Use of Different Design Strategies

Core: 1.16

Never just go with one solution to a problem.as you will be missing out on endless opportunities to create a much more successful design outcome. Keep an open mind, especially early on. Design ideas can be created by a range of design strategies, techniques and approaches. Consider the following strategies: collaboration, user-centred design and a systems approach.

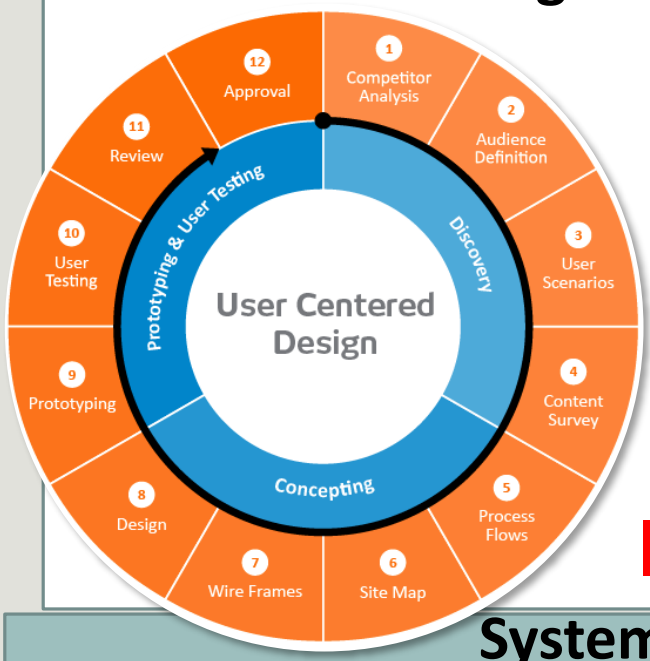
Collaboration (Teamwork)

This is when people work together (they collaborate). This is because people approach problems differently so you get to see a design problem from many different points of view. More ideas are generated.

Below is a design process known as SCAMPER, which designers can follow:

S ⟹	SUBSTITUTE	Can you use different materials, components /energy sources?
C ⟹	COMBINE	Can you nick best parts of other designs to form new idea?
A ⟹	ADAPT	Can you use of a different/additional function or technology?
M ⟹	MODIFY	Can you change the shape? Make it bigger? Make it smaller?
P ⟹	PUT	Can your design have a a 2nd or 3rd function?
E ⟹	ELIMINATE	Can you get rid of part of your design? Did you overthink it?
R ⟹	REVERSE	Can you look at your design in a totally different way? Maybe move parts of it around?

User-centred Design



This is when you put your intended users at the centre of every design decision throughout the process. Many software design companies use this for apps, websites, software etc. They get feedback from potential users all the time, so they produce a natural-feeling, easy to use product.

When you are designing for users, remember to include them at every stage:

- **Having your user requirements as a starting point for designing a solution to a need you identified**
- **Get them to sketch some ideas for you, to give you a starting point.**
- **Model your ideas in 3D to get feedback from users**
- **Use anthropometric date from your users, to get measurements right.**

Anthropometric dat	**Measurements of human body**

Systems Thinking

This is an effective way of solving complex design problems. It looks at the whole system or product and breaks it down into parts. It looks at how each part or stage contributes and feeds back into the system. Simplest way to do it start backwards, Ask yourself:

- **What do you want the product to do (output)**
- **How will it achieve the output?(process)**
- **What inputs or energies are needed to make it happen? (input)**

INPUT → PROCESS → OUTPUT

Name :	Date:	HWK/CWK

Core 1.16 Design Strategies

Complete the questions on this page and the following page.

1.Collaboration / Teamwork

Choose one of the following products: mobile phone; 500ml water bottle; Cabin sized suitcase; an electric hand-held drill. Research your chosen product, then use the S.C.A.M.P.E.R. approach to improve your chosen product. **PRODUCT:**
S
C
A
M
P
E
R

2. Explain the term "User-centred approach"

3. What is anthropometric data?

4.Using the systems approach, complete the systems diagram, which instructs someone on how to use a chocolate vending machine you are intending to design.