

DESIGN DECISIONS

Key Revision Facts: GCSE Technology

It's important to consider scenarios from different perspectives when designing products.

Planned Obsolescence

Planned obsolescence is when a product is deliberately designed to have a specific life span. This is usually a shortened life span. The product is designed to last long enough to develop a customer's lasting need. The rationale behind this strategy is to generate long-term sales volume by reducing the time between repeat purchases. It is the deliberate shortening of a lifespan of a product to force consumers to purchase functional replacements.

- **Contrived durability** is a strategy of shortening the product lifetime before it is released onto the market, by designing it to deteriorate quickly.
- **Prevention of repairs** is where the product is designed to be impossible to service. For example, a cheap "throwaway" digital watch may have a casing which is simply sealed in the factory, with no designed ability for the user to access the interior without destroying the watch entirely. Manufacturers may make replacement parts either unavailable or so expensive that it makes the product uneconomic to repair.
- **Perceived obsolescence** or stylistic obsolescence occurs when designers change the styling of products so customers will purchase products more frequently due to the decrease in the perceived desirability of unfashionable items.
- **Systemic obsolescence** Planned systemic obsolescence is the deliberate attempt to make a product obsolete by altering the system in which it is used in such a way as to make its continued use difficult. Common examples of planned systemic obsolescence changing the plugs and sockets on computers.
- **Programmed obsolescence** Using software to deliberately disabling a product to prevent it from working, thus requiring the buyer to purchase a replacement. For example, inkjet printer manufacturers employ smart chips in their ink cartridges to prevent them from being used after a certain threshold (number of pages, time, etc.).
- **Legal obsolescence** refers to the undermining of product usability through legislation, as well as facilitate purchasing a new product by offering benefits. For example, governments wanting to increase electric vehicle ownership through purchase subsidies

Design for Maintenance

Design for maintenance is a term used when designing products that are more durable and have spare parts available to mend and maintain the product long term.

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VERSION INFORMATION

Date	Arthur	Comment
13-Mar-2021	Andrew Seaford	Initial release.