

What You will Learn;

1. Define the problem
2. Brainstorm
3. Research and generate ideas
4. Identify criteria and specify constraints
5. Explore possibilities
6. Select an approach.
7. Develop a design proposal
8. Make a model or prototype.
9. Test and evaluate using specifications
10. Refine the design
11. Create or make the product
12. Communicate processes and results

1. Define the Problem.

- The design process generally begins with identifying and defining a problem — there is some need to be met or some want to be fulfilled, and the designer must understand exactly what it is.

2. Brainstorming

After investigating and researching the problem, the designer generates a number of ideas for a solution. It can be particularly helpful for several designers, working in small groups, to brainstorm ideas,

3. Researching and Generating Ideas

After considering the original criteria and ideas, along with various constraints, one design (or, in some cases, more than one) is chosen as the most promising. Designers also generate alternatives and consider limitations.

4. Identifying Criteria and Specifying Constraints

Requirements of a design, such as criteria, constraints and efficiency, sometimes compete with one another.

5. Exploring Possibilities

There may be many approaches to choose from in the beginning of a design project.

6. Selecting an Approach

At some point all the options must be sorted through and either selected or set aside.

7. Developing a Design Proposal

After considering the original criteria and ideas, along with various constraints, one design (or, in some cases, more than one) is chosen as the most promising.

Designers also generate alternatives and consider limitations.

8. Making a Model or Prototype

The next step is to build a working model of the product in order to test its performance and reliability.

9. Testing and Evaluating Using Specifications

The model or prototype is then tested under conditions approximating those for which the product is intended to be used.

10. Refining the Design

Designs typically are ill defined with no natural end to the process. The cycle of redesigning, testing, refining and remodeling is repeated over and over again until the product has been optimized much as possible within the criteria and constraints imposed upon the project.

11. Creating or Making the Product

One important criteria of any proposed design is whether it can be mass produced cheaply and efficiently .

12.Communicating Processes and Results

Finally, share results with others and demonstrate how your product works, or its purpose. You may have to make modifications as necessary, evaluate what you have done, and try it again.

Summary what you learned;

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