A2: POVs, HMWs & Experience Prototypes

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Roadmap

1	2	3	4	5	6	7
Focused domain	New interviews	POVs	HMWs	Solutions	Experience prototypes	What's next

Most of our time today: POVs and experience prototypes (highlighted).

From a broad topic to a focused problem

A1: where we started

How do people relate to nature, day to day?

Broad: any relationship, any setting

A2: where we narrowed

People value nature, but time outside rarely feels like their own.

It gets framed as an **obligation** (Alison), an **escape** (Daniel), or **keeping up with friends** (Ly).

Why nature?

It matters to us

We started A1 nerding out about trees, and all four of us grew up with nature as a reset.

It matters to users

Every interviewee valued nature, yet work, screens, and pressure kept them from feeling present in it.

"I saw nature, just wasn't in it." **— Alison**

"…less being [in nature] and more not being somewhere else." **— Daniel**

"I'm more of a city person than a nature person, but I still enjoy nature." **— Ly**

Additional Needfinding

Filling the gaps from A1

Who we talked to, and why them

A1 gap: all three interviewees were men who already love the outdoors. In A2 we sought people with a weaker or more complicated relationship with nature.

Ly

Data scientist, mid-20s; travels often for work

Calls herself “a city person” — yet hikes monthly

Recruited: cold approach in downtown Palo Alto

Why: not a self-described nature person

Alison

Research associate in an environmental social-science lab

Fully remote, on 20 rural acres in Virginia

Recruited: cold approach · our 1 allowed remote interview

Why: studies nature’s benefits, still stuck inside

Emma

Cultural museum manager, mid-20s

Lives in Seattle; relied on public transit, no car

Recruited: Emma is a museum manager without a car, whom we cold-emailed.

Why: Connects with nature through culture, research and work, usually with friends or her dog

All signed consent forms · No Stanford students, friends, or family

Ly

"When you start walking and after 15 minutes you want to start complaining, that's my definition of a lazy person."





Pictures taken by Ly

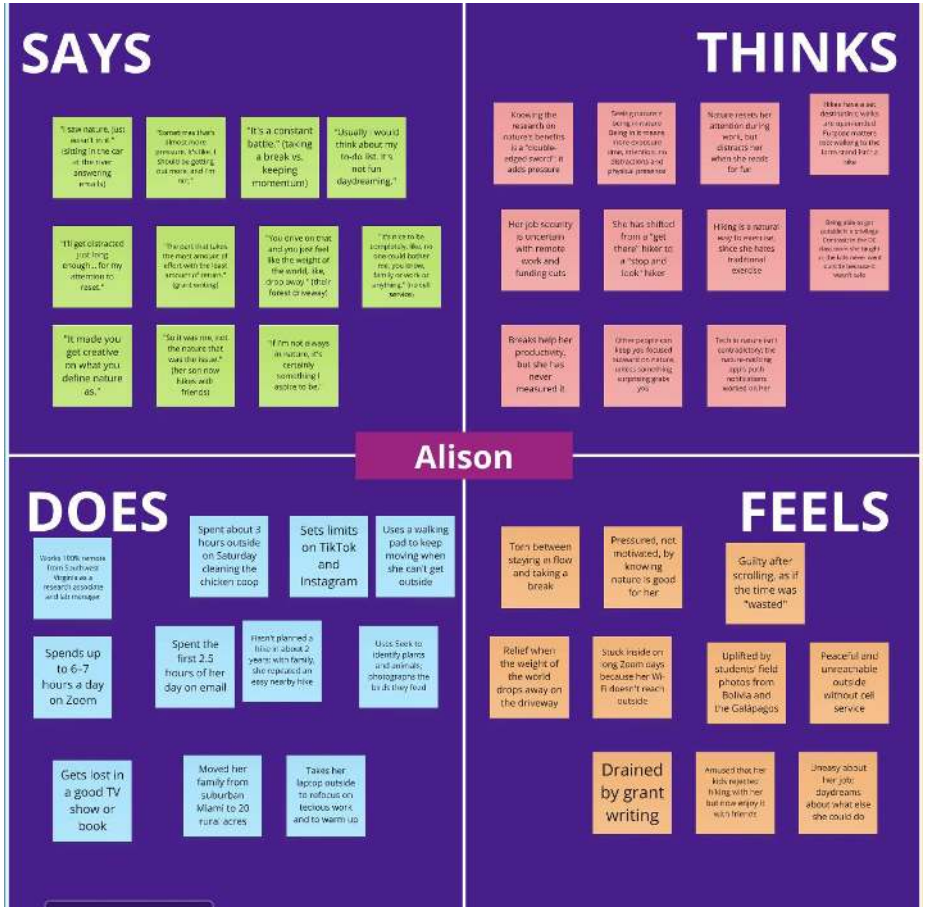
"I'm more of a city person than a nature person, but I still enjoy nature."



Tension

Hikes at least once a month and lights up describing redwoods and sunsets — yet doesn't think she "counts" as a nature person.

Alison



"I saw nature, just wasn't in it."



Picture sent by Alison

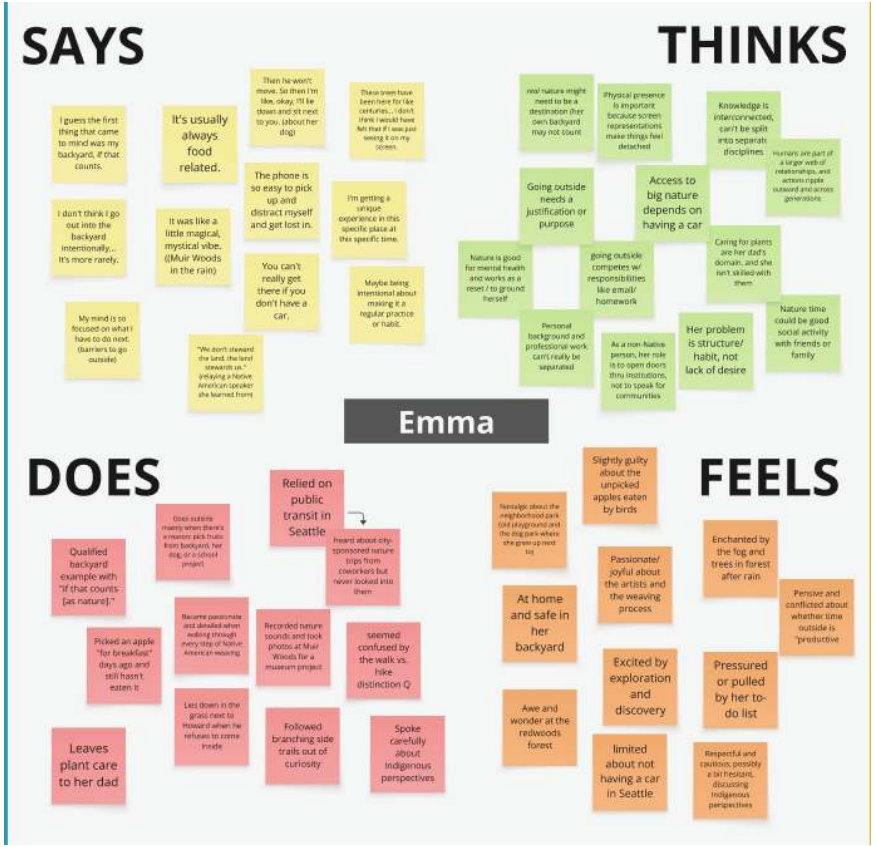
"That's almost more pressure. It's like, I should be getting out more, and I'm not."

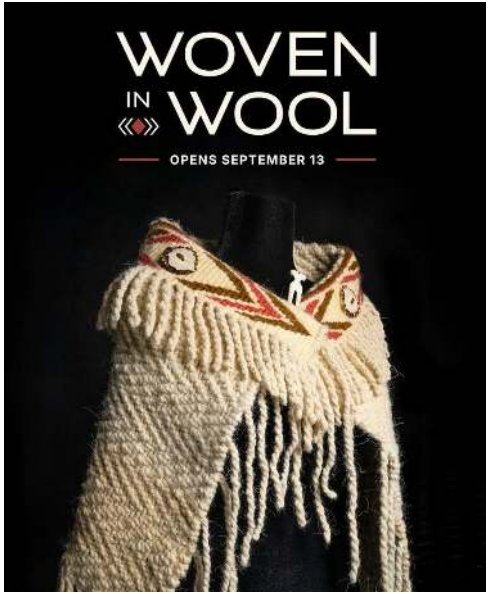
Tension

Researches nature's benefits and lives on 20 acres — but knowing the science makes going outside feel like an obligation.

Emma

"I guess the first thing that came to mind was my backyard, if that counts."





Emma's work at the museum



Picture taken by Emma

"My mind is so focused on what I have to do next."

Tension

Feels awe in the redwoods yet mostly goes outside only when there's a reason — fruit to pick, the dog, a school project.

Key insights across new interviews

People need a reason to go outside

Evidence

Ly goes when friends invite her

Emma goes for a task (fruit, dog, project)

Alison brings work outside

Implication

Design for the “reason,” not for motivation

Alone outside, minds drift back to work

Evidence

Ly overthinks alone

Alison: “my to-do list”

Emma: “what I have to do next”

Implication

Being outside ≠ being present

People discount their own nature time

Evidence

Ly: “not a nature person”

Emma: “if that counts”

Alison: “saw nature, wasn’t in it”

Implication

Narrow ideas of “real nature” create guilt

Team member interviewing Emma



Point-of-View Statements

Where we started: POVs from Studio 2

Mr. E (retired engineering professor)

We met Mr. E, an emeritus professor in chemical engineering.

We were surprised to realize he doesn't think nature is beautiful because "he is an engineer."

We wondered if this means he views people's relationship with nature as binary (functional system or aesthetic/spiritual).

It would be game-changing to help him find common ground between his professional and personal relationship with nature.

Daniel (remote worker and hiker)

We met Daniel, an adventurous hiker and remote employee who has lived in NY, Colorado, and the Bay.

We were surprised to realize being in nature is not about immersion in the environment, but mental diversion from work and life.

We wondered if this means enjoyment of nature is less about the outdoors and more about escapism and relieving stress.

It would be game-changing to mentally and physically distance him from stressors related to life and work.

Revised & selected POVs

Ly

We met a data scientist in her mid-20s who travels a lot for work and doesn't consider herself a nature person

Surprised: she hikes with friends at least once a month only because of FOMO, and takes short walks to "not be lazy"

We wonder if: engaging with nature is an obligation for social reasons

Game-changing: help her develop a personal appreciation for being in nature beyond the social aspect

Daniel (revised)

We met an adventurous hiker and remote employee

Surprised: nature, for him, is mental diversion from work rather than immersion

We wonder if: enjoyment of nature is about escapism and relieving stress

Game-changing: transform nature from a source of escapism into a source of rejuvenation

Alison

We met a research associate in an environmental lab, fully remote on 20 rural acres

Surprised: she studies nature's benefits but says knowing them is "almost more pressure"

We wonder if: knowing why nature is good for you doesn't make you go — it might just add guilt

Game-changing: turn nature from something she "should" do into something that grabs her attention

How Might We…

10+ HMWs per POV are in the speaker notes

Our top 3 HMWs

Ly Goes outside out of FOMO, not for herself	**HMW shift the focus of going into nature from avoiding FOMO and social stigma to a fulfilling personal experience?**
Daniel Escapes work through big trips, but daily walks don't recharge him	**HMW help him find the novelty and escapism of big hikes/expeditions in our day-to-day?**
Alison Knowing nature's benefits feels like pressure	**HMW make stepping outside feel as rewarding and absorbing as a good TV show rather than an obligation?**

Solutions

Brainstorm → 10–15 novel ideas per HMW → top 3

Our top 3 solutions

Accountability

A dog companion that keeps you accountable in staying engaged with nature and invokes a sense of companionship. This dog helps you focus on your personal goals by encouraging you to find a calm, secluded area (by walking the dog) to record sounds, musical etudes, and/or personal messages for yourself, leading to deeper introspection. Building on this aesthetic, it keeps track of small sketchbook that allows you to reflect and draw a small detail you noticed about nature.

Gamifying

A gamified, treasure map that makes exploring fun, providing novel experiences in nature in your area. You can do missions/challenges like reaching the top of a hill or finding 3 birds, etc; each step you take is also currency in the game. Through this, you unlock chapters of a story, motivating you to see more and go out more to experience everything fully. Additional interaction might include marking locations for others to explore, or doing tougher "brainteasers" like estimating the height of a tree for extra rewards.

Indexing

Weirdness leads to novel adventures. This app mainly functions to deliver and recommend unconventional locations and unexpected adventures for exploration through hiking, walking, running. To ensure the safety of this these journeys, the app will also serve as a safety guide with an updated, continuous discussion with other fellow explorers.

Experience Prototypes

Testing the one assumption that could make or break each idea

Prototype 1: NOTE TO SELF — setup

Critical assumption

We assume people feel good about taking time to self-reflect in nature.

Why this one?

The whole idea depends on people feeling good about taking time to reflect in nature. If it feels like a chore, nothing else matters.

To measure “feel good,” we asked for a calm rating (1–5) before and after, plus “How was that for you?” and “Would you do this again on your own?”

One person reflected indoors and one outdoors, so we could see whether the environment helped.

Prototype

Artifacts: a printed “NOTE TO SELF” sheet: take 15 minutes, find a comfortable place nearby, reflect; nothing is shown to us and they keep the paper. Optional prompts: What matters to you right now? How are you feeling today? How have you been feeling recently? What’s something memorable that happened recently? Pencil.

Roles: Facilitator hands over the sheet, asks the ratings, debriefs. Observer keeps time from a distance, takes notes and photos.

Environment: two settings for comparison: indoors at a dining-hall table vs. outdoors at picnic tables under the oaks.

Participants

Who: Kale (indoors) and Richard (outdoors), FloMo residents

How recruited: asked in person at FloMo; convenient, so they didn’t have to go far

Why relevant: everyday Stanford students, fairly random picks



Prototype 1: NOTE TO SELF — in action

Same NOTE TO SELF sheet, two settings: a busy indoor table vs. a quiet outdoor spot.

Indoors · dining hall





Outdoors · picnic tables at lake Lag







Prototype 1: NOTE TO SELF — results

What worked

- Richard (outdoors): calm 4 → 4.8; “feel better”; getting things “finally on paper” felt good to externalize
- Designated time let him stop worrying about class; he liked being outside and would do it again
- Kale (indoors) found it “interesting” and thinks he should reflect more often

What didn’t

- Indoors wasn’t the best environment: Kale got a call, talked with a friend, piano in the background; he ended early
- Calm 4 → 4 indoors; hard to find a secluded, quiet spot on campus
- The heat made both sessions less comfortable

Was the assumption valid?

Mostly valid. Outdoors, Richard felt calmer (4 → 4.8), felt better, and would do it again. Indoors, Kale saw the value but didn’t feel calmer.

With one person per setting, reflection seems to feel good when the setting supports it, but we can’t yet separate “nature” from “quiet.”

New learnings & what’s next

- Writing things down and having designated time are what felt good, not just being outside
- Our assumption bundled several questions: does reflecting feel good, does doing it outdoors, does the setting matter

Next: split the assumption, add a quiet indoor control (like a dorm room), and test at a cooler time of day

Prototype 2: Indexing — setup

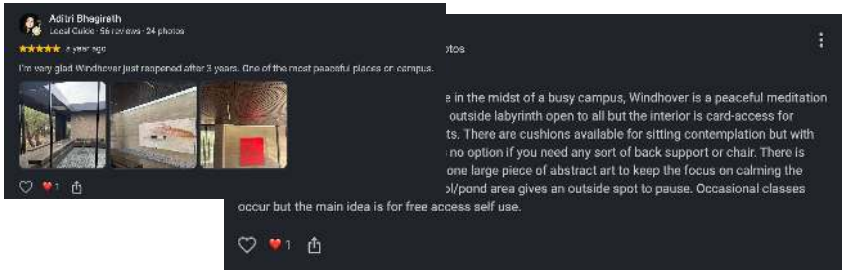
Critical assumption

We assume people are willing to explore unconventional locations.

Why this one?

Indexing only works if people *will* go to the unconventional places it suggests. If they won't, nothing else in the app matters.

We also wanted to know whether a recommendation makes a place more desirable, and whether comments from other explorers build trust. We tested both in the same session by revealing the place in stages.



Prototype

Artifacts: one real nearby location (a cluster of towering palms) shown as a card in 3 stages: map pin → photo + description → fellow-explorer comments; note-taker's rating sheet.

Roles: Facilitator reveals each stage and asks the same question; voices a fellow explorer for a live reply. Note-taker records ratings, quotes, hesitation. Fellow explorers: pre-written comments from teammates and friends.

Environment: framed as a normal workday with a free 30 minutes.

Participant

Who: Bell, a Stanford student who likes running around campus

How recruited: a friend with about an hour free before class

Why relevant: an everyday Stanford student who already spends time outside



About Windhover

Windhover is a spiritual refuge on the Stanford University campus meant to both inspire and promote personal renewal.

Prototype 2: Indexing — results

What worked

• Before: 4.5/5 willing (“would be nice to take a walk”); their last unconventional walk was around Wilbur when they “should’ve done [a] pset”

• Photo + description: jumped from 0 to 5/5 once they knew the background; it gave the walk a purpose that matched their values

• Trusted the place 5/5 because of its title and Stanford’s reputation, and said they would go

What didn’t

• Map pin alone: 0/5. “Destination, then what?” Without context, there was no intention to go

• Fellow-explorer comments changed nothing; they’re skeptical of others’ online reviews

• In a spontaneous moment, they wouldn’t look up reviews at all

Was the assumption valid?

Partly valid. They were willing to explore an unconventional spot, but only once they knew why it was worth going: a bare location got 0/5, the background and photo got 5/5, and community comments added nothing. (1 participant)

New learnings & what’s next

• Willingness comes from purpose, not distance: they judge a place by its “value to them, not so much time.” “Might as well go to live.”

• Trust came from the source (title, Stanford), not from other explorers

Next: lead with each place’s story and background, shrink the reviews, and test with more people

Prototype 3: Turning the page — setup

Critical assumption

We assume people feel motivated to go outside by story-based games.

Why this one?

The solution relies entirely on a story driving people's motivation to go outside. A good game doesn't need a story, but a story gives a deeper emotional attachment and reason to go.

Our interviews showed that nature's existing value alone wasn't enough to get people out. A story may be the extra force.

Prototype

Artifacts: 4 folded paper cards labeled 1–4 (Card 1 handed indoors; Card 2 just outside the entrance; Card 3 at a landmark 1–3 min away; Card 4 optional, 3+ min away). Story version vs. control version (UCLA Health nature facts). Observation sheet, timer.

Roles: Facilitator (recruiting, Card 1, debrief); Observer (keeps time, follows at a distance, records behavior, photos); Stage manager (places and resets cards, documents setup).

Environment: people seated working or studying indoors in one building.

Participant

Who: Anna and Vivi (story cards); Nicole and Beneta (nature-facts cards, control)

How recruited: students we knew who had been to FloMo; same pitch for both conditions

Why relevant: everyday Stanford students who already knew the area



Prototype 3: Turning the page — in action

Paper cards lead participants from indoors to landmarks outside. S = story cards F = nature-facts cards (control)



Card handoff



Anna · story



Vivi · story



Nicole · facts



Beneta · facts

Prototype 3: Turning the page — results

What worked

- Story kept people hooked: Anna “seems excited to see the next paper,” felt “already invested”; Vivi called it “like a puzzle,” “compelling, mysterious”
- Story readers looked for connections and wanted the story to continue
- All 4 participants (2 story, 2 facts) followed every card outside

What didn’t

- Walking felt like effort: “wow what a trek” (Anna); Beneta didn’t like the uphill walk
- The story felt vague to some; Anna found the ending anticlimactic and wouldn’t continue tomorrow
- The facts group finished too, partly to “see everything in the experiment” (Nicole)
- Our setup: didn’t make it clear the walk was optional, no timing or before/after ratings, and a hot, sunny day

Was the assumption valid?

Partly. A sequence with something to look forward to pulled both groups outside; even facts in order felt like a narrative. A real story on top made people more curious and invested (Anna, Vivi), but it didn’t clearly change whether they’d go out again tomorrow.

New learnings & what’s next

- Any sequence with a “next” works like a story; a real story adds curiosity, but it must be cohesive, not vague
- Some people want to be guided; others (who know the area) prefer to make their own path, in both groups

Next: write chapters with clear payoffs, offer guided vs. free-roam routes, keep walks short and shaded, and add timing and before/after ratings

What's Next

The solution we’re moving forward with





Turning the page + NOTE TO SELF

A story told on paper cards leads you outside, chapter by chapter, and the last chapter ends at a quiet spot where you write a note to yourself.

Why this one — evidence

- Interviews: people need a reason to go outside, and knowing nature’s benefits only adds pressure (Alison); time outside should feel personal, not social (Ly)
- Turning the page: all 4 participants followed every card outside, but the ending felt anticlimactic
- NOTE TO SELF: reflecting outdoors felt good (Richard 4 → 4.8, would do it again); indoors, Kale was distracted
- Not the others alone: Indexing still needs real test data; the dog companion adds an obligation and leaves out people who can’t have a dog

Ethical implications of our solution

	Designed for	Leaves out / inaccessible to	Risks
Story cards (getting outside)	People who need a reason or hook to go outside, like Alison	People with limited mobility; people without a safe, walkable area nearby	Long or hilly walks in the heat; the story becomes the point instead of nature
Reflection stop (note to self)	People who go outside mostly for others or out of obligation, like Ly	People who find reading or writing hard; people with no quiet spot nearby	Privacy of personal notes; reflecting can bring up difficult feelings
If it becomes an app	People who already use their phones to plan their day	Rural areas with weak signal (like Alison); people without a smartphone	More screen time outdoors; location-data privacy

Who it serves, who it might leave out

Serves

- Busy students and remote workers who need a reason to step outside
- People who go outside mostly for others or out of obligation
- People new to an area who don't know where to go and don't have a "spot" yet
- Non-outdoorsy people who find AllTrails-style apps intimidating or performance-focused

Might leave out

- People with limited mobility, or without safe, walkable green space nearby
- People who find reading or writing hard
- Rural users with weak signal, if it becomes an app
- People who don't feel safe alone outdoors, especially at dusk or in isolated spots
- People who are afraid of dogs, allergic, or culturally uneasy around them
- People for whom steps-as-currency is a poor fit: wheelchair users, people with chronic pain, or anyone with a history of compulsive exercise or disordered eating

What we'll do about it

- Keep the story playable offline
- Offer short, flat, shaded routes, **and tag every spot** with accessibility info (surface, slope, seating, restrooms) so users can filter
- Let people reflect by voice memo, sketch, or just sitting quietly. Count "sitting still for 5 minutes" as a full mission.
- Test beyond Stanford students, like older adults and people with disabilities, and co-design with them from the start rather than testing at the end.
- Replace steps with a movement-neutral currency ("minutes outside" or "moments noticed.")

Appendix

How we interviewed

Setup

At least 2 team members at every interview (interviewer + note-taker)

Recorded every interview with Zoom and voice memos

Alison was our one remote interview

Changed since A1: story-based and “why” follow-ups, fewer yes/no questions

Questions we actually asked (sample)

“Tell us about the last time you spent time outdoors. What made you decide to go?”

“When do you notice you need a break? What do you do?”

“Is there any activity where you completely stop thinking about work?”

“Do you ever bring work outside with you? What’s different?”

“Would you call yourself a nature person? Why or why not?”

“What’s the difference between a walk and a hike for you?”

“If you could change one thing about how you spend time outside, what would it be?”

How we brainstormed and narrowed

~40
raw ideas per HMW
(8-10 min timer, solo)

10–16
refined ideas per HMW
(Ly 11 · Daniel 10 · Alison 16)

3
top solutions
across all HMWs

Selection method

Dot voting on each board

Then merged overlapping ideas (e.g., Alison’s treasure map + chapters + step currency + foraging became one concept)

Novelty check

Checked against existing apps and past CS147 projects (2023–2025)

Cut: the “territory” map (too close to Strava / Pokémon Go)

Prototype 1: NOTE TO SELF — script

Script

1. Ask for 15 minutes of their time.
2. “Before we start, how calm do you feel right now, 1–5?”
3. “We won’t be reading or asking about what you reflected on. This is just your own reflection.”
4. Walk to the spot and hand over the paper with the optional questions.

Script (cont.)

5. At 15 min: “Hey, just to let you know, it’s been 15 minutes. Feel free to continue if you’d like; we’ll ask a few questions afterwards.”
6. Calm rating again, 1–5.
7. “How was that for you?” “Would you do this again on your own?”

How this tests the assumption

The participant does the whole experience end to end: leaves what they were doing, walks into nature, reflects privately, and returns.

Keeping the reflection private (we never read it) isolates whether the act of reflecting itself feels good.

What we measure

“Feels good” = calm rating goes up (before vs. after)

+ says they would do it again on their own

+ how they describe it in the open-ended question

Appendix: NOTE TO SELF prompt sheet

NOTE TO SELF

Take 15 minutes for yourself. Find a comfortable place nearby where you can sit and spend some time reflecting.

You don’t need to show us what you write; anything you write is yours to keep.

You might consider:

- What matters to you right now?
- How are you feeling today?
- How have you been feeling recently?
- What is something memorable that has happened recently?

You don’t need to answer every question. Feel free to write, think, or simply sit quietly.

Prototype 2: Indexing — script

Script

1. Context: “Imagine it’s a normal workday and you have a free 30 minutes.”
2. Baseline: “When did you last go somewhere unconventional on a walk? How do you feel about doing that right now?” Willingness 1–5.
3. Map pin only: “Would you go?” 1–5. “What’s missing?”
4. Photo + description: “How about now?” 1–5. “What changed?”

Script (cont.)

5. Fellow-explorer comments: “How about now?” 1–5. “How much do you trust this place is worth going to and safe?” Trust/safety 1–5.
6. Live reply (optional): they ask the explorers one question; the facilitator answers in an explorer’s voice.
7. Closing: “Would you actually go today? Yes / No / Maybe.” “Longest commute you’d accept?” “Escaping work or recharging from it?”

How this tests the assumption

Revealing the location one layer at a time shows which part of a representation (map, photo + text, community) changes willingness.

Tests 3 linked assumptions: people will explore based on a representation; a recommendation makes a place more desirable; explorer discussion builds trust and safety.

What we measure

Willingness 1–5 at each stage and the final “would you go today?”

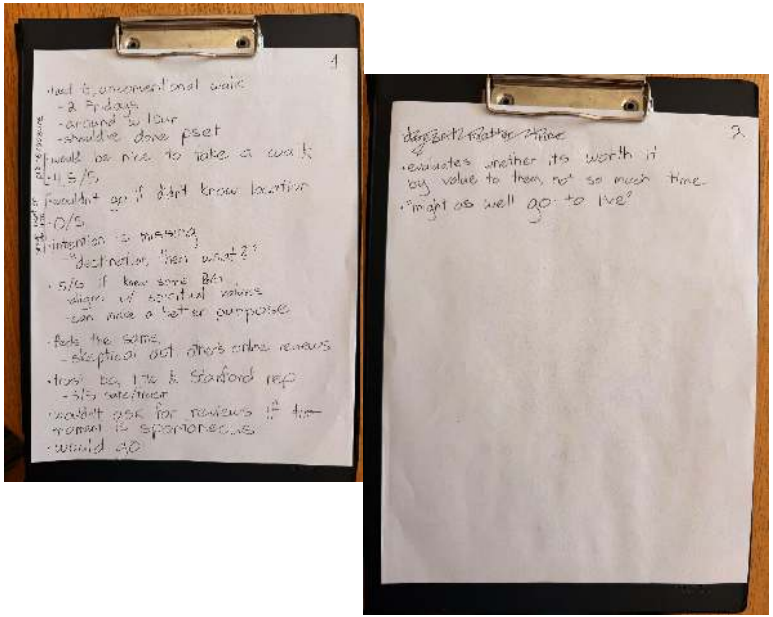
Rating change between stages, plus which element they credit

Trust/safety 1–5 after comments, reaction to the live reply, and commute limit

Appendix: Indexing — assumption grid

Assumption	What we measure
1. People are willing to explore locations based on representations (map pin, image + description, fellow explorer comments)	Willingness rating at each stage, final "would you go today?", and commute limit
2. An app recommendation will make a location more desirable for exploration	Rating change from Interaction 1 (pin only) to Interaction 2 (photo and description), plus which element they credit (map, photo, or text)
3. People feel trust and safety through continuous discussion from other fellow explorers	Rating change from Interaction 2 to 3, trust/safety rating after the comments, and how they react to the live reply

Appendix: Indexing artifacts





Prototype 3: Turning the page — script

Script

1. Pitch: “Ten-minute activity for a class project; it may involve walking nearby. You can stop at any point and that’s equally useful to us.” Get consent.

2. Baseline (don’t mention outside or nature): “How do you feel about taking a break right now?” 1–5.

3. Hand Card 1: “After I give you this card, I can’t speak to you, but I can point or lead you if you need help navigating.”

Script (cont.)

4. Observer records behavior silently. If they hesitate: “The ultimate decision is for you to decide, not us.”

5. When they stop or finish, at that spot: “How motivated do you feel to stay out or keep going?” 1–5.

6. Debrief: “What made you go on, or stop?” “What did you expect next?” “If Card 5 appeared tomorrow, what would you do?”

How this tests the assumption

Story and control use the same cards, places, and pitch; only the content differs (story vs. nature facts), so any difference comes from the story.

Cards lead the participant physically outside step by step, so motivation shows up as behavior, not just an answer.

What we measure

How far they go (cards reached) and time spent outside, story vs. control

Break rating before vs. motivation rating at the end

Debrief answers on why they kept going or stopped

Appendix: Turning the page — observation notes

Anna · story

“Kind of fun, like it.”
Lot of walking though, sigh.
Seems excited to see the next paper; wants to continue.
“Wow, what a trek.”
“Already invested.” Curious how it ended; anticlimactic.
Not too far out of the way; wanted to see what was “brewing.”
Expected something weird.
Would have kept going if there was a card 5.
Tomorrow: less immersed, probably wouldn’t continue.

Vivi · story

Like a puzzle?
“Wow?”
Made some sort of expression at card 3.
Took a shortcut to card 4.
Story was compelling, mysterious — not “confusing” mysterious.
Wanted the story’s continuation.
Would probably go to card 5.
Looking for clarifications/connections.
Thought a while, but card 5 tomorrow would be fine because her schedule permits.

Nicole · facts

Wayfinding: “Is it this way?”
Decided to continue without any remarks.
Seemed fun; wanted to see its end.
Wanted to see everything in the experiment.
Would read/follow card 5.
Would probably still follow card 5 tomorrow.

Beneta · facts

Reading silently.
Card 4 → “I’ll do it,” sounded not too enthusiastic.
Progressing much faster.
Expected more walking to the next place.
Didn’t like the uphill walk.
Had time; “curious.”
Maybe/probably would go to a card 5.
Would do card 5 if it was tomorrow.

Appendix: Turning the page — setup

Card 1 handed out indoors (story “s” and facts “f” versions), then cards left at the grill and along the road outside.



Card 1 handoff, indoors



Card at the grill



Card on the sidewalk



Card under the tree

Appendix: Turning the page — story cards

card 1

This morning, a note was slipped under your door. No name. A pressed leaf, and one line: *The tree by the entrance has been keeping something for you since spring.* You've walked past that tree a hundred times and never looked up.



next card is at the grill behind Ioro

card 2



Tucked in the roots is a second note, same handwriting: *Most people never notice. Look at the bark on the side facing the building. Then find where the light lands first.* Something about the handwriting feels familiar.

next card is at the tree up the hill to the right

card 3

The third note is shorter: *You noticed. Good. I can tell you who I am, but not here.* The ink is still slightly wet. The story continues there. You **can** stop here if you want.



next card is at purple colored-leaf trees in front of Flolilo

card 4

The last envelope is sealed with sap, still sticky. Inside is a sketch of this exact spot, with you standing where you are now. It's dated tomorrow. On the back, in handwriting you suddenly recognize as your own: I didn't come out in time last year. Don't make my mistake. Tomorrow, first light. After that, it's gone.

Appendix: Turning the page — nature facts (control) cards

card 1

Boosts immune system

Being in nature can support immune health in a couple of ways. Any time you are outside — rain or shine — you expose yourself to vitamin D, which is good for your immune system and your bones. Lower vitamin D levels are linked to a higher risk of viral infection.

Time spent "forest bathing" — immersed in the forest atmosphere — is especially good for your immune system. The forest air you breathe in is full of phytoncides, chemicals shed by forest plants. Phytoncides' antifungal and antibacterial qualities stimulate your body to increase the white blood cells responsible for fighting tumor- and virus-infected cells.



next card is at the grill behind loro

card 2



Enhances cognitive function

Exposing yourself to green space can benefit your cognitive abilities in the short- and long-term. But just being outside isn't enough — you need to be in a natural and peaceful environment. Urban settings require you to use your attention to overcome the stimulation of the environment, and your cognitive abilities can suffer.

- Spending time in nature can also spark creativity. Research suggests that nature stimulates curiosity and helps recharge your focus and attention, which is critical when developing new ideas.

next card is at the tree up the hill to the right

card 3

Promotes better sleep quality

- Exposure to natural light every day — especially first thing in the morning — can help regulate your circadian rhythm, which is your body's natural 24-hour cycle. When your internal clock is naturally aligned with the day and night cycle, it can improve the quality of your sleep and how alert you are during the day.



next card is at purple colored-leaf trees in front of Flolilo

card 4

Supports mental health

Surrounding yourself with nature can improve your mood and reduce the symptoms of anxiety and depression. It can alter the brain activity in your prefrontal cortex — the part regulating emotions.

- Green space can also have a protective effect on depression risk. Researchers say that people who spend five or more hours outside on weekends tend to have a lower risk of mild depression than people who spend less than 30 minutes outdoors.

Appendix: Turning the page — first draft

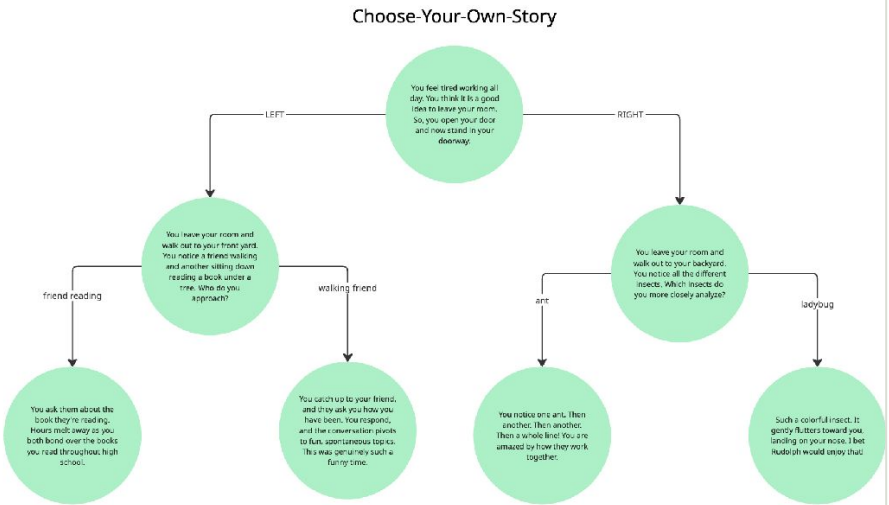
Critical assumption: people feel motivated by story-based games to go outside

This assumption was made because this solution entirely relies on a story driving users' motivation to go outside. A good game does not necessarily need an enticing story, but a story element provides a deeper emotional attachment and reason to go outside. Our interviews revealed that going out into nature for its already-existing value was insufficient. A story may act as that needed extra force.

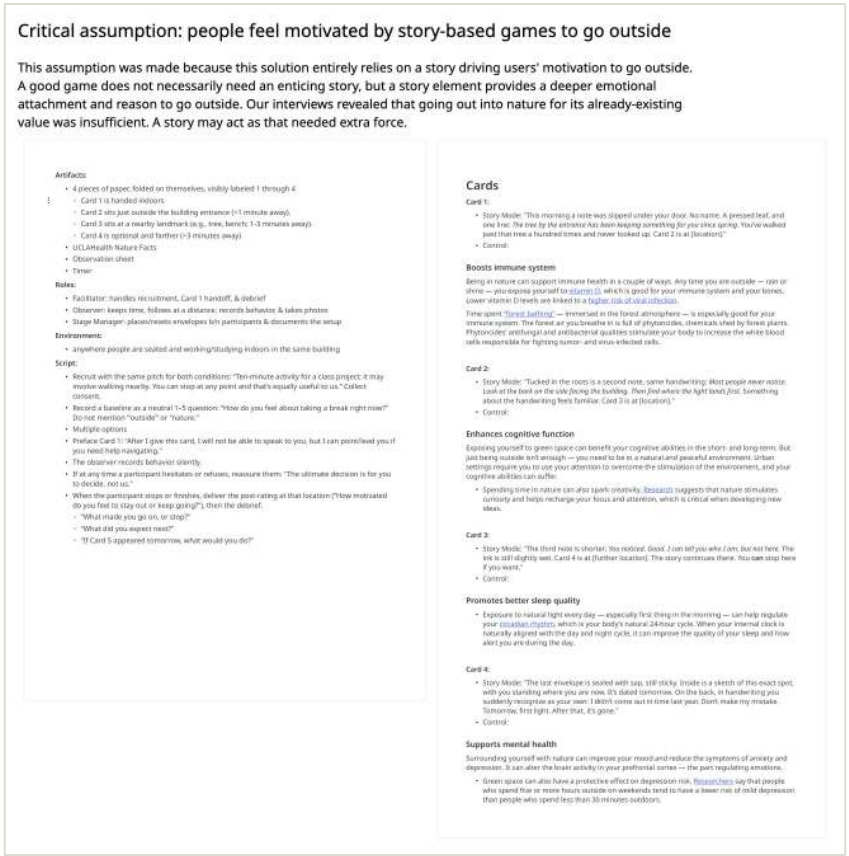
Artifacts: a short story in the structure of a small pamphlet, a stack of paper with different story events, & a sheet of paper of scientific facts (UCLAHealth sheet)
Roles: 1 person interacts with the random participant, & 1 or more team member(s) taking notes
Environment: people inside buildings

Script:

- Select a random option (fixed story, choose-your-own-story, no story; keep this in mind)
- Approach a random person and ask for their permission to participate in our Experience Prototype
- Ask them how motivated they feel to go outside currently (1-5 scale; 1 least motivated, 5 most motivated)
- Based on the option chosen beforehand, conduct the Experience Prototype
  - Fixed Story:
    - "You felt tired working all day. You notice how pretty the weather is, realizing how infrequently you consciously think about nature. You leave your room and notice a dandelion seed floating in the air. It reminds you of the all adventures that happens simultaneously."
  - Choose-Your-Own-Story:
    - [diagram on the right]
  - Sheet of Scientific Facts
    - make them read UCLAHealth sheet
- Ask them how motivated they feel to go outside currently (1-5 scale; 1 least motivated, 5 most motivated)



Appendix: Turning the page — prototype plan and cards



Critical assumption: people feel motivated by story-based games to go outside

This assumption was made because this solution entirely relies on a story driving users' motivation to go outside. A good game does not necessarily need an enticing story, but a story element provides a deeper emotional attachment and reason to go outside. Our interviews revealed that going out into nature for its already-existing value was insufficient. A story may act as that needed extra force.

Artifacts:

- 4 pieces of paper, folded on themselves, visibly labeled 1 through 4
  - Card 1 is handed indoors
  - Card 2 sits just outside the building entrance (<1 minute away).
  - Card 3 sits at a nearby landmark (e.g., tree, bench; 1–3 minutes away).
  - Card 4 is optional and farther (>3 minutes away).
- UCLAHealth: Nature Facts
- Observation sheet
- Timer

Roles:

- Facilitator: handles recruitment, Card 1 handoff, & debrief
- Observer: keeps time, follows at a distance; records behavior & takes photos
- Stage Manager: places/resets envelopes b/n participants & documents the setup

Environment:

- anywhere people are seated and working/studying indoors in the same building

Script:

- Recruit with the same pitch for both conditions: "Ten-minute activity for a class project; it may involve walking nearby. You can stop at any point and that's equally useful to us." Collect consent.
- Record a baseline as a neutral 1–5 question: "How do you feel about taking a break right now?" Do not mention "outside" or "nature."
- Multiple options
- Preface Card 1: "After I give this card, I will not be able to speak to you, but I can point/lead you if you need help navigating."
- The observer records behavior silently.
- If at any time a participant hesitates or refuses, reassure them: "The ultimate decision is for you to decide, not us."
- When the participant stops or finishes, deliver the post-rating at that location ("How motivated do you feel to stay out or keep going?"), then the debrief.
  - "What made you go on, or stop?"
  - "What did you expect next?"
  - "If Card 5 appeared tomorrow, what would you do?"

Cards

Card 1:

- Story Mode: "This morning a note was slipped under your door. No name. A pressed leaf, and one line: *The tree by the entrance has been keeping something for you since spring.* You've walked past that tree a hundred times and never looked up. Card 2 is at [location]."
- Control:

Boosts immune system

Being in nature can support immune health in a couple of ways. Any time you are outside — rain or shine — you expose yourself to vitamin D, which is good for your immune system and your bones. Lower vitamin D levels are linked to a higher risk of viral infection.

Time spent "forest bathing" — immersed in the forest atmosphere — is especially good for your immune system. The forest air you breathe in is full of phytoncides, chemicals shed by forest plants. Phytoncides' antifungal and antibacterial qualities stimulate your body to increase the white blood cells responsible for fighting tumor- and virus-infected cells.

Card 2:

- Story Mode: "Tucked in the roots is a second note, same handwriting: *Most people never notice. Look at the bark on the side facing the building. Then find where the light lands first.* Something about the handwriting feels familiar. Card 3 is at [location]."
- Control:

Enhances cognitive function

Exposing yourself to green space can benefit your cognitive abilities in the short- and long-term. But just being outside isn't enough — you need to be in a natural and peaceful environment. Urban settings require you to use your attention to overcome the stimulation of the environment, and your cognitive abilities can suffer.

- Spending time in nature can also spark creativity. Research suggests that nature stimulates curiosity and helps recharge your focus and attention, which is critical when developing new ideas.

Card 3:

- Story Mode: "The third note is shorter. You noticed. *Good. I can tell you who I am, but not here.* The ink is still slightly wet. Card 4 is at [further location]. The story continues there. You can stop here if you want."
- Control:

Promotes better sleep quality

- Exposure to natural light every day — especially first thing in the morning — can help regulate your circadian rhythm, which is your body's natural 24-hour cycle. When your internal clock is naturally aligned with the day and night cycle, it can improve the quality of your sleep and how alert you are during the day.

Card 4:

- Story Mode: "The last envelope is sealed with sap, still sticky. Inside is a sketch of this exact spot, with you standing where you are now. It's dated tomorrow. On the back, in handwriting you suddenly recognize as your own: *I didn't come out in time last year. Don't make my mistake. Tomorrow, first light. After that, it's gone.*"
- Control:

Supports mental health

Surrounding yourself with nature can improve your mood and reduce the symptoms of anxiety and depression. It can alter the brain activity in your prefrontal cortex — the part regulating emotions.

- Green space can also have a protective effect on depression risk. Researchers say that people who spend five or more hours outside on weekends tend to have a lower risk of mild depression than people who spend less than 30 minutes outdoors.

What we changed after A1 feedback

A1 feedback	What we did in A2
Homogeneous sample (all men, all outdoorsy)	Interviewed women and self-described “city person” / non-outdoorsy users
Questions slide showed only topics; some yes/no questions	Showed actual questions; used story + “why” follow-ups
Empathy map highlights unclear, hard to read	Zoomed maps with a highlight legend
Generic summary from single interviews	Each insight cites 2+ interviewees
Stock photos instead of real artifacts	Real photos from our interviewees and prototype tests

Appendix: transcripts, consent forms, interview guide

Links

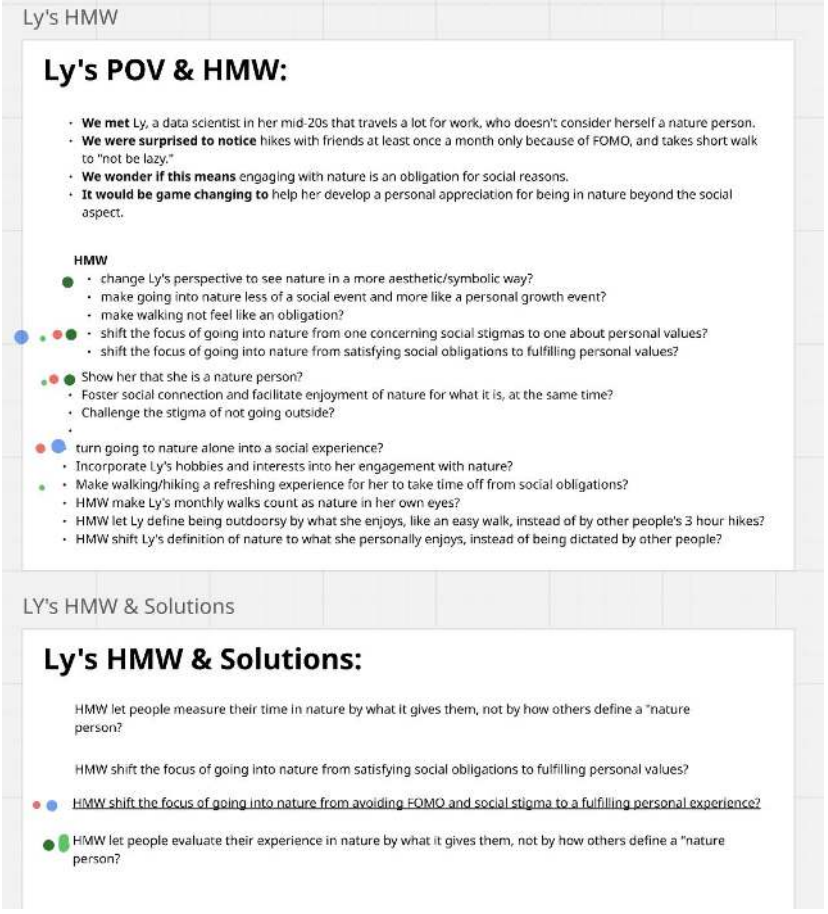
Everything is in our Miro board and team Google Drive folder:

- Transcripts: Ly, Alison, Emma
- Signed consent forms
- Full interview guide
- Team contract

Miro: https://miro.com/app/board/uXjVHhxaKAk=/

Drive: https://drive.google.com/drive/u/1/folders/1U7GEvUazubyMFGx4u3Dihwy0QKlsIjuJ

Appendix: Ly POV & HMWs



Appendix: Daniel & Alison HMWs

Dan's HMW & Solution

Dan HMW & Solutions:

1. HMW let Daniel come back from a walk with more energy, not just less stress?
2. HMW make remote work feel like nature?
3. HMW the journey in nature both a physical journey and a mental one?
4. HMW make nature something Daniel goes toward rather than something he escapes to?
5. HMW make escape and rejuvenation happen in the same moment
6. HMW make "escapism" into an adventure?
7. HMW make time outside work like a phone charger, where he can see himself recharging?
8. HMW create mental relief without physical distance?
9. HMW unblur the lines of working a remote job?
10. HMW help him discover novelty in daily walks, without needing to travel far for expeditions?
11. HMW find the novelty and escapism of big hikes/expeditions in our day-to-day?

Alison's HMW

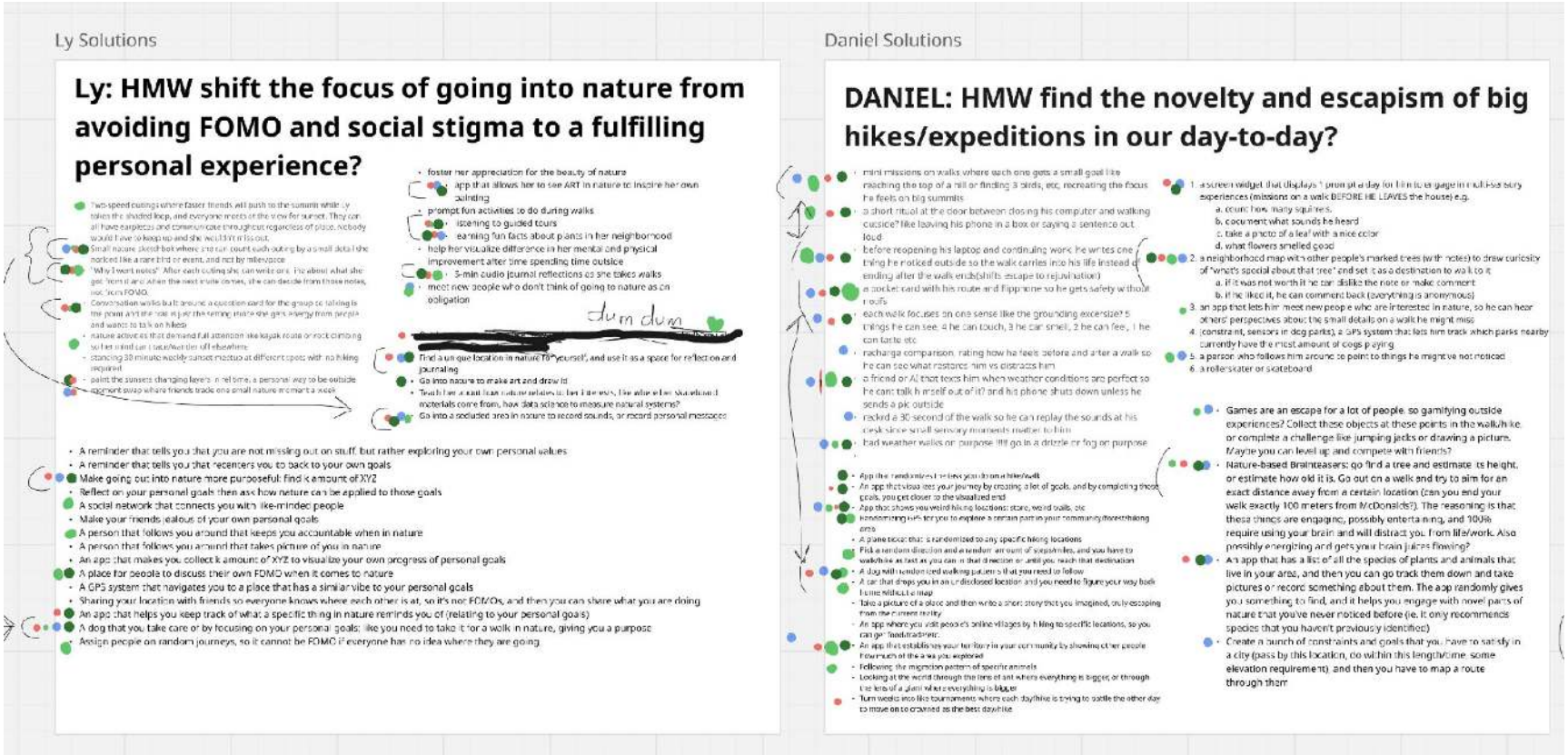
Alison HMW

HMW

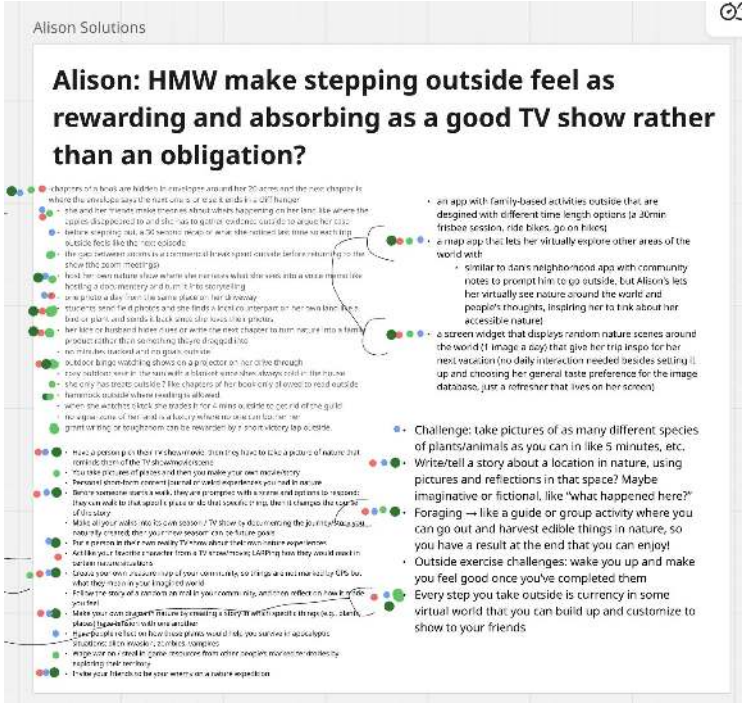
- HMW turn time outside from something Alison "should" do into something she WANTS to do?
- HMW make the first few minutes outside pull Alison out of her own head?
- HMW stretch the feeling of the "weight of the world drops away" from her driveway into her workday?
- HMW take the guilt out of knowing nature is good for her?
- HMW keep her to do list from following her outside?
- HMW make knowing more about nature feel freeing instead of pressuring?
- HMW make stepping outside feel like a reward rather than an obligation?
- HMW count the nature she already gets, so "more" isn't aleays the goal?
- HMW make a short break outside feel as absorbing as a good TV show
- HMW use the Seek app habit she already has to turn solo time outside into a discovery time.
- HMW make a nature break like her book club, with a shared thread she looks forward to picking up?

HMW make stepping outside feel as rewarding and absorbing as a good TV show rather than an obligation?

Appendix: brainstorm — Ly & Daniel



Appendix: brainstorm — Alison



Appendix: refined top 10s — Ly & Daniel

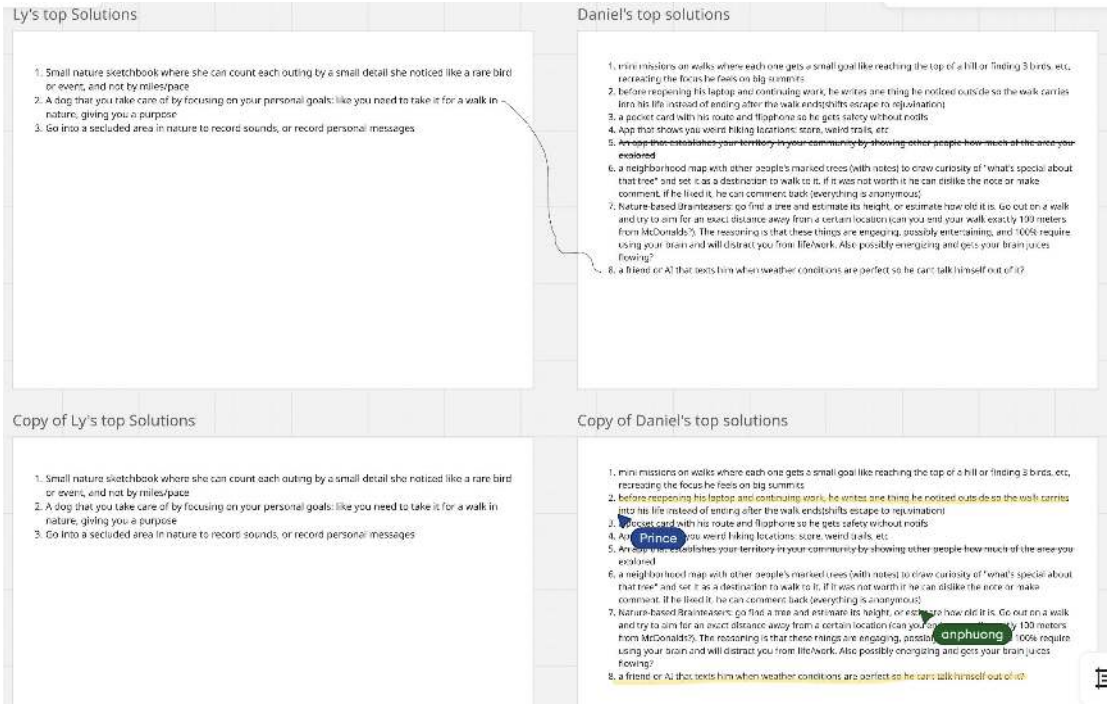
Ly's top 10 Solutions

1. Small nature sketchbok where she can count each outing by a small detail she noticed like a rare bird or event, and not by miles/pace
2. "Why I went notes". After each outing she can write one line about what she got from it and when the next invite comes, she can decide from those notes, not from FOMO.
3. Conversation walks built around a question card for the group so talking is the point and the trail is just the setting (since she gets energy from people and wants to talk on hikes)
4. Make going out into nature more purposeful: find k amount of XYZ
5. A dog that you take care of by focusing on your personal goals: like you need to take it for a walk in nature, giving you a purpose
6. app that allows her to see ART in nature to inspire her own painting to foster her appreciation for the beauty of nature
7. listening to fun guided tours during walks
8. learning fun facts about plants in her neighborhood
9. 5-min audio journal reflections as she takes walks to help her visualize difference in her mental and physical improvement after time spending time outside
10. Find a unique location in nature for yourself, and use it as a space for reflection and journaling
11. Go into a secluded area in nature to record sounds, or record personal messages

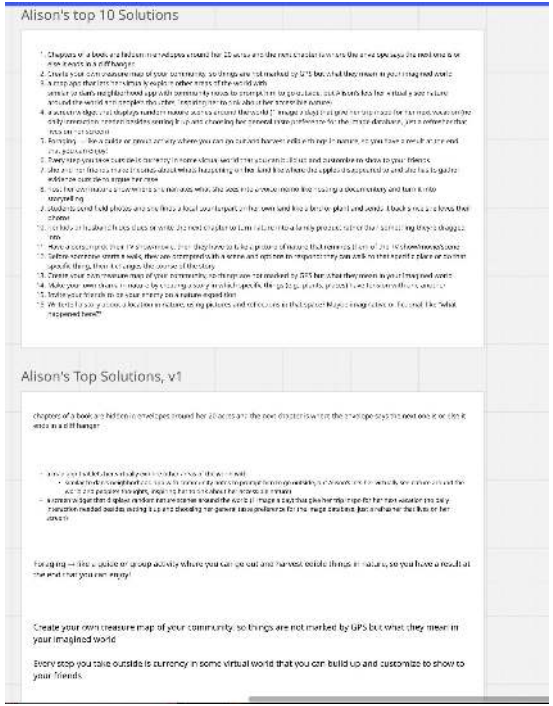
Daniel's top 10 Solutions

1. mini missions on walks where each one gets a small goal like reaching the top of a hill or finding 3 birds, etc, recreating the focus he feels on big summits
2. before reopening his laptop and continuing work, he writes one thing he noticed outside so the walk carries into his life instead of ending after the walk ends(shifts escape to rejuvination)
3. a pocket card with his route and flipphone so he gets safety without notifs
4. each walk focuses on one sense like the grounding excersize? 5 things he can see, 4 he can touch, 3 he can smell, 2 he can feel, 1 he can taste etc
5. App that shows you weird hiking locations: store, weird trails, etc
6. A dog with randomized walking patterns that you need to follow
7. An app that establishes your territory in your community by showing other people how much of the area you explored
8. a neighborhood map with other people's marked trees (with notes) to draw curiosity of "what's special about that tree" and set it as a destination to walk to it. if it was not worth it he can dislike the note or make comment. if he liked it, he can comment back (everything is anonymous)
9. Nature-based Brainteasers: go find a tree and estimate its height, or estimate how old it is. Go out on a walk and try to aim for an exact distance away from a certain location (can you end your walk exactly 100 meters from McDonalds?). The reasoning is that these things are engaging, possibly entertaining, and 100% require using your brain and will distract you from life/work. Also possibly energizing and gets your brain juices flowing?
10. a friend or AI that texts him when weather conditions are perfect so he cant talk himself out of it? and his phone shuts down unless he sends a pic outside

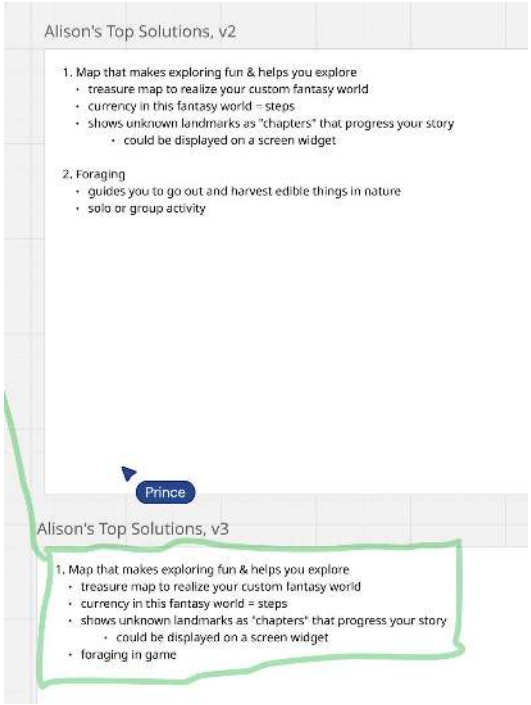
Appendix: top solutions — Ly & Daniel



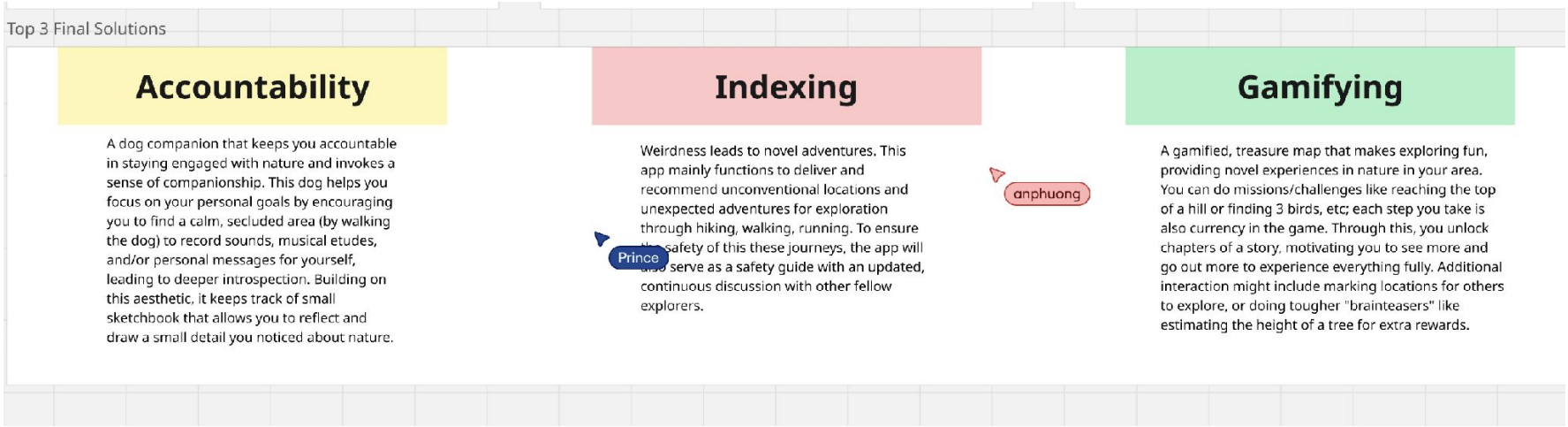
Appendix: Alison top solutions (refined)



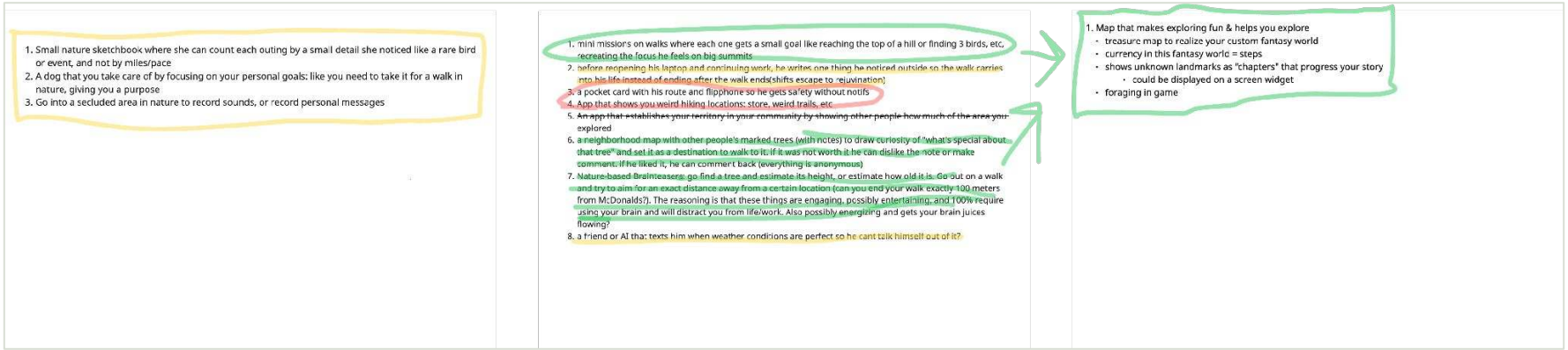
Appendix: Alison top solutions v2 → v3



Appendix: top 3 final solutions board



Appendix: narrowing to our top 3 solutions



Appendix: Alison POV board

POVs

We met...

Alison, a research associate in an environmental social science lab who works fully remote on 20 acres in rural Virginia.

We were surprised to notice...

- She studies the benefits of nature professionally, but says that knowing them is "almost more pressure. its like i should be getting out more, and i'm not"
- she raised her kids to enjoy nature, but her kids no longer enjoy nature with her.
- she focuses on natures after a long session of work.
- she confessed that she does not have a good answer to her work-life balance.
- she struggles with excessively using social media, but she spends a significant amount of time outdoors.
- she does a lot of nature research, but she disagrees with the beneficial extent of nature engagement through a screen.
- she loves nature, but she finds it inconvenient.
- differentiates a hike and a walk by productivity and purpose.
- while she lives in a remote area in a rural area, she still finds herself stuck indoors behind a screen.
- she lives in a rural area, but she still constantly thinks about work outside of work (like in nature)
- she works with a research group tied to nature/environment, but her work is rarely in the field and is instead grunt work.

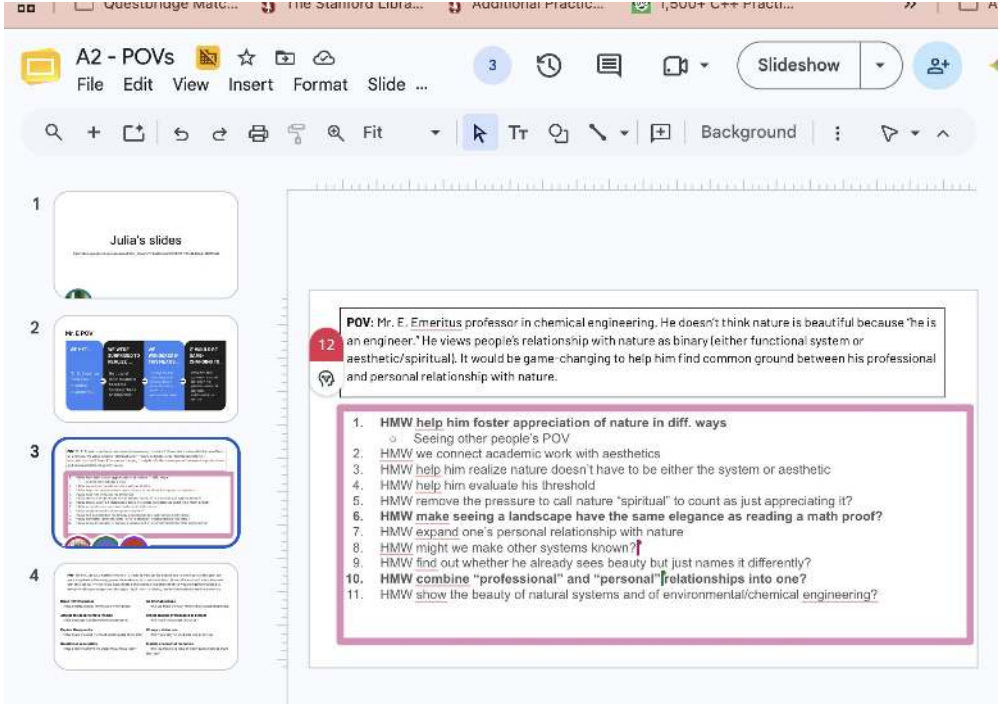
We wonder if this means...

- people appreciate engaging with nature most on their own terms.
- family and nature time go hand in hand.
- what you study, even if relates to you, does not strengthen your claim to it.
- being in nature means being mentally present and not just physically present.
- knowing why nature is good for you doesnt make you go, it might just add guilt.
- knowing more about nature's benefits makes you feel more guilty for not going.
- the flow of work (or how you end off a work session) motivates how you feel about nature.
- a sunken-cost fallacy prevents her from experiencing nature.
- she is stuck doing a job that she cares about but not exactly what she wants.
- her job is a sacrifice/compromise with her desired engagement with nature.
- she needs more mental space away from work.
- being in nature makes her more productive.
- less social media means more nature time.
- she enjoys nature more after a long session of work compared to a short session.
- she treats nature less like a hobby and more like something to check off her checklist.

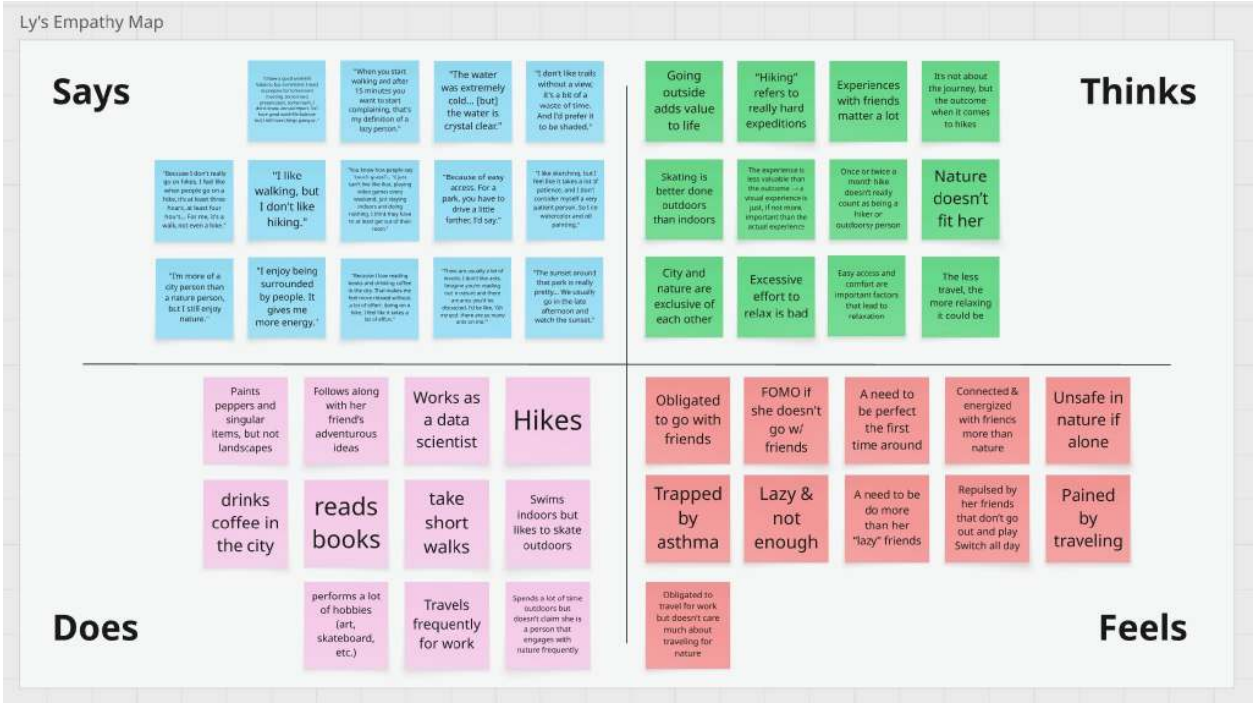
It would be game changing:

- turn nature into another thing that she "should" do into something that grabs her attention, so time outside actually gets her out of her own head
- to engage her in reflections and a journey for inner peace outside of work
- to make any environmental rural area accessible anywhere.
- to bring nature to work.
- to make work like a forest/rural area.

Appendix: Mr. E HMWs (Studio 2)



Appendix: Ly empathy map (full size)



Appendix: Emma empathy map (full size)

