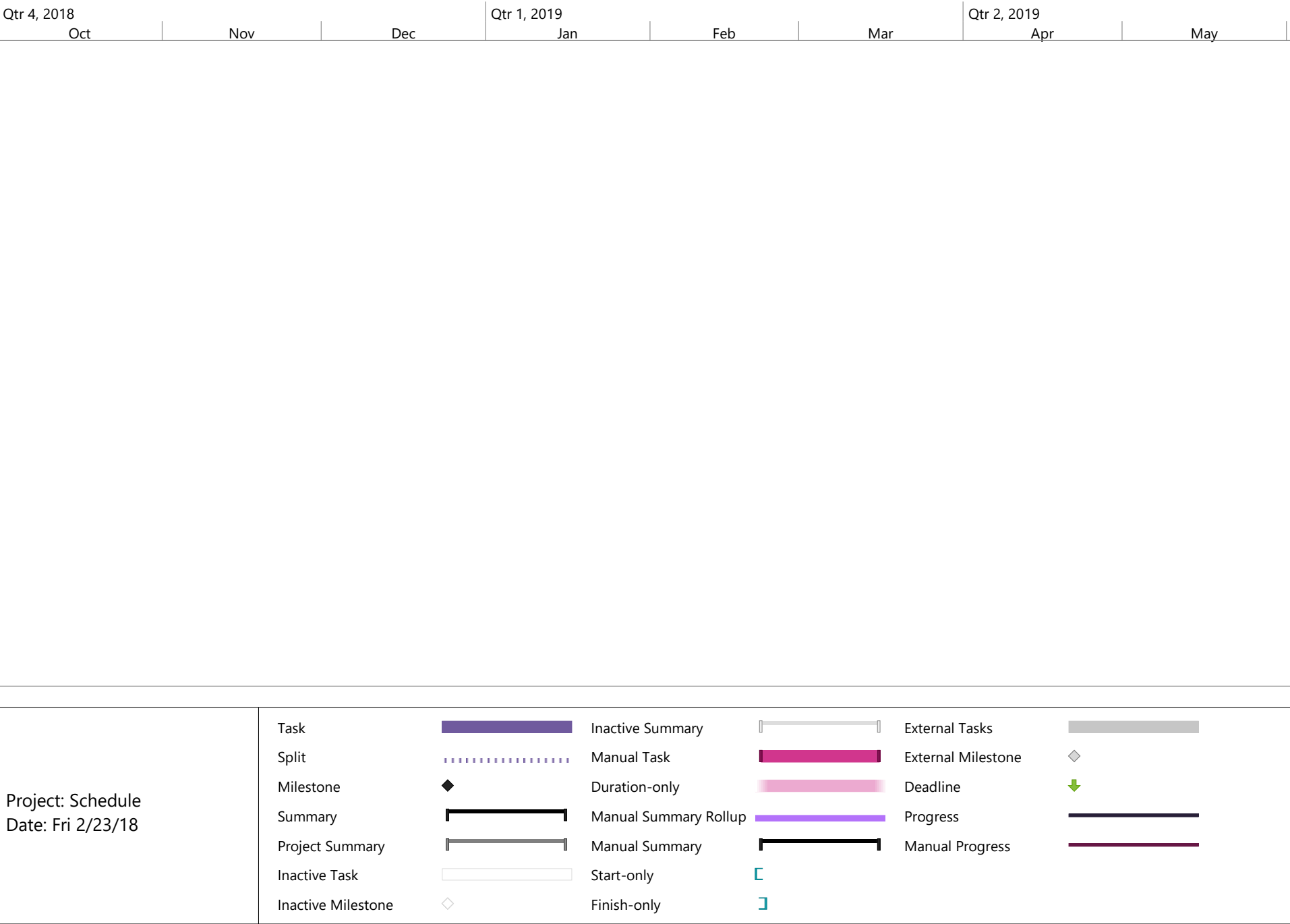
Project: Schedule Date: Fri 2/23/18	Task		Inactive Summary		External Tasks	
	Split		Manual Task		External Milestone	
	Milestone		Duration-only		Deadline	
	Summary		Manual Summary Rollup		Progress	
	Project Summary		Manual Summary		Manual Progress	
	Inactive Task		Start-only			
	Inactive Milestone		Finish-only			

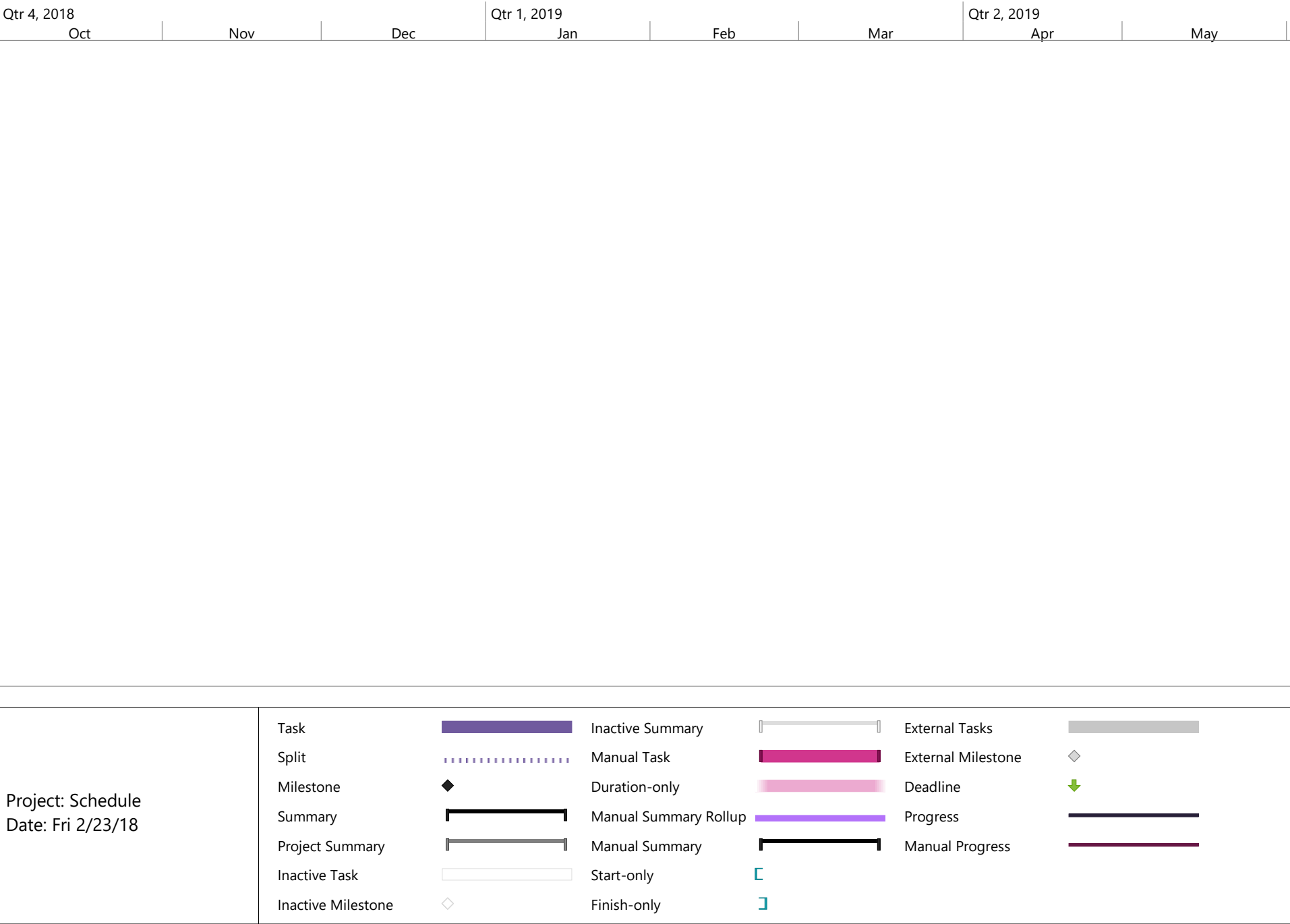























































































<div>Project: Schedule</div> <div>Date: Fri 2/23/18</div>	Task		Inactive Summary		External Tasks	
	Split		Manual Task		External Milestone	
	Milestone		Duration-only		Deadline	
	Summary		Manual Summary Rollup		Progress	
	Project Summary		Manual Summary		Manual Progress	
	Inactive Task		Start-only			
	Inactive Milestone		Finish-only			

<div>Project: Schedule</div> <div>Date: Fri 2/23/18</div>	Task		Inactive Summary		External Tasks	
	Split		Manual Task		External Milestone	
	Milestone		Duration-only		Deadline	
	Summary		Manual Summary Rollup		Progress	
	Project Summary		Manual Summary		Manual Progress	
	Inactive Task		Start-only			
	Inactive Milestone		Finish-only			

<div>Project: Schedule</div> <div>Date: Fri 2/23/18</div>	Task		Inactive Summary		External Tasks	
	Split		Manual Task		External Milestone	
	Milestone		Duration-only		Deadline	
	Summary		Manual Summary Rollup		Progress	
	Project Summary		Manual Summary		Manual Progress	
	Inactive Task		Start-only			
	Inactive Milestone		Finish-only			

<div>Project: Schedule</div> <div>Date: Fri 2/23/18</div>	Task		Inactive Summary		External Tasks	
	Split		Manual Task		External Milestone	
	Milestone		Duration-only		Deadline	
	Summary		Manual Summary Rollup		Progress	
	Project Summary		Manual Summary		Manual Progress	
	Inactive Task		Start-only			
	Inactive Milestone		Finish-only	