



Environmental Engagement

Thesis Defense

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May 7, 2020



Youths spend less time
outside than prisoners

less than **1 hour** a day outside
up to **10 hours** inside on a screen



Aim

environmental education and reigniting a value in outdoor exposure to the next generation

Motivation

address the increasingly drastic needs of the environment's health and its value in the youth

Research Question

Are there better methods of educating and creating a more conscientious generation that embeds value and sustained engagement with nature?

Target User

Age

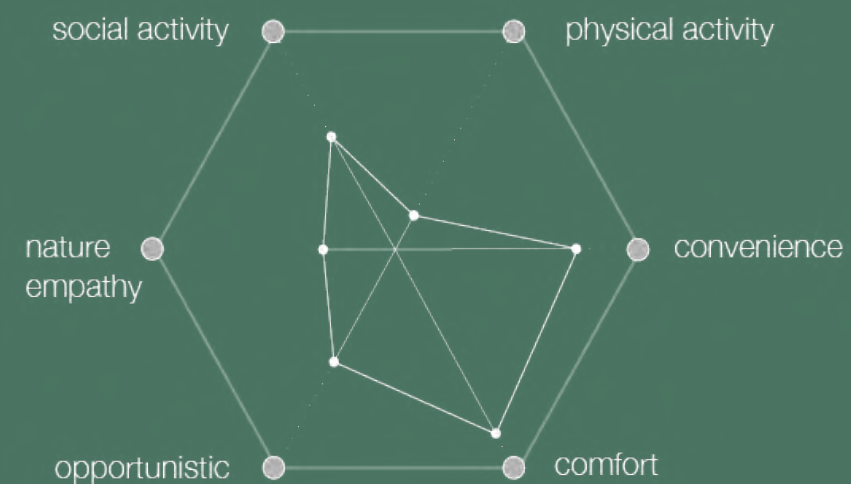
Old enough to understand certain concepts, young enough to develop habits and values

Behavior

Not accustomed to outdoor experience or stewardship, heavy tech users and homebodies

Context

Reach those not only in rural living context, less connected





Youth Behavior

Home-body mentality



Time outside

10-16 year old's spend only 12.6 minutes a day on outdoor activity compared to 10.4 waking hours being relatively motionless



Screen Time

average amount of time nearly half of Gen Z spends using a device each day



Environment

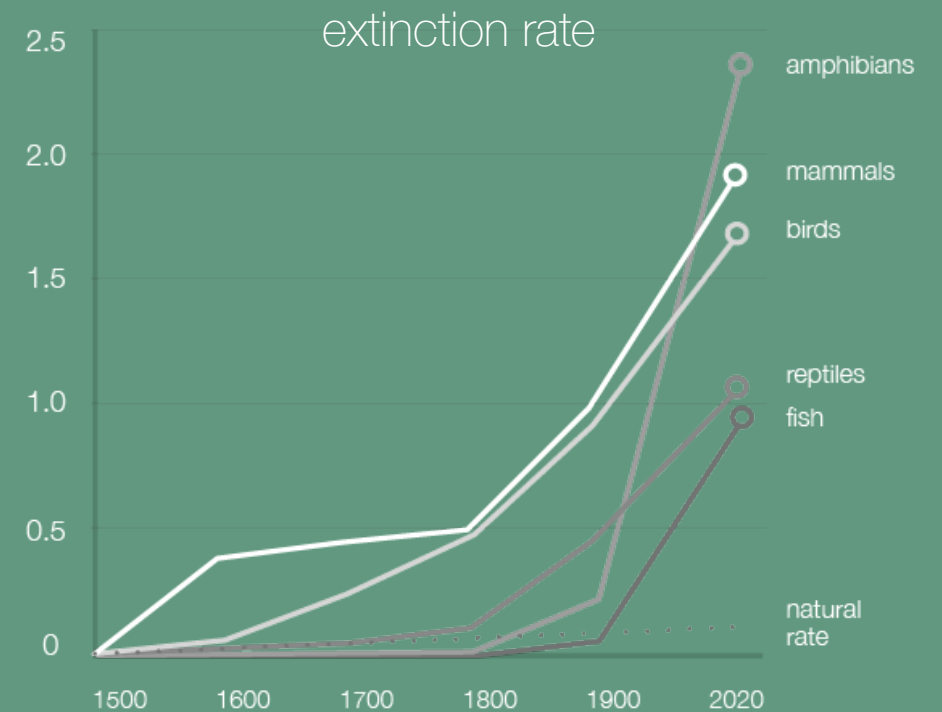
Low and getting lower



2nd largest

contributor to global
climate change

Global Rank





U.S. Education

Less than expected



Global Rank

U.S. is 31st in the world in student science scores

62%

computer science



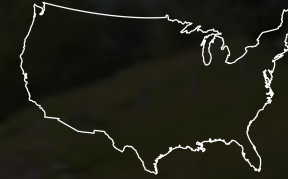
Pursuit of Science

vast majority of growth in science jobs is in computer science



Cultural Inclination

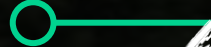
Attention to nature



United States
Vast resources and land with little control

Norway

Knowledgeable to thrive in harsh climate & land



Japan

Strategic land and resource use from spatial constraints



New Zealand

Careful stewardship to retain delicate ecosystem balance



Survey results

Understand current school methods,
effectiveness, and student resonance

18 Parents
20 teachers

50%

Chose the lowest option
for how well their school
touches on instilling value
in the environment

65%

state their students are in the
lower half of responsiveness
& interest to lessons on any
given day

3/4

Have technology used
frequently in the
classroom day-to-day

5/100

rating on how often lessons
are conducted outside the
formal sit-and-listen
classroom context



Survey insights

tech use

strategic use of tech can be more benefit than risk

separation

distinction between formal class and active hands on experience

start point

low baseline for environmental knowledge and experience



Interviews

goals

Build from survey in specificity and detail of teaching/parenting experiences & youth preference

7 Teachers
4 Parents
6 kids





Interviews

adapt

“I have a single class of the same age and their proficiency ranges over 5 grades”

growth

“the most confidence is gained when they go from students to leading the whole trip”

fear

“they think every plant is poisonous and every animal will attack me”

relevance

“the biocrust is the substrate to life here, we need them to understand this”

active

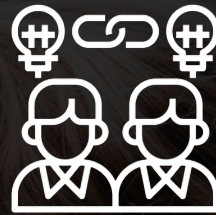
“we are outdoors all day but when you give them a clipboard their mood changes”

Insights



Youth Perception

- Fear of the unknown
- Growth as incentive
- Knowledge variability



Learning Method

- Physically active engaging
- Emotional relevancy
- Enabling independence



Adaptability

- Habitat variability
- Time limitations
- Student relevance

Initial Concept

A digital station providing adaptable educational prompts to structure habitat exploration and discovery

Local naturalists provide habitat knowledge for relevant lesson prompts

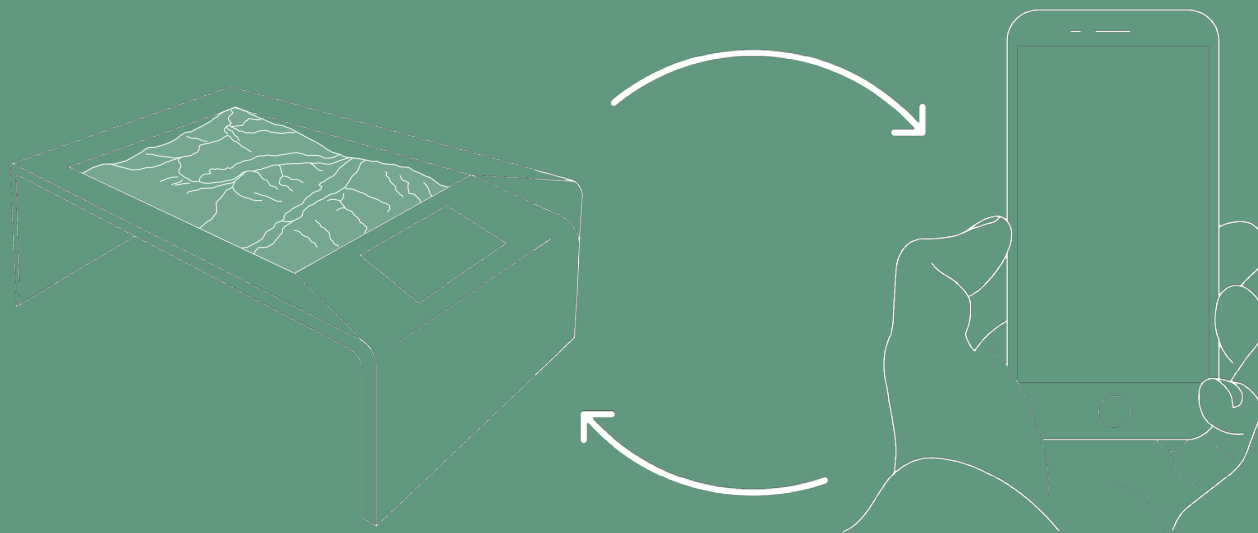


Validation



Design Statement

A gamified mobile app in connection with a park station prompting flexible explorative activity in nature. This will encourage empathy and a greater conscientiousness for the environment and their relationship to it



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Incentivized progression & tech familiarity

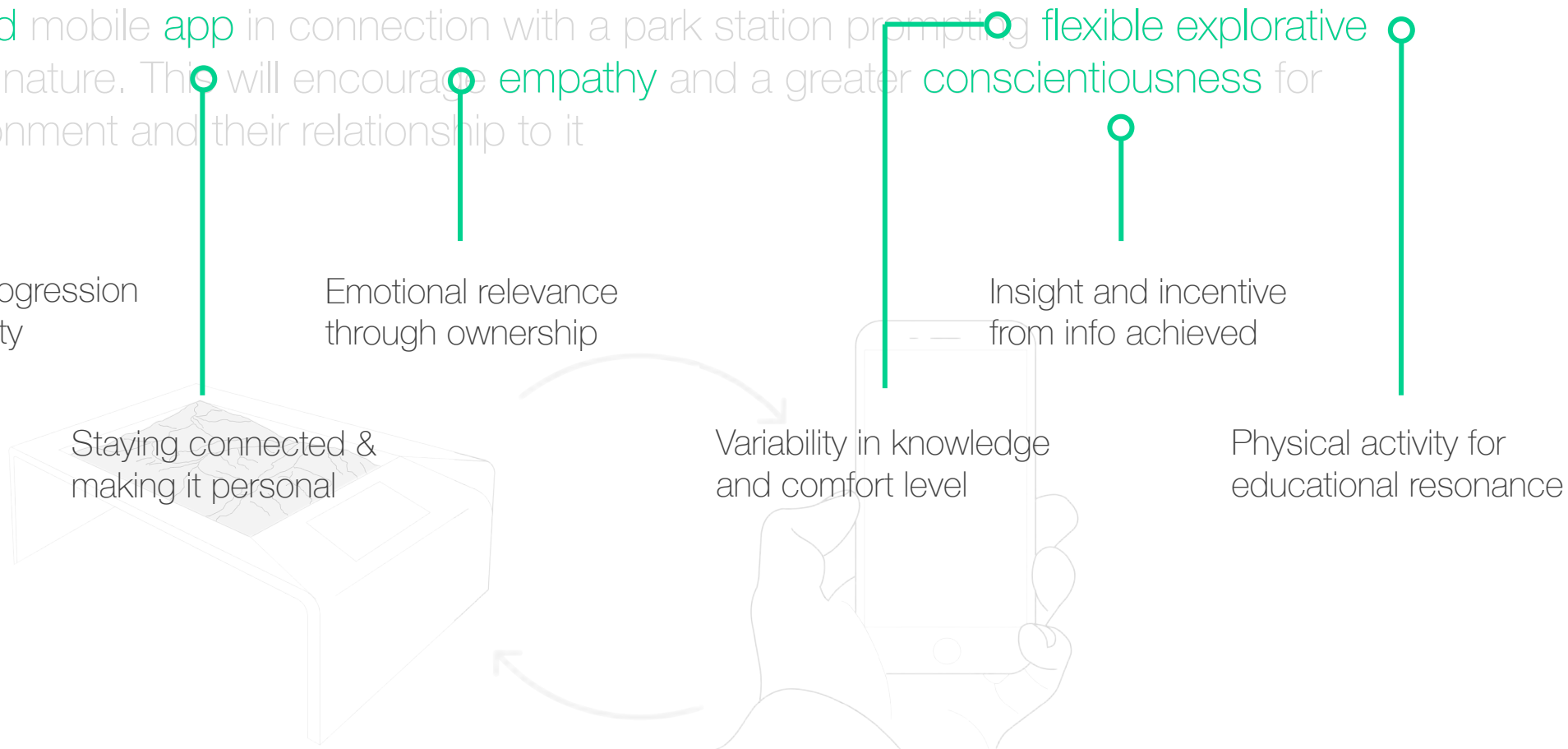
Emotional relevance through ownership

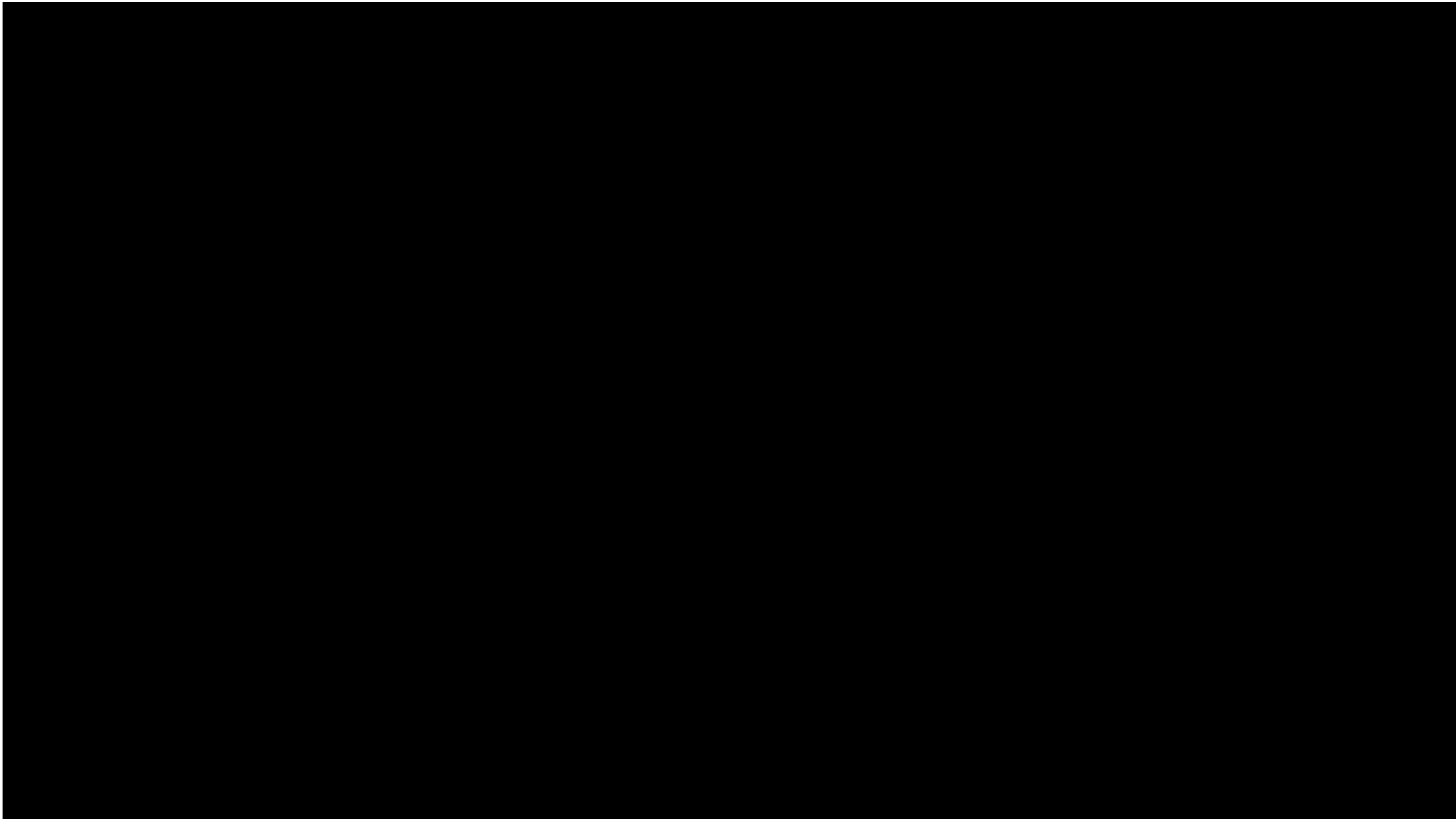
Insight and incentive from info achieved

Staying connected & making it personal

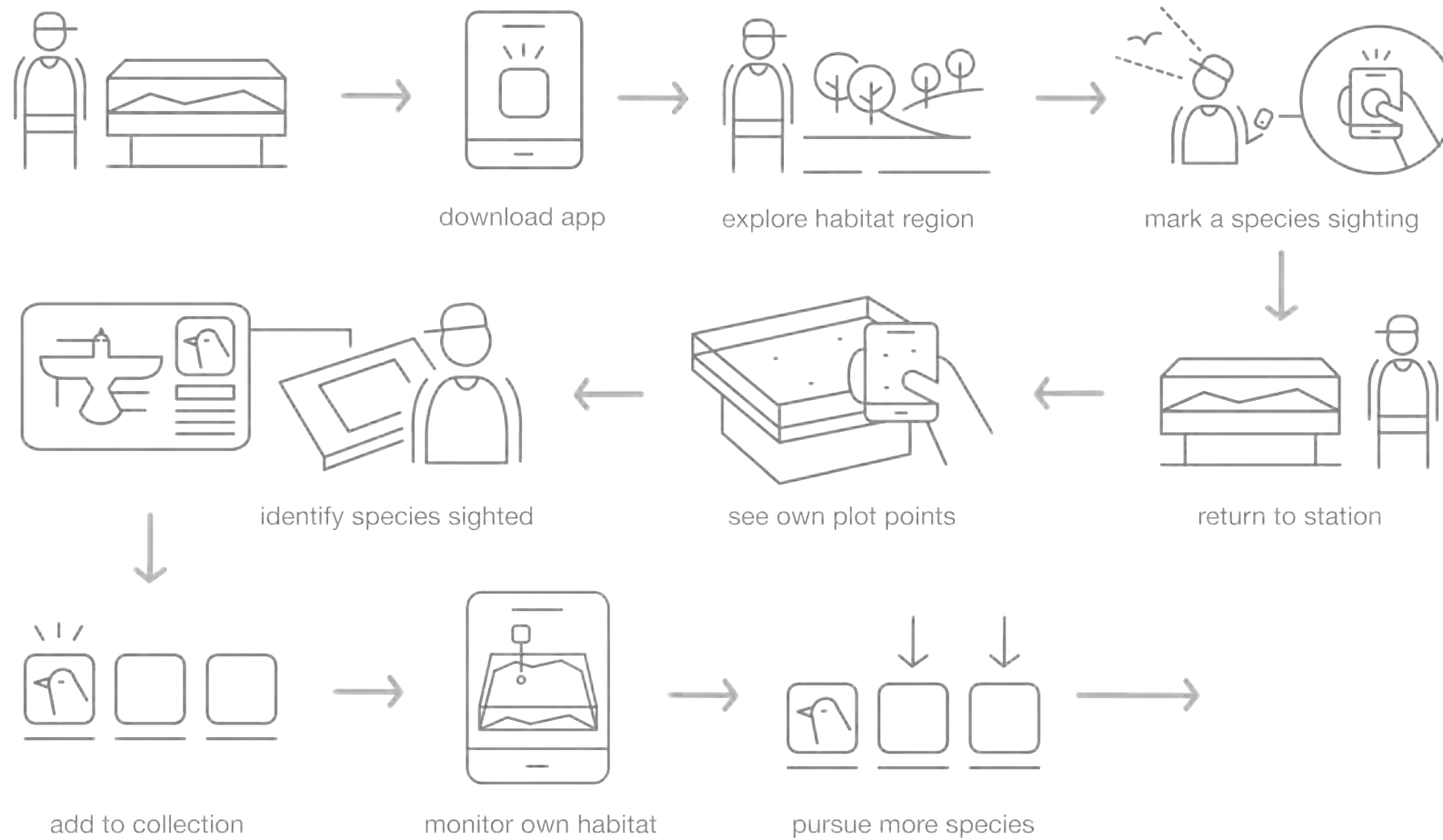
Variability in knowledge and comfort level

Physical activity for educational resonance



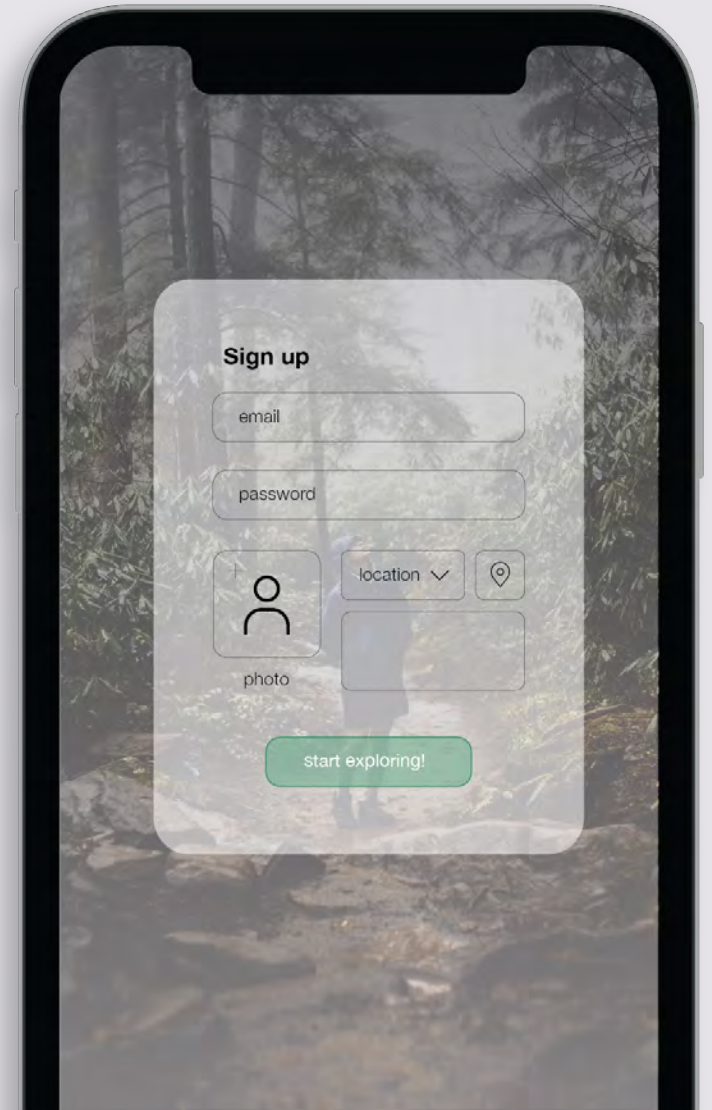


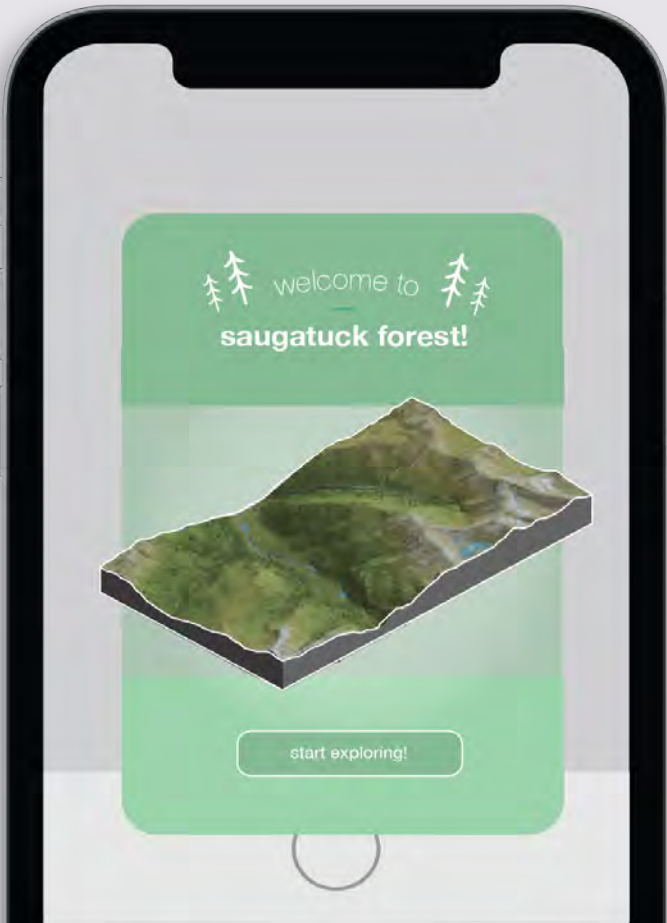
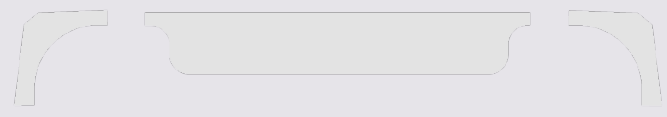
Journey engaging in activity



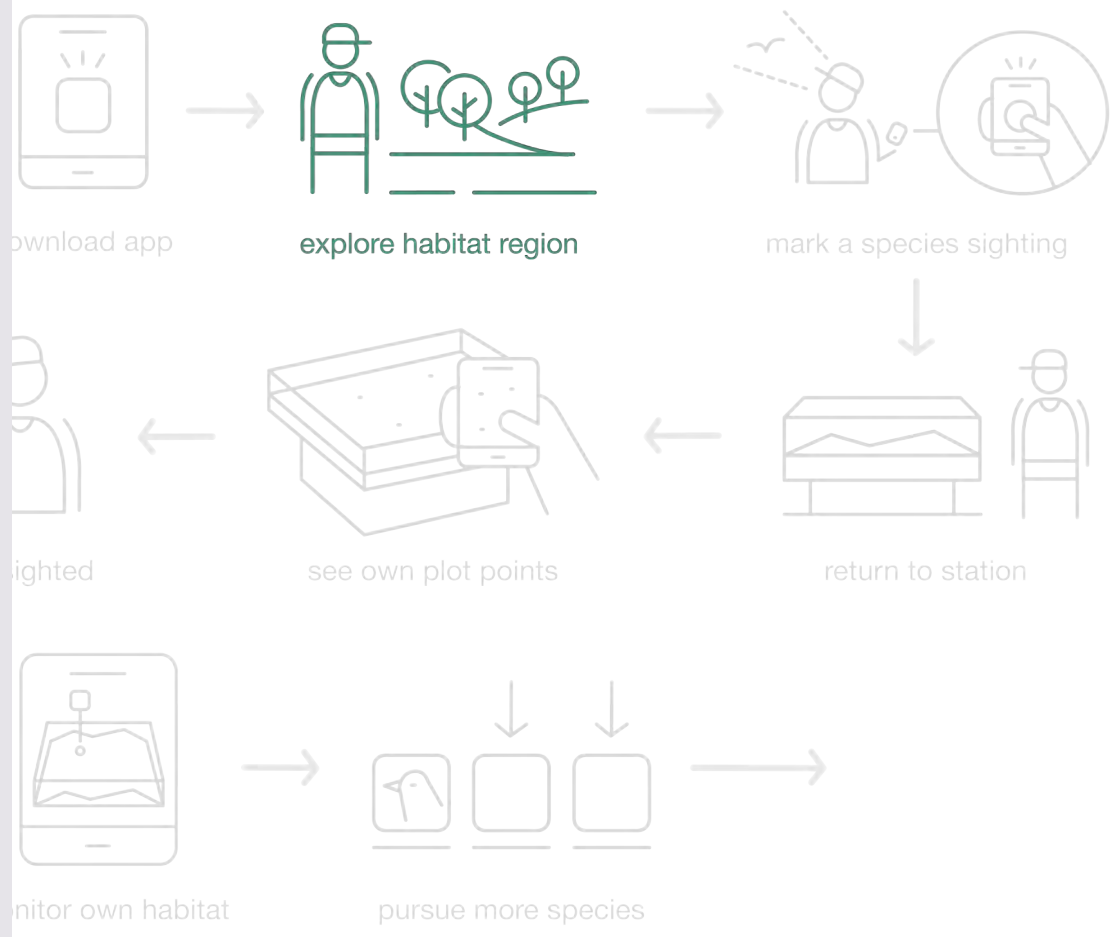
Journey

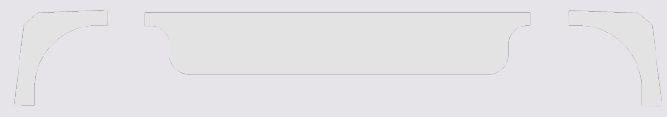
engaging in



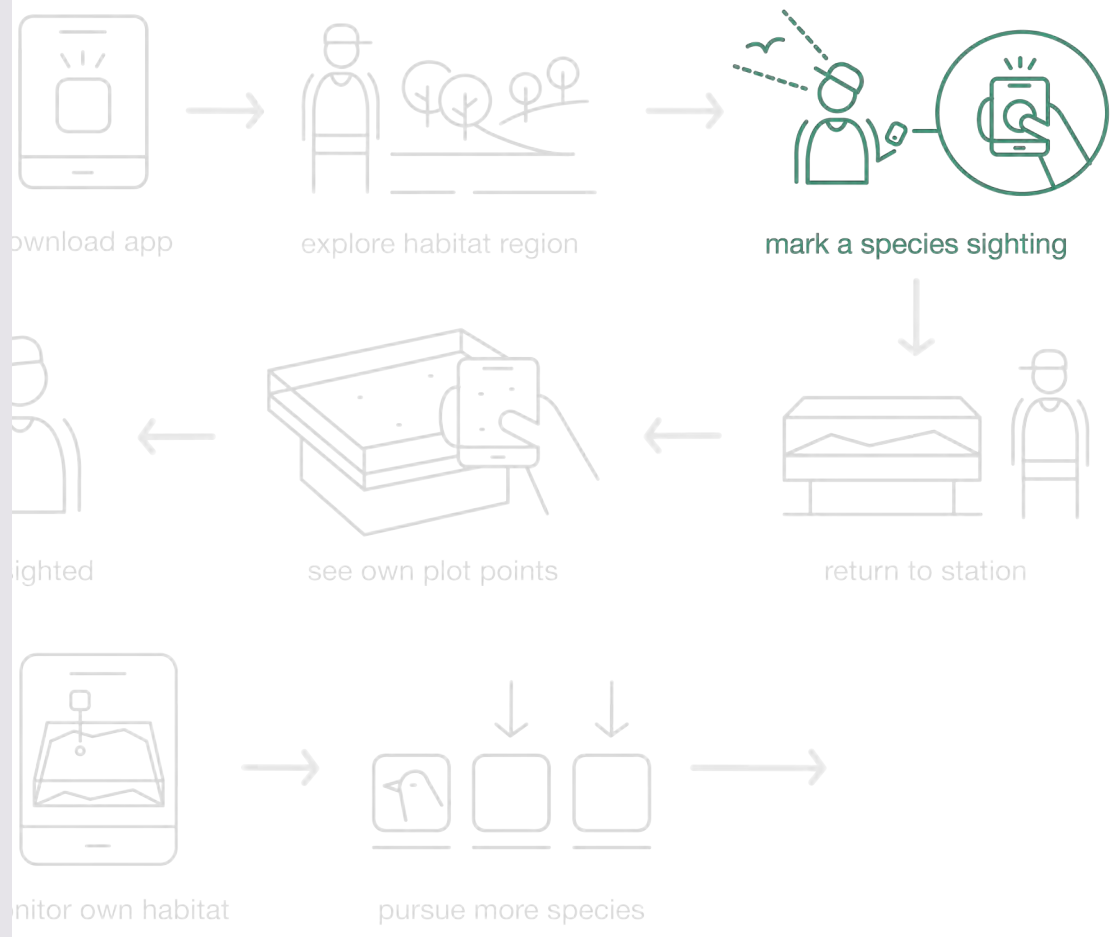
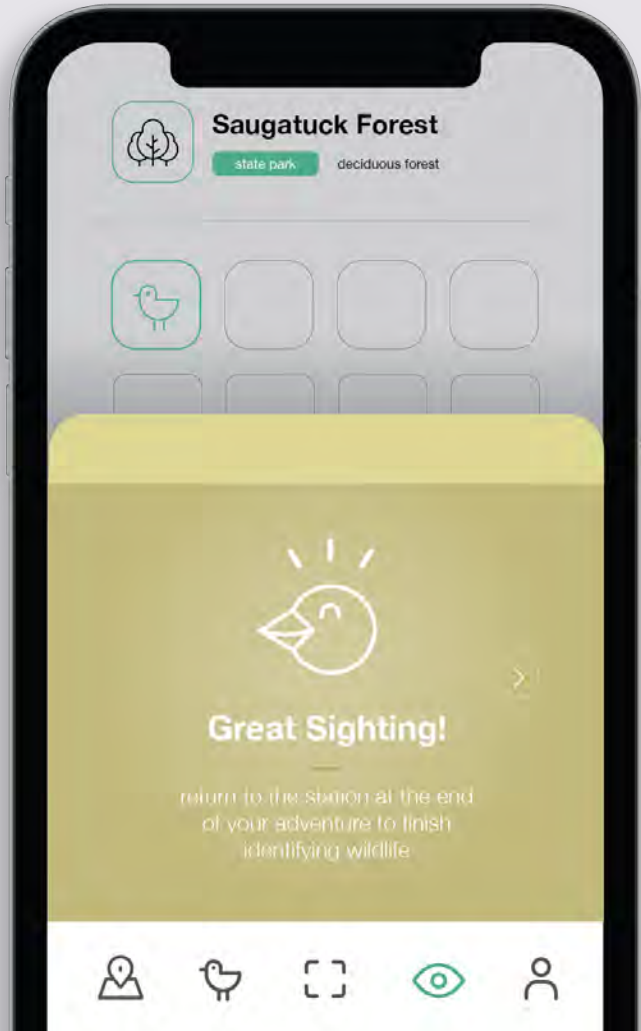


ney engaging in activity

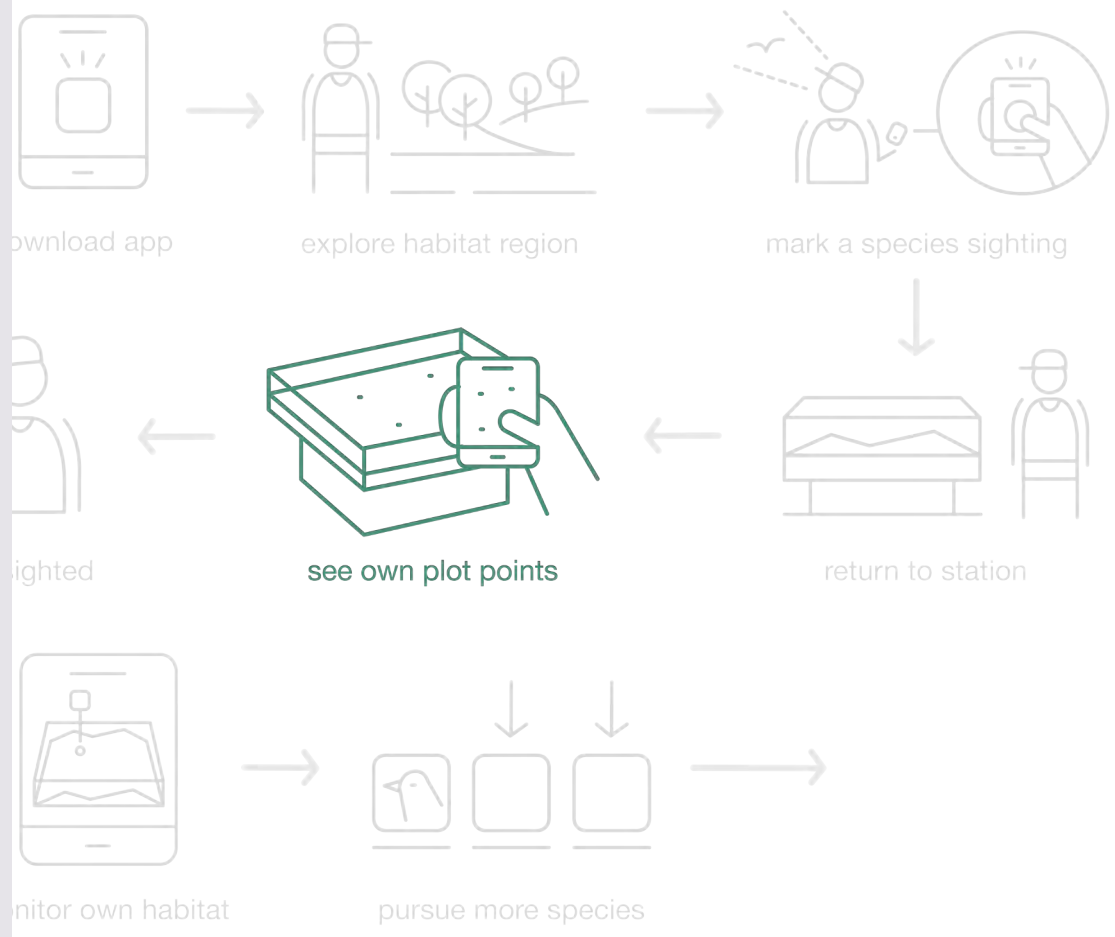
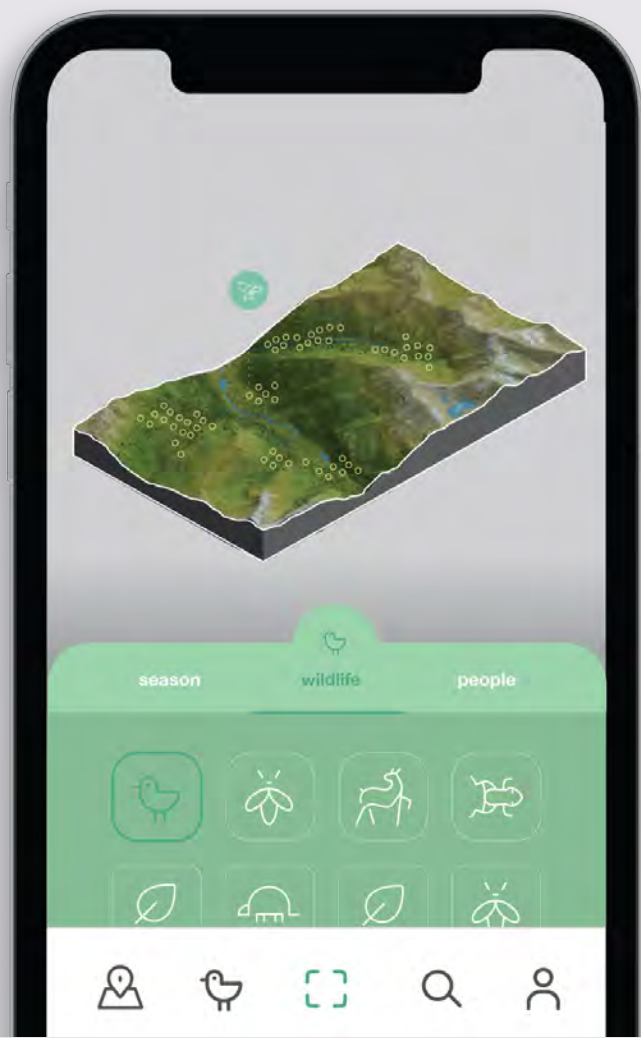




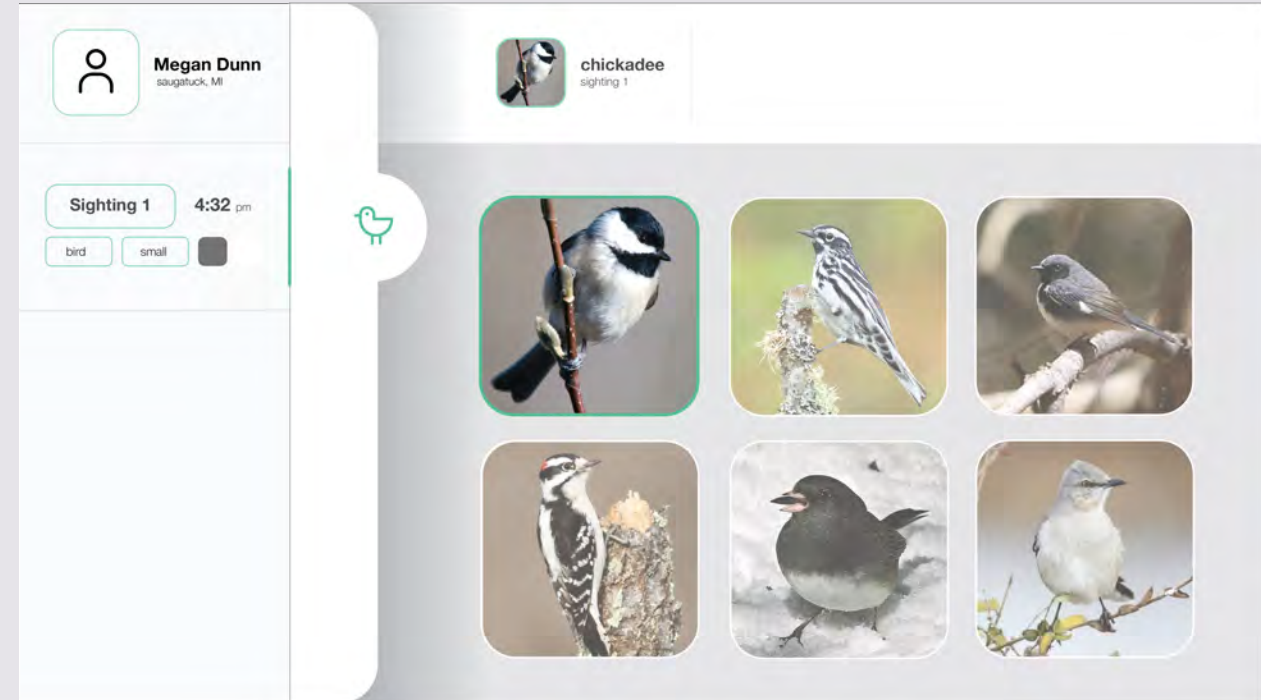
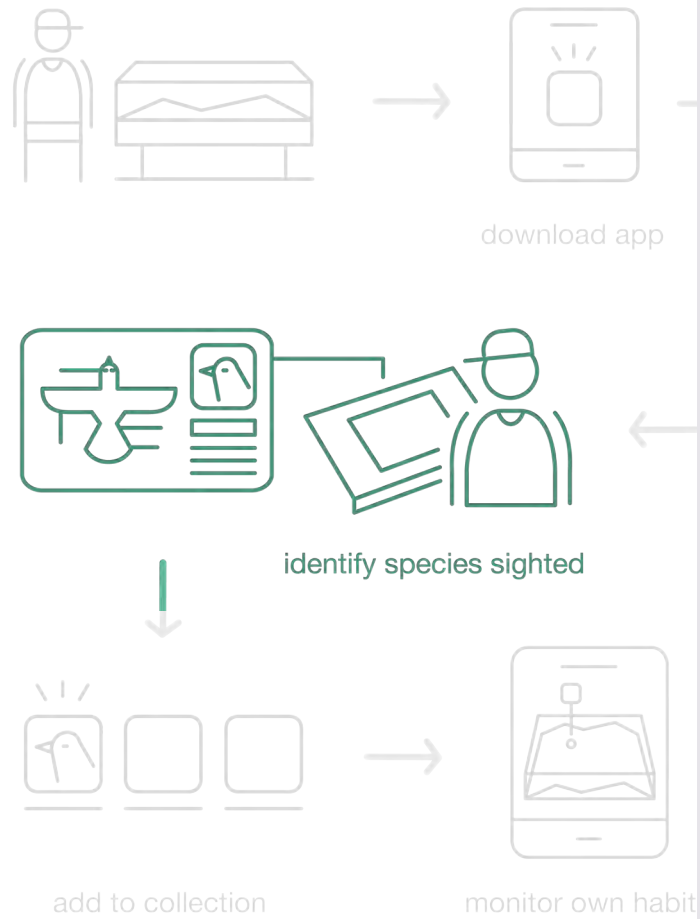
ney engaging in activity



hey engaging in activity

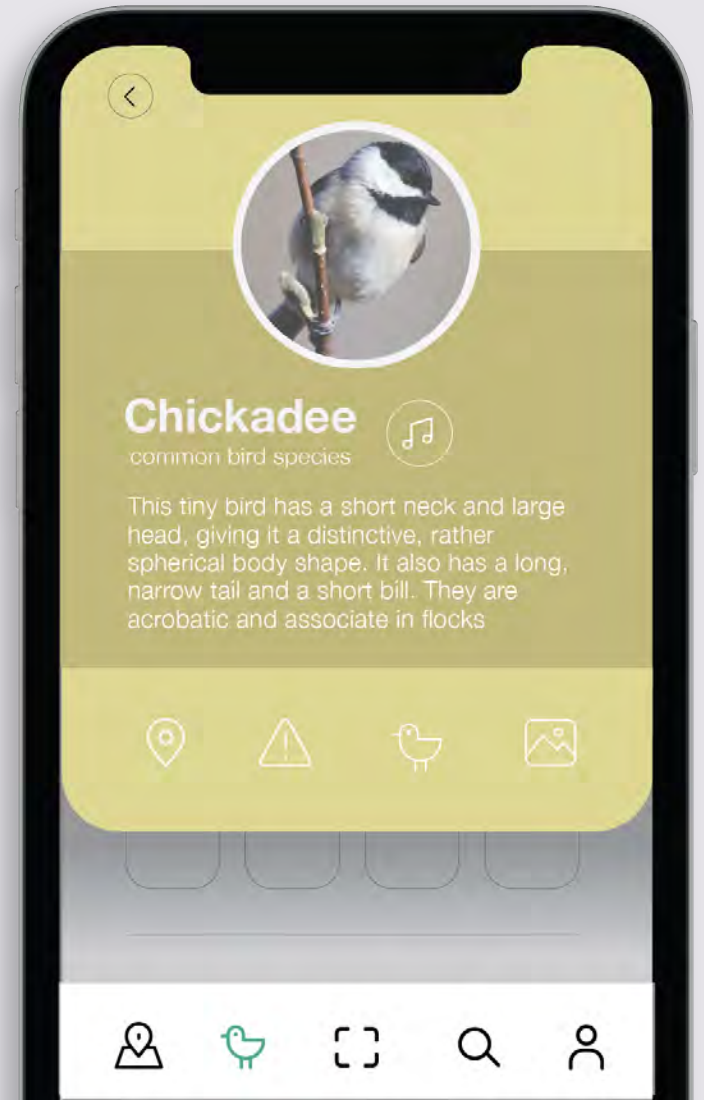


Journey



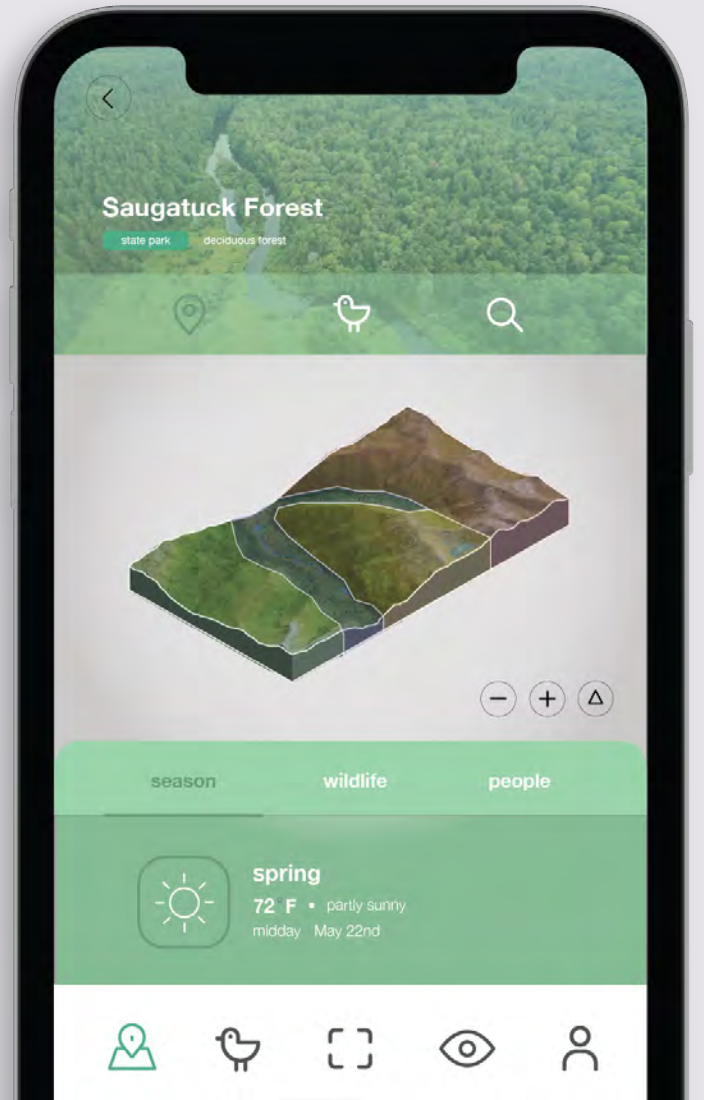
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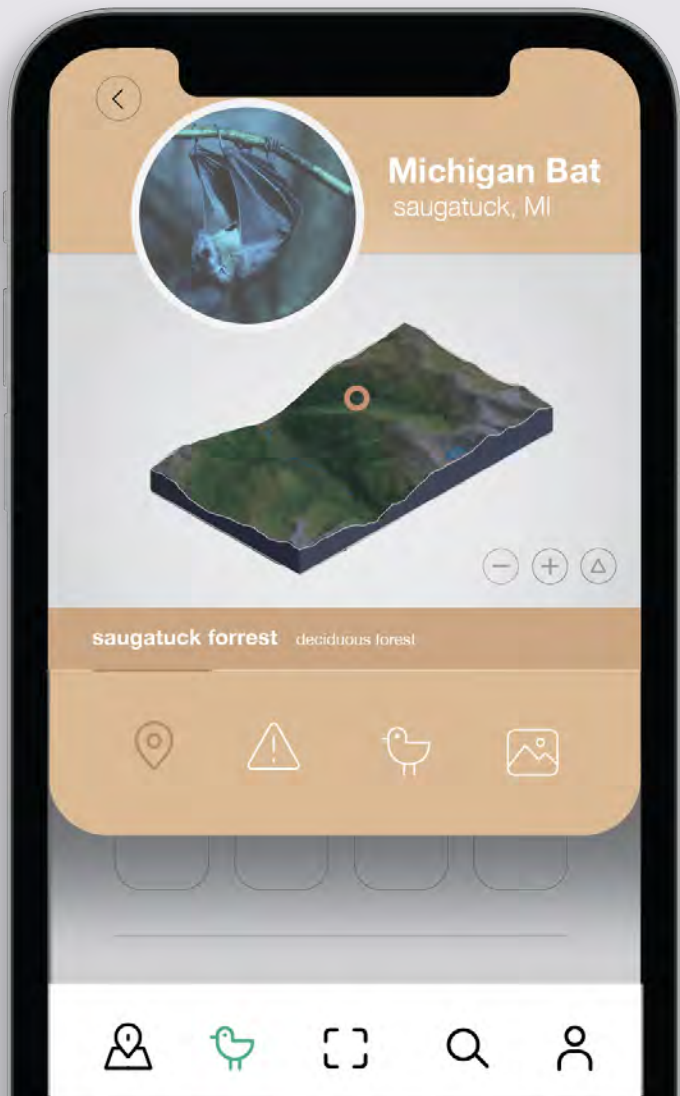
engaging in



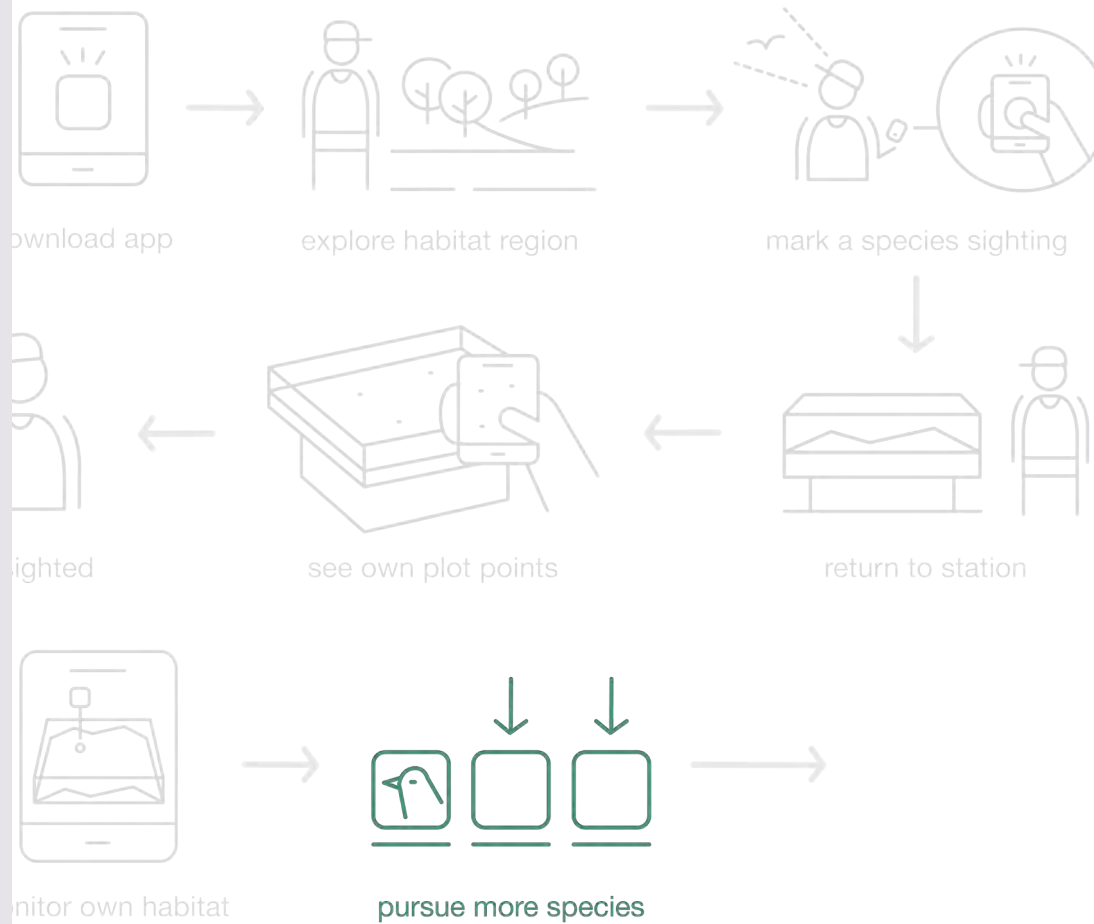
Journey

engaging in

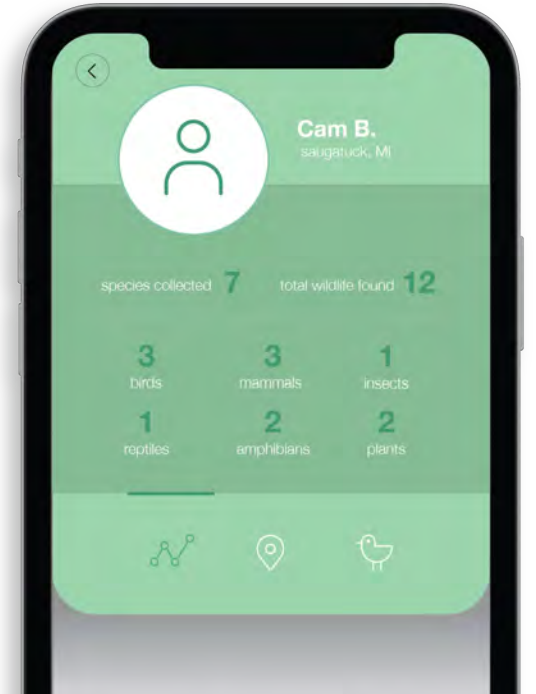
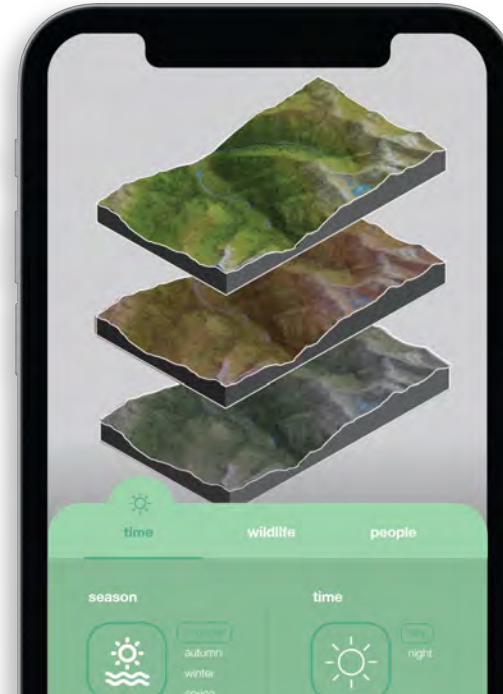
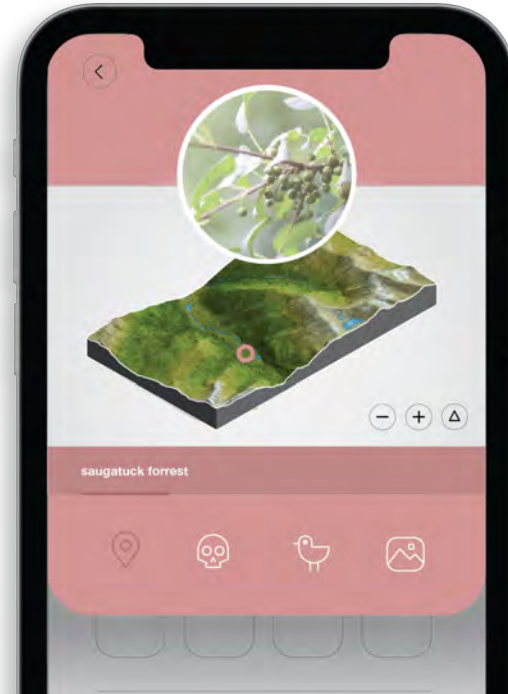
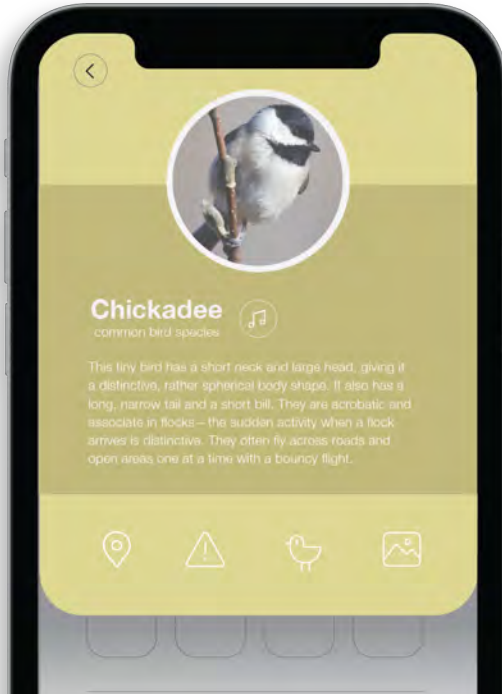




ney engaging in activity



Key Elements



Ownership

Building empathy through personal experiences in the wild

Relevance

Activity that is contributive for a greater cause than own entertainment

Adaptability

Maintains relevancy with local naturalist support and changes based on time of use

Progression

Gamified progression provides incentive and encouragement to build experience in habitats

Safety & Comfort



GPS Tracking

GPS monitors location of sightings as well as location of youth users



Parent Link

Parent smart phone linked through invites, and group profiles



Orientation

Ease into new environments with class and family introduction sessions



Limiting Technology



Locking

Temporary lock placed on non-essential apps when sighting wildlife



Streamlined

Quick input of notes in field to not take away from exploring experience



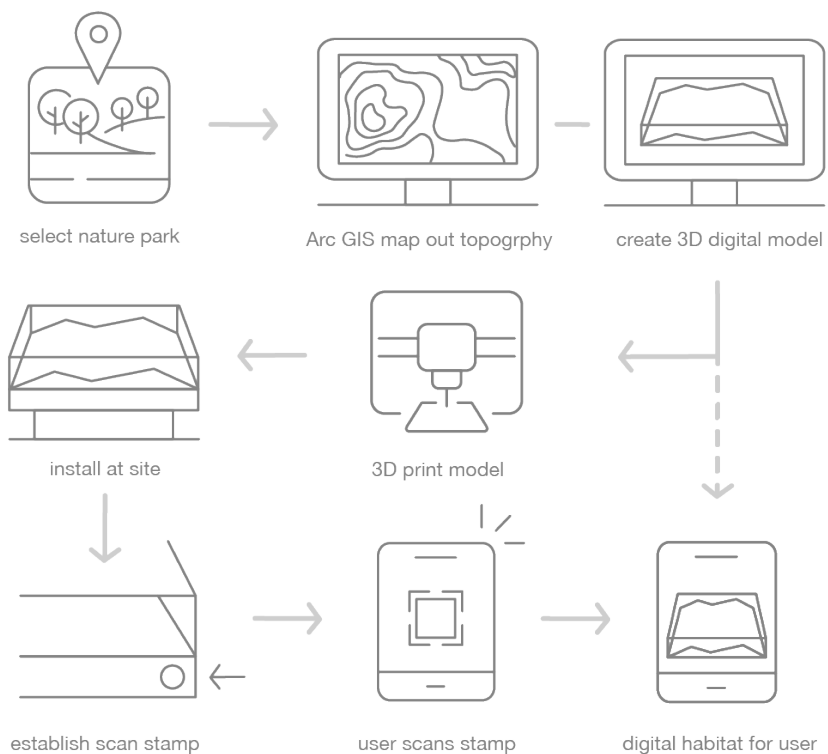
Station

Use of station as de-brief, limited by location and time of use

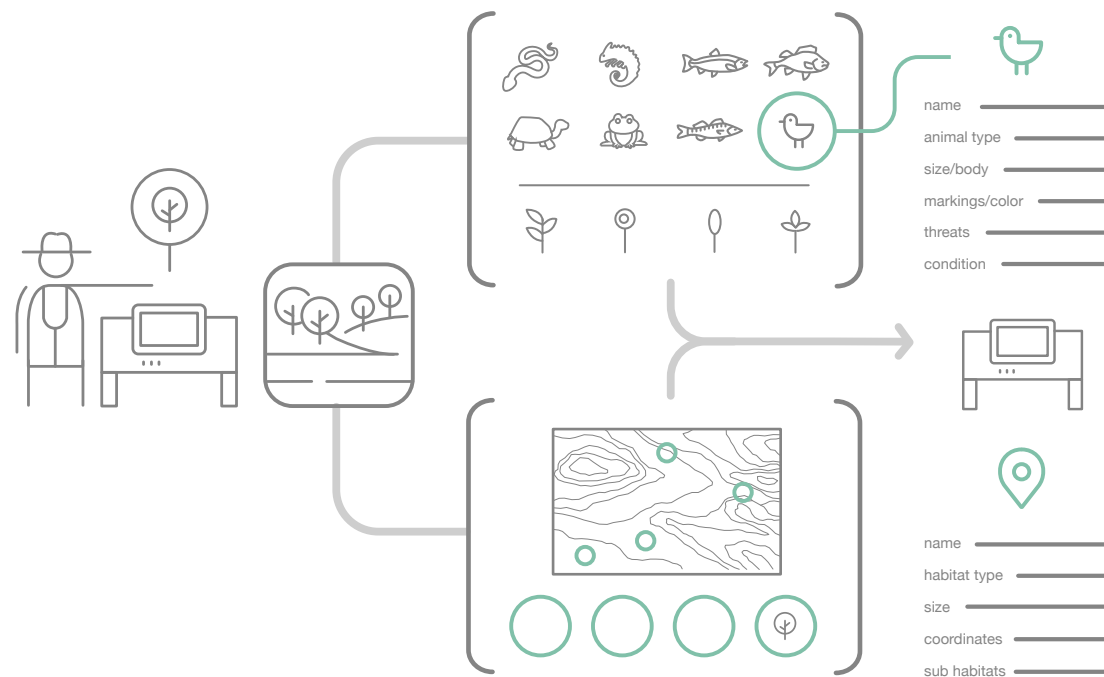


Feasibility

Station Map topography map creation



App Content backend naturalist input



Viability business perspective



Community

Department of
Natural Resources



Education

Department of Environment,
Great Lakes, and Energy



Natural Space

Michigan Nature
Association

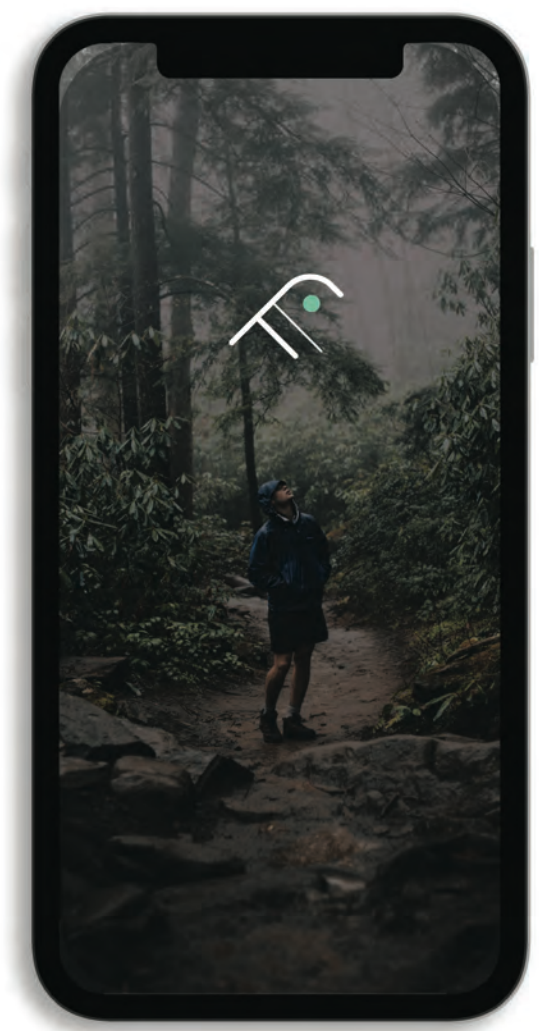


Identity

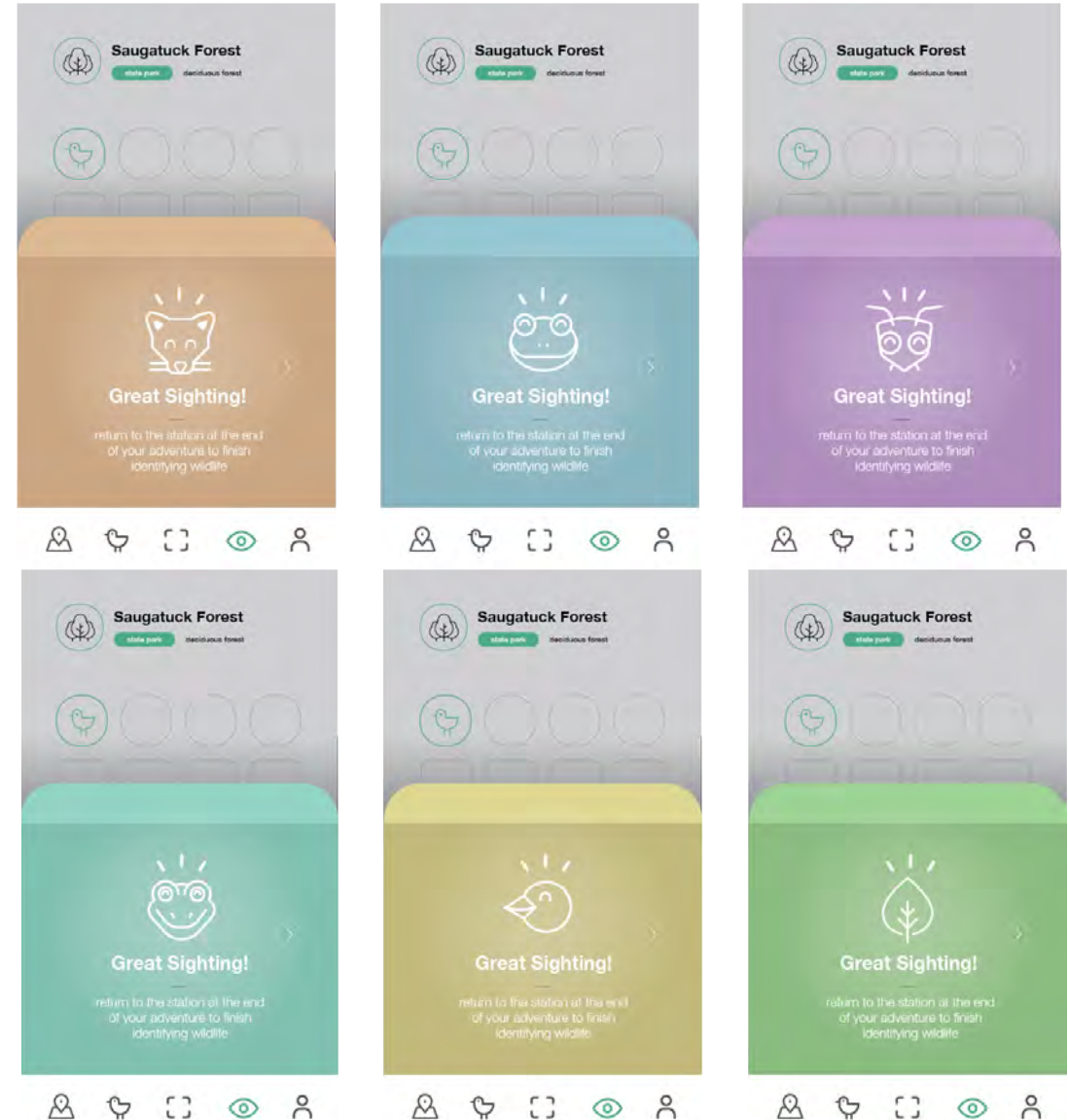
name & logo



Quicksand Regular 30
Helvetica Neue Bold 20
Helvetica Neue Bold 15
Helvetica Neue Light 12
Helvetica Neue Thin 12
Helvetica Neue Thin 10



Identity name & logo





Thank You

