



Technology 8

AESTHETICS IN PRODUCT DESIGN

What is Aesthetics?

- In design terms, aesthetics is our perception or opinion of an object based on what we see, feel, hear, smell and even taste. Our opinion could be based on one or all of these senses.
- Our opinion can then be further refined by whether we perceive that object to be fashionable, familiar or if we feel it improves our status.
- These perceptions are strongly influenced by our personalities. As a result, there are some features of aesthetics which designers pay attention to the most.

1. Shape

- Products are often defined by their shape. Some products are very angular with straight edges and some products use curves to provide both performance enhancement and attractive aesthetics.
- Shape is usually one of the aesthetics that consumers will place highly on their list when selecting a product.
- Some products have such distinctive shapes that they are very recognisable as a particular brand.



2. Form

- Form can be described as the overall shape, profile and/or visual appearance of a product.
- Products like these, where form has dominated over function in the design, will have been designed with current fashions in mind and have a short lasting consumer appeal.
- Products are often designed purely with form in mind (e.g. fashion items like watches, shoes and bags).



3. Colour

- Colour is very much personal taste, however, designers use colour to help define the product's function (television and audio equipment is often black/brushed steel, children's toys make use of bright primary colours, safety equipment is often bright yellow/red).
- Often colour is used to define a product that is intended to be used by male or female users.
- Colour choice of key components on a product not only provide aesthetic appeal but also have ergonomic (comfort/safety) uses, for example lights in a car dashboard or a television remote control.



4. Texture

- Designers use texture to enhance the shape of a product (a hairdryer might have the grip in a textured surface for ease of grip but gloss or chrome finishing for the main body to enhance appearance).
- Clothing and footwear uses texture mostly, it allows designers to accentuate aspects of the design



5. Symmetry (Balance)

- Designers use symmetry to provide aesthetic appeal, for example the front grill of a car, electronic products like cell phones or laptops.
- Symmetrical products are visually easier for us to 'take in' and appreciate.
- It can make products look organised and allows designers to improve the ergonomics of their products.
- However, too much symmetry and shapes become complex and 'mathematical' in appearance.



0. $a = \text{string length}$
1. $b = \frac{20}{27}a = \frac{5}{9} \cdot \frac{4}{3}a$
2. $c = \frac{5}{9}a - 0.025 = \frac{3}{4}b$
3. $d = \frac{2}{44}b = \frac{3}{4} \cdot \frac{1}{11}b$
- 3a. $d = \frac{a}{2} \cdot [707]$
- .TOT = $\sqrt{2}/2$
4. $e = \sqrt{c^2 - d^2}$ Pythagoras
- 4a. $d/c = \frac{3}{5}$
- $d/e = \frac{4}{5}$
- $e/c = \frac{3}{4}$
5. $\hat{A} = 20^\circ$
- $\hat{B} = 30^\circ$
- 5a. $\hat{A} + \hat{B} = \frac{5}{9} \text{ ACTINIUMS}$
- $\hat{A} + \hat{B} = \frac{2}{3} \text{ ACTINIUMS}$
6. $f = \frac{a}{5}$
7. $h = J[\frac{1}{g}]$

- 7a. $f/g = h/J$
- 7b. $h/J = f/g = \frac{2^3}{5} = h/e \cdot \frac{1}{4}c$
8. $k = \frac{c}{2} = \frac{3}{8}b$
9. $\hat{C} = 20^\circ$
10. $m = [c/3]/\sqrt{2}$
- 10a. $m = [b/4]/\sqrt{2}$
11. $\alpha = \frac{3}{4}[c+d+e]$
12. $b = \frac{5}{9}[c+d+e]$
13. $c = \frac{5}{12}[c+d+e]$
14. $e = c[c+d+e]/[a+b]$
15. $k = e[\frac{a}{100}] = \frac{c}{2}$
16. $h = \frac{5}{9}k = \frac{5}{9}[\frac{c}{2}]$
17. $s = \frac{5}{8}p$
18. $q = k = \frac{c}{2}$
19. $k/p = \frac{3}{5}$
20. $e \cdot s = c \cdot p/2$

The "Kertsopoulos mathematical model of the classical guitar".

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6. Proportion (Dimensions)

- Product dimensions are usually limited by their function and/or any technologies used within them.
- However, a designer needs to ensure that their solutions not only fit ergonomically but fit visually.
- Products which have good proportion (i.e. not too tall, not too wide, not too heavy, etc) are considered aesthetically pleasing and attractive (the classic Apple iPod is considered a good example).
- If a product has too many buttons of the one size or if all the components are mathematically/equally divided out it can sometimes result in a rather dull design.



When a product is 'dynamic' in it's appearance it is visually appealing and has:

- parts which have something dimensionally in common.
- create harmony so that different shapes all 'fit' with each other easily with each shape having a similarity with the other surrounding shapes.

VISION

- The size and scale of the object allows the user to understand how to hold it.
- The texture of the object looks smooth and sleek yet looks easy to grasp.
- The 'X' in the center of the pad gives the user a socio-pleasure as they associate it with interacting with the console.
- When the 'X' button is pressed the pad turns on and a light shows the user know which player he/she is.
- The overall look of the pad leads one to believe the object is of high quality.

COLOUR

- The main colour is white which is a very neutral shade, this making it easy to mix with other colours as it will not clash.
- The directional controls are a dark shade of grey along with the bottom band which is a light shade of grey, making it an analogist choice of colours.
- The action buttons are all different colours, red, green, yellow and blue. These colours are all on opposite ends of the colour wheel. From my point of view they are two complementary sets of colours.



- The center ring which indicates which player the user is should consist of lit up numbers for easier viewing.
- The covering plastic should be interchangeable so that the user can customise the pad to their own desired colour.

HEARING

- The action buttons make a distinct clicking noise which alongside the clicking feel allows the user to know that they have pressed the button fully.

TOUCH

- The plastic of the pad feels slightly grain like, which makes it seem to grip well in ones hand.
- The directional controls are rubber in feel which makes the user feel in total control of its movement.
- The clicking feel from the action buttons give the user a sense of psychological pleasure as it feels like they have completed a task.
- The trigger controls at the back of the pad make it feel like the user is 'pulling a trigger' or 'accelerating' like that of a cars pedals which also provides the user with a psychological pleasure.

- The pad also vibrates when a certain action is done whilst playing a game, which alerts the user to something going on in the game.

AESTHETICS



Review Questions

1. Describe how a designer might make use of proportion to enhance the appearance of a television remote control.
2. How might a designer use texture to improve the visual appearance of a product?
3. Proportion and colour are two aspects of aesthetics that the designer needs to consider.
 - a) Briefly explain what is meant by the term proportion and give one main reason why it is an important consideration for the designer.
 - b) Outline three different ways that colours may be used in products in order to improve aesthetic appeal.
4. Explain how texture and symmetry can influence the aesthetic appeal of sports footwear.