

## MSD Project Risk Assessment Template

ID	Risk Item	Effect	Cause	Likelihood	Severity	Importance	Action to Minimize Risk	Owner
	<i>Describe the risk briefly</i>	<i>What is the effect on any or all of the project deliverables if the cause actually happens?</i>	<i>What are the possible cause(s) of this risk?</i>			<i>L*S</i>	<i>What action(s) will you take (and by when) to prevent, reduce the impact of, or transfer the risk of this occurring?</i>	<i>Who is responsible for following through on mitigation?</i>
1	Team chooses "Pedal" design and discovers cultural issue is in fact true	Whole project needs to be redesigned	Lack of cultural research	2	3	6	Research cultural restrictions before committing to a design	ISE
2	Designs we generate require new plastic molds	We will go over budget	Lack of foresight during design process	1	2	2	Make design to be compatible with current molds	TBD
3	Parts selected turn out to be too expensive	We will go over budget	Lack of foresight during design process	2	2	4	Research cost of parts for BOM ahead of time	ISE
4	Electronic part failure	Device failure	Defective part/poor quality mfg	1	1	1	Take the time to design properly	EE
5	Manufactured part failure	Device failure	Defective part/poor quality mfg	1	1	1	Design simple parts	ME
6	Group dissent	Poor productivity/ project not complete	Poor communication/ management, stubbornness, etc.	1	3	3	Communication, manage roles and responsibilities	GROUP
7	Cannot meet 12 Volt requirement	Not enough power to operate device	Not accounting for mechanical and electrical energy losses in design	2	3	6	Don't ignore customer needs and motor specs	EE/ME
8	Design is not adequately protected from environmental factors	Life of device is much shorter than expected	Lack of testing, not anticipating environmental extremes, poorly manufactured device, poor design	1	3	3	Make design robust	ME

9	Lead time for parts on order are too great	Project won't be completed before the deadline	Order parts too late, project plan was inaccurate	1	3	3	Order parts far enough in advance	ISE
10	Generator does not produce enough power	Device cannot operate	Poor design and analytical calculations	2	3	6	Complete wide range of analytical calculations	EE/ME
11	Device stolen	Large loss of time and \$	Device was not securely stored	1	3	3	Lock up the device	GROUP
12	Loss/misplacement of important parts	Large loss of time and \$	Poor organization	1	2	2	Keep track of location of parts, keep them in the same location	GROUP
13	Part tolerance issues	Device works inconsistently, cannot be assembled easily	Poor design and analytical calculations	1	2	2	Complete wide range of analytical calculations	ME
14	Unforeseen cultural issue comes up (other than pedals)	Whole project needs to be redesigned	Lack of cultural research	1	2	2	Research cultural restrictions before committing to a design	ISE
15	Project scope increases too much	Too much to complete by project deadline	Scope creep	2	3	6	Focus on staying within the original scope	ISE
16	Unit errors and inconsistencies	Slow down progress	Incorrect analytical calculations	2	1	2	Double check all analytical calculations	ME
17	Life of components lower than anticipated	Can't meet 8000 hour promise	Improper life/fatigue ratings for parts	1	2	2	Only buy from reliable vendors	TBD
18	Lack of simplicity or instruction leads to improper use	Device will not be used	Over design/instructions too complex	2	2	4	Keep design as simple as possible	GROUP

Likelihood scale	Severity scale
1 - This cause is unlikely to happen	1 - The impact on the project is very minor. We will still meet deliverables on time and within budget, but it will cause extra work
2 - This cause could conceivably happen	2 - The impact on the project is noticeable. We will deliver reduced functionality, go over budget, or fail to meet some of our Engineering Specifications.
3 - This cause is very likely to happen	3 - The impact on the project is severe. We will not be able to deliver, or what we deliver will not meet the customer's needs.

<b>"Importance Score" (Likelihood x Severity) – use this to guide your preference for a risk management strategy</b>	
Prevent	Action will be taken to prevent the cause(s) from occurring in the first place.
Reduce	Action will be taken to reduce the likelihood of the cause and/or the severity of the effect on the project, should the cause occur
Transfer	Action will be taken to transfer the risk to something else. Insurance is an example of this. You purchase an insurance policy that contractually binds an insurance company to pay for your loss in the event of accident. This transfers the financial consequences of the accident to someone else. Your car is still a wreck, of course.
Accept	Low importance risks may not justify any action at all. If they happen, you simply accept the consequences.