

Category	System	Description of Risk	P (1-10)	I (1-10)	Priority (P * I)	Triggers	Response Plan
Technical	Gripper	Servo breaks without prompting	2	5	10		
		Gripper self-destructs breaking servo	3	5	15		
		Gripper self-destructs breaking plastics	3	2	6		
	Kinect				0		
		Power supply voltage issues	2	7	14		
		Runs too slowly on second PC	4	3	12		
		Issues translating kinect pixel numbers to coordinate referenced to any robot	3	8	24		
	Gripper vision				0		
		Fractal QR codes don't work	5	8	40		
		Camera too close, fractal QR code doesn't work	6	8	48		
		Gripper/kinect vision uses up too many computational resources causing issues with kinematic calculations resulting in:					
		Non-smooth trajectories	5	2	10		
		Jumping	4	3	12		
		Collisions with other objects	3	6	18		
		Collisions with self	3	6	18		
		Gripper can't deform to shape of object properly, Can't pick object up	3	6	18		
	Localisation						

		Robot crashes into walls/things resulting in:	6		0		
		Breaks nothing	8	1	8		
		Breaks arm	3	6	18		
		Breaks encoder	3	6	18		
		Robot can't get close enough to object (more than once or twice)	3	7	21		
	Object mapping				0		
		Robot can't see far away objects (1.5m+)	3	7	21		
		Robot falsely identifies objects	2	7	14		
					0		
	Arm mounting				0		
		Arm falls off leading to damage of arm	3	7	21		
		Arm overbalances base	2	9	18		
	Systems integration				0		
		Must and can't stop/pause SLAM without remapping room	4	9	36		
		Object falls out of gripper often	3	7	21		
		Invacare remote finally dies	3	7	21		reserve budget to buy new controller
					0		
Planning		Finished subsystems performance criteria not strict enough to allow for autonomous interaction between subsystems	3	7	21	Unacceptable performance of interaction between systems	Carefully re-evaluate performance criteria of subsystems, potentially suggest alternative subsystems
Human					0		

		Lab is frequently full of people during testing/development, scrambles SLAM	4	8	32	More than two days spent at low productivity due to people walking nearby	
		Getting caught in the details of a subsystem, spending too long trying to fix unexpected issues in a subsystem	7	7	49	Subsystem development time exceeded	Group meeting, analyse alternative subsystems/different ways of achieving the same thing
		Tom/Dan falls ill for:			0		
		1 week	2	7	14		
		2-4 weeks	2	8	16		
		4-8 weeks	1	9	9		
		8 weeks +	1	10	10		
		CAD could take longer than planned	3	3	9	CAD development time exceeded	Remaining workload redistributed between us
Human / time		Systems integration takes longer than planned (applicable for interaction between every system & subsystem)	7	7	49	Systems integration time exceeded (or looks like it will be)	Reduce scope of project, re-evaluate priority list, divert attention from lower priority tasks, look for potential off-the shelf solutions (unlikely to find any)
		We lose access to the arm from Martin	1	10	10		
Resources		Printers unavailable / break	2	2	4		
Logistics		Long lead times	8	4	32		Specify parts to order early on in project
		Can't return servos if faulty / break	6	6	36		Order more servos if our surplus falls below two
		Can't get PCB made	1	8	8		Point to point wiring
Other		We lose the laptop	2	9	18		
		We lose the arm	2	9	18		