Autonomous Mobile Manipulator

09-Jan-2018

https://github.com/carebare47/PROJ515/

Project manager	Tom, Dan
Project dates	31-Jan-2018 - 15-Apr-2018
Completion	0%
Tasks	63
Resources	5

Tasks

Name	Begin date	End date	Resources
Gripper	01/02/18	21/02/18	
Find suitable servos	01/02/18	01/02/18	Tom, Dan
Mechanics	07/02/18	12/02/18	
CAD	07/02/18	09/02/18	
Integrate LEDs	07/02/18	07/02/18	Dan
Integrate camera	07/02/18	07/02/18	Dan
Integrate PCB	07/02/18	07/02/18	Dan
Finish gripper CAD	08/02/18	09/02/18	Dan
CAM	10/02/18	12/02/18	
3D print gripper	10/02/18	12/02/18	3d print
Electronics	02/02/18	20/02/18	
Schematics	02/02/18	02/02/18	
LED driver and servo breakout	02/02/18	02/02/18	Tom
PCB layout	03/02/18	03/02/18	Tom
Get PCB made	05/02/18	19/02/18	PCB production by the university
Gripper PCB assembly	20/02/18	20/02/18	Tom
Assemble gripper	14/02/18	14/02/18	Dan
Gripper control software	10/02/18	10/02/18	Dan
Gripper testing	21/02/18	21/02/18	Dan
Gripper Finished	22/02/18	22/02/18	
Vision	31/01/18	05/03/18	
Get data on QR codes distance vs resolution vs size	31/01/18	31/01/18	Tom, Dan
Hand cam	21/02/18	05/03/18	
Choose/install fiducial localisation software (hand)	21/02/18	21/02/18	Tom, Dan
Software development	23/02/18	05/03/18	
Hand cam node	23/02/18	03/03/18	

Tasks

Name	Begin date	End date	Resources
Visual servoing and fiducial tracker	23/02/18	03/03/18	Dan
Gripper close trigger when gripper is in the right place	02/03/18	03/03/18	Dan
Test visual servoing and gripper close (not on arm)	05/03/18	05/03/18	Dan
Head cam	24/02/18	03/03/18	
Choose/install fiducial localisation software (head)	24/02/18	24/02/18	Tom, Dan
Develop fiducial system to detect object and point hand cam at it	28/02/18	03/03/18	Tom
Write node to recieve fiducial detected signal and pass location to waypoint node (Object mapper)	26/02/18	26/02/18	Tom
Test head cam identification and saving with waypoint node	27/02/18	28/02/18	Tom
Headcam can identify, locate and save the location of objects	01/03/18	01/03/18	
Localisation/Navigation	06/02/18	28/02/18	
Make sure everything still works	06/02/18	06/02/18	Tom
Fix encoder	07/02/18	09/02/18	Tom
Evaluate current performance	10/02/18	13/02/18	Tom
Go to object identified by object mapper (potentially with variable goal accuracy)	01/03/18	01/03/18	
Arm	01/02/18	12/03/18	
Mounting arm on base	01/02/18	05/02/18	
Decide on mounting method for arm	01/02/18	01/02/18	Tom, Dan
Design arm mount	02/02/18	02/02/18	Dan
Build arm mount	03/02/18	03/02/18	Dan
Mount arm	05/02/18	05/02/18	Dan
Mounting gripper on arm	14/02/18	24/02/18	
Design gripper to arm mount	14/02/18	21/02/18	Dan
Print gripper mount	22/02/18	23/02/18	3d print
Mount gripper on arm	24/02/18	24/02/18	Dan
Control	02/03/18	12/03/18	
Learn how to control arm	02/03/18	05/03/18	Tom

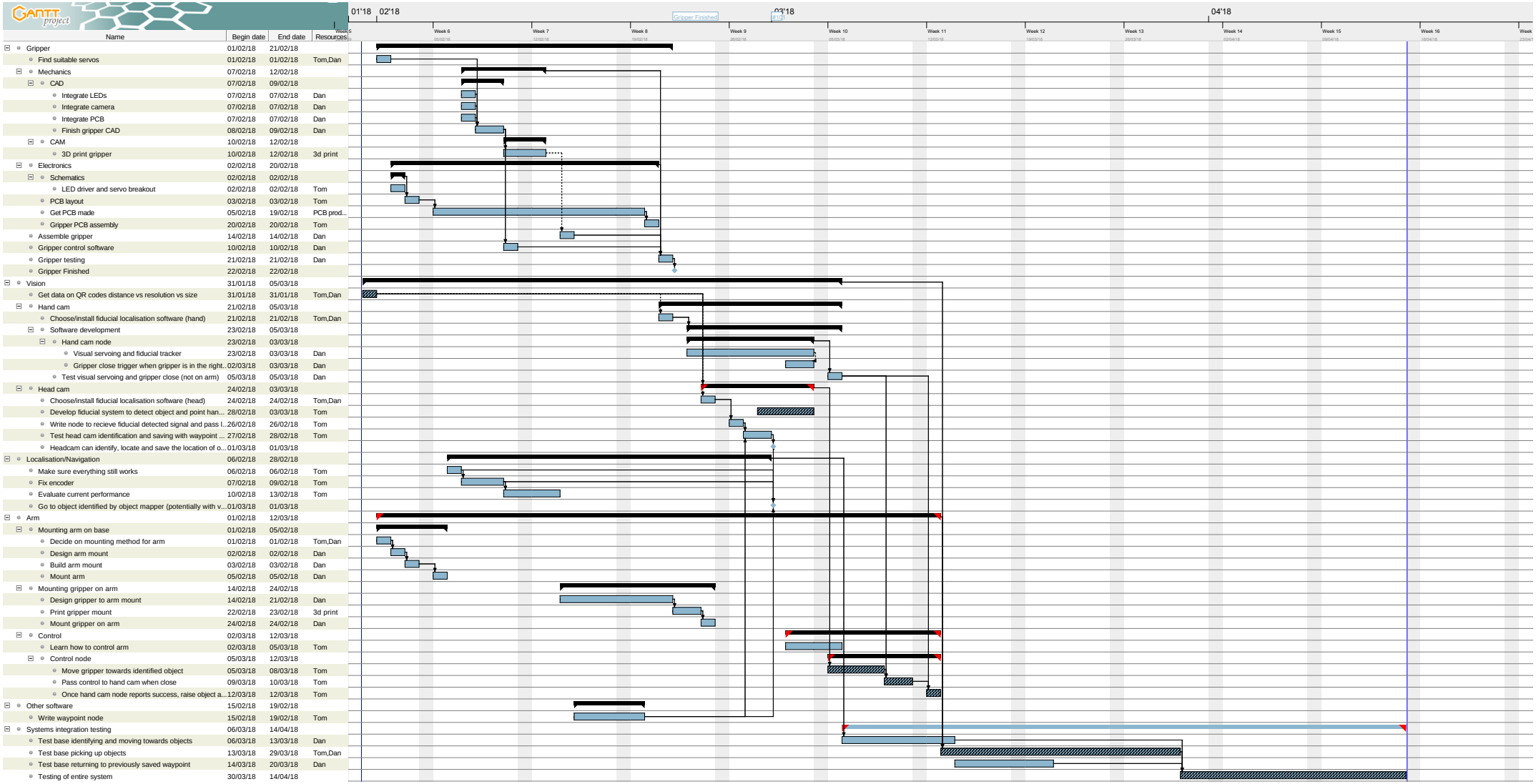
Tasks

Name	Begin date	End date	Resources
Control node	05/03/18	12/03/18	
Move gripper towards identified object	05/03/18	08/03/18	Tom
Pass control to hand cam when close	09/03/18	10/03/18	Tom
Once hand cam node reports success, raise object and bring close to robot	12/03/18	12/03/18	Tom
Other software	15/02/18	19/02/18	
Write waypoint node	15/02/18	19/02/18	Tom
Systems integration testing	06/03/18	14/04/18	
Test base identifying and moving towards objects	06/03/18	13/03/18	Dan
Test base picking up objects	13/03/18	29/03/18	Tom, Dan
Test base returning to previously saved waypoint	14/03/18	20/03/18	Dan
Testing of entire system	30/03/18	14/04/18	

Resources

Name	Default role
Tom	project manager
Dan	project manager
PCB production by the university	undefined
Part ordering	undefined
3d print	undefined

Gantt Chart



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