Human-Centered Design: Exploration of Urban Spaces Through an Autistic Lens

Team Overnight Oats

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Primary Research Approach

Participants

7
Participants

Scoring >65 on RAADS tests

18-20
year-olds

Living in towns and cities

Considerations

- Clear and easy to understand questions avoiding ambiguity (1)
- Avoiding set numbered scales (1) - **Followed AASPIRE guidelines**
- Giving examples to help prompts - **Used bisector method**
- Giving material beforehand
- Allowing adequate time and space for people to process information
- Transparency about process, partnerships and goals before beginning

Initial Research

Initial Interview

- Finding what people initially **say** they do
- Allowing interviewees to consider their experiences before completing the diary activity
- Asking about a range of aspects to do with exploring public spaces, with social interactions, and pain points.
- Providing questions beforehand to enable interviewees to prepare their answers and think about it to gain more insightful responses.

Diary Activity

- Learning what people **do**
- Encourages users to take photos of public places they are in each day for a week
- Make notes of:
  - Why they went to each public space
  - Whether things went to plan
  - Emotions in different public spaces
  - What attempts were made to avoid negative emotions in public spaces
  - How effective were these attempts

Follow-up Interview

- Going through the diary together
- Asking for elaboration on different points
- Asking the initial questions from the first interview again and finding where answers may have developed after a week of actively thinking about the brief
- Identifying points of contradiction and delving deeper into their root causes

Analysing Primary Data

Stories

- Breaking down the interviews into individual ‘stories’
- Inputting these stories into a csv file in form using AND and OR to show how different events and responses fit together
- Assigning each story to an interviewee (each named a pseudonym)

Data Analysis

- Using code to piece together stories into a tree conveying causes and effects
- Tree traces itself to find contradictions in stories
- These contradictions and logical errors can be used to find insights

Personas

- Finding correlations between different people’s experiences
- Using these correlations to create persona
- Depending on the types of persona created, doing concept mapping or similar methods to identify and represent pain points for different people.

Data Collection

Interview Questions

These questions were initial prompts, we would then ask more questions about their answers to gain an in depth understanding of our interviewees experiences.

Are there any elements of public spaces that you enjoy or like? ← Finding elements to include in possible design solutions.

Inferring problems about public spaces from answers → Do you have any ideas for improving public spaces?

Can you recall a time you felt connected to others in a public space and why? ← Investigating aspects of social connection in public

Finding why existing solutions are not working → What systems do you have in place to deal with the bad parts of public spaces and do they work?

Are there any barriers to you doing your hobbies? ← Finding why existing solutions are not working

Investigating how the different elements fit into exploration → Do you feel like you can explore public spaces and why?

Interviewees

Referred to using pseudonyms

Special Interests

Key Problems

Key quotes

Hare

- N/A
- Feels uncomfortable in loud and crowded public spaces
- "I leave really early in the morning to miss the peak times"
- "I feel really uncomfortable when I'm going through a crowd"

Dormouse

- N/A
- Thinks of going to public spaces as a chore
- Easily overstimulated
- "I only go in public spaces when I'm going to work or to see my boyfriend"

Caterpillar

- Knives
- Finds it hard to make friends so has no-one to explore with
- Hates public transport
- "Sometimes I say weird stuff that isn't accepted"
- "I don't feel like I fit in with either neurotypical people or autism support groups"

Dodo

- Designing
- Friends don't want to do the same things they do
- "My friends want to go to clubs but they make me unhappy and exhausted"
- "Small talk is effort and pointless"

Cheshire

- Birds
- Doesn't have time to explore due to executive dysfunction
- "Not knowing the exact location of a place I need to go to stresses me out"

Hatter

- N/A
- Goes to public spaces with friends but feels uncomfortable
- "I can't hear what people are saying in pubs"
- "I don't trust people in my private space so we go to public spaces instead"

Mock Turtle

- Biology and Graffiti
- Thinks of public spaces as places to travel through not places to spend time in
- "I would only go to specific places related to my interests within a controlled environment"
- "I only go outside with noise cancelling headphones"

Diary Activity



"I was slightly stressed because it seemed so busy."

"I love walking through Hyde Park in the mornings because of the dogs and plants"

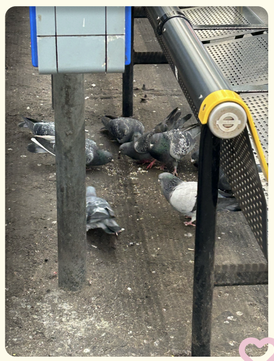




"The tube station was too crowded, I was too tired to cycle so I had to take the bus"

"I liked the quiet and personal space of the solo pods"

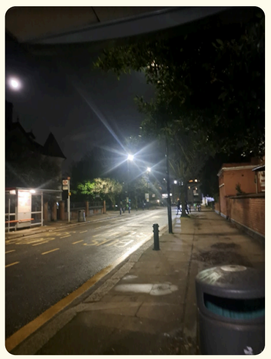




"If there are birds I'm happy"

"I enjoyed the warm lighting and wooden floors in the restaurant"





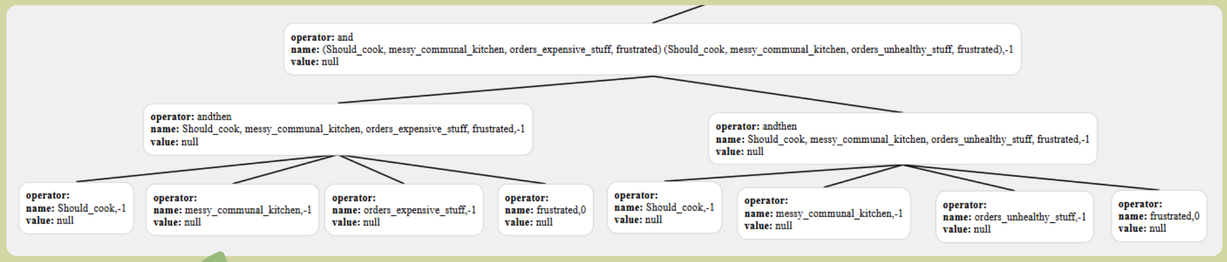
"I massively prefer being in urban spaces at night"

"When I walked out of Old Street Station it felt like having everything which has ever existed slammed into my brain"



Data Collection & Analysis

Story Tree



Over **350** individual scenarios

- Uses boolean logic to find inconsistencies between stories
- Prompts questions to find root causes
- Continuously asking why until the root of the contradiction is discovered
- Process leads to insights

- No inconsistencies between what the users said before and after the sensitisation exercise using the diaries
- The story tree demonstrated that what the users said and did was consistent

Logic

- The tree breaks down sentences into constituent parts - abstracting the information
- The relations between the child nodes are stated using an operator
- Different aspects are assigned **True** or **False**
- Contradicting values in the nodes are used to find conflicts in the user stories e.g. **happy** and **unhappy** in the same situation.
- Single stories are compared against the tree and taken as a truth, it propogates up the tree and if any node and the chosen one have contradicting values there is an inconsistency.

With such a large number of stories, this method ensured we did not miss any inconsistencies in the data which would be much more difficult to do manually

5 Problem Clusters

Transport
New environment
Social connection/ friends
Judgement
Executive dysfunction

Looking at the data we found general trends around barriers which came up in interviews with multiple people:

Sensory Risk - not going to **new** urban spaces because risks of sensory harm

Sensory Outing - rejecting invitations because they don't want to go to environments with **known** sensory triggers such as clubs sometimes leading to social isolation

Authentic - struggling to converse on subjects outside of restrictive interests and not understanding social cues leading to a lack of mutual understanding or forcing users to mask, draining their social battery

Confusing Environments - being unable to navigate urban environments making them confusing and stressful leading to a hatred of general public spaces

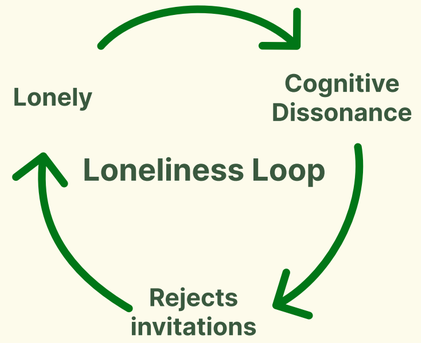
Executive Dysfunction - getting caught up in minutia when decision making, doesn't accomplish goals with enough time to socialise or go out

Judging Environments - not wanting to be perceived by others especially when engaging in 'non neurotypical behaviours' such as stimming

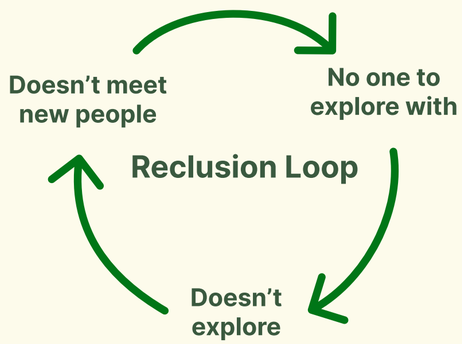
Sensory Transport - sensory issues on transportation acts as deterrent

Feedback Loops

From the story tree we identified 2 feedback loops of reinforcing behaviours that contribute to our user's problem around social interaction and exploring urban spaces

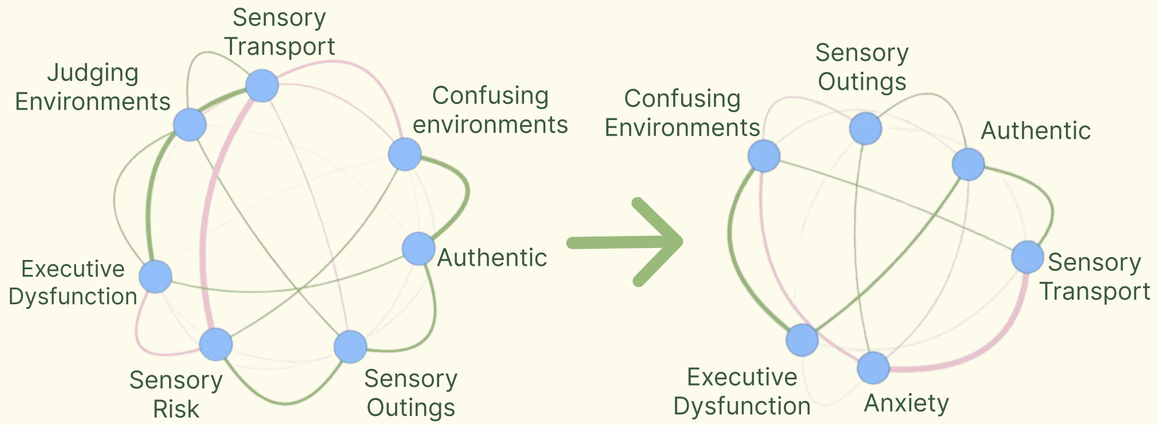


Loneliness loop caused by executive dysfunction and not having social connection therefore they don't know how to go about it



Reclusion loop can be caused by anxiety and social withdrawal meaning that the person lacks experience with having social connection

Insight correlation



The lines between the nodes (in blue) represent the correlation between the different needs we have found in our interviews.

- The thicker the line weight the stronger the correlation
- **Green** - Positive correlation
- **Pink** - Negative correlation

We discovered an underlying anxiety factor - judgement and sensory risk - are part of the same problem. They correlate strongly with each other and have similar correlations with other characteristics, through inference we can class these as 2 different manifestation of anxiety. This means that we can replace these needs with anxiety on our correlation diagram.

Data Collection & Analysis

5 insight categories and their needs

We looked for trends across stories and needs in different spaces and situations to come up with categories to help form our insights

Social Connections/Friendships

- Audio and Visual processing problems
- Maintaining Friendships
  - Accidentally offending
  - Different needs and definitions of interactions/friendships e.g. parallel play
  - Conversational Ability
  - Socially Draining
  - Topic switching
  - Lack of interest on both sides

New Environments

- Anxiety
- Lack of Predictability in any aspect
- Being without company
- Sensory seeking behaviour is not fulfilled or is exhaustive
- The desire to avoid certain sensations

Executive Dysfunction

- Distracting Stimuli
- Decision fatigue induced stress
- Task switching
- Attention deficits - Forgetting the task at hand
- Executive dysfunction results in time loss

Transport

- Loud and incoherent noise
- Crowds
- Harsh lighting
- Strong smells

Judgment

- Meeting new people
- Judgment from strangers

Primary and Secondary barriers for each user

Primary	Secondary
Sensory	N/A
Anxiety	Sensory
Sensory	Lack of peers to explore with
sensory	Anxiety
Executive function	Lack of peers to explore with
Lack of peers to explore with	Alienation/Judgement
Alienation/Judgement	Anxiety

Needs

We used the guidelines from TfL (PAS 6463:2022) and the interviews to create a list of needs and found which users related to each need to find the most important ones

Reduced boredom/more engaging stimulation

Meaningful discussions in small, intimate groups

Personal Space/Boundaries
Physical or emotional distance relays a sense of comfort and recharge

Embracing biophilia
Engagement with natural spaces

Reduced incoherent stimuli
Reduce disorganised and overwhelming senses e.g. overlapping conversations

Reduced sharp stimuli such as lights

Predictability and Consistency
Familiarity for senses that fit an understood model

To Meet Social Battery Target

To avoid judgment from peers/strangers

Desire for a sense of community and belonging

Ease decision fatigue

To experience a sense of safety and security

Seek stimuli
Sensory seeking behaviour

Opportunity to preview
To have knowledge of a space before visiting to make it more predictable

To collect objects of interest

Reduce strong stimuli such as smells

To have user-friendly, navigable layouts

Insights and Opportunities

Insights

Transport

The **overwhelming noise and crowds** of public transport make commuting a distressing experience. To avoid this, users are forced to **find alternative, often inconvenient solutions** such as cycling or travelling at off-peak times which add extra effort and planning to their daily lives.

Judgment

In unfamiliar environments, people often **feel judged by strangers**, especially when **alone**, due to not knowing how they should act. Without the support of a trusted person, this **social anxiety** can discourage them from exploring new places and meeting new people.

New Environments

New environments can be challenging due to their **unpredictability**, which can be **confusing and distressing** when they're not in control. They seek sensory stimulation but struggle to find a balance, as environments can quickly become **overwhelming**, leading to discomfort and avoidance.

Executive Dysfunction

Executive dysfunction is caused by challenges with distractions and decision fatigue among other things. It can make simple tasks **significantly longer**. This reduces the time and energy available for socialising, making it **harder to maintain relationships** and engage in social activities.

Social Interactions

Autistic people can make neurotypical friends but can find **conversations unengaging** due to their restrictive interests and **different social needs** (e.g parallel play). This makes it **hard to maintain conversations** and due to social conventions being biased towards neurotypicals, autistic people feel they must pretend to be engaged and mask their natural needs and behaviour to be accepted.

HMWs

HMW remove the effect of unpleasant stimuli from public transport? i.e. tubes

HMW develop routines and systems that help individuals with autism feel confident in their actions, even when they have limited information about a new environment

HMW encourage the exploration of new environments while maintaining a balance with sensory seeking needs

HMW establish systems to reduce decision-making fatigue?

HMW enable people to find others with similar strong interests and direct communication styles?

Final HMW : How might we support autistic individuals to confidently explore urban settings to fulfill their social and sensory needs?

Personas

We chose are personas based on the biggest barriers each person had to exploring public spaces. Our interviewees therefore fit into multiple personas to varying degrees.

White Rabbit

- Although the White Rabbit **wants to explore public spaces to fulfill sensory needs**, they are **limited by a lack of time**.
- This is due to **executive dysfunction** causing simple tasks to become extremely time consuming
- This prompts them to **turn down social invitations** because they **need to do more urgent things after spending excessive time on less important activities**.

Queen of Hearts

- Queen of Hearts **wants to explore public spaces** with people but **can't find peers who share their needs from exploration**.
- The Queen of Hearts wants to **go to places relating to their specific special interests** but cannot find people to share them with.
- They may also want to **do activities which their neurotypical peers find boring** such as watching city lights for .

Alice

- Alice **goes to public spaces with friend**s but is often **overstimulated, overwhelmed and exhausted** by sensory issues in those locations.
- They would never go to public spaces alone just for enjoyment, they would **need a purpose.**
- They sometimes **turn down social invitations** to public spaces to **avoid the sensory issue**s which go with it and **anxiety about being in new environments.**

Neuro-typical Non-User

- The non-user does not have the same sensory or social issues relating to public spaces unlike White Rabbit, Queen of Hearts and Alice.
- They do not have significant problems to do with crowds, noise or sensory overwhelm and find it relatively easy to find friends who share the same interests or needs from exploration and public spaces.
- They may find it difficult to socialise with autistic people because of the double empathy problem

Hierarchy of Unfulfilled Needs

Although barriers to exploring public spaces (caused by unfulfilled needs) are generally shared between all of the personas, the impact of each one varies.

Barriers to fulfilling needs

Barriers are comprised of a need and a reason/rational, if the reason is true then there is an unfulfilled need



Sensory Balance	→	Over-stimulating environments
Peers to explore with	→	Can't put time into socialising
Perceived time	→	Executive Dysfunction



Sensory Balance	→	Over-stimulating environments
Peers to explore with	→	Restrictive interests
Fulfilling relationships	→	Double empathy problem



Fulfilling relationships	→	Isolation from turning down invitations or being overwhelemed
Sensory Balance	→	Over- stimulating environments
Anxiety	→	Unpredictable environments

Although the non-user is not part of the target market, since the products would be related to public spaces, they might still interact with it. It is therefore important to consider a non-user's experience with the product when generating and evaluating ideas.

Ideation & Concept Evaluation Approaches

Following these steps we were able to have more divergent thinking by following different principles and ideating off of many different starting points. This enabled us to avoid design fixation resulting in a more successful divergent phase of the process.

This was a streamlined process of ideation that integrated AI and human cognition

Encouraged wider and more diverse, analytical thinking

Principles included:
- Segmentation
- Asymmetry
- Local Quality
- Preliminary Action
- Periodic Action

100 sacrificial ideas were created which we used as prompts to generate our own ideas and sketches before reducing the number to 15.

We found that we had individually had very similar idea concepts with products encouraging finding or collecting things across cities, tools for subtle stimming, and ideas for reducing security overwhelm.

We then used the list of HMWs to generate ideas using auto-triz using specified principles and prompts

To begin the design ideation process, we each individually went through the different HMW questions and came up with 5 ideas in preparation for a group Ideation session.

Different users had different needs in public spaces and this was reflected in the product rankings for this criterion where certain products ranked particularly highly for groups of participants with the same needs.

This ranking was used to assess the desirability of different products and in many cases, products which were not seen to be particularly useful were ranked more highly on this scale based on how interesting or fun it seemed.

Each participant also gave much more general feedback on the products including aspects they liked and disliked and opportunities for development.

Would the product be useful to them?

Did they like the idea?

General feedback

Where the feedback did not seem to match the rankings given, we revisited the product to extend on the feedback and gain a deeper understanding of their thoughts.

In the session, we went through each design with the users, answering any questions they had before moving onto feedback and rankings based on two different criteria.

Each participant took part in a co-design session, either online, in person or over text to accommodate for their needs.

Discussed feasibility through accessible equipment, time constraints, budget, available and learnable skill sets as well as scale.

Combined rankings to see ideas with the most potential

We ranked all ideas from a scale of 0-5, giving separate values for feasibility and originality

Created usefulness metric on excel where the usefulness was normalised and the sum of squares was taken to get a ranking focused on quality not quantity

As a group we ranked the ideas on more criteria to further evaluate them.

HMW Questions

Initial Ideation

Auto Triz and Further Ideation

Co-Design and Feedback

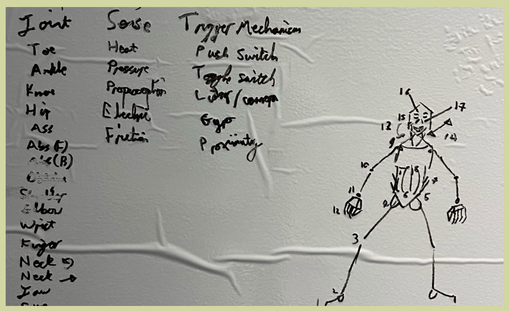
Further Evaluation

3 Ideas

15 Ideas

Divergence

Convergence



Pre-Programmed Decision Templates

# IdealD	49
Applied Principle	Preliminary Action (Index 10)
Summarization	Use pre-programmed templates to automate routine decisions.
hmw	establish systems to reduce decision making fatigue
Sketch	☑

Valuable feedback and insights which would not have obtained without the use of co-design
For example: “May make it harder to understand people (social contexts) as inferences from inflections are somewhat lost by cutting out highs.” (design 1)

	1 - Pitched ANC	2 - Haptic Stimming Band	3 - Magnetic Bracelets	4 - Token Trail	5 - Map quest	11 - Modular Barriers
Rabbit	0.9166666667	0.08333333333	0.8333333333	0.5833333333	1	0.08333333333
Doremouse	0.9285714286	0.2142857143	0.5	0.7142857143	1	0.07142857143
Caterpillar	0.06666666667	0.06666666667	0.06666666667	0.6	0.06666666667	0.06666666667
Mock Turtle	0.4666666667	0.6	0.8666666667	0.06666666667	1	0.5333333333
Duchess	0.6	0.3	0.8	0.4	0.7	0.5
Cheshire	0.8	0	0.5	0.4	0.7	0.4
	0.6297619048	0.2107142857	0.5944444444	0.4607142857	0.7444444444	0.2757936508
Avg score	62.98%	21.07%	59.44%	46.07%	74.44%	27.58%
Polarisation	0.3301952628	0.2195013417	0.3065337876	0.2286396228	0.3631141031	0.2256380053
Sxx Rating	2.924744898	0.5073072562	2.59	1.534926304	3.984444444	0.7109353741

15 Ideas

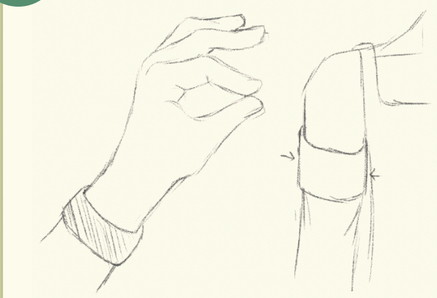
How might we support autistic individuals to confidently explore urban settings to fulfill their social and sensory needs?

1 Ease wave



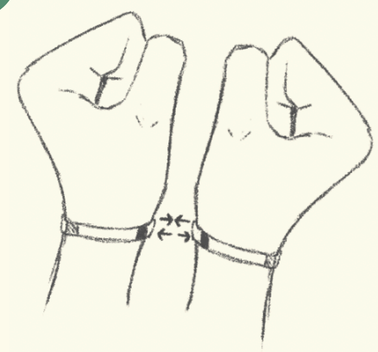
Headphones **eliminate only high-pitched noises** making it easier to be in loud environments. Lower noises are not blocked out to stay aware of surroundings.

2 Haptic Stimming Band



EMG device in wristband detects hand movements. The wristband is connected to an adjustable, body versatile band which **produces stimuli** (squeeze, shock etc.) to different hand prompts.

3 Magnetic Stimming Bracelets



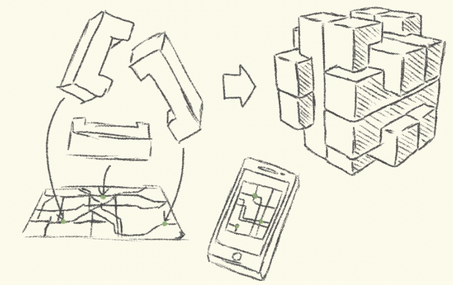
Magnets in wristbands allow **subtle stimming** when hands are moved to/from each other.

4 Token Trail



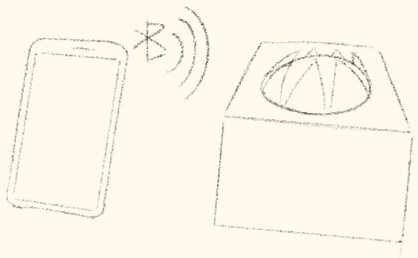
Tokens represent interests and are placed in certain places
An app tells the user when a token is nearby. Users can place their tokens with other people's, **marking places to meet with people**. **Community hubs grow** as more people find these locations.

5 Map quest



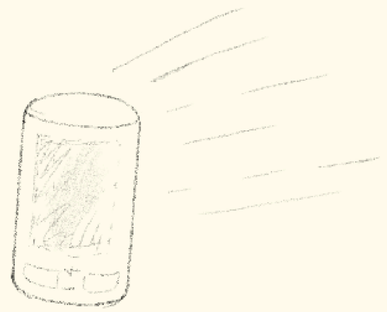
3D puzzle pieces are placed **in public spaces** with many different types available, e.g. a piece for each tube line, museum etc. As users **explore the city they collect pieces** and build the final puzzle.

6 Noise Level Monitor



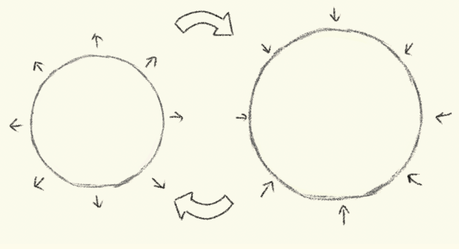
Device to **monitor noise level in a public space** like a common room. App on phone shows **noise level readings in real-time.**

7 Noise Canceling Speaker



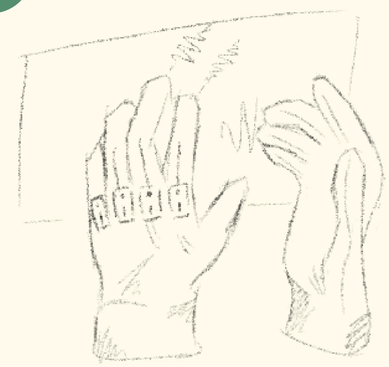
Speaker that 'knocks out' noise by **emitting waves with opposite amplitudes** and direction to **create quiet zones** in public spaces like malls.

8 Breathing ball



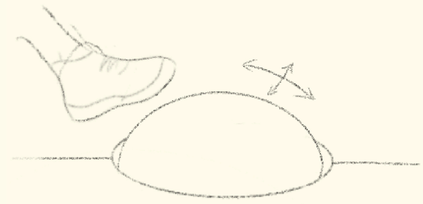
A ball that you can put in your pocket that **expands and contracts** at intervals to help you go through **breathing exercises when feeling overwhelmed** in public spaces

9 Interactive Luminous Gloves



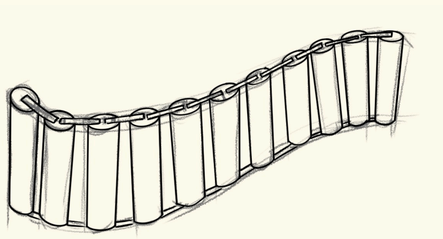
Gloves fit with electronics allowing for **interaction with luminescent film**

10 Spin Sphere



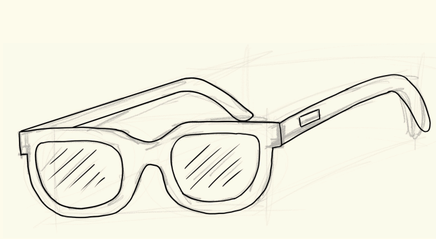
Non-removable cast Iron balls in holes in the ground for a **form a stimulation**. Magnets allow the ball to hover within the hole. The ball can easily be **manoeuvred in all orientations**

11 Modular Barriers



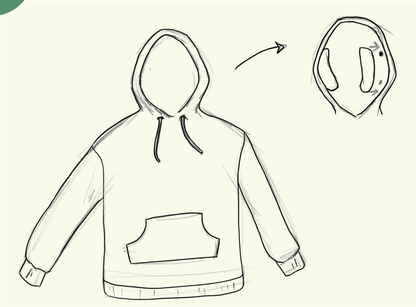
Modular barriers to **segment public spaces** i.e tubes to make it less crowded

12 Glasses with Adjustable Tint



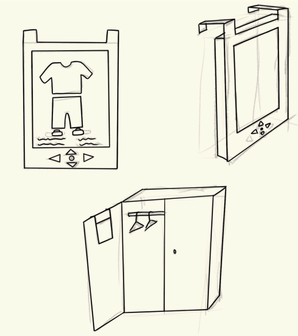
Sunglasses with **adaptable polarisation of lens** reducing intense, bright lights to be warmer, dimmer, and more comfortable.

13 Noise Canceling Hoodie



A **modular component** that can be put in a hoodie that **sound proofs the hood** to act as a **portable built in barrier** for loud noises

14 Garment Selector



A garment selector used in wardrobes that **chooses clothes based on user needs**, current fashion movements and weather to **help with decision fatigue**

15 Portable Garden



A portable garden in a trolley that acts as a **community green space**. It can be tracked through an app with the **different plants/ flowers correlating to people's preferences.**

Idea Evaluation

	Ease wave	Haptic stimming band	Magnetic stimming bracelets	Token trail	Map quest	Noise Level Monitor	Noise Cancelling Speaker	Breathing ball	Interactive luminous gloves	Spin sphere	Modular barriers	Glasses with adjustable tint	Noise Cancelling Hoodie	Garment Selector	Portable Garden
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Feasibility	3	2	5	3	5	4	2	4	2	4	2	1	4	5	3
Originality	2	4	2	5	3	3	2	4	2	3	2	2	3	4	3
Total	5	6	7	8	8	7	4	8	4	7	4	3	7	9	6

Impact ranking

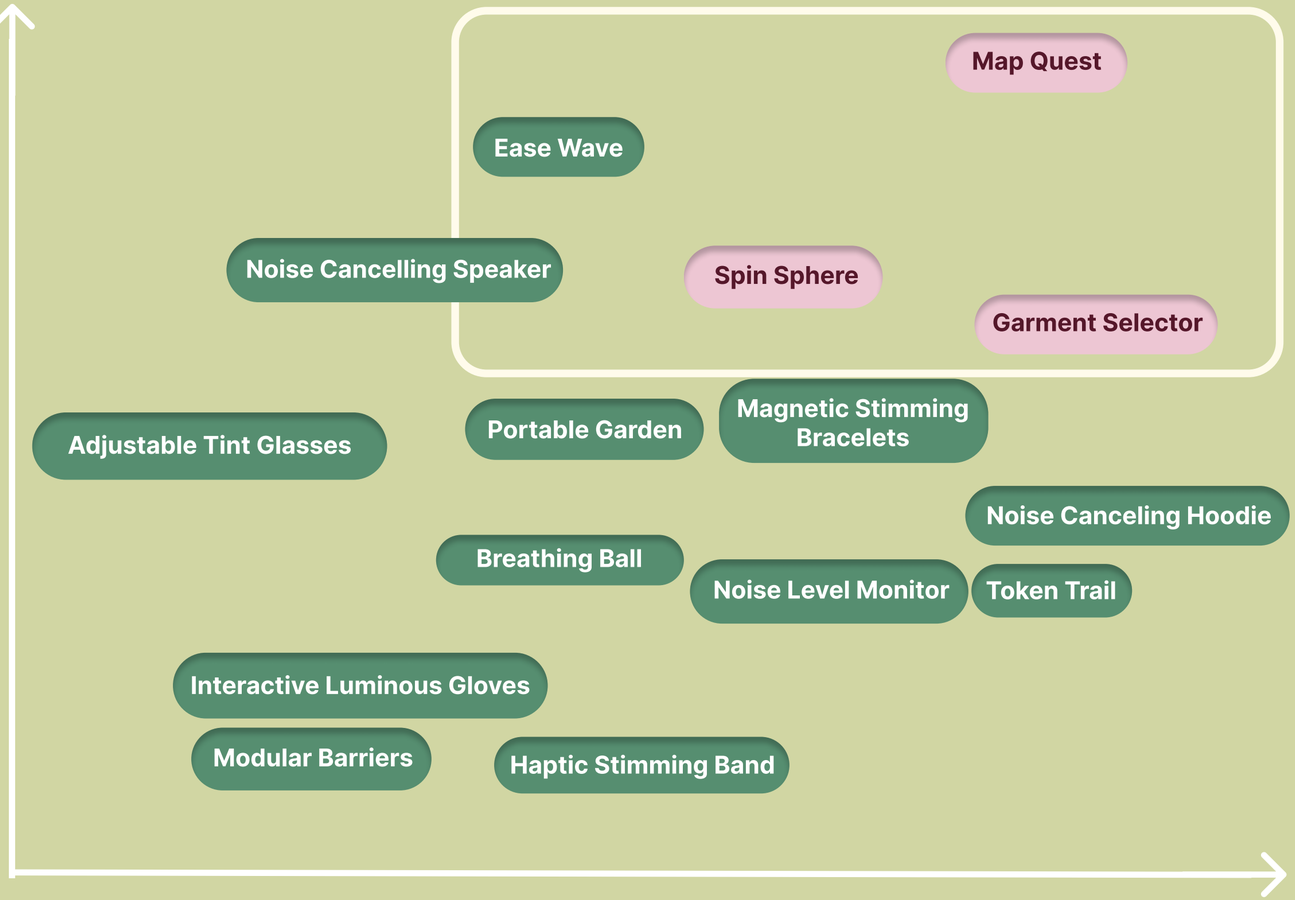
The impact of the ideas are based on how useful they would be to our users

Most Impactful

- Map Quest
- Spin Sphere
- Ease Wave
- Magnetic Stimming Bracelets
- Garment Selector
- Noise Cancelling Speaker
- Portable Garden
- Adjustable Tint Glasses
- Noise Canceling Hoodie
- Token Trail
- Breathing Ball
- Noise Level Monitor
- Interactive Luminous Gloves
- Modular Barriers
- Haptic Stimming Band

Least Impactful

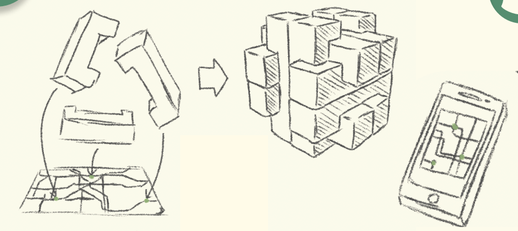
Impact vs Feasibility Matrix



Using a C- plot we found the ideas that have the highest impact while being the most feasible to inform our design choices

Final 3 Concepts

5 Map Quest



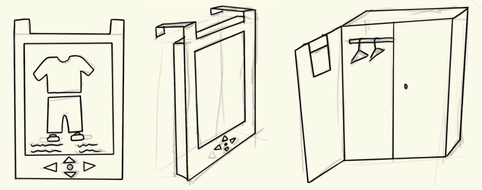
Creating the pieces and an app are very achievable as well as opportunities to prototype the concept. TfL or museums would have an incentive to allow the product to be placed in locations.

10 Spin Sphere



Lots of opportunity for prototyping and would be easy to implement in a public space. Could investigate different mechanisms for the design to be as effective as possible.

14 Garment Selector

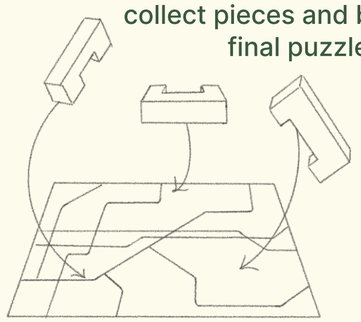


Lots of opportunities to incorporate technical coding and design skills. There are many different factors that could be included such as fashion trends and weather.

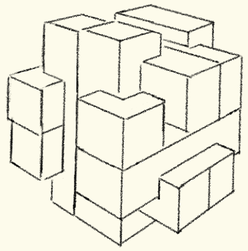
Each of our 3 chosen ideas tackles a major issue for each persona as represented by the icons. Idea 5 is about building social connections, idea 10 deals with sensory overwhelm, and idea 14 addresses decision fatigue.

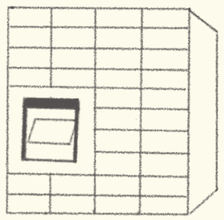
Final 3 Concepts

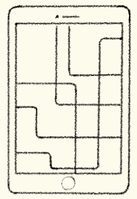
As users explore the city they collect pieces and build their final puzzle.



Different puzzles possible which can relate to special interests or general exploration e.g. museums or train lines



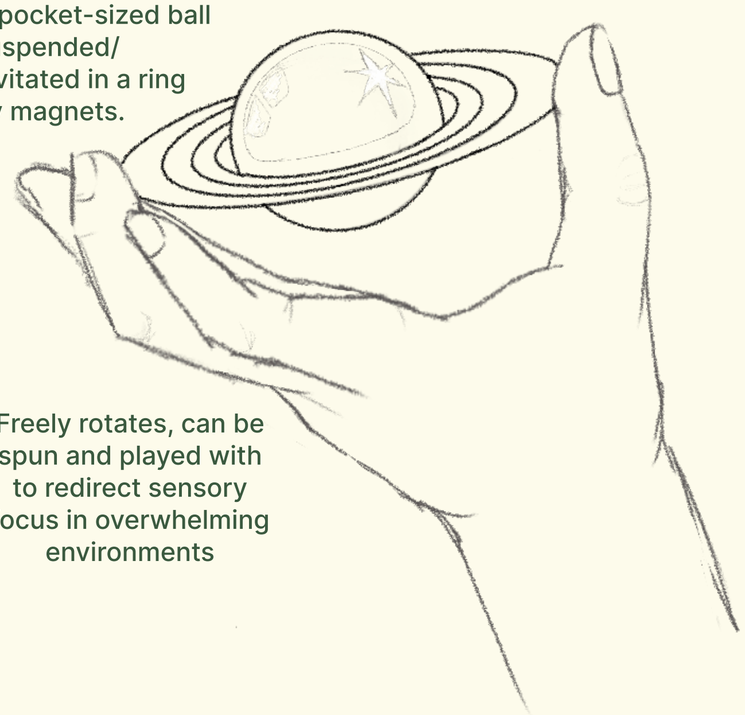




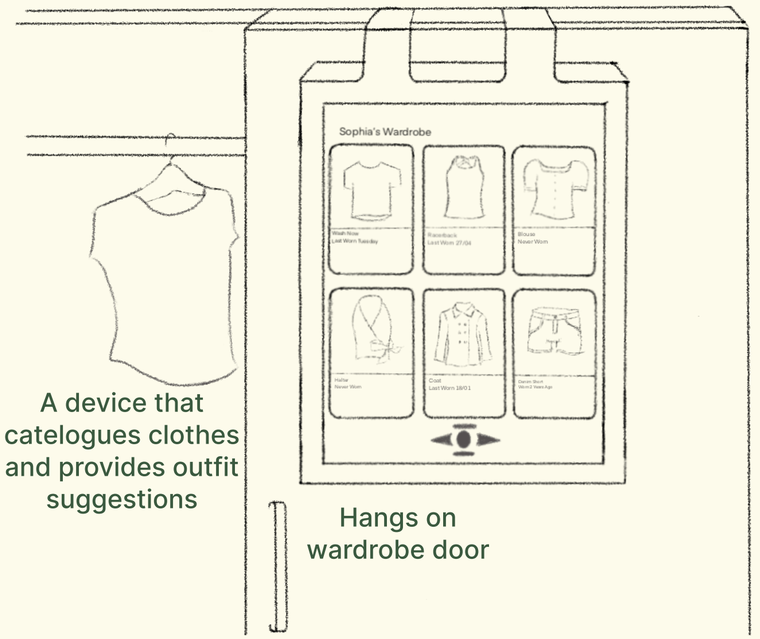
Connected to an app where you scan the app to receive your puzzle piece

3D puzzle pieces are kept in automated lockers in public spaces, spread across a city.

A pocket-sized ball suspended/ levitated in a ring by magnets.



Freely rotates, can be spun and played with to redirect sensory focus in overwhelming environments



A device that catelogues clothes and provides outfit suggestions

Hangs on wardrobe door

5 - Map Quest

Fulfilled Needs

- ✓ *Reduced Boredom*
- ✓ *Seek Stimuli*
- ✓ *Embracing Biophilia*
- ✓ *To Collect Objects of Interest*

Changes after Co-Design Sessions

There was a question into what method could be implemented to stop someone else collecting the puzzle piece for a person with social anxiety. A non transferable ID card can be scanned at each pickup location. Possible puzzle ideas include Lego and puzzles specific to people's interest. These quests would be open for certain periods of times to build anticipation and excitement

"I like the idea of being given a challenge to go around and find something"

10 - Saturn Spinner

Fulfilled Needs

- ✓ *Reduced Boredom*
- ✓ *Seek Stimuli*

Changes after Co-Design Sessions

There were 2 suggestions to focus the design on the hands and for it to always be accessible. The design was modified to be a pocket-sized and hand-held gadget with the same original idea of using magnets to allow the ball to hover in the ring.

"I like the subtlety of it, especially if it could be hidden in pockets"

14 - Garment Selector

Fulfilled Needs

- ✓ *Avoid judgment from peers/ strangers*
- ✓ *Ease decision fatigue*

Changes after Co-Design Sessions

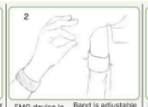
The garment selector would also choose clothes by:

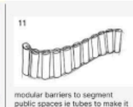
- finding fashion preferences predicted by your online activity (suggestion algorithms)
- providing 2-3 recommendations
- allowing input of preferences/occasion
- taking account of weather
- considering how many times a garment has been worn
- prompting when to do a laundry wash

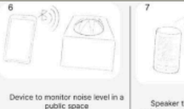
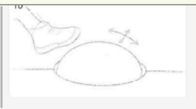
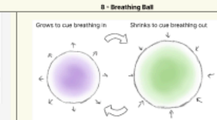
"I need this, it takes me far too long to decide what to wear in the morning. I have to consider lots of factors. This would make that process much more efficient"

Appendix

15 Sketch Ideas and Co-design Session Feedback

	1 - High Pitched Noise Canceling Headphones	2 - Haptic Stimming Band	3 - Magnetic Stimming Bracelets	4 - Token Trail	5 - Map quest
					
Rabbit	• Would prefer it in earphone form - prefers earphones in public spaces • Would want it as an added feature to normal headphones if it didn't cost too much more • Doesn't affect her enough to buy them just for that purpose	• Wouldn't apply	• Wouldn't apply • Magnets as rings would be more fun • Ranking completed as rings • Likes to fiddle with things a lot - prefers rings to bracelets - a lot easier to fiddle with	• I think it's a good idea but I wouldn't personally use it • Feels similarly to how she feels about dating apps - would rather meet people naturally	• I like that idea • I would do that • I like to collect stuff - incentive to collect more things and explore spaces • Likes the puzzle idea • Would want some kind of engraving or showing on final thing what it represents e.g. you have completed ... • Incentive to explore with people instead of on your own
Dormouse	• Makes sense because you would be able to hear environment • I've never really tried over-ear headphones - might be more comfortable than being in-ear headphones • I would use them but would want people to be able see that you can still hear normal noises so they could know to talk to you - especially in schools or something • wouldn't need to be able to listen to music - headphones would solve most problems	• Would want it to distinguish between repetitive hand movements and normal ones to avoid reacting to normal actions or switch on and off with a button to subtly push it • Might help with grounding as well • Used to do blood pressure test squeezing bicep for fun because she likes the feeling • Doesn't really consider it a stim - had never thought of it before • Principle makes sense • Makes more sense as a grounding technique instead of a stim but would still be helpful • Already learned quite subtle stims anyway so wouldn't be useful - might be more useful for children	• Wouldn't need them • Would be effective as a subtle stim but doesn't think that is necessary in a public space • Up there in the fun aspects	• That does sound quite fun • Not thinking too deeply about the logistics but it would be fun • Would encourage me to leave the house more • Could easily incorporate other aspects since there is a map already on the app	• Should have some sort of way to ensure that a friend can't collect the puzzle piece for you • Fun • Doesn't currently have a reason to go out most of the time but it would give a reason • Generally like the idea of being given a challenge to go round and find this or something • Would want there to be an unlimited amount of time to complete it or pausing aspect with the deadline • Could have the puzzle specific to the thing you're looking for • A lot of things you could do to go and spot - could mark special telephone boxes or something. • Lego, slot together making models, building things are fun, puzzles are also fun, 2D puzzles would also work • Final pieces should look good together but could have range of different puzzles
Caterpillar	• Noise not a problem, strangers are, can deal with both	• Wouldn't want to have to remember to put extra stuff on • Uncomfortable to wear, sweaty, aware of stuff touching skin • Change from pressure distribution of normal clothes would need acclimatising • Bulkiness would make it not ergonomic to sit, and also visible to others • Remembering to keep it charged • Fiddling with things + phone is enough	• Wouldn't need them • Too obvious • Not that stimulating	• No time • Far away from nice places to meet people • Pebble could get moved, maybe GPS blockchain verification • Would probably try it • Public setting would keep everyone safe • Lack of beforehand awareness of who it is (sexual orientation, attractiveness, etc..) would prevent it from becoming just a dating thing • Lack of digital medium prevents trolling	• Prefers to explore wikipedia rabbit-holes rather than exploring physical places • Doesn't go out with people much • Lacks time and energy to 'increase mental map of interests' • Sounds like geocaching
Mock Turtle	• Earphones instead of headphones • Would just want completely noise cancelling headphones • Transparency mode on headphones is really bad, if that setting was done well it could be even better	• I feel like its quite an interesting idea • Maybe squeezing around the wrist • I think that would be something I would try out - (while squeezing own wrist) it'll quite nice actually	• When I have rings on I fiddle on them all the time (has a ring which spins) • If I had that on I would definitely fiddle with it • I like using my hands • I would like something like a tangle teaser with magnets on which could turn into a bracelet • I really like that idea	• I would not do this at all but its pretty cool • Other people might find that really helpful but I personally wouldn't do it • I guess it is the whole strangers thing which makes me not want to do it • It's not a controlled environment • I would rather meet new people from other people - I would be quite nervous to meet people through something like this • I can't imagine any changes it could have which would make me use it, it just inherently wouldn't work for me	• This is something which excites me a lot more than the last one (because it doesn't include other people) • I like that actually • I think that's something I would definitely do if it was real • I think it's the kind of activity which could be quite nice to do on your own, obviously you can do stuff with friends but I feel like this would be quite nice to do myself • I'm just imagining a day of getting the tube :)) • I think the idea of getting something physical at each place is really cool • I am so bad at the block wooden puzzles • I'm just imagining different things based around the tube now • There's loads of ways you can do with collecting physical things and making something at the end • I've tried geocaching and it was really fun but I think of it more for natural environments so it would be cool to have a similar concept in an urban environment. • Could do it on the day or over a period - lots of flexibility
Duchess	• Concept is nice • not being able to hear parts of certain songs when listening to live music/on a speaker as higher frequencies (and therefore pitches) may be cut out. • Also may make it harder to understand people (social contexts) as inferences from inflections are somewhat lost by cutting out highs. • 6/10	• Beneficial for stims to control them but may cause pain to the user if overused/abused (could be used for self-harm) - could cause rashes etc. • 3/10	• nice, subtle concept that can work for providing light stims • would need to make sure magnets aren't too strong or else they may attract other objects around the user (can be annoying) • 8/10	• Concept may require perfected tracking technology as if faulty in any way, could cause distress to the user if they're not able to meet (eg if the token loses connection with the app). Also data privacy concerns etc. • 4/10	• This is a fun idea - I think this is already implemented in museums in some ways already? Pieces of a puzzle to contribute to a final product? May be more intellectually stimulating though - simply just fun for both neurotypical and neurodivergent people imo. • 7/10
Cheshire	• This is probably the best and most reproducible option, • just an attuned version of already-existing ANC headphones • 8	• This is funny because my coursework is on EMG stimulation in forearms but I dont get what its purpose is? Is it to aid hand stimming or prevent it? ??????????? • ?	• Magnetic bands would kind of be annoying if your stim wasn't your hands • I could see it work • 5	• Obvious security and trust issues, • should not be used by children • ???? 4	• Cool • how to ensure all pieces are in the public domain? • 7

	11 - Modular Barriers	12 - Glasses with Adjustable Tint	13 - Noise Canceling Hoodie	14 - Garment Selector	15 - Portable Garden
					
Rabbit	• + no one in way • negative - people would still be in the way - slow walkers • feels dystopian - doesn't want to be controlled in that way • makes her feel uncomfortable	• would consider them • sunglasses can be uncomfortable - sometimes doesn't like the feeling of things on skin or face	• If it wasn't the same material as in the hoodie or it was a thick layer of foam, wouldn't like that would be uncomfortable • Could be good but wouldn't be helpful in spring or summer when it would be way too warm - headphones are more practical	• Uneccessary to me	• Seems like a good idea but would never talk to someone because of a plant in a shopping trolley • Always likes to see more plants around but thats as far as it goes • Even if she doesn't get anything out of it she likes the idea of other people getting something from it
Dormouse	• Makes her think of covid • 'good luck' • Thinks crowding is unavoidable most of the time • Doesn't think people would like the idea of being controlled • Would be lovely if it were possible but feels like it would kill something, the human aspect to chaos	• Very logical solution to the problem - straightforward solution and can't really argue about it • Doesn't wear sunglasses because of image issues and doesn't like things on face • Contacts would be cool if possible	• Would be comforting who like to hide away a bit • Would want it to be breathable • Doesn't wear hats on head because they make head too hot	• Would want it to take account of weather - never knows how to dress for weather • Would want and use it - it would be useful, wouldn't fall into regular uniform outfits • Could maybe have two settings if you wanted it to be pushing you out of your comfort zone	• The concept is cute I just don't know how well it would fair in an actual setting - too many unknowns • I don't know if the community would keep it alive • What if there's a harsh winter and your trolley dies? • 'all of the neurodivergent people in the area would be mourning their trolley'
Caterpillar				• Would really benefit • Youtube feed-style AI understands your fashion sense • Would take into account temperature outside	• likes anonymity • lacks trust that they wouldn't be vandalised, seeing their flower being trashed would be upsetting because they would identify with the flower • doesn't want to see more proof that they can't trust people • doesn't go to the places where it would be looked after
Mock Turtle	• I think this would be good, I would want to rate them based on suitability for weather or sensory issues so it could provide you with 2 or 3 recommendations considering that input • I think if I were given 3 recommendations for tops and bottoms I could pick one out instead of dealing with the whole wardrobe, other people might prefer a specific outfit though • I don't leave the house very often but I imagine if I was I would use it, because I don't leave the house much I have a lot of time to plan outfits. If I was going out more frequently that would be something I would use especially if I was in a rush	• I think this is a great idea and I think it's something I would actually use • On my laptop, monitor and phone I make everything warmer tinted but sometimes you can't change that like shopping centres or middle of the day when it's really bright • Sunglasses are difficult because its often hard to see anything but I think glasses which were just tinted would be really helpful	• I really like that, I think sometimes you don't want to listen to music but you want noise to be generally blocked out, I think thats a good idea as well • My hair is so annoying cause if I put my hood up I ruin it but I think that's fly good because also having your hood up generally reduces your vision to make it less overwhelming • I think it would still be comfortable because unlike headphones it wouldn't be tight on the top of your head	• This is the most wholesome thing I've seen in my life • I would be worried it would be destroyed by some people - you can't have anything nice in public because it just gets destroyed • It's such a nice idea but I think it would get destroyed and its so annoying that I have to think about that • If it could be in a place where it wouldn't be destroyed or vandalised it would be really nice like if it was in a building like the barbican conservatory it would be a good idea • If this was a local community set up and there were weekly sessions where people could come and do things related to their interests and have some tea or whatever as well as being able to come at any point - people could access it whenever they wanted but they could also go to these sessions • I would go to a session like that - it would be really cute
Duchess	• Useful for those sensitive to brightness • in my case I think it would just reduce my vision. • And even if not, hardly much different to regular sunglasses/tinted glasses imo. • 4/10	• Multi functional • I really like this. Both a warm hoodie and whenever needed can just pull up the hood and block out unnecessary sounds. • I would use this. • 9/10	• Extremely useful in my case • it takes me far too long to decide what to wear in the morning due to having to consider all factors. This would make the process so much more efficient. • 10/10	• Wholesome idea but also difficult to maintain. • 5/10	• Similar to 1, • may cause issues when listening to music/hearing people talk if the wrong frequencies are cut out (this depends on the person and their voice/inflections) • 3/10
Cheshire	• cool concept • 7	• Issues around preventing degradation of sound material/ device in hood when washing and cleaning. • Also some situations may require hood to be removed like in supermarkets, or if you feel hot or want to take it off for whatever reason • 6	• I NEED THIS - • would you give the application a list of available clothes or would it scan the wardrobe to see what's available? • How would it be able to select proper clothes for your situations? Would you input your preferences and then it would select? • 10	• Ok in concept • I just know this would be ruined by people taking the trolley or doing other shit like using it as a bin, hiding drugs in there, and probably getting pushed off a bridge. • 6	• Decibel recording apps already exist, • could function better as a widget for fast accessibility. • the level of noise that hurts is subjective to the person • I don't know if knowing the decibel levels is useful if you don't know your pain threshold, have a fluctuating threshold (this happens with regards to stress and burnout) or you're hurt by specific sounds only • 5

	6 - Noise Level Monitor	7 - Noise Canceling Speaker	8 - Noise Heat Mapping	9 - Interactive Luminous Gloves	10 - Rotating Interactive Ball	8 - Breathing Ball
						
Rabbit	• Wouldn't check a map while walking • Would prefer an alert with a notification with warning of moving towards a high noise area • A map might also be helpful • Would probably download it, doesn't know how much she would actually use it, might be useful in a time with lots going on • helpful on streets and shopping centre, possibly train stations	• Would maybe be helpful tubes train stations airports • Corners of shopping centres • More likely to stay in places for longer if that was a possibility • Generally leaves places early - would be more likely to stay		• Hates seeing digital screens around • Doesn't look nice and thinks they are a waste of resources	• Fine but doesn't see herself using it • Doesn't feel strongly about it	
Dormouse	• Would prefer to pick up on if there are multiple overlapping noises instead of just the overall volume • Likes the overall concept of having a app to pick up on the noise • Wouldn't want to be glued to the screen to watch it • Would want to pick up on trains/ ambulances etc if possible	• That is cool • If there were people sitting around the speaker she wouldn't want to go up to it • If there weren't any people she would definitely use it • Would want it in pubs • Really likes this idea		• Reminded of science museum interactive area - she will sketch it soon it seems interesting • Also toy museum with magnets where u can pull iron filings around • (suggested lava lamp idea and really liked it) • light pollution • Like the idea of visually stimulating stuff • doesn't like idea of screen • Really likes just watching things - went a bit off topic and took rating as more of a general idea of big things u can watch and maybe interact with a little bit • ooohhh	• 'I do like bouncy things' • Could also do a similar idea to move with hand like a mini one on the armsrest of a bench • It's like a little hidden gem • Rain might seep into it • Reallyyy liked the subtlety of it and thought she would use it	
Caterpillar	• Noise cancelling headphones are good enough	• Really technically difficult. 3 companies have tried and failed • SAAB has managed to make on-flight dampeners (not cancellers)		• would become a tourist attraction -> more crowds • not much pull-factor	• would have to know what it is • minimal impact • would rather pamphlets/things to read, more stimulating • felt like it would be seen as childish	
Mock Turtle	• That's really cool actually • I think that would help if you were walking around during the day and you wanted to avoid loads of people • I could see myself using that • I guess there would need to be lots of noise level monitors (feasibility) • I guess this is like google maps where you can see how busy the roads are but for general public • I know google uses phone connections so seeing how busy areas were it would be cool to do that - companies do that tracking phones to see how many people go in and out of different places • I care more about knowing how many people than noise but I still think noise could be helpful in public places. • helpful if you can then choose to avoid that place	• 100% I think that would be really useful • I remember being in this place once with loads of people and in the corner there was a dark soft play area which was silent and it was a happy little quite pocket especially in a shopping centre or museums		• Makes me think of the apps where you can move the liquid around - really nice • I think a really cool idea would be if there were some kind of sensors on your fingers and you could move your hand around and then it would connect to ur phone to do essentially the same thing but u get to move ur hand around in real life • Glow bugs - bugs with elastic bands which you could put on your finger - you could squeeze them in ur hand and they would glow so u would get a light between your fingers - really fun	• I don't know • Wouldn't like it because it's physical activity • I would like it if it was a small thing to use with your hands instead - I would want it to be around seating • I prefer not to touch things which other people have touched so I would prefer it to be something which was accessible to you at all times instead of something kept in that public space • I'm imagining it like saturn with a planet thing which you can move around in your pocket or something - I like doing things in my pockets its more subtle.	• I really like the idea but I'm finding it quite hard to imagine it when I don't know how it would work • I like the idea of being able to hold onto something which mimics breathing • I think this is something which I would use but I think I would be more inclined to use at home in my room instead of in public. • The idea of being overwhelmed in public and holding onto something to be coming • Wouldn't take it out in public but would probably hold it within pocket. • I like squeezing tightly when i'm stressed - squeeze for a few seconds to switch on • Reallyyyy likes idea of having it on a keychain - likes fidgeting and doing things with a keychain • I like the idea of it being user led • would like it less if it connected to an app because if I was stressed in public I wouldn't want to revisit that - doesn't like mood tracking or that kind of thing • The colours thing is nice aesthetically, if its very subtle it would be nice - would really like it as a glowing ball but not in public.
Duchess	• Similar to 6 • may cause issues when listening to music/hearing people talk if the wrong frequencies are cut out (this depends on the person and their voice/inflections) • 3/10	• Would be useful to check whether a public space is worth trying to have a conversation with a specific person/small group or studying/doing work in. If noise levels are high, could be an indication of high social activity which could provide incentive to socialise with more people (known/ unknown), otherwise indication that focussed work/ conversation may not happen here. And vice versa. I • like this. • 7/10	• Similar to 6 • maybe even better as visual and more specific (I personally am very visual and sensitive to colour) • would be a useful indication for what public space is useful for a given purpose. • 8/10	• I think there are sensory apps on the app store for this sort of thing already - requires less equipment etc than this. I understand the concept/ reasoning but without one of the parts the other is useful - not very portable. Also can't rly be creative with this. • 2/10	• This can become very fun very fast. • Would especially be useful to fiddle while studying. • May be difficult to implement though. • 8/10	
Cheshire	• Cool idea • would help with planning where to go • doesnt account for unexpected noises or solve the issue of having to go through noisy places as part of routine • 7	• It would be better to create quiet rooms with the speakers as it doesn't eliminate the issue of music/noise in shopping spaces • 4		• Cool stim toy more for personal use than public as I don't want other people's hands in the gloves (I say this despite using gloves in the c4 kitchen...) • 6	• Would be good in a space like a park • 7	

Interview Events

StoryID	Respondent Pseudonym	Created by	Story
2	Cheshire Cat	Hamish McNeill	Cheshire Sees trees and shrubbery, Cheshire is happy
3	Cheshire Cat	Hamish McNeill	Cheshire Sees maybe hedges but no trees, Cheshire is depressed
4	Cheshire Cat	Hamish McNeill	Cheshire Sees urban wildlife (including street animals), Cheshire is happy
5	Cheshire Cat	Hamish McNeill	Cheshire Used to pick up shiny objects, Cheshire realised they were others' property, Cheshire stopped
6	Cheshire Cat	Hamish McNeill	Cheshire Sees architecture that matches atmosphere, Cheshire is happy
7	Cheshire Cat	Hamish McNeill	Cheshire Looks at skylines, Cheshire is happy
8	Cheshire Cat	Hamish McNeill	Cheshire Looks at buildings from below, Cheshire is happy
9	Cheshire Cat	Hamish McNeill	Some places (have (stimuli OR views) AND are inaccessible), Cheshire Wants to go to explore places, Cheshire Doesn't have friends who see the point AND (jarring lights AND dark OR noise), doesn't explore public spaces
10	Cheshire Cat	Hamish McNeill	Cheshire is With (friend AND has common interest)s, room is playing music, Cheshire is bonding with friends, 2hrs passed, Cheshire's ears hurt, Cheshire wears headphones
11	Cheshire Cat	Hamish McNeill	Cheshire Forgot to get ticket, Cheshire had to stand in back, Cheshire was at loud concert AND audience in-sync with singer, no random noise, Cheshire was head banging, Cheshire is happy
12	Cheshire Cat	Hamish McNeill	School had movable chairs around, Cheshire moved chairs to socialising area, Cheshire sat down to talk, Cheshire was bonding with friends
13	Cheshire Cat	Hamish McNeill	Cheshire Likes swimming AND high membership fee AND 40min commute, Cheshire doesn't swim
14	White Rabbit	Leila	Rahbit sees (dogs OR plants), Rahbit is happy
15	White Rabbit	Leila	Rahbit sees Ugly architecture, Rahbit is unhappy
16	White Rabbit	Leila	public spaces smell bad, Rahbit is unhappy
17	White Rabbit	Leila	Rahbit gets tube before peak times, NOT noisy
18	White Rabbit	Leila	low ceilings, Rahbit is uncomfortable
19	White Rabbit	Leila	Rahbit needs to get off tube, Rahbit goes through crowds, Rahbit is uncomfortable
20	White Rabbit	Leila	Screeching tube is painful for Rahbit AND people are trying to speak to them, painful for Rahbit
21	Cheshire Cat	Hamish McNeill	Cheshire Studies all day, too late for Cheshire to go to any (public space AND interesting)s after studying
22	Cheshire Cat	Hamish McNeill	Cheshire Enters conversations, content less interesting to Cheshire than Cheshire's personal thoughts, Cheshire loses mindfulness AND Cheshire's mind wanders, Cheshire feels less emotionally connected
23	Cheshire Cat	Hamish McNeill	Cheshire (Discovers, collects) (object of special interest AND no one's property)s, Cheshire is happy
24	Cheshire Cat	Hamish McNeill	Cheshire Sees amphibious wildlife in community garden, Cheshire returns regularly, Cheshire is happy
25	Cheshire Cat	Hamish McNeill	Cheshire Goes to (public space AND minimal people AND easy transport)s
26	Cheshire Cat	Hamish McNeill	Cheshire Goes to marketplace, Vendors forcefully taking Cheshire's attention, Vendors trying to sell things to Cheshire, Cheshire is unhappy
27	Cheshire Cat	Hamish McNeill	Cheshire Walks along main roads, too noisy OR smell of exhaust from cars, Cheshire is unhappy
28	Cheshire Cat	Hamish McNeill	Cheshire Goes onto tube, Cheshire knows each screech (volume AND time) AND Cheshire knows general noise level of each line, Cheshire avoids (tube stations AND too much noise)s
29	Cheshire Cat	Hamish McNeill	Cheshire has free time, Cheshire explores areas around (accommodation AND campus).
30	Cheshire Cat	Hamish McNeill	Cheshire wears headphones OR Cheshire remembers quiet places that to go to, Cheshire goes to public spaces
31	Cheshire Cat	Hamish McNeill	It's dark AND Cheshire feels unsafe AND NOT necessary for Cheshire to go out, Cheshire doesn't go out
32	Cheshire Cat	Hamish McNeill	At night, Cheshire feels unsafe, Cheshire will (try to go home with someone AND stick to the main roads)
33	Cheshire Cat	Hamish McNeill	Cheshire Doesn't have much to do, Cheshire goes home for the weekend OR Cheshire does random wandering around an area
34	Queen of Hearts	Hamish McNeill	Queen On street, Queen behind slow walkers, Queen is frustrated
35	Queen of Hearts	Hamish McNeill	Queen is in big crowd, Queen is unhappy
36	Queen of Hearts	Hamish McNeill	Queen has good sleep, late afternoon AND Queen has seen few people, Queen talks with (person AND knows them AND common interests)s, Queen is socially satisfied
37	Queen of Hearts	Hamish McNeill	Playground is (dark AND quiet AND lonely), Queen plays in Playground
38	Queen of Hearts	Hamish McNeill	Queen Sees transition to green environment, Queen is happier
40	Queen of Hearts	Hamish McNeill	Queen Sees (duck OR dog), Queen is happy
41	Queen of Hearts	Hamish McNeill	Queen Goes to park, NOT (children AND NOT crowded, NOT loud AND spacious) in park, Queen is happy
42	Queen of Hearts	Hamish McNeill	Queen is shopping at oxford street, street is (crowded AND loud), Queen experiences extreme sensory discomfort
43	Queen of Hearts	Hamish McNeill	Queen is shopping at shopping centres, Queen experiences sensory discomfort
44	Queen of Hearts	Hamish McNeill	Queen Talks with unknown people, Queen is (exhausted AND unsatisfied)
45	Queen of Hearts	Hamish McNeill	Queen walks dog, Queen is happy
46	Queen of Hearts	Hamish McNeill	Queen engages in small talk, small talk is (effort AND pointless), Queen is (bored AND annoyed)
47	Queen of Hearts	Hamish McNeill	Queen is talking, Queen wants to sit AND nowhere to sit, Queen leaves public space
48	Queen of Hearts	Hamish McNeill	Queen does hobby (with headphones AND alone XOR NOT with headphones AND with friends), NOT Queen is unhappy
49	Queen of Hearts	Hamish McNeill	Queen does hobby, people are sociable, Queen feels watched, Queen feels judged
50	Queen of Hearts	Hamish McNeill	late at night, Queen goes to music room alone, Queen plays piano, Queen expresses feelings, Queen is relaxed
51	Queen of Hearts	Hamish McNeill	NOT raining, Queen (walks dog AND wears headphones), Queen deters small talk
52	Queen of Hearts	Hamish McNeill	Queen Doesn't share feelings, Queen is lonely
53	Queen of Hearts	Hamish McNeill	Queen has no social interactions in a day, Queen is lonely
54	Queen of Hearts	Hamish McNeill	(Queen AND many people) in big city, NOT Queen feels watched, NOT Queen feels judged, NOT Queen is uncomfortable
55	Queen of Hearts	Hamish McNeill	Queen is at restaurant, Queen orders food, food arrives mixed together, Queen is unhappy
56	Queen of Hearts	Hamish McNeill	Queen hears loud noise, Queen is okay, noise lasts long, Queen is (annoyed AND pain)
57	Queen of Hearts	Hamish McNeill	Queen goes to park, Queen meets friends, Queen hang out, Queen is happy
58	Queen of Hearts	Hamish McNeill	Queen goes to club, club (is loud AND has flashing lights AND is crowded), Queen is (unhappy AND exhausted)
59	Queen of Hearts	Hamish McNeill	Queen avoids (environment AND product)s that provoke sensory sensitivities
60	Queen of Hearts	Hamish McNeill	Queen is in unfamiliar place, Queen is (unsure of safety AND anxious), Queen ((with others AND goes) OR (alone AND doesn't go))
61	Queen of Hearts	Hamish McNeill	Queen (goes to art gallery, has nothing to do, gets bored) OR Queen (goes to museum, interacts with artifacts, NOT gets bored)
62	Queen of Hearts	Hamish McNeill	Queen (was out with friends, climbed) OR Queen (listened to music)
63	Queen of Hearts	Hamish McNeill	Queen can't sleep early, Queen wakes up late, Queen is unhappy
64	Queen of Hearts	Hamish McNeill	Queen is judged by (people AND NOT animals)
65	The Caterpillar	Hamish McNeill	(Caterpillar goes to close gym, fewer activities, Caterpillar has worse experience) OR (Caterpillar goes to gym in city centre, wider range of equipment, free to do more niche things, Caterpillar has better experience)
66	The Caterpillar	Hamish McNeill	bus is (inconsistent AND crowded) AND bike is (strong AND cold)., forest bike available, Caterpillar commutes via forest bike
67	The Caterpillar	Hamish McNeill	Caterpillar (needs to go to public spaces OR has an activity with friends, goes to public spaces) OR (Caterpillar (Doesn't seek AND usually has no cause to go to) public spaces, NOT caterpillar goes to public spaces)
68	The Caterpillar	Hamish McNeill	commuting (is effort AND takes long AND leaves not enough time for hobbies) AND Caterpillar dislikes walking AND Caterpillar has (social anxiety AND conflict with cohort), Caterpillar does everything online as much as possil
69	The Caterpillar	Hamish McNeill	Caterpillar often commutes back in afternoon, Caterpillar is at the gym in afternoon, Caterpillar finishes gym at 22:00, Caterpillar cooks, Caterpillar eats after 23:00, Caterpillar sleeps late
70	The Caterpillar	Hamish McNeill	public transport is packed, Caterpillar (Challenged self AND forced) to do whole commute by bike, bikes are expensive, Caterpillar is concerned about ROI
71	The Caterpillar	Hamish McNeill	Caterpillar unwinds at home with (doom scrolling AND video games), Caterpillar tries to work, ADHD medication wears off, Caterpillar can't focus
72	The Caterpillar	Hamish McNeill	Caterpillar couldn't sit still for more than 30mins as a child, Caterpillar can sit down for longer as an adult XNOR task is rewarding like a game
73	The Caterpillar	Hamish McNeill	Caterpillar (plays competitive, was enraged by game, broke monitor), Caterpillar's sleep schedule was ruined, Caterpillar quit video games
74	The Caterpillar	Hamish McNeill	Caterpillar should cook, Caterpillar (has a (small AND messy AND crowded) communal kitchen AND is too tired to cook at the end of the day, orders (expensive AND unhealthy) stuff, is frustrated)
75	The Caterpillar	Hamish McNeill	NOT Caterpillar has many ingredients, road creates barrier to (getting food AND making many meal planning decisions), Caterpillar can't meal prep
76	The Caterpillar	Hamish McNeill	Caterpillar (crashes AND doom scrolls) for ages after getting back
77	The Caterpillar	Hamish McNeill	(work AND sitting still) is not rewarding enough for caterpillar to focus on, Caterpillar sometimes does sit-ups and press-ups to focus
78	The Caterpillar	Hamish McNeill	Caterpillar (is more disciplined in morning, goes to gym in morning, gym gives energy(mental boost) XOR (misses morning gym, goes to gym in afternoon, is mentally drained by gym)
79	The Caterpillar	Hamish McNeill	shop has (cheap AND healthy) ready made meals, Caterpillar buys meals in huge batches
80	The Caterpillar	Hamish McNeill	self actualisation is not motivating enough for Caterpillar when tired
81	The Caterpillar	Hamish McNeill	Caterpillar Had lab report next day, Caterpillar wanted to spend the day the next day, Caterpillar had to finish today, Caterpillar (woke up tired, normally would go to gym at 7pm, worked until 8/9pm, didn't finish because highly
82	The Duchess	Hamish McNeill	in public space, listens to music, certain frequencies (bass) too loud, pain
83	The Duchess	Hamish McNeill	gets hung up on unexpected minutia, takes too long to do normal things, decided to get a first → spiky motivations → hyper-prioritises work, sacrifices social time first, can't socialise
84	The Duchess	Hamish McNeill	went to boots, distracted, forgot why they went, spent half an hour there
85	The Duchess	Hamish McNeill	gets overstimulated, forgets plan, doesn't do anything
86	The Duchess	Hamish McNeill	some things cause unique (sensory) suffering, unique pressure to plan things, extreme planning and optimisation, pickler about where to go/what to do, rejects invitations more often isolates self
87	The Caterpillar	Hamish McNeill	Caterpillar (had no gym OR bought expensive unhealthy food OR couldn't complete work, is unhappy AND is ashamed)
88	The Caterpillar	Hamish McNeill	ordering food balances between price nutrition and taste AND Caterpillar prioritises taste to self detriment
94	White Rabbit	Leila	bright lights, feels uncomfortable
95	White Rabbit	Leila	walks with people AND sees dogs, feels connected to people she's with
96	The Doormouse	Leila	goes to cinema, loud AND unexpected noises, covers hands over ears
97	White Rabbit	Leila	(Goes to AND lot's of people in) kitchen, pain
98	White Rabbit	Leila	(Lots of people, doesn't go) in kitchen
99	The Doormouse	Leila	wants to outside, bad weather, decides not to
100	The Doormouse	Leila	Goes outside, only sees only muted colours, sad
101	The Doormouse	Leila	lots going on, interesting, becomes draining
102	The Doormouse	Leila	in a new public space, worries about acting strangely, brings a friend
103	The Doormouse	Leila	fresh air, feels calm
104	The Doormouse	Leila	feels stressed in public space, does people watching, feels calmer
105	The Doormouse	Leila	Doormouse zones out for 10 minutes in supermarket, no time to eat lunch, pain
106	White Rabbit	Leila	Doormouse wants to explore parks and markets
107	The Doormouse	Leila	overstimulated in macdonalds, looks out the widow, feels better
108	White Rabbit	Leila	bright lights in Westfield (shopping centre), uncomfortable
109	The Doormouse	Leila	eats on bench close to people walking past, feels uncomfortable
110	The Doormouse	Leila	does not want to make choices, avoids cafes
111	The Doormouse	Leila	unpredictable bus times AND poor time management, missed bus twice
112	The Doormouse	Leila	went to library to pay fine, embarrassed to ask assistant, didn't pay fine
113	The Doormouse	Leila	tried to go to bank to sort out problem, got scared, didn't sort problem
114	The Doormouse	Leila	Doormouse talks to people about their craft projects, feels connected to them
115	The Doormouse	Leila	Watches strangers playing sport in park, feels happy
116	The Doormouse	Leila	Unexpectedly talked to by people, feels stressed
117	The Doormouse	Leila	Doormouse in new place, feels scared
118	The Doormouse	Leila	Needs to go to public space, thinks of it as a chore
119	The Doormouse	Leila	Looks around critically thinking of painting places, feels detached
120	The Doormouse	Leila	Feels overstimulated in public space, tried to zone out
121	The Doormouse	Leila	Alone in public space, loses confidence AND feels awkward
122	The Doormouse	Leila	Extremely bored, goes to public space, less bored
123	The Doormouse	Leila	Deals with customers who are annoyed, feels panicked
124	The Doormouse	Leila	Needs to cancel plan with friend, feels extremely guilty
125	The Doormouse	Leila	Doormouse walks in the dark, is not overstimulated
126	The Doormouse	Leila	Doormouse walks through public space to meet friends, has purpose, does not feel overwhelmed
127	The Doormouse	Leila	Doormouse hears lots of people talking, feels overstimulated
128	The Doormouse	Leila	Doormouse does not get any stimulation, feels bored
129	The Doormouse	Leila	Doormouse goes to shopping centre, walking AND noise, feels exhausted after an hour
130	The Doormouse	Leila	Doormouse closes eyes and picks food from menu, avoids executive dysfunction
131	The Doormouse	Leila	Doormouse worried about feeling judged, buys clothes without going up to till
132	The Doormouse	Leila	Doormouse in shop, drops things many times
133	The Doormouse	Leila	Doormouse had never been in bank before, felt anxious to go in

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