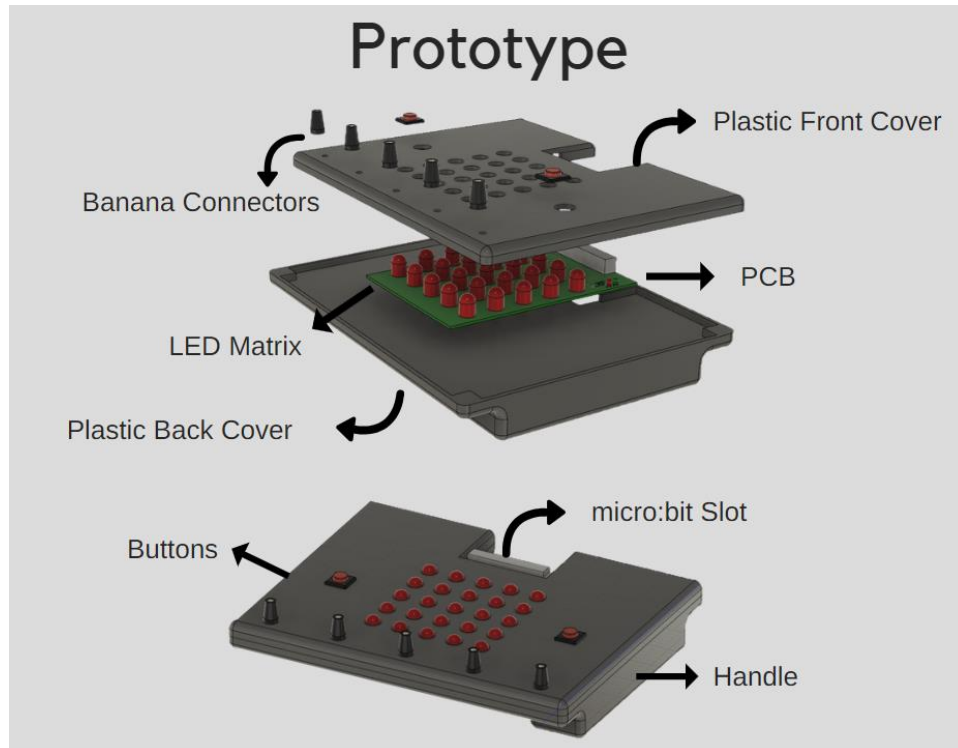


Manufacturing End Product

Concept Design



Plastic External Cover - Requirements

General material expectation would be like that of a children's product:

- toy- safe
- sturdy
- lightweight
- low cost

However, precise dimensional design is required.

Plastic External Cover - Characteristics

1.Expected life span – 5 years

2.Expected Production Volume – 10,000

3. Target Cost

- Material: $\text{Volume of the piece} \times \text{density of the material} \times \text{price by weight}$
- Machine time: $\frac{\text{The hourly cost of the injection molding machine}}{\text{the number of pieces produced per hour.}}$

- Investment: The amount invested into the tool divided by the number of pieces produced (there are as many ways of calculating this figure as there are customers).
4. Expected temperature range – 15-30°C (room temperature)
 5. Exposure to other chemicals
 6. Need for dimensional accuracy – must be precise

Manufacturing process

Establish design needs -> Get a quote -> Product designers develop 3D model -> Metal Tooling Device is made -> Plastic is moulded using this tool

UK- Based Supplier Options

- Toolcraft Plastics (Swindon) - <https://www.toolcraft.co.uk/toolcraft-plastics-swindon/contact/enquiry-plastic-moulding-antistatic-packaging-vacuum-forming.php>
- Inpress Plastics (Wick) <http://www.inpressplastics.co.uk/>
- Design4Plastics (Yorkshire) <http://www.design4plastics.com/>