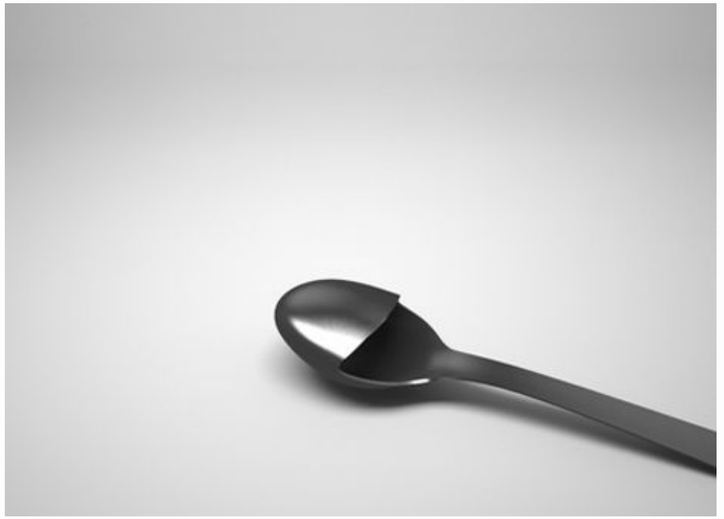


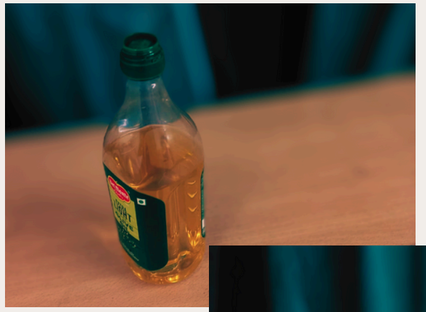
ASSIGNMENT 1

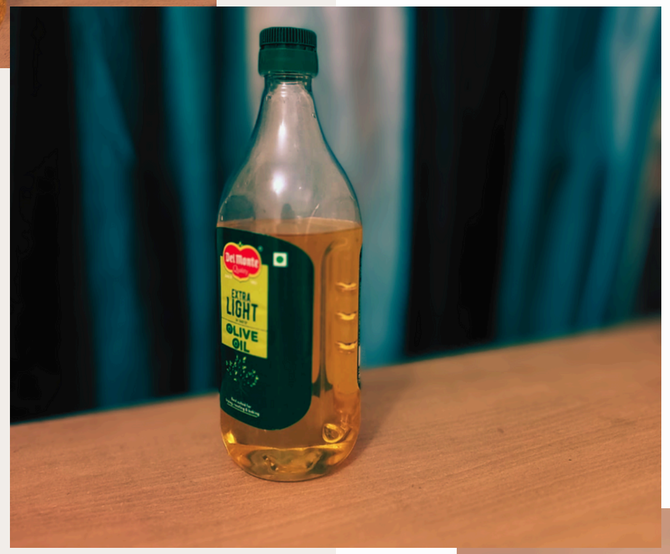
INTERACTION ANALYSIS FOR GOOD AND BAD DESIGNS

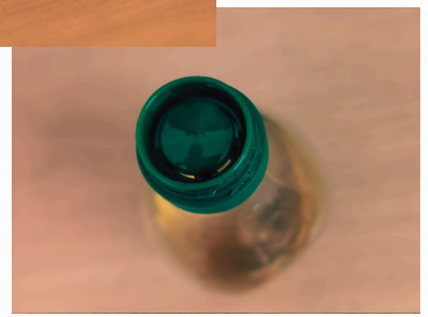
By Annu Kumari

GOOD DESIGN

The **Del Monte olive oil bottle** is designed to store and dispense olive oil. It has an inward curve shape for easy pouring and is easy to handle. The small holes at the opening limits the pouring quantity(reducing the risk of excess oil). This all makes it a good design.

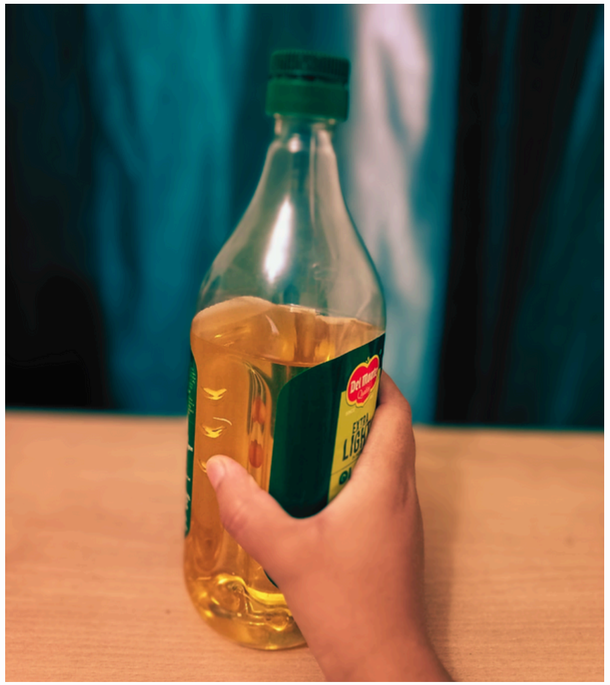






USER AND PRODUCT INTERACTION ANALYSIS

The product I am analysing is Del Monte olive oil bottle.
Functionality: Designed to store and dispense olive oil. It has a narrow neck for easy pouring and a large opening for refilling.
Parts of the product: Body, neck, grip(inward curve) and cap
Parts of the user that interact with the product: The user's hands interact with the bottle's body, neck, and cap.



Analysing the usage and participation of the parts identified in the achievement of the functionality:
The user grips the bottle's body and then rotates the cap with their thumb and index finger to open it. The user then pours the oil, making a grip between hand and bottle, into a pan through tiny pores at the bottle's opening. The narrow neck of the bottle helps control the oil flow.

Body(Bottle)

Form: Cylindrical, plastic(material), contain oil
Dimension:
Circumference: 30cm
Height: 26cm
Small Holes at corners(at opening)
L:0.3cm, W:0.1cm

Grip(Inward Curve)

Form: Plastic
Dimension:
Depth: 0.3cm
Height: 12cm
Width: 3cm

Cap

Form: Plastic and has a hole at the edges.(poring)
Dimension:
Diameter: 3cm
Height: 2.2cm

Human Hand

Form: Human Hand(Holding and griping).
Dimension:
Length-18cm
Width-9cm
Height-2cm

Relationship between product and user dimension

The Del Monte olive oil bottle's dimensions are compatible with the user's hand's dimensions. The bottle is easy to grip because of the inward curve at both ends. The grip is also the right size for most people's hands. The cap is also easy to grip and open.

- The diameter of the cap is slightly smaller than the width of the user's hand (9 cm). This makes it easy to grip the cap and open it.
- The circumference of the bottle is slightly larger than the width of the user's hand (9 cm). This makes it easy to grip the bottle.
- The depth of the grip is slightly less than the thickness of the user's palm (2 cm). This makes it easy to grip the bottle without it slipping out of hand.

Ways to improve the design of the olive oil bottle:

- The grip could be slightly larger to make it easier for people with larger hands.
- The cap could be slightly larger to make it easier to open.

By making these changes, the olive oil bottle could be made even better and could become a great design.

Exaggerating variation in product dimension to understand user sensitivity:

If the bottle were too small, it would be difficult to grip. If the neck of the bottle were too narrow, it would be difficult to pour the oil. If the spout of the bottle were too small, it would be difficult to reach.

Exaggerating variation in user dimension to understand product dimension sensitivity:

If the user's hands were very small, they might not be able to grip the bottle easily. If the user's fingers were very short, they might not be able to hold properly.

Appreciating product design specification in user centric design:

The Del Monte olive oil bottle is a well-designed product that considers the user's needs. The bottle is easy to grip. The narrow neck and semi-covered opening of the bottle help control the oil flow, and the large opening makes it easy to refill the bottle.
The Del Monte olive oil bottle is a good design based on the above analysis. It is easy to use and meets the user's needs.

INTERACTION CONCLUSION

Response Change

Based on the analysis, the Del Monte olive oil bottle is a good design. The bottle is easy to grip. The narrow neck of the bottle helps to control the flow of oil, and the large opening makes it easy to refill the bottle. These features make the bottle easy to use and meet the needs of the user.

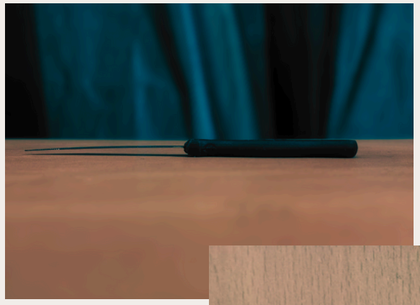
What makes a design good or bad?

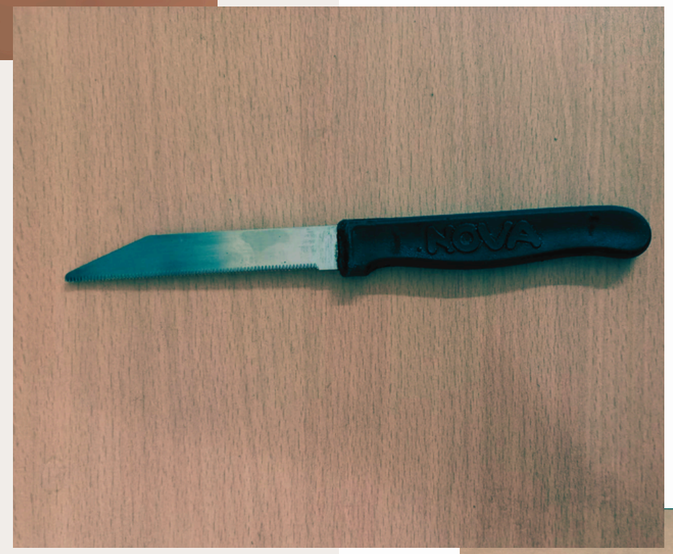
- **A good design is one that is easy to use and meets the needs of the user.** The Del Monte olive oil bottle is a good design because it is easy to grip and the spout is easy to reach.
- **A bad design is one that is difficult to use or does not meet the needs of the user.** For example, an olive oil bottle that is too small or has a narrow neck would be difficult to use. An olive oil bottle that does not have a spout would also be a bad design.

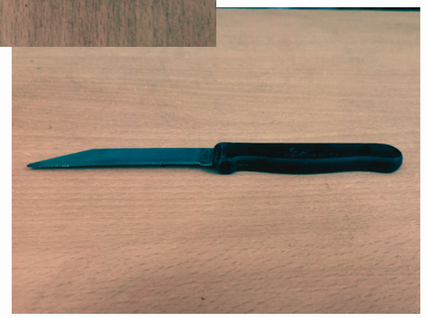
In the case of the Del Monte olive oil bottle, the original design is good because it is easy to use and meets the needs of the user. However, the design could be improved by making some changes to the dimensions of the bottle. For example, the bottle could be made slightly smaller, and griping structure can be more improved to make it easier to use. By making this change, the bottle could be made even better and could become a great design.

BAD DESIGN

The **Knife(Nova Company)** is designed to cut vegetables, fruit and for general cutting. It has a nice shape to handle however it is short difficult to use for person with large hand size. The sharp blade can be dangerous if not handled properly. Also there is a risk that it can break due to it's thickness.



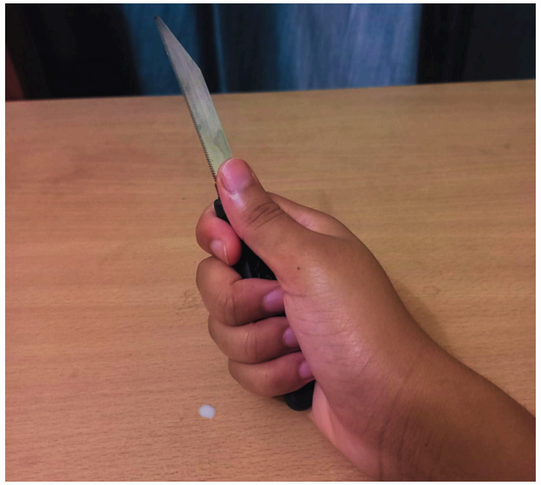




USER AND PRODUCT INTERACTION ANALYSIS

The product I am analyzing is a knife.
Functionality: To cut things.
Parts of the product: Blade and handle.
Parts of the user that interact with the product: Hands, fingers, and grip.
User and product interaction analysis:

- **Product:** The knife has a zigzag blade edge, a small, difficult-to-grip handle, and a weak blade.
- **User:** The user is someone who needs to cut Vegetables, Fruits.
- **Interaction:** The user holds the knife by the handle and uses the blade to cut.



The interaction between the user and the knife is unsafe because the blade is too sharp and the handle is small. The user is at risk of cutting themselves if they are not careful. The weak blade is also a safety hazard, as it could easily deform under too much force and cause injury.

Blade

Form: Stainless Steel and sharp edge(cutting)
Dimension:
Length-8cm
Breadth-1.2cm
Thickness-0.05cm

Handle

Form: Propylene(hold)
Dimension:
Length-8.6cm
Breadth-1.5cm
Thickness-0.8cm

Hand

Form: Human Hand(Holding)
Dimension:
Length-18cm
Width-9cm
Thickness-2cm

Fingers

Form: Human Fingers(Griping)
Dimension:(Ring Finger as it is main for griping)
Diameter-1.8cm
Height-7.3cm

Relationship between product and user dimension

- **Blade:** The blade should be no longer than the length of the user's hand, i.e. less than 18 cm.
- **Handle:** The handle should be at least as long as the length of the user's ring finger, i.e. at least 1.8 cm long.
- **Hand:** The hand should be able to comfortably grip the knife's handle without feeling cramped or uncomfortable, i.e. (the handle) at least as wide as the width of the user's palm.

How these dimensions can be used to improve the design of the knife:

- The handle could be widened to 2 cm; the length should be more than 9cm and textured with grooves or ridges.
- The blade could be shortened to 17 cm.
- Smooth the edges of the blade and make it less sharp.
- Make the tang longer so it is less likely to break off.

Exaggerating variation in product dimension to understand user sensitivity:

We could make the blade long, smooth and robust, handle wider. By doing this, we get a better understanding of how the different dimensions affect the user's ability to use the knife safely and effectively.

Exaggerating variation in user dimension to understand product dimension sensitivity:

The size and shape of the user's hand and the length of their fingers can affect the ability to grip the knife safely and effectively. For example, if the user's hands are tiny, they may not get a good grip on the knife, which could make it more likely that they will lose control of it.

Appreciating product design specification in user centric design:

Product design specification in user-centric design is important because it ensures that the product is designed with the user in mind. This means that the product should be safe, effective, and easy to use for the intended user. By considering the user's needs and abilities, we can create a product that is truly user-centric.

In the case of the Nova company knife, the product design specification should take into account the dimensions of the user's hand and grip. The knife should be designed to be safe and easy to use for people with different hand sizes and grips. By considering the user's dimensions, we can create a knife that is truly user-centric.

INTERACTION CONCLUSION

Response Change

I initially said that the Nova company knife is a bad design because it is unsafe and difficult to use. However, after considering the desired relationship between the product and user dimensions, I believe that the knife can be made safe and easy to use by making some changes to the design.

What makes a design good or bad?

Based on these analyses, I can describe what makes a design good or bad. A good design is one that is safe, effective, and easy to use. It is also a design that is user-centric. A bad design is one that is unsafe, ineffective, or difficult to use. It is also a design that is not user-centric.
In the case of the Nova company knife, the original design was bad because it was unsafe and difficult to use. However, the design can be improved by making some changes to the dimensions of the knife. By making these changes, the knife can be made safe and easy to use, and it can become a good design.

THANK YOU