



1 Define your problem

What problem are you trying to solve?

Who are you making your solution for?

5 Environment

What physical constraints or attributes apply to your solution e.g. needs to be weatherproof, needs to run from a battery, needs to be hidden away.

4 Processing

Outline how your solution will convert the inputs to outputs.

This should be a high-level description that describes the relationship between the inputs and the outputs. What are the triggers/constraints etc.

For example: "When the microphone detects noise above a certain level, an orange light is turned on. If the volume increases further, both a red LED light and the orange light is on. A green LED light stays on all the time the noise detector is working - even at low or zero detected volumes. The trigger levels for both orange and red LED lights need to be easily adjustable."

3 Inputs

What inputs will your solution require?

Magnetometer (compass)	Accelerometer	Infra-red proximity	Tilt
Sound (level/pitch)	Button press	Humidity	Other
Temperature	Light Intensity	Voltage	
	Moisture		

2 Outputs

What type/s of output will your solution produce?

Digital	E.g. a file or some data for communicating with other devices through a cable or via bluetooth or wifi
Sound	E.g. through a speaker or buzzer
Light	E.g. some LED lights or a screen
Servo / motor	E.g. For turning some wheels or making small, fine-grained movements
Electrical / relay	For providing power to other outputs, switching on and off other devices (e.g a heater)

6 Device

Which device or devices will you use?
Could a laptop or desktop be used for your solution? If not, why not?
What physical computing device and accessories will you need for your solution?

7 Experiment

Have a go at making your solution. Keep in mind your end-users.
Breakdown the development into manageable chunks.

8 Reflect

Test your solution with your end users and reflect on how it could be improved.
Try some more experimenting!