How to use the Decision Matrix Tool

GUIDE

The Decision Matrix Tool is a decision-making aid. It is designed to help people like engineers make informed decisions based on several criteria. The tool is an especially useful way to help teams of people make collective decisions.

The matrix is a table of cells. The left-hand column of cells is where each idea or option that you need to decide between is listed – one idea or option per row.

	Criteria							
Idea								**Total**
Idea or option number 1								
Idea or option number 2								
Idea or option number 3								
Idea or option number 4								
Idea or option number 5								

You can list as many ideas or options as you like but it is usually a good idea to try and keep this number to no more than seven or eight.

The right-hand column is where each idea or option's total score will go. We will get back to this in a moment.

The middle columns are where you state the criteria by which you are evaluating each idea or option. The better and clearer your criteria, the better the decision you will be able to make.

	Criteria							
Idea	**Affordability**	**Simplicity**	**Development time**	**Buildability**	**Safety**	**Ease of use**	**Durability**	**Total**
Idea or option number 1								
Idea or option number 2								
Idea or option number 3								
Idea or option number 4								
Idea or option number 5								

NOTES

You should aim to have at least three criteria. Suggested criteria for every Academy design challenge are cost, complexity, and suitability but you can change these and/or add others.

Next, you need to rate each idea or option according to each criterion. You can choose your own rating scale but a 0 – 5 scale normally works best. Zero indicates that the idea or option does not meet the criterion at all. Five means that the idea or option meets the criterion perfectly.

	Criteria							
Idea	Affordability	Simplicity	Development time	Buildability	Safety	Ease of use	Durability	Total
Idea or option number 1	3	4	3	2	5	3	1	
Idea or option number 2	4	2	2	4	3	2	3	
Idea or option number 3	5	2	3	2	5	2	3	
Idea or option number 4	4	3	3	4	2	0	3	
Idea or option number 5	3	4	4	3	4	4	4	

You can choose to start by rating each idea or option individually and then comparing your scores with other team members and discussing from there or you can rate each idea or option as a team from the beginning.

Now it's the moment of truth where you add up each idea or option's scores to see which idea or option has the highest score.

	Criteria							
Idea	Affordability	Simplicity	Development time	Buildability	Safety	Ease of use	Durability	Total
Idea or option number 1	3	4	3	2	5	3	1	21
Idea or option number 2	4	2	2	4	3	2	3	20
Idea or option number 3	5	2	3	2	5	2	3	22
Idea or option number 4	4	3	3	4	2	0	3	19
Idea or option number 5	3	4	4	3	4	4	4	26

Sometimes, you may find that two or even three ideas or options come out with the highest score. If this is the case. Redo the exercise but just with these ideas or options.