Principles of Design Project

KLDCS Greenhouse version by Mr.Kurz

Principles of Design Poster

Learning Goal:

During this project you will learn what the Principles of Design are and how they can apply to the design process of any product.

You will also consider how testing your product yourself and with your end-users makes a design better.

Intro:

Check out this presentation for descriptions of each of the principles.

The Principles of Design are considerations that need to be made whenever you design something. Not every principle applies to every product, but **most** principles apply to **most** products.

The designer has a great deal of influence over the other people involved in the product, as well as the end user.
For example, not considering *Fabrication* (how the product is going to be made) could kill a product if the required tools are not available. The designer could also make things quite uncomfortable or dangerous for the end user by not considering Ergonomics.

For many of the projects we work on in here you are The Designer, The Builder and the User so you have a vested interest in getting the first part right!

Note: *The people that will be potentially using your product are called the "end-user group".*

Fun Fact: *When you have a potential end-user test your product it is called "beta testing" and when you test your own product it is called "alpha testing". Overusing these terms around computer geeks will definitely help you sound cooler and give you more street cred.*

The Principle of Design are found on page 5 of the Ontario Technological Education curriculum document (here) where they are called Fundamental Concepts.

Your Job:

Design and build a product that solves a real problem. While you are designing and building reflect on how each of the Principles of Design apply to your product. Pay particular attention to **how** your product will be used and **who** will be using it.

Questions you might consider:

1. What is the height range of people in the end-user group?
2. Can they read?
3. What instructions will my product need?
4. How will my product be mounted?
5. Where will my product be used and how can I make it look nice there?
6. Other?

Ideas:

- Whiteboard Marker Holder
- A Sign or Poster
- Tool Rack
- Short video explaining something
- Portable iPad/phone charger
- Guitar Stand
- Organizational Structure for something (Cables, office supplies, important papers…)
- 3D Printed Hamster Wheel
- Other?

Success Criteria (meet for 85%)

1. You have used the Principles of Design in your group discussions and planning. (I will be eavesdropping)

2. You have talked with people in your end-user group and considered their feedback in your designing.

3. You have tested your product thoroughly and made changes to your design based on your tests.

4. Your product was built and is currently in use.

5. Your project reflection is complete and shows you have a good understanding of how the principles of design apply to a variety of products.

6. Your project reflection shows that you have applied the principles of design to your project.

7. Your project reflection effectively uses pictures and diagrams to explain your project.

To Exceed the SC:

- You created prototype of your product to test your design.
- You have a well defined end-user group and used their feedback at each stage of the design process.
- Your product is so successful that other people are requesting one.
- Other?

Project Reflection

Should be about 50 words per question. Use pictures and diagrams where you can to help explain your project.

1. Describe what you were initially trying to design. How was your final product different from your initial plan?

2. Pick 3 of the Principles of Design and explain how you thought about them while working on your project.

3. How did thinking about the end user of your product affect your design?

4. How did you test your product as you worked through the design cycle?

5. Given more time and resources, how would you improve your product?

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