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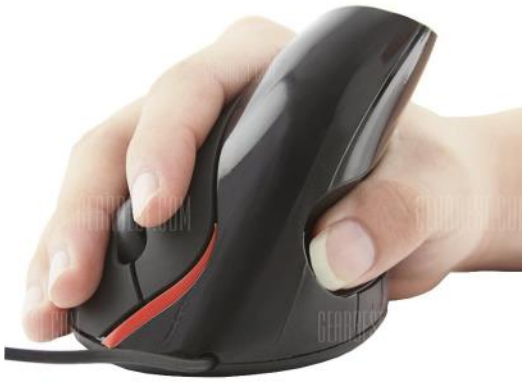
Irvine Royal Academy—Technical Department

S3/S4 Design & Manufacture

Evaluation Techniques

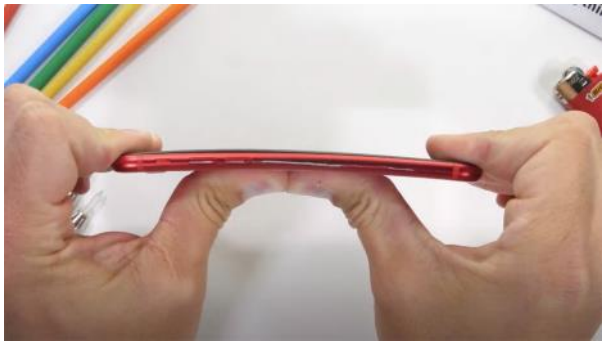
Designers and manufacturers like to evaluate a product before it is manufactured and sold to the public. They do this to check that the product is suitable for the market. What they are gathering is **feedback**. This is advantageous as they could have made something that the public does not wish to buy and this would have cost them a lot of money. Once they get feedback, they will **refine** the idea. Things that are often evaluated and methods of doing this are listed below.

Ergonomics—a model of the item is made and is given to a wide selection of people to test the feel and shape of the object. This may include the grip, comfort, size, feel look, etc. of the item. The model or **prototype** may be a one off item, and may have been made by a process like **3D printing**. The public would be asked to complete a **survey** and the responses would be recorded and the prototype could be altered in light of this.



Aesthetics—a model of the item could be made and a consumer survey carried out to see what they think of the appearance of the item. The model could be a **3d printed** prototype, or perhaps a computer generated model on a picture, showing a variety of colours or possible shapes. The public would be asked to respond by saying what ones look most appealing to them, perhaps due to **shape**, **size**, **colour**, style**, etc.**

Economics—or cost. An item would be priced, based on how much it cost to make and how much profit the company wishes to make from it. This price is then checked for consumer opinion. A **consumer survey** could be carried out, asking the public questions, such as, 'How much would you pay for this item?' to give an idea of the perception of price,. Another way would be to carry out a **product research** task to see how much similar items made by your competitors currently cost.



Durability—a product that is made needs to last for a certain length of time. To make sure that it does, a manufacture will need to evaluate the durability of the item, that is test how strong it is, or how long it lasts before parts wear out or fall off. Sometimes this can be done by issuing working prototypes to people to use and try out before they are put into production. In some cases machines are made to replicate the use of the item repeatedly, e.g. a hinge could be open and closed 10,000 times to see if it still functions.