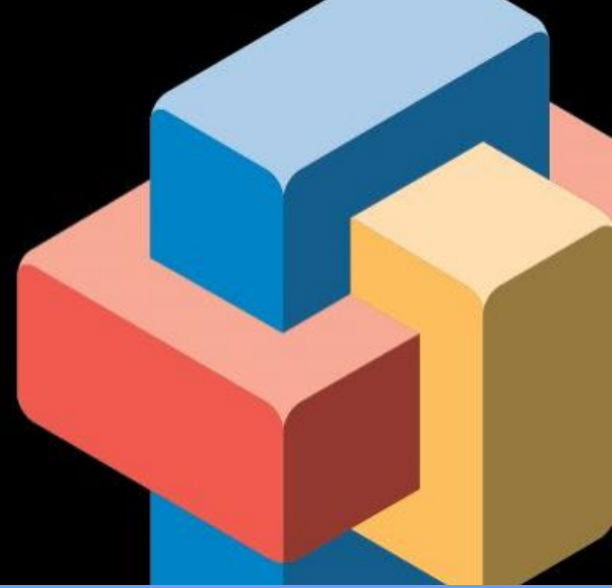


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# Solve for Tomorrow 2022



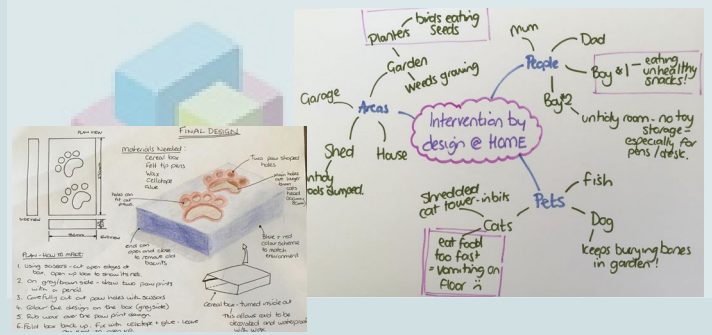
## Evaluating a final prototype

# What have I completed so far?

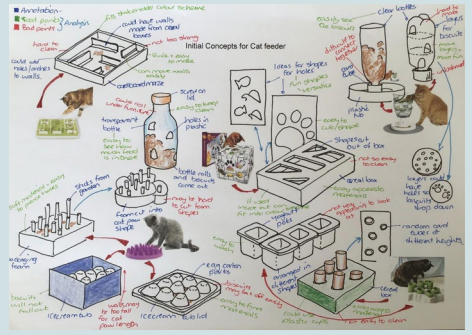
- Brainstorm and created initial brief

e.g. I need to design and make a product to slow down my cats eating habits so it takes time for them to eat their food.

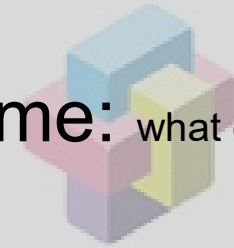
- Research into the brief
- Written attributes for my outcome
- Initial concept ideas for my outcome
- Development of an idea
- Final design
- Made a prototype



Physical Attributes	Functional Attributes
It must be made from <b>materials available</b> at home, e.g. cardboard, plastic bottles & packaging, etc	It must be <b>easy to wash</b> and clean, to stay hygienic.
It must contain <b>one scoop</b> of cat biscuits in the bowl/feeder.	It must be <b>strong</b> , to withstand use by young cats with sharp claws.
It could fit in with the colour scheme of the room - <b>brown, beige, charcoal, grey</b> .	It must be <b>durable</b> , to last a longer time.
It must <b>fit a cat paw</b> in it (bigger than 45mm x 30mm)	It could <b>help to exercise</b> the cat at the same time or provide entertainment - like a toy.
It needs to <b>fit onto the cat feeding mat</b> (50mm x 30 mm)	



# Evaluating a final prototype/outcome: what do I need to do next?



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Once you have made your final outcome you are ready to test and evaluate it.

*Use photos, video, text, and sketches to help explain your thoughts.*

Remember to:

- **Test** the prototype in its intended environment and gain feedback. **Modify.**
- **Explain** if the outcome **still fulfils the brief and attributes.**
- **Explain** if the final prototype is **‘fit for purpose’**
- Suggest any **improvements or modifications** based on feedback.

# Testing the outcome in its intended environment



## You need to:

- Observe what happens to your outcome when used by stakeholder in its intended place.
- Test it against the original attributes.
- Take photographs or video showing it in action/use.
- Ask your stakeholder for feedback -*what do they like? Could it be improved?*

## Testing the cat feeder:



Cat biscuits were very easy to put into the feeder.



When placed on the floor, Fluffy could easily reach into the feeder with her head and paw. The hole was small enough that she could not push her whole head into the box and get it stuck. However, the box slid easily over the floor making it harder to get the biscuits out.

Stakeholder feedback:  
"I really like the two colours in the design - they complement each other well. The holes are fun and link to the cats. The box is easy to wipe down but it may be harder to clean the inside."



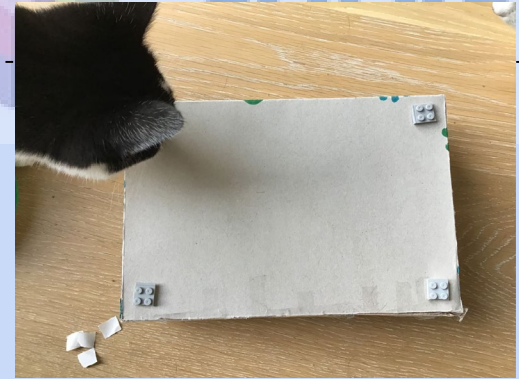
# Testing and revising the outcome



## Testing the cat feeder:



The box was easy to wipe down at the end - which was important as cat hair got stuck on the hole!

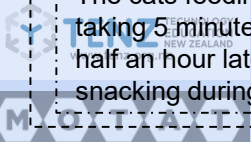


### Other observations:

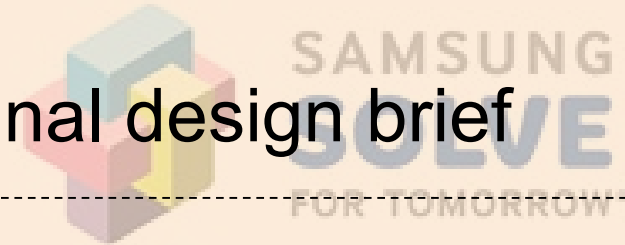
The cats feeding time slowed down - instead of taking 5 minutes, most of the food was gone half an hour later, with some left for casual snacking during the day.

To try and stop the box moving around so much on the wooden floor I decided to make rubber feet for the box out of LEGO strip.

When I tested again, I saw this helped a lot as now the box wouldn't slip and slide along the floor quite as easily.



# Evaluate: Linking back to the original design brief



## You need to:

- Write down the original brief.
- Explain if the outcome fulfils the brief.
- Explain how/why its does or does not fulfil the brief.

## Testing the cat feeder:

My original design brief: I need to design and make a product to slow down my cats eating habits so it takes time for them to eat their food.

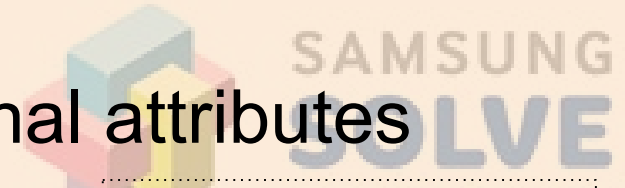
From my observations I have discovered that my cat feeder does fulfil the original design brief.

It is successful because without the feeder, my cats would eat all of their food up with in five minutes. With the cat feeder it took them over half an hour to eat most of the biscuits, and they had some biscuits left in the box that they could eat during the day in their own time.

The design of the feeder also cuts down on how much food the cats can put into their mouth and so the eating time gets longer too.



# Evaluate: Linking back to the original attributes



## You need to:

- Write down the original attributes. (physical and functional)
- Explain if the outcome fulfils EACH of the attributes.
- Explain how/why its does or does not fulfil EACH attribute.

## Testing the cat feeder:

Physical Attributes	
It must be made from <b>materials available</b> at home, e.g. cardboard, plastic bottles & packaging, etc	✓
It must contain <b>one scoop</b> of cat biscuits in the bowl/feeder.	✓
It could fit in with the colour scheme of the room - <b>brown, beige, charcoal, grey.</b>	✗
It must <b>fit a cat paw</b> in it (bigger than 45mm x 30mm)	✓
It needs to <b>fit onto the cat feeding mat</b> (50mm x 30 mm)	✓

The feeder is made from a cardboard cereal box that would normally be put into recycling. It also uses cellotape and glue that we have at home.

The feeder can easily fit one scoop of biscuits into the box. In fact it can feed both cats as it can easily take two scoops.

The sides of the feeder do fit into this colour scheme as it is grey with patterned paw prints. However, the pattern and the top of the box is green and blue as these were the only colours available.



The feeder easily fits onto the feeding mat - making it easier to clean up any mess made by the cats.



As seen when testing both of my cats put their paws into even the smallest hole in the top of the box.

# Evaluate: Linking back to the original attributes

## You need to:

- Write down the original attributes. (physical and functional)
- Explain if the outcome fulfils EACH of the attributes.
- Explain how/why its does or does not fulfil EACH attribute.

## Testing the cat feeder:

Functional Attributes
It must be <b>easy to wash</b> and clean, to stay hygienic.
It must be <b>strong</b> , to withstand use by young cats with sharp claws.
It must be <b>durable</b> , to last a longer time.
It could <b>help to exercise</b> the cat at the same time or provide entertainment - like a toy.

As the outside of the box was waxed it was easy to wipe down with a damp cloth and not get water damage to the card. However, there was no easy way to clean the inside of the box after the cats had finished.

As the cats used the feeder I noticed two problems with the strength of the material (circled in red) a) on part of the paw hole bent inwards making the hole larger and b) the card ripped near the hole to the edge of the box after the cats forced their heads in a hole. The material was not as strong as I had hoped and reduced its durability. The cellotape on the edge also started to come loose during feeding

I was quite pleased with how the feeder could entertain my cats at the same time as feeding. They had to work hard to get the biscuits and had to think about how to get them out of the holes too.





# Evaluate: Is it 'fit for purpose'?

## You need to:

- Explain if you think your outcome is fit for purpose.

*Does it do what it was intended?  
why?*

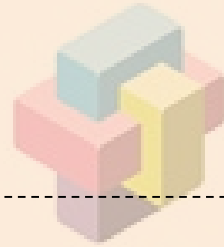
## Summary:

I think my cat feeder is fit for purpose in many ways - it fulfils the brief and slows down the feeding time for my cats. It also acts like a cat toy and entertains them by encouraging my cats to try and find their food in the bottom of the box.

Some parts of the design have affected the function of the feeder though. The card is quite weak so it can bend and tear easily and the cellotape is not strong enough to hold the box together - this makes the feeder less durable.

Hygiene may be an issue too if the feeder is to be used for a long time - it can be wiped on the outside and the wax finish gave the box a good water resistant barrier. However, the inside of the feeder is harder to clean and this may become unhygienic and cause illness in my cats.

Overall, I think the aesthetic design is great and the shape of the holes work really well, but it needs to be stronger and easier to clean to make it more fit for purpose.



# Evaluate: Modifications and Improvements



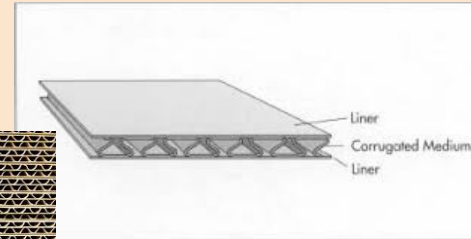
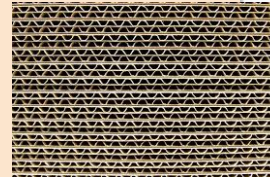
## You need to:

- Using the information you have gathered, can you think of any way to improve your product? *Explain*
- Could you improve how the product was made?
- If you had to do this project again - what would you do differently next time?

## What could I do better?

To improve the joints coming apart I would look at using a stronger glue to hold the edges together.

To make the box stronger I would look at changing the material from a thin cereal box card to a laminated type - like a corrugated card box. This will help to stop the box feeder from bending at the paw hole and stop any tearing of the card - making it much stronger and more durable.



The stakeholder wanted a way to clean the inside of the box. To help with this I can look at adding a better water proof finish to the inside and outside so the feeder could be washed in a tub of water or design a way to open up the box so that the feeder could be cleaned easily in between feeds.