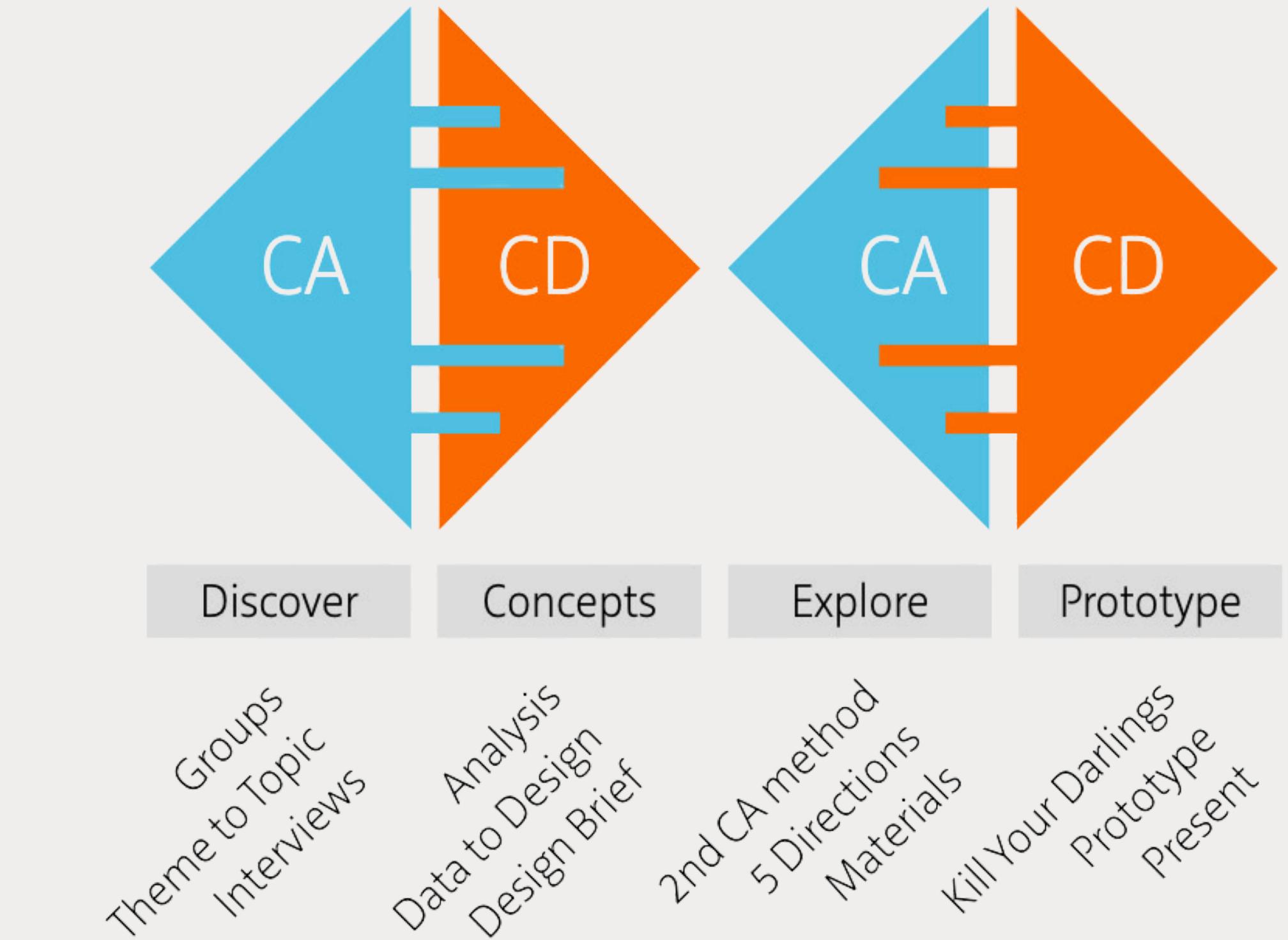


CROCHETING

CACD FINAL PRESENTATION

Anna, Mona, Sharlet, Valerie

THE PROCESS



TOPIC - CROCHETING

DISCOVER

CONCEPTS

EXPLORE

PROTOTYPE

- traditional craft with growing popularity for younger generations
- interlocking loops of yarn with a hooked needle.
- crocheting is not fully replicable by machines => it is not possible to mass produce it => unique

What did we do?

- **Ideation** - Lotus diagram
- Market and academic paper research

PROBLEM

DISCOVER

CONCEPTS

EXPLORE

PROTOTYPE

- The learning process could be quite overwhelming for beginners
- Every person's needs are different => the need for personalization
- Opportunity to implement emerging technology to enhance the crocheting process and learning
- No generally used technology helps you through learning crocheting
- There is much terminology and many patterns of different qualities

PROBLEM

DISCOVER

CONCEPTS

EXPLORE

PROTOTYPE

“

How can we use emerging technologies to enhance the crocheting crafting process and propel it into the digital age?

”

INTERVIEWS

DISCOVER

Study plan

Aim	Research Question
Find problem areas that people crochet facing that can be solved by technology	RQ1: How can the emerging technologies help with the problems that people facing during crochet?

CONCEPTS

Method

Participants

Who will take part?
How will you recruit them?
How many participants do you intend to get?

4 participants:
- Beginners - just started in the last 4 months
- Teachers

Snowball

Materials

What materials will you use in your study?

Online platforms via Teams or Zoom

Mobile phone

Video camera

Yarn and Hook

Design

What methods will you use?

Semi-structured interview

Yarn and Hook

Procedure

What exactly will happen?
How long will the examination take?

1 hour
Questions with showing problems with materials

Analysis

How will you analyse the data collected?
What do you aim to find out from the data?

Create codes and themes.

EXPLORE

- semistructured interviews
- asking about motivation, struggles, and experience
- 4 participants:
 - 2 beginners
 - 2 teachers
- online, 40-50 minutes

PROTOTYPE

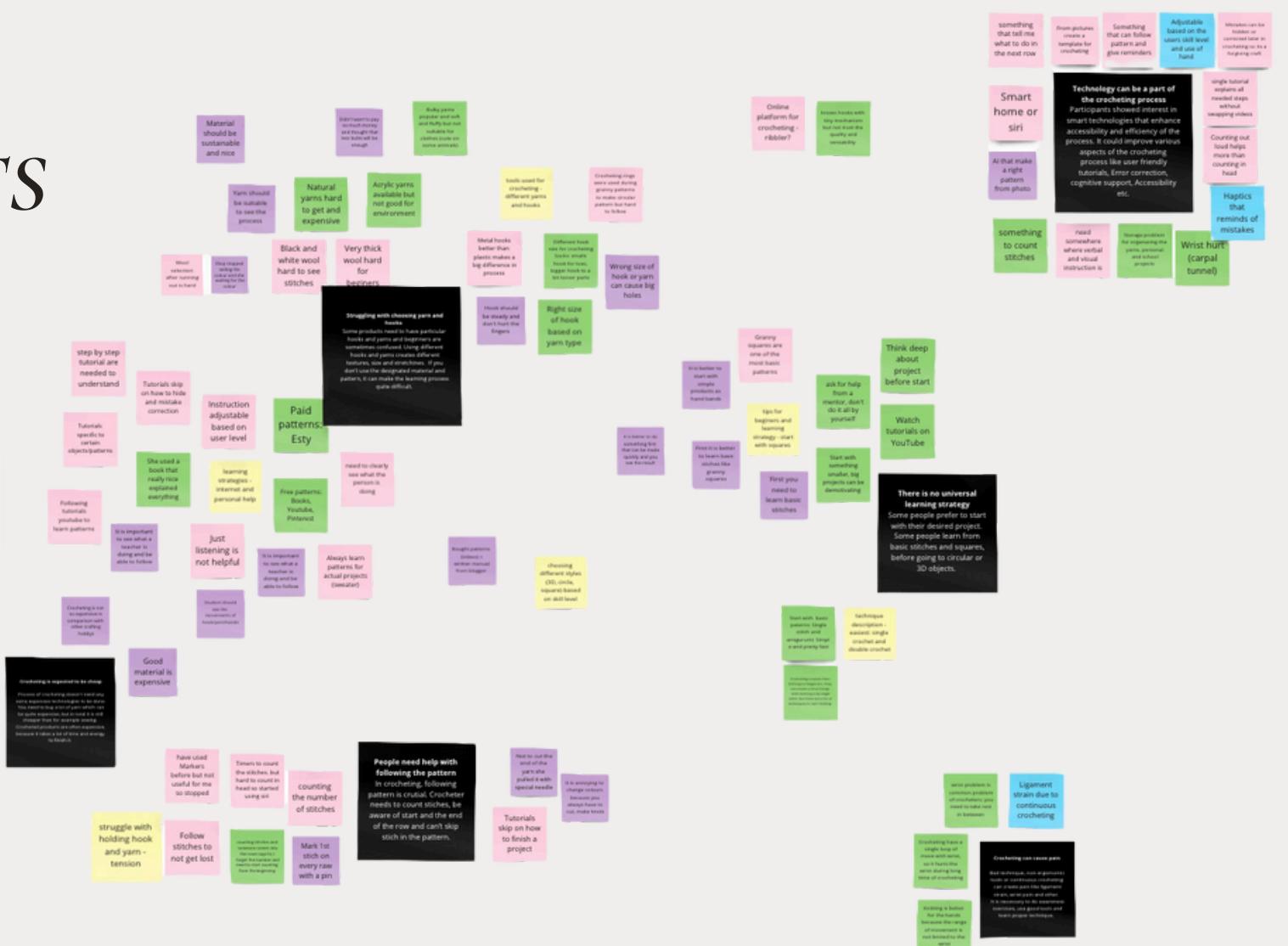
THEMATIC ANALYSIS

DISCOVER

CONCEPTS

EXPLORE

PROTOTYPE



Our themes:

1. Crocheting as a part of other activities
2. Crocheting is expected to be cheap
3. Struggling with choosing yarn and hooks
4. Crocheting can cause pain
5. There is no universal learning strategy
6. Tutorials need to be doable and explain every step
7. Written instructions need special knowledge
8. People need help with following the pattern
9. Technology can be a part of the crocheting process

THEMATIC ANALYSIS

DISCOVER

CONCEPTS

EXPLORE

PROTOTYPE

Implications

- Make the results predictable.
- Prevent missing stitches and guide through the pattern.
- Adaptable to skill level and the desired thoroughness of the explanation.
- Address the risk of pain while crocheting.

Limitations

- The design should keep crocheting cheap
- Crocheting needs to stay portable

Questions we had for future research

- With which areas of life does crocheting intersect?
- What methods help the most with the visualization of the process (3D, audio instructions, videos, etc.)?
- How much technology are they willing to incorporate in the process?
- What are the existing solutions to the pain caused by crocheting?

DESIGN BRIEF

DISCOVER

CONCEPTS

EXPLORE

PROTOTYPE

“

We will design a **smart and portable technology** that will provide a **personalized crocheting experience** for both experts and beginners. This smart technology should also be **time efficient**. This technology will **help with learning new techniques** and patterns and **correcting mistakes**. It should be more than an educational tool and should be an **everyday companion** in crocheting process.

”

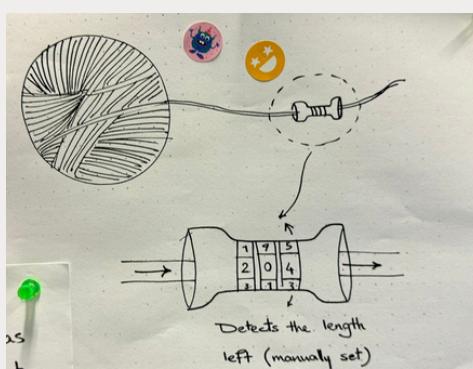
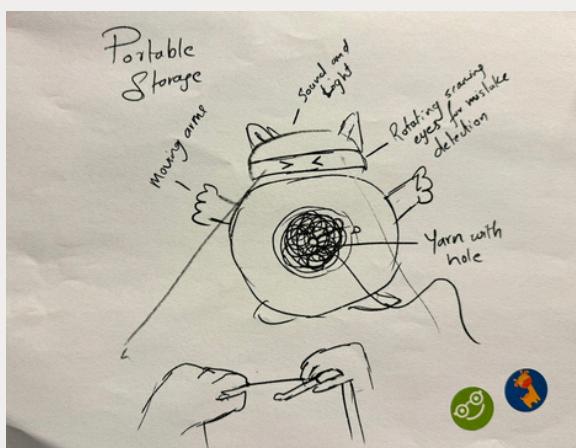
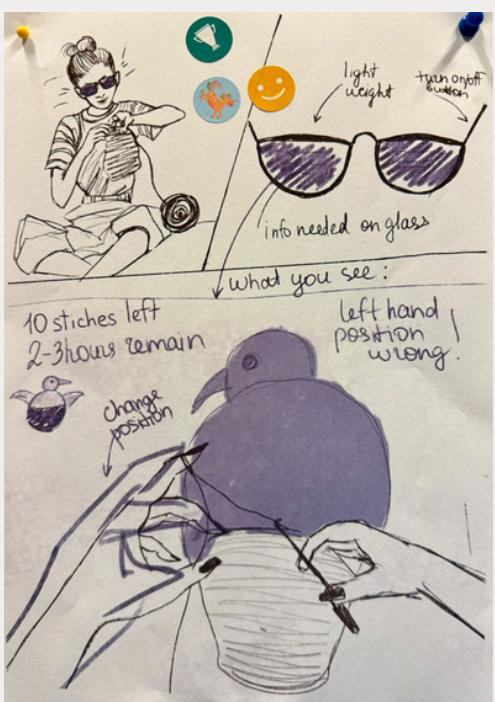
5 DESIGN DIRECTIONS

DISCOVER

CONCEPTS

EXPLORE

PROTOTYPE



1. XR crocheting guide
2. Wearable support during crocheting
3. Crocheting Hooks
4. Crocheting “translator”
5. Storage Helper

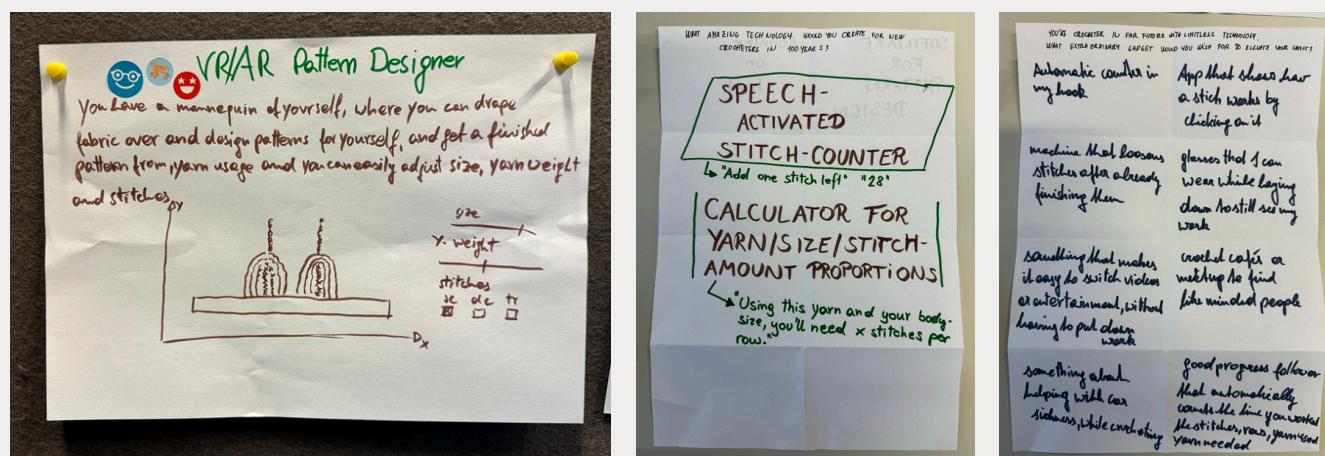
CO-DESIGNING WORKSHOP

DISCOVER

CONCEPTS

EXPLORE

PROTOTYPE



CO-DESIGNING WORKSHOP

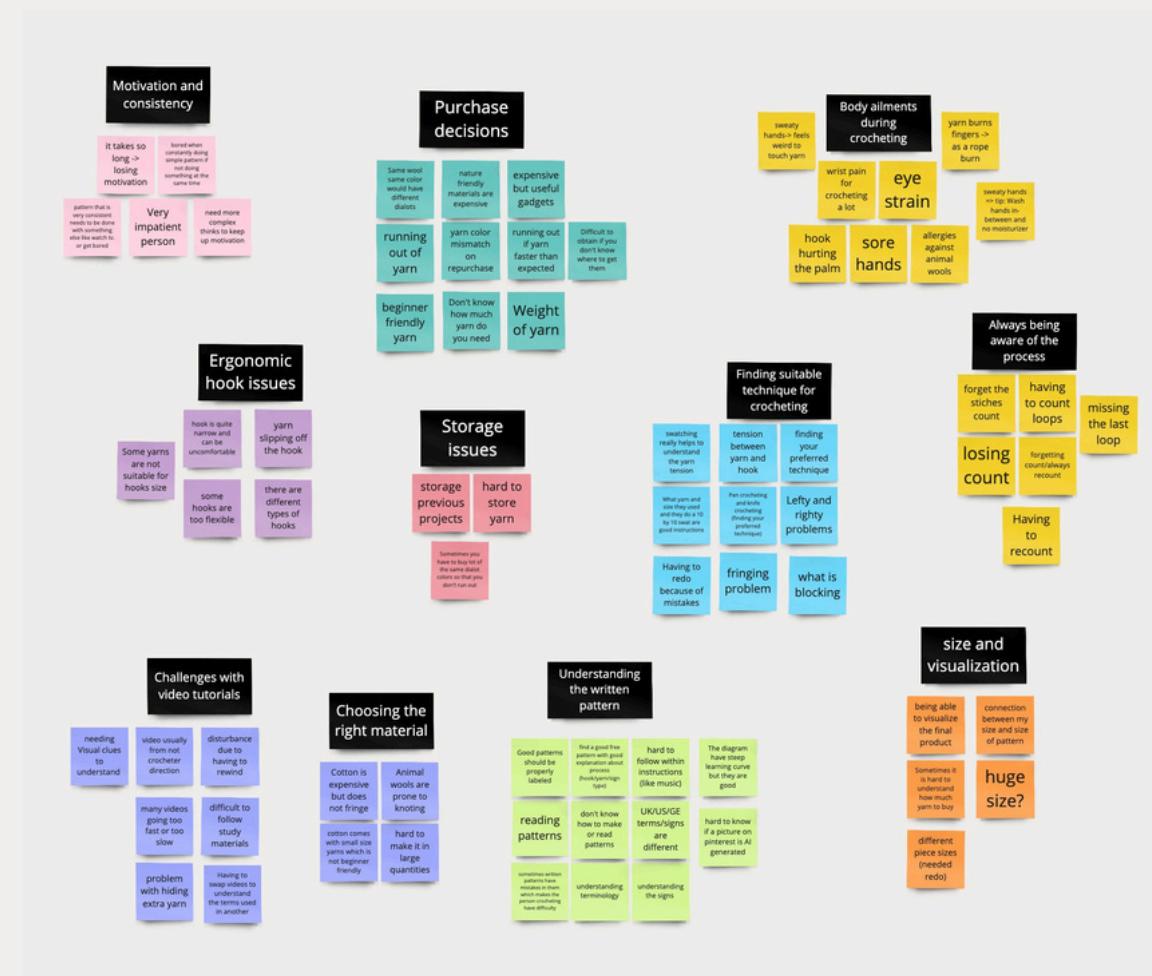
DISCOVER

CONCEPTS

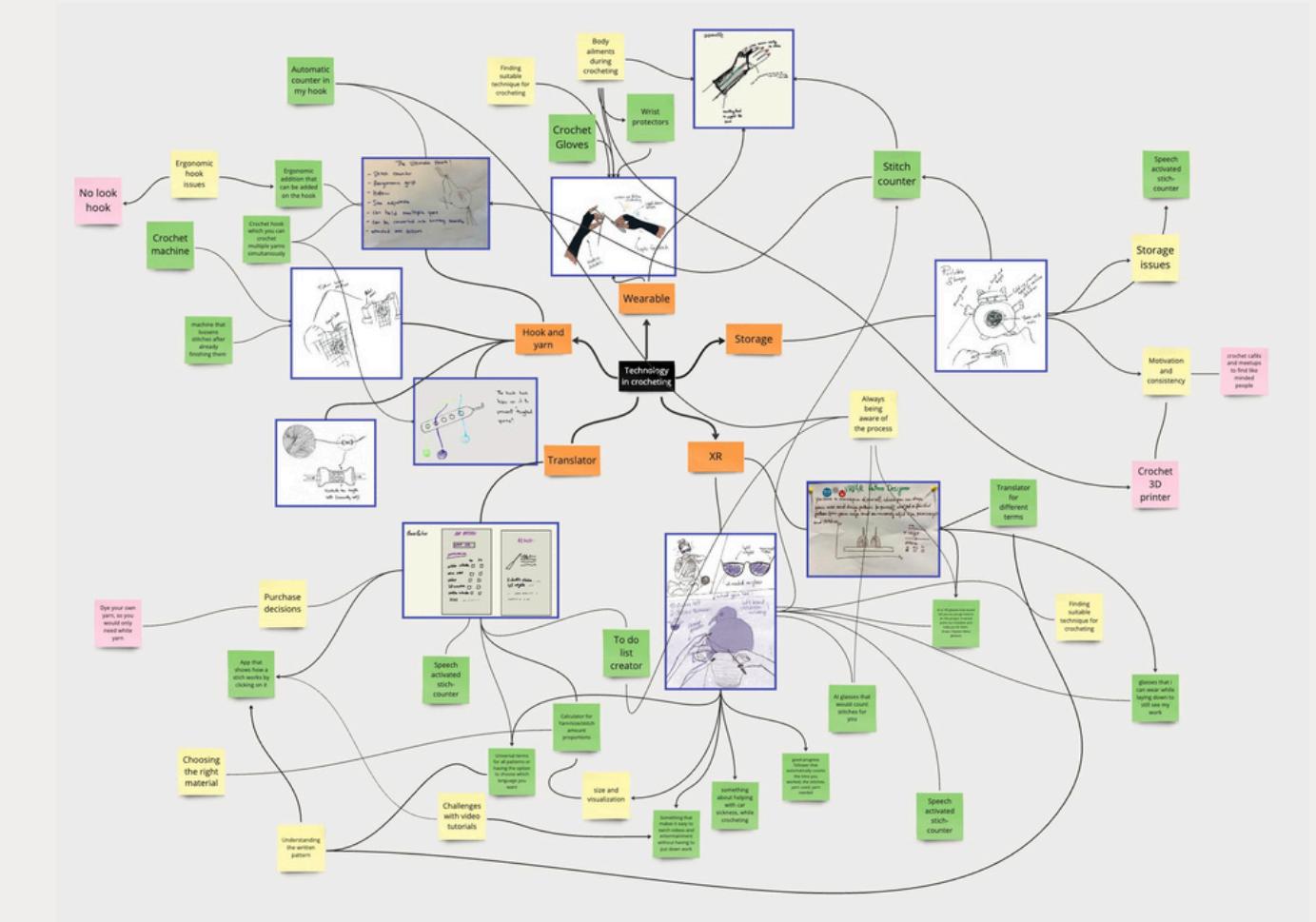
EXPLORE

PROTOTYPE

AFFINITY DIAGRAM



MIND MAP



KILL YOUR DARLINGS

DISCOVER

CONCEPTS

EXPLORE

PROTOTYPE

We already know that the target group is okay with wearing smart glasses	Implementation for final prototype would be hard	easily made a unique code that the user understands.	AI sometimes doesn't work correctly. Small mistakes can make the pattern wrong	Personalization. It does all the work for you	Technical limitations	It is simple and existing technology	Not innovative, too simple	portable. it can be playful.	number of yarn and the amount of yarn can run out.	Simple and should be cheap	People wont be able to understand how much yarn they have?
Can have all the information and use it without having to stop	Implementation in real world is also hard with the current technology.	Help be more creative. Avoid repetition of familiar patterns.	System can become complicated for beginners to work with.	Helps overcome creators slump.	How does the technology recognize the size and clothing	Dont interrupt the process	Might have mistakes about motion detection.	it can help you stay motivated.	knots from yarn could affect the process, how the yarn is changed)	Its small it wouldn't be in the way	How does the yarn move through it?
helps to solve quite a lot of struggles we defined	is it usable for people with dioptries?	It is user friendly	Chris hates screens	It can help you visualize the results	If the sizing is wrong it wastes yarn and time	People dont have to think about warm up and cool down	heating and cooling might be hard to implement properly.	Its cute	How to charge and connect it.	Good sides	It only has one purpose.
Make the result visible is possible, along with information	we need good sources of patterns for it to work (connecting the design to the translator?)	Not interesting enough to present.	Sizing help	It needs some knowledge in modeling, can be hard.	Its useful and helps with health issues.	Sometimes its hard to always wear something before crocheting	Hook is the sensor is better	Price.	Low price.	It is not smart enough	It is portable.
Time remaining and understanding the process will let you know how much energy is needed	Price might be high			It time wasted in the crocheting process.	not emerging.			Depends on the material for portability. (too fragile)	Would need more of them.	Agronomic grip idea is nice.	Everything in one is not really ideal.
Visualization, information, error detection.	can VR detect everything also the object.								Its all existing technologies.	multipurpose	Its not smart enough

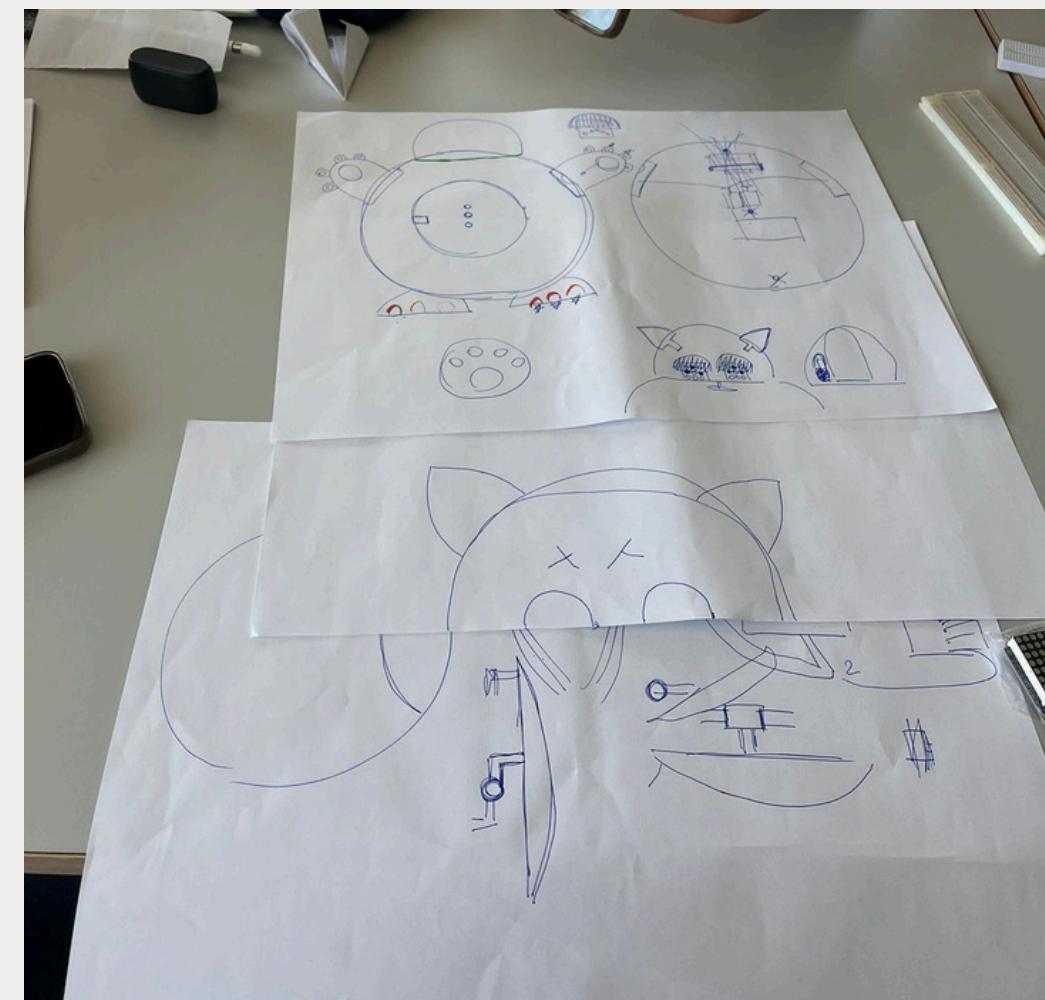
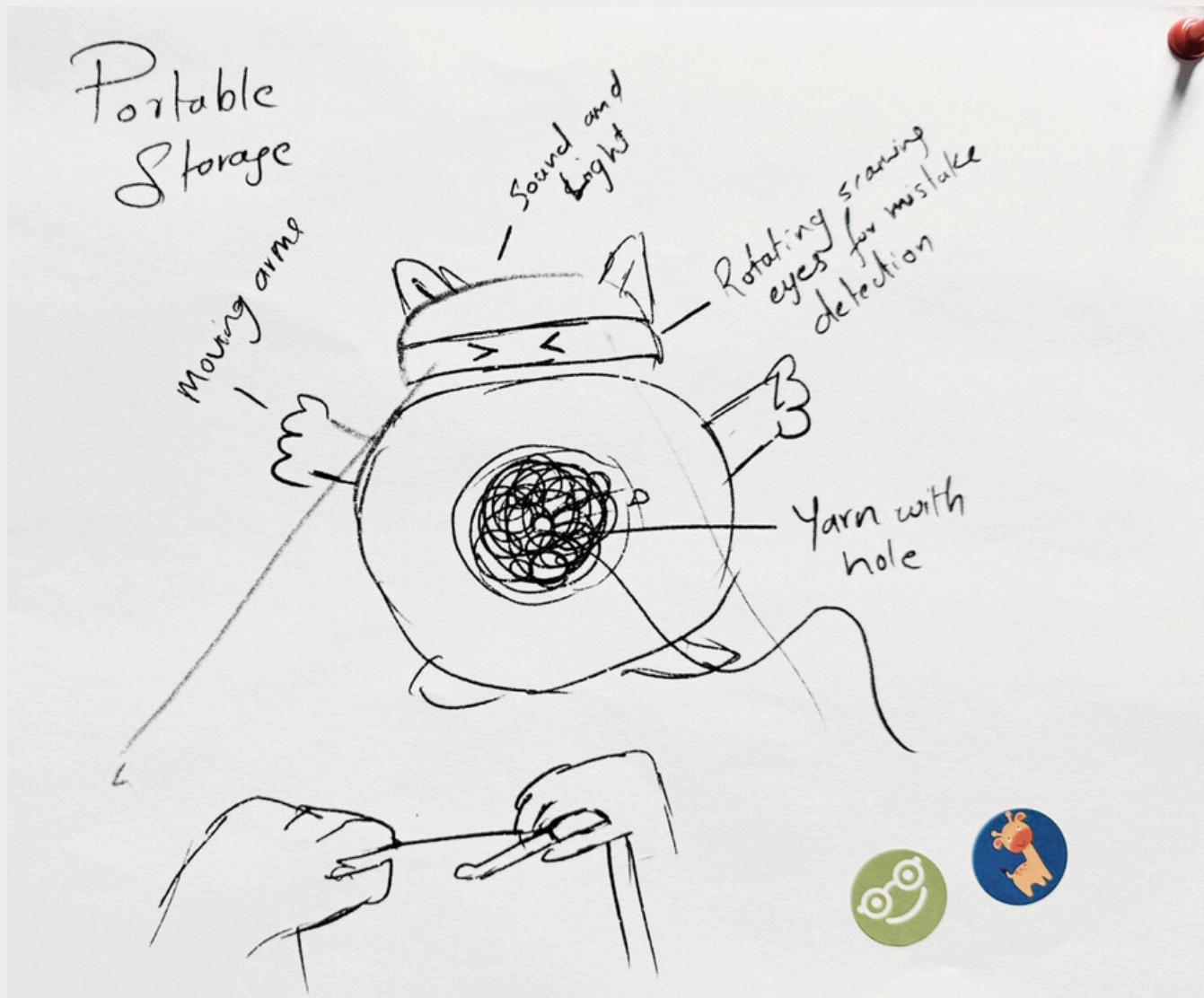
PURRL: CROCHET COMPANION

DISCOVER

CONCEPTS

EXPLORE

PROTOTYPE



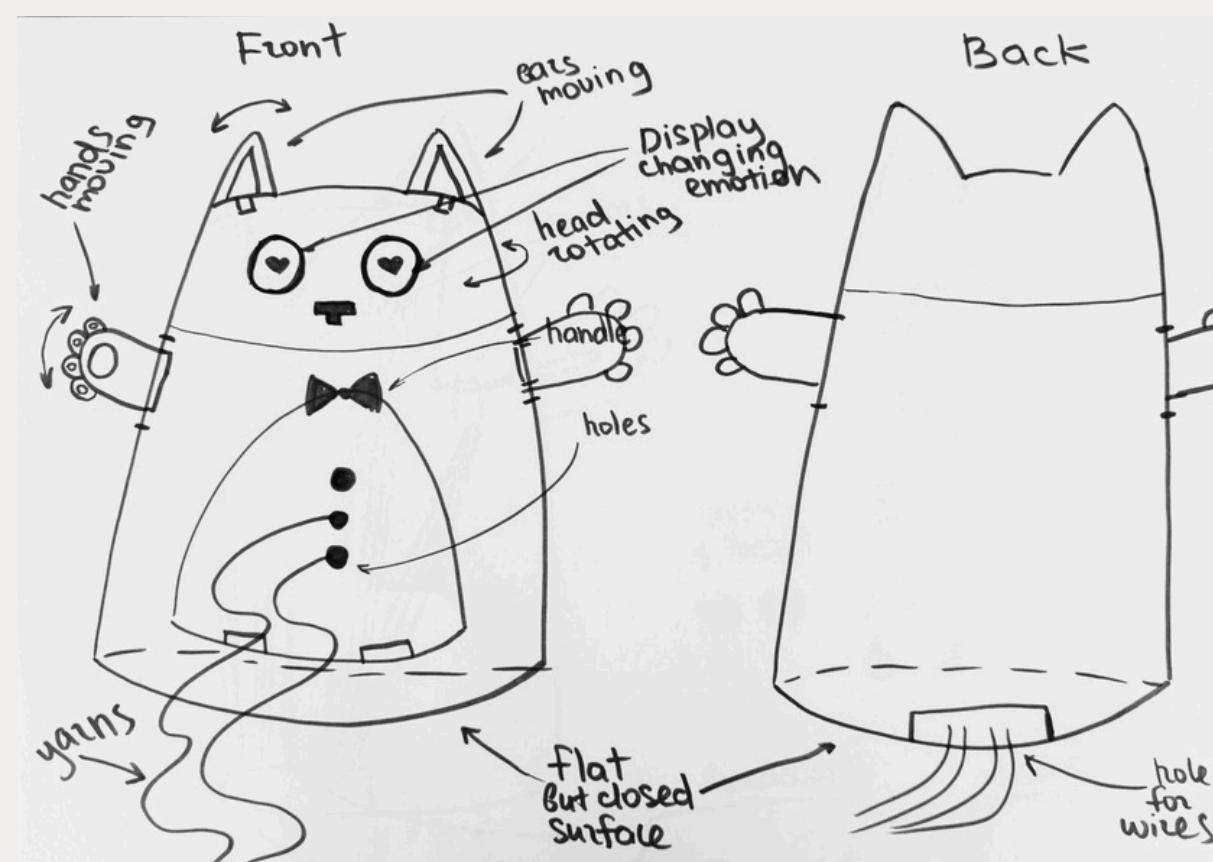
PURRL: CROCHET COMPANION

DISCOVER

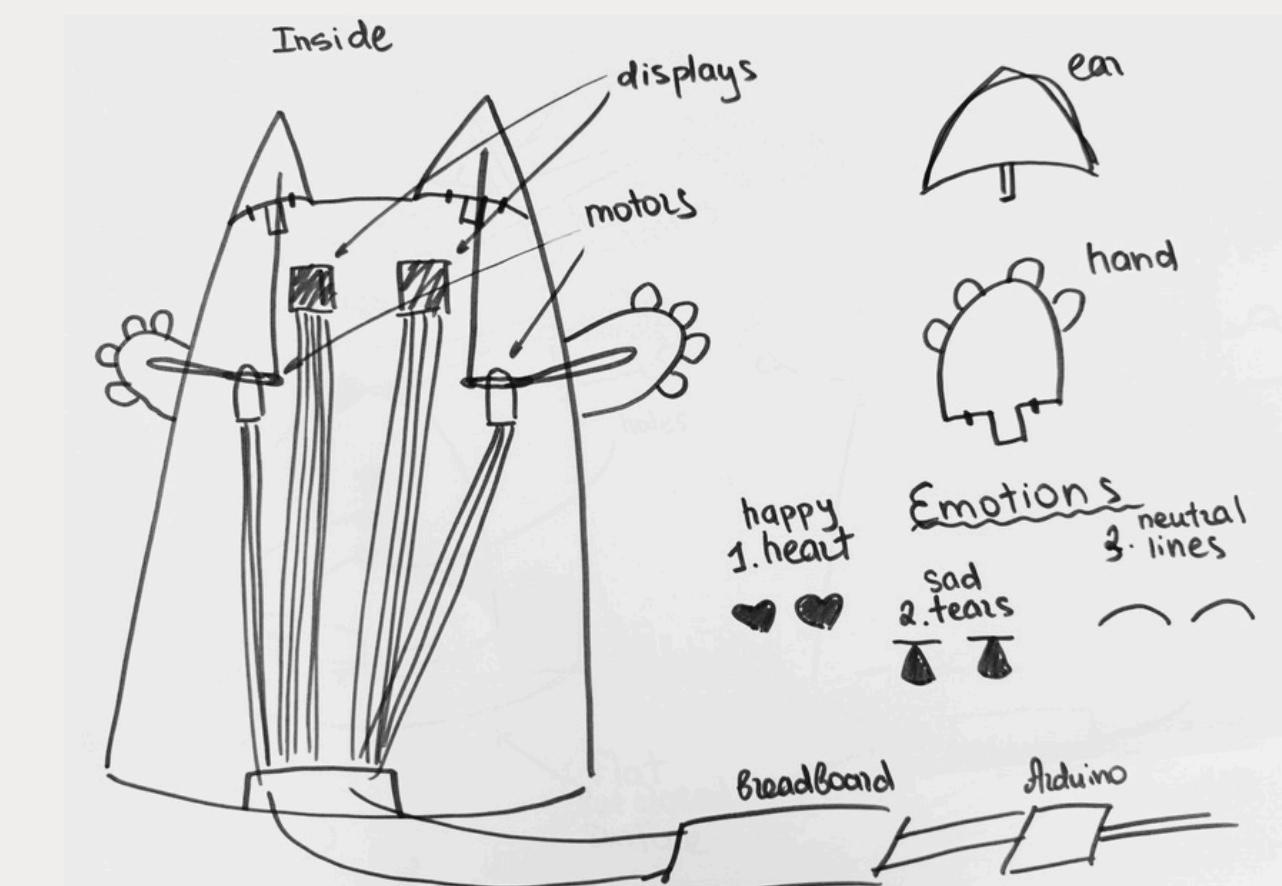
CONCEPTS

EXPLORE

PROTOTYPE



Outer structure



Inner structure

DISCOVER

CONCEPTS

EXPLORE

PROTOTYPE



PURRL

- Head: Sensors detect patterns and errors while crocheting*
- Eyes: Displays changing expressions based on detection
- Belly: Stores and organizes yarns
- Hands/ears: Motivating gestures
- Voice-activated system
- Vibrations and sounds to indicate state

* The device can be connected to a PC/mobile via Bluetooth or cable to feed the database with patterns and information

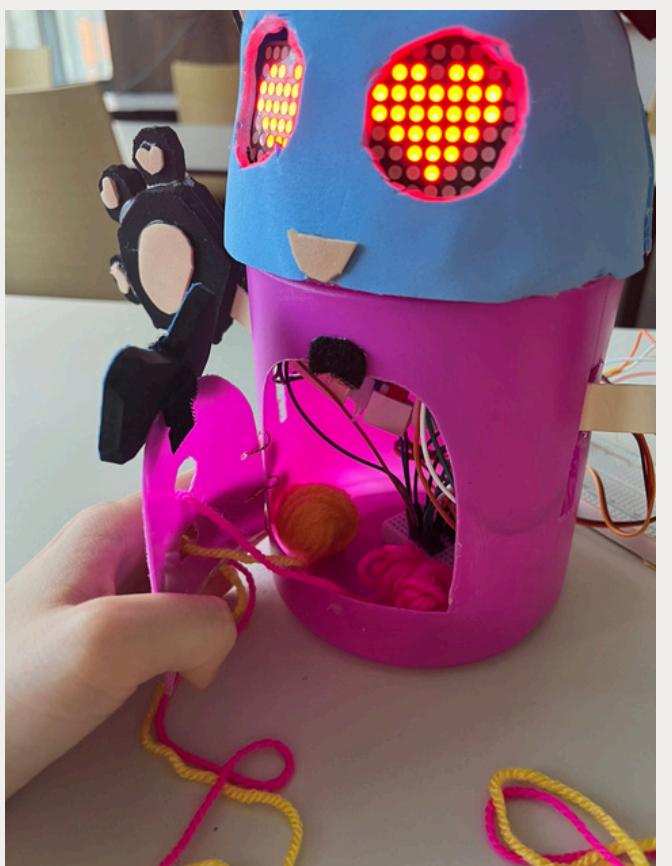
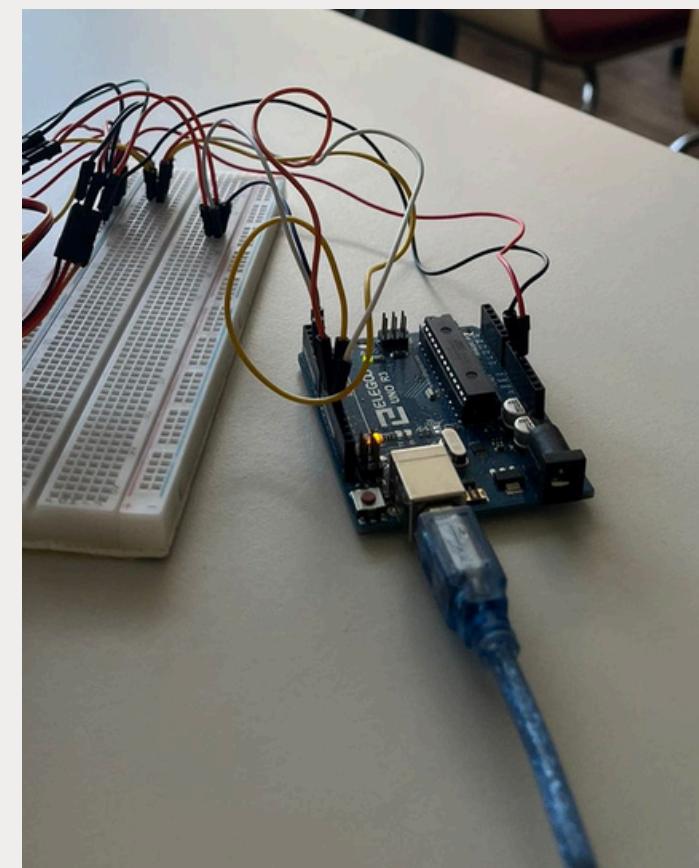
PURRL

DISCOVER

CONCEPTS

EXPLORE

PROTOTYPE

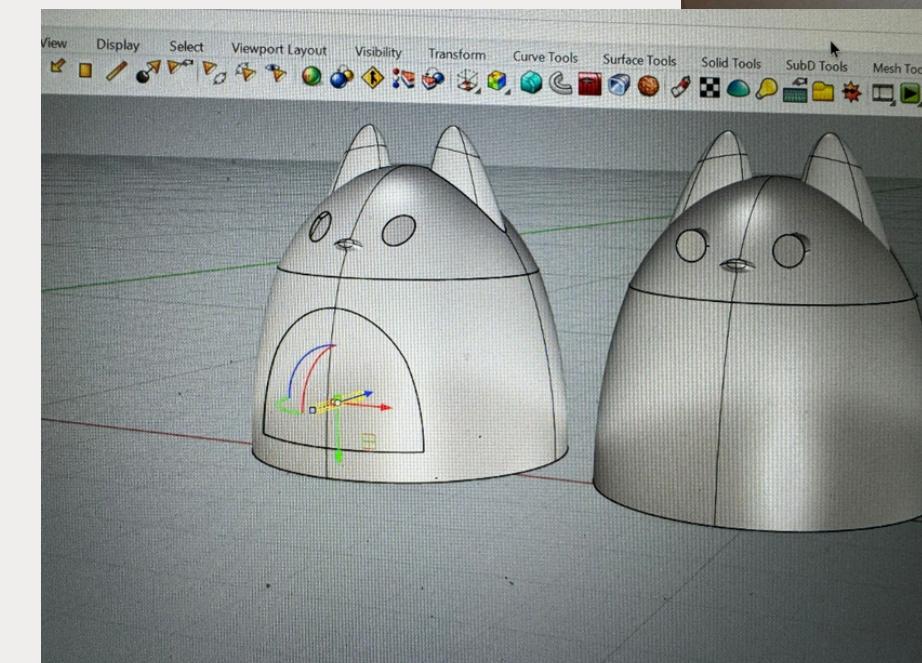


DISCOVER

CONCEPTS

EXPLORE

PROTOTYPE



PURRL



FINAL LEARNINGS

- Time management in the group is hard.
- It is important to be able to defend your opinions.
- All ideas can have a chance.
- Different prototyping tools create different outcomes.
- It is hard to access which technology is possible and which is not.
- We cannot address all needs.
- End-users' opinion actually matters!



Thank meow all!

