

Analyzing Qualitative Data

INFR11158/11230 Usable Security and Privacy

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THE UNIVERSITY
of EDINBURGH

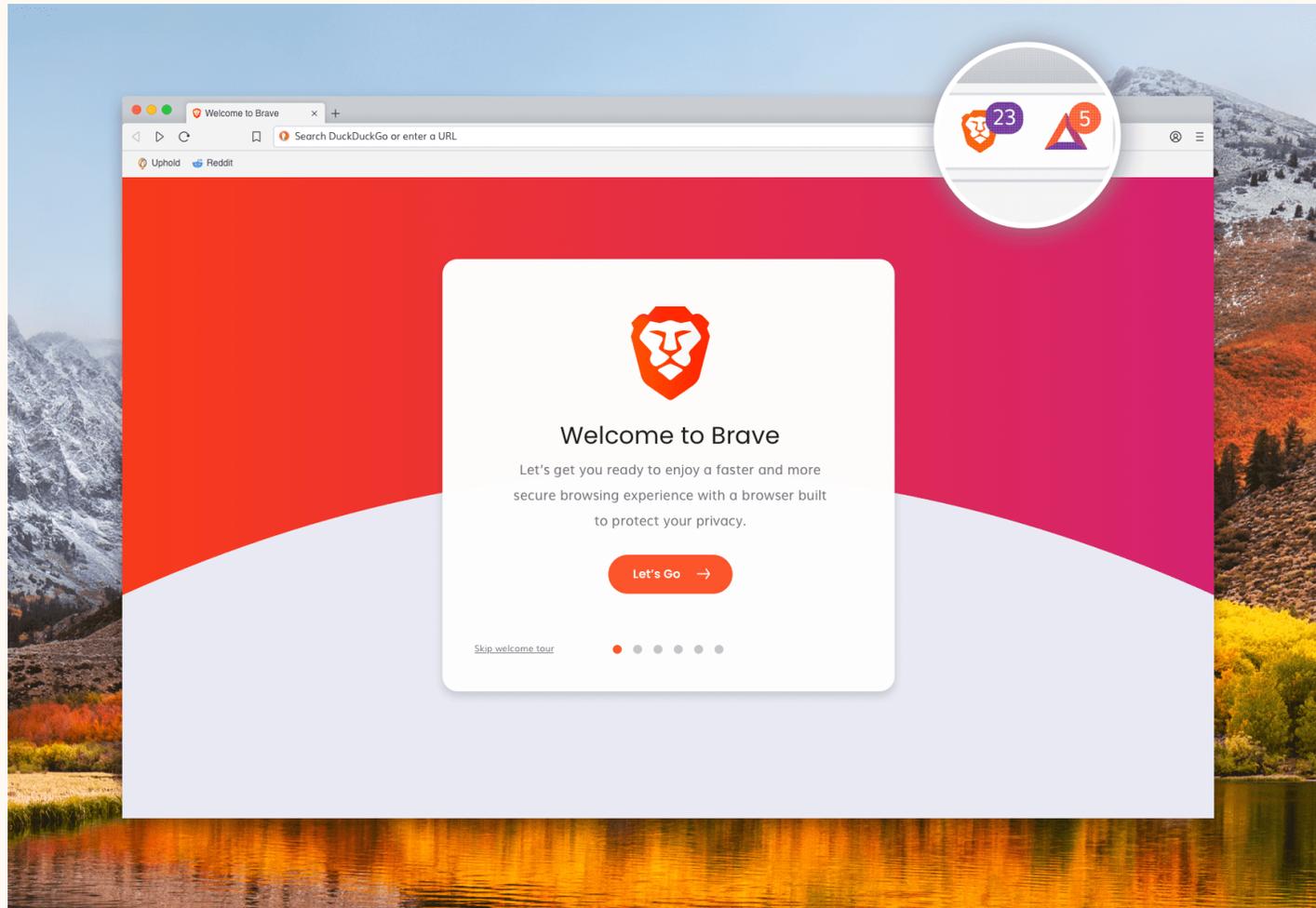
Hands-on: Exploring Cookie Opt-out pages

**WebChoices: Digital Advertising Alliance's Consumer
Choice Tool for Web US**
<http://optout.aboutads.info/>

Your Online Choices | EDAA
<http://www.youonlinechoices.com>

Activity 1: Try it with our neiborgh, take notes with pen/paper or laptop + record screen/audio (if you can) (10 mins)

Activity 2: What went well and what did not?



<https://brave.com/>

Qualitative analysis

Why do we need to analyse data?

- We **analyse** data to:
 - Make sense of the data we have collected
 - Identify meaningful, interesting, and valuable findings
 - Translate findings into design specifications, guidelines, recommendations, further research

Why do we need to analyze data

- Make sense of the data we have collected
- Identify meaningful findings
- Translate findings into design specifications, guidelines, recommendations, further research

When we need qualitative analysis

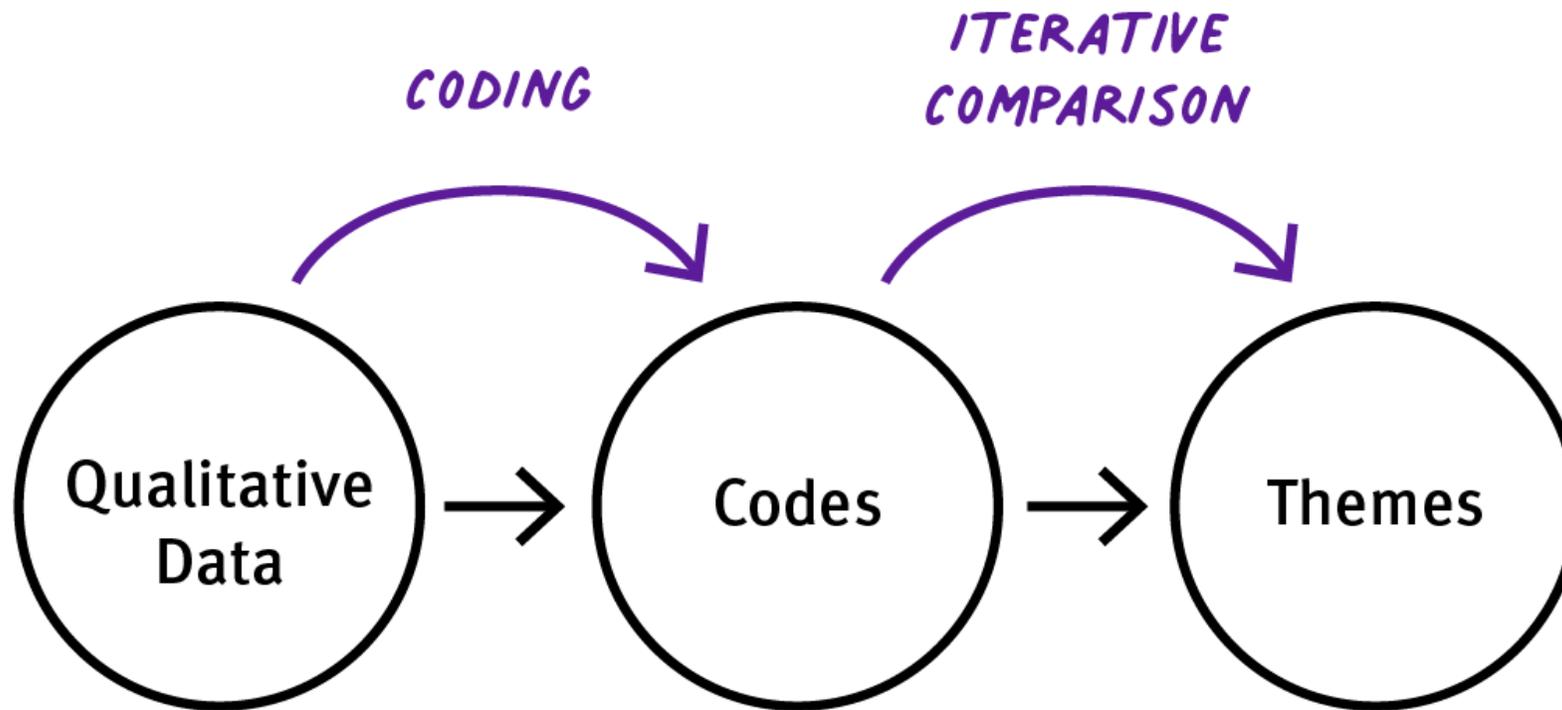
When we have unstructured data (text, image, video....)

- Interview
- Open-ended entries
- Think aloud transcripts
- Short videos
- Photos
- Webpage
- Social media posts
-

Goal: form reliable interpretation of the data

Qualitative analysis process: organizing large volumes of data into categories on the basis of codes, themes, concepts or similar features (like sorting things into buckets)

Thematic Analysis

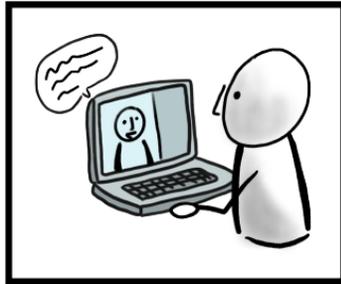


NNGROUP.COM **NN/g**

<https://www.nngroup.com/articles/thematic-analysis/>

6 Steps to Doing a Thematic Analysis

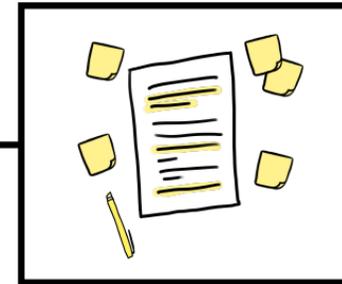
STEP 1
Gather your data.



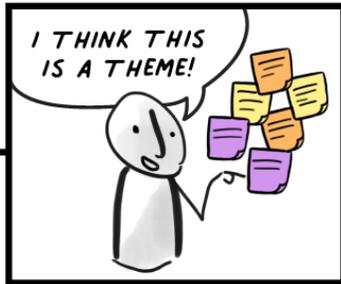
STEP 2
Read all your data from beginning to end.



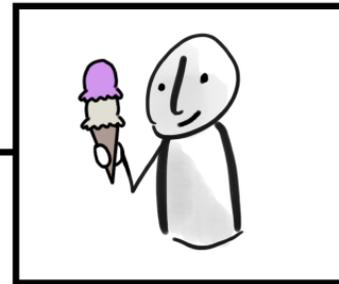
STEP 3
Code the text based on what it's about.



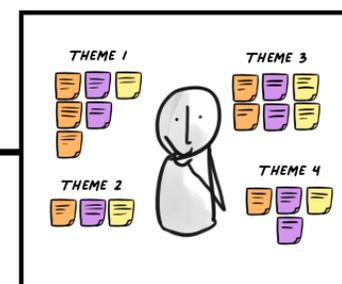
STEP 4
Create new codes to encapsulate potential themes.



STEP 5
Take a break for a day.



STEP 6
Evaluate your themes for good fit.



REPEAT AS NEEDED

Thematic analysis steps

“Thematic analysis is a method for identifying, analysing and reporting patterns (themes) within data. It minimally organizes and describes your data set in (rich) detail” (Braun and Clarke 2006)

- **Familiarize yourself with the data**
- **Generate initial codes**
- **Search for themes**
- Review themes
- Refine and name themes
- Produce the report

Phase 1: Familiarize yourself with the data

“Thematic analysis is a method for identifying, analysing and reporting patterns (themes) within data. It minimally organizes and describes your data set in (rich) detail” (Braun and Clarke 2006)

- (Transcribe verbal data)
- Immerse yourself in the data: read and re-read transcripts, notes, etc.
- Read data in an active way: search for meaning, patterns, etc, take notes about ideas for coding.

Phase 2: Generate initial codes

Codes identify a feature of the data that is important or interesting or meaningful to your research question.(Transcribe verbal data)

- A code is a word or a short phrase that describes a piece of data. It's essentially a label.
- Codes can indicate the subject of a comment, the nature of a comment (question, request, etc.), tone (anger, praise, etc), its speaker, or whatever else makes sense
- Each item can have multiple codes

Activity 3: Try and share your initial codes (10 mins)

Phase 3: Search for themes

- Group similar codes together into overarching themes
- Some initial codes may form main themes, others may become sub-themes, others may be discarded
- Group codes through an affinity diagram

What are the problems with the way our team runs meetings?

Timing

Some meetings are too short and feel rushed

Some meetings are too long and drag on forever

Some recurring meetings are unnecessary

Too many meetings are scheduled during peak work hours/busy times

Focus

Too many meetings don't have an agenda or clear goal

People jump in with tangents or unnecessary topics

Meetings don't have a facilitator to keep the conversation on track

Attendees

Meetings have too many attendees

Involved in too many meetings I don't need to be a part of

Lack of clarity about what each person should contribute

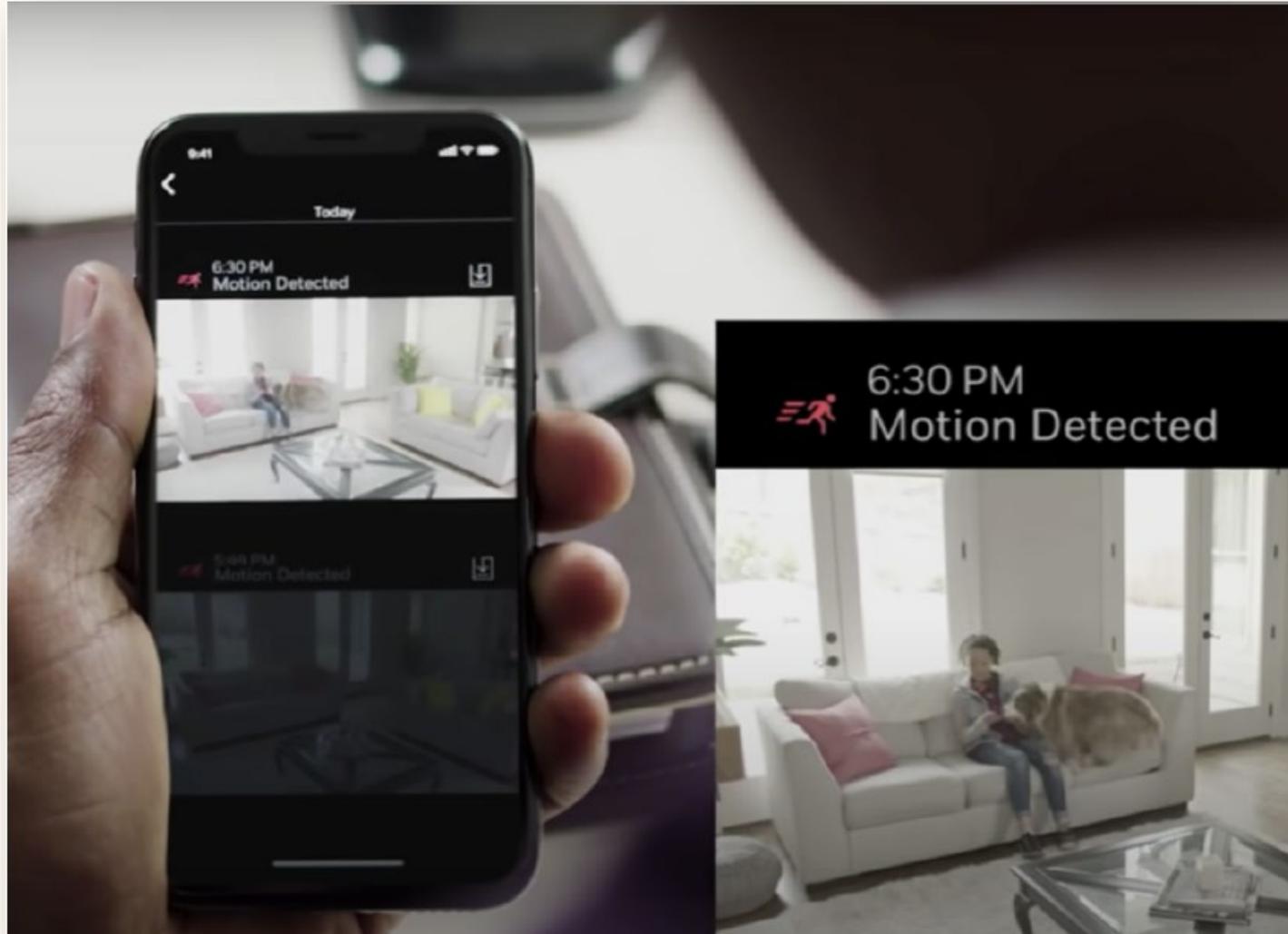


miro

<https://miro.com/blog/create-affinity-diagrams/>

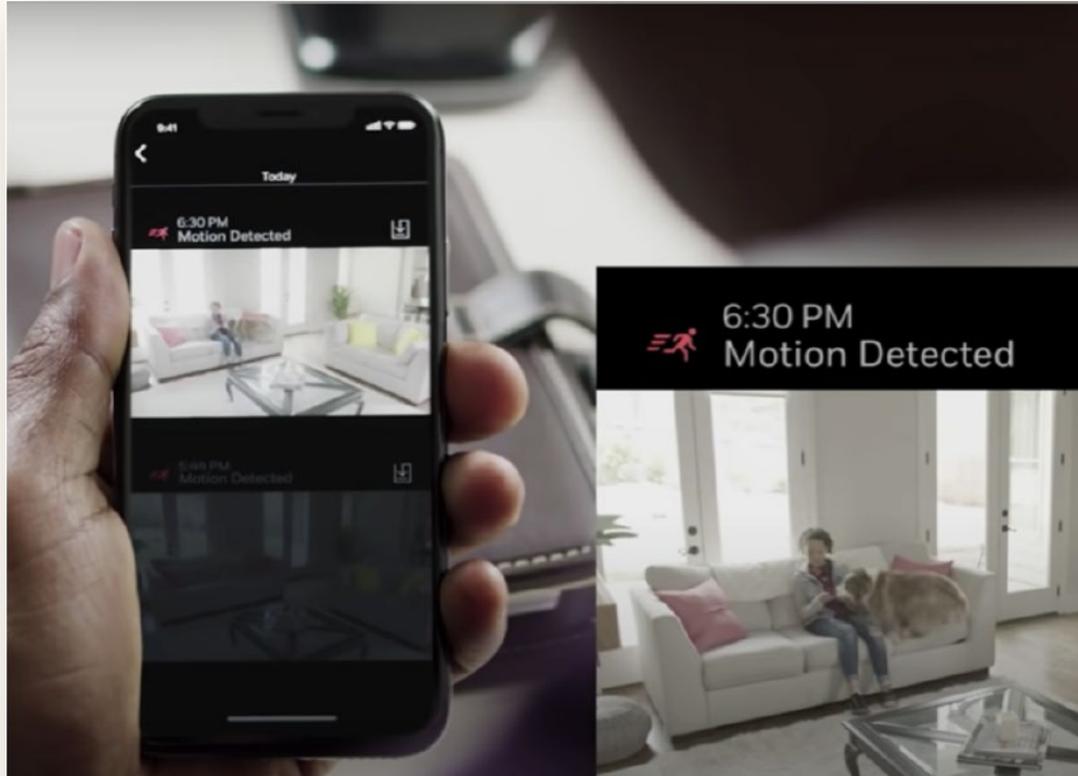
Activity 4: Try grouping codes into themes (10 mins)

Dealing with non-textual data



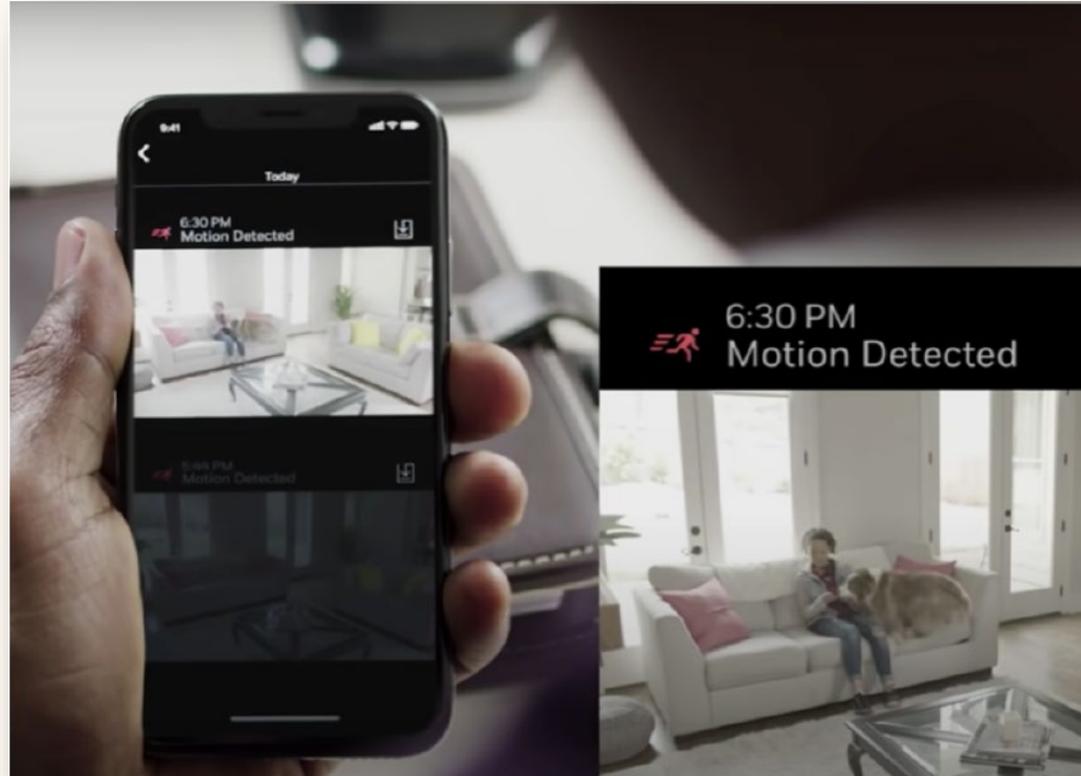
6:30 PM
Motion Detected





- Snapshot of an app on a phone
- Child playing with dog
- Edited picture
- Motion detection enabled

....



What are the privacy concerns?

- Children being monitored
- Camera placed in the living room

....

Cleaning up and construsting codebook

Codebook

Analysis of child safety and privacy-related features and information		
Code/subcode		Explanation
If safety is mentioned (in text)	Webpage providing additional safety resources	The webpage provides extra links and resources for safety,
	Webpage not providing additional safety resources	The webpage provides no extra links or resources for safety, and it just mentions words about safety.
If privacy is mentioned (in text)	Webpage providing additional privacy resources	The webpage provides extra links and resources for privacy, and it just mentions words about privacy.
	Webpage not providing additional privacy resources	The webpage provides no extra links or resources for privacy, and it just mentions words about privacy.
Presence of product features addressing privacy or safety		The webpage shows features, such as child safety lock or privacy shutter buttons.
Presence of parental control-related information		The webpage shows how they offer parental control for the products, e.g., child-specific access control.
Presence of information for parents		The webpage shows information on what parents could do or not do with the children and the device, e.g., parents should supervise children when using the device.
Presence of child-specific content, features, functions, and profile		The webpage shows products offering child mode, content, and child profiles.
Presence of information/disclaimer of potential risks		The webpage shows potential safety risks or misuse, or explains what parents need to be aware of regarding the potential privacy or safety risks.
Presence of information on child data collection and use		The webpage shows how the company handles child-related data. Examples include data collection and use, sharing, and selling.
Indication of child existence (when child image is not presented)		The webpage shows no children, but the image shows child-related signals, including children's bedroom or toys/stuff around the smart home device or in the room.
Presence of smart home guide, e.g., teaching children about device use		The webpage shows instructions or materials directly addressing children, teaching children about device use.

- Read the data, iteratively refine the codes (in discussion with others), organize codes in a hierarchy...