GreenView — Mobile App for Botanical Learning

Role: UX Researcher & Lead Designer
Course: CS 3724 – Human-Computer Interaction
Team Size: 4
My Responsibility: Phases 1–3 (Research, Design, Prototyping)

Project Overview

GreenView is the result of a semester-long UX-only group project created to improve the experience of visitors at Virginia Tech's Hahn Horticulture Garden. The app enables users to identify plants using AR, navigate the garden using an interactive map, and record personal observations through a journaling feature. I led the end-to-end process for Phases 1 through 3, managing all aspects of the research, ideation, and prototyping that laid the foundation for our final design.

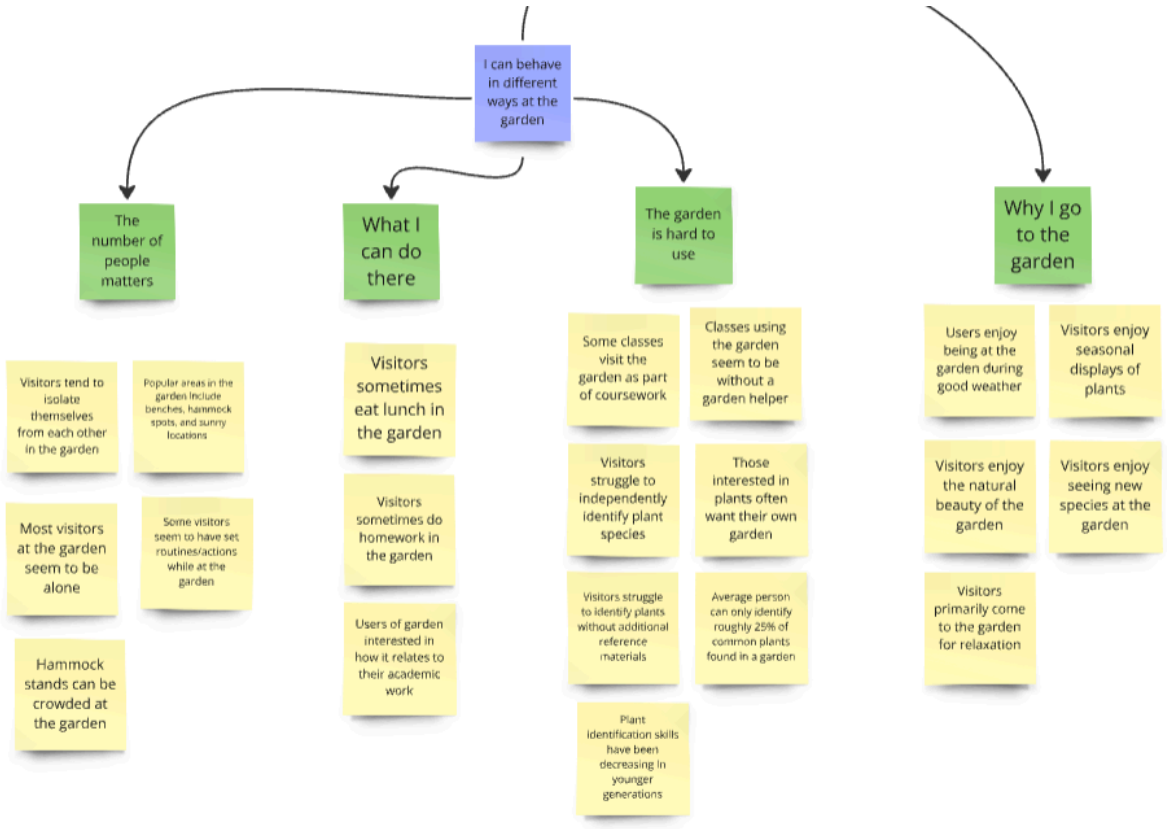
Phase 1: Contextual Inquiry & Research

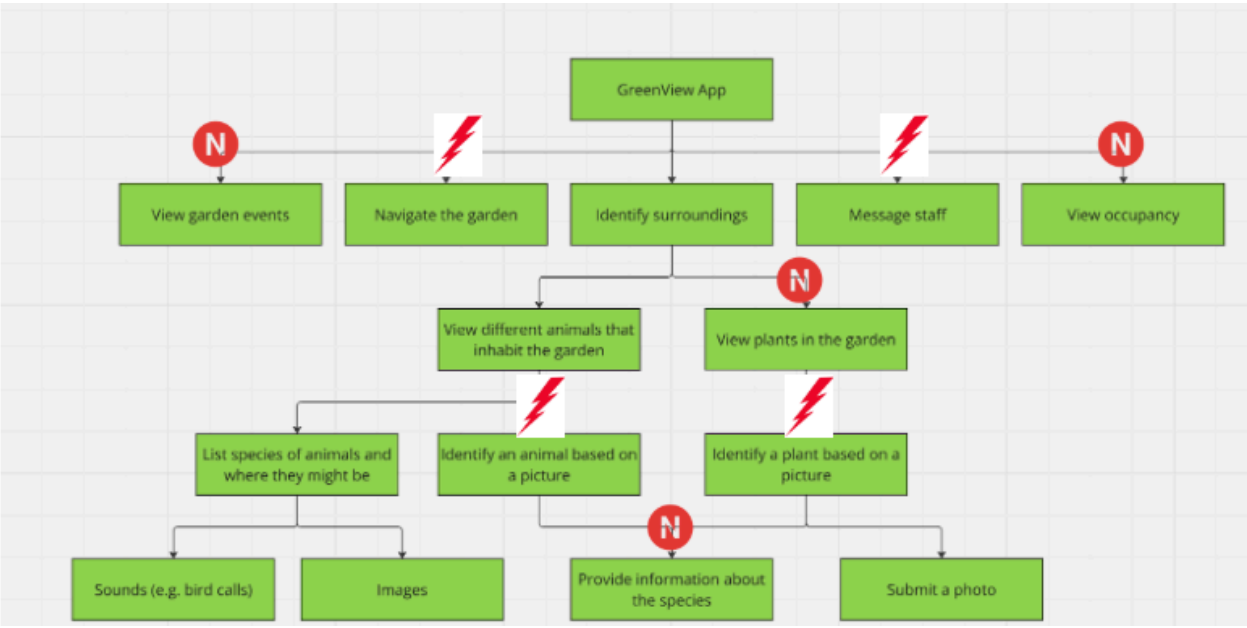
I conducted comprehensive field research that included direct observation, a semi-structured user interview, and a review of comparable plant ID apps such as Seek. Using affinity diagramming and task modeling techniques, I synthesized our findings into actionable user needs and system requirements.

Key Contributions

- Led site observations and photo documentation
- Designed and conducted user interview
- Created Work Activity Affinity Diagram (WAAD)
- Developed three core personas: Student, Academic, Hobbyist
- Defined five key system requirements
    - Visual plant identification interface (AR)
    - Interactive Garden Map
    - Layered information display
    - Favorites and observation journal

- Location based content indicators





Phase 2: Design Ideation & Storyboarding

Using the outputs from Phase 1, we held ideation and critique sessions to generate more than 100 feature ideas. We organized these into functional categories and developed design-informing models (DIMs), including hierarchical task breakdowns and step-by-step task flows. These informed the structure of our low-fidelity wireframes and storyboards.

Key Deliverables

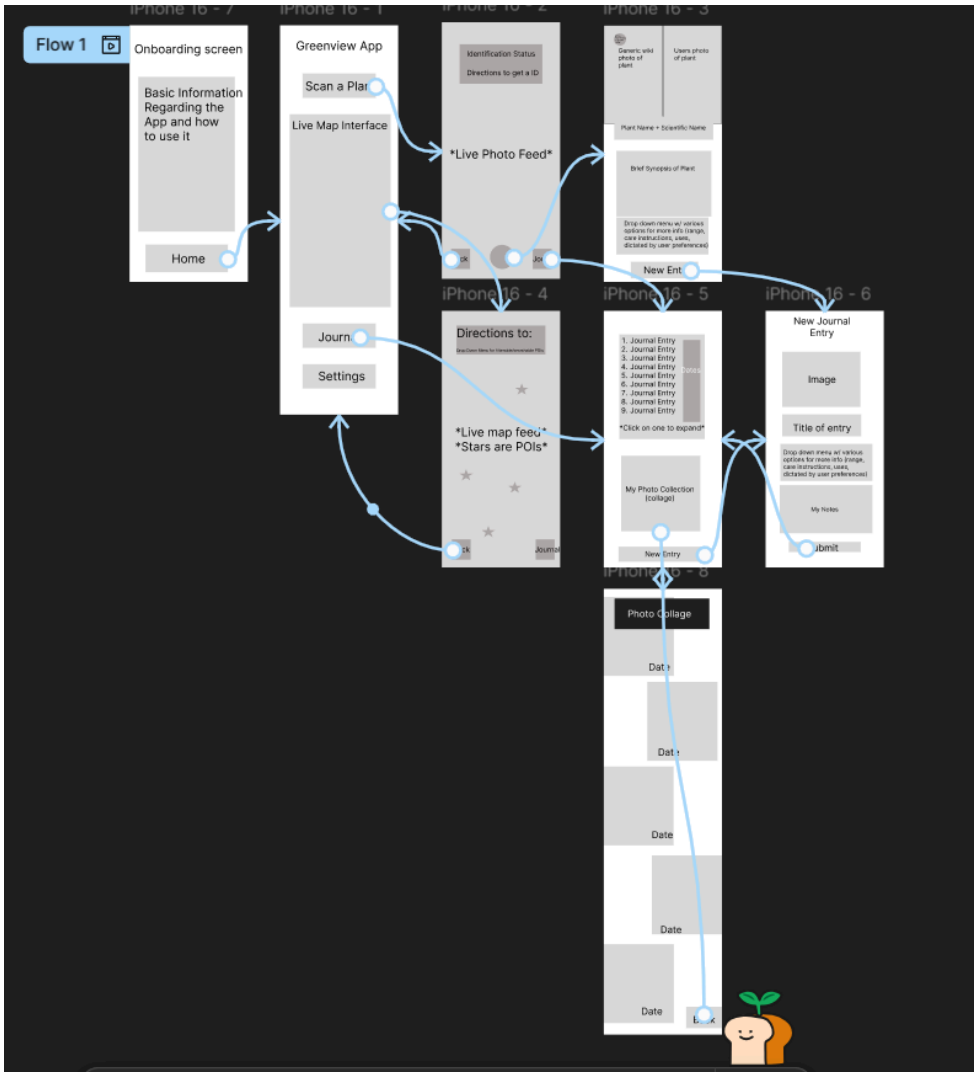
- Task models and DIMs
- Wireframes for core app features
- Conceptual metaphors: “guided tour” and “garden journal”
- UX goals grounded in user behaviors and frustrations

Andrew sees a cool tree he wants to identify

Andrew opens GreenView's AR plant id function. the app gives him clear steps to give it the best chance of a good ID

The app cleary indicates that it is loading while making the ID

The app shows the successful ID. It lists brief information regarding the plant and gives options to save and like the observation



Phase 3: Prototyping & UX Strategy

I created a high-fidelity, interactive prototype in Figma, focusing on the most critical user path: navigating from the home screen to scanning a plant and saving notes to the journal. The design emphasized accessibility and clarity for use in an outdoor environment, with visual cues and layout optimized for bright lighting.

Highlights

- Depth-first Figma prototype (interactive walkthrough)
- Camera interface with AR overlay and success feedback
- Layered information display to support casual and in-depth learning
- Microinteractions aligned with key user goals

[prototype link]

Phase 4: Evaluation (Led by Teammates)

While I did not lead the evaluation phase, I contributed background materials that framed the heuristic evaluation. Our team used Nielsen's heuristics to guide expert evaluations of the prototype and identify usability concerns. Feel free to use our prototype to walk through the same evaluation process we had evaluators do.

1. Open the app prototype in Figma
2. Press the button to scan a plant
3. No plant in sight! Press the camera button to refocus on a plant
4. Plant sighted! Press the camera button again to have the app fully identify it
5. Plant identified! Press the camera button to snap a photo
6. Press the button to learn more about ecological facts of the Norway Spruce
7. Return home

Reflection

This project gave me hands-on experience managing the UX process from initial discovery through to interactive prototyping. I learned how to translate field data into design principles and create systems that are both functional and emotionally resonant. The biggest challenge was designing for outdoor use, which influenced everything from layout contrast to microinteraction feedback. I'm especially proud of the clarity and usability of our final prototype and its grounding in real-world research. This was an amazing experience for me. It confirmed for me that I am extremely interested in UX work and also good at it.