AR Plants Visualization: Floralens

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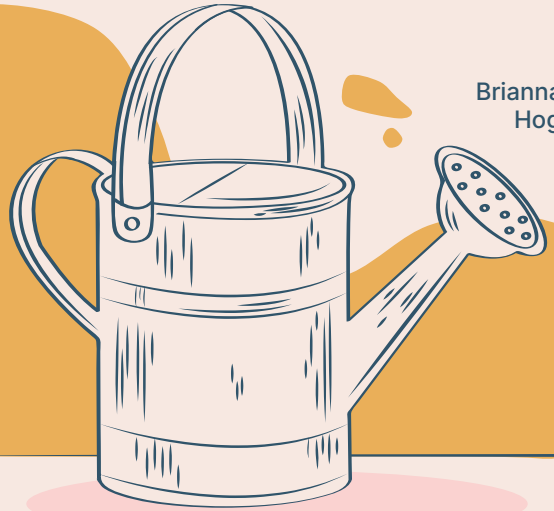
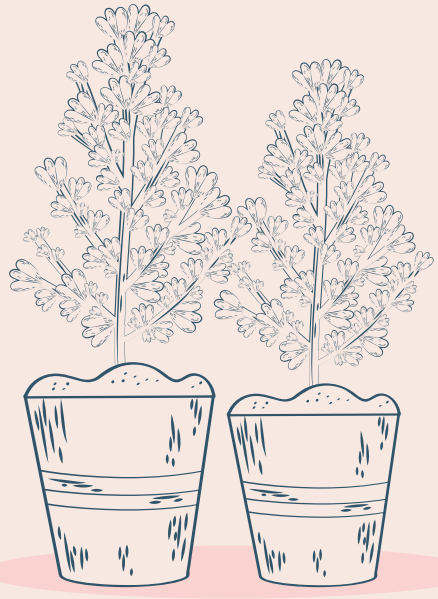
DSGN 118 3/19/2024



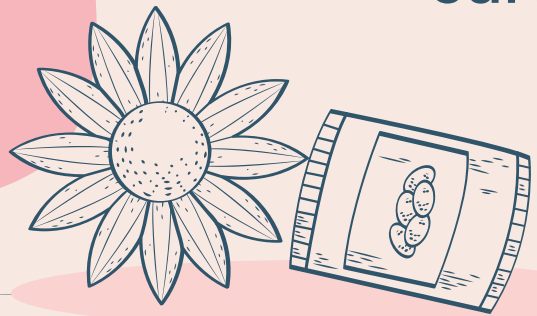


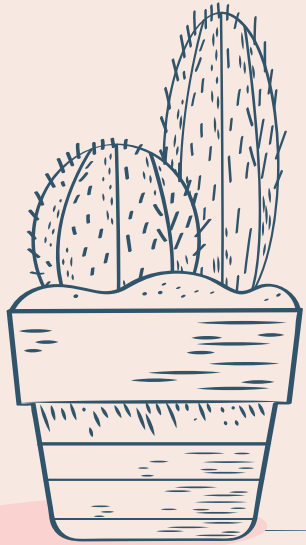
Have you ever grown a plant?

Has it lasted longer than at least one year? 🤔

Horticulture: the art and science of growing plants

Horticulture is a **long-lasting** task that requires time and care from the start to the end.





Frustrations

“The plants did not fit in my room”

“The branches are growing over the fence and into my neighbor’s yard. Wish I could see this coming”

“My flower is dying. What should I do now?”

“The landscaper planted these flowers. I don’t know how to take care of them because I forget their names”

Problems

01

Planning

Hard to picture how plants would look like in their spaces

02

Monitoring

Plant health condition are hard to check

03

Learning

Identify different kinds of plants

04

Foreseeing

Visualizing all phases in plants' growth

How might we...

Design an augmented reality user experience that combines a plant hobbyist's physical environment with the digital world to streamline plant-care and gardening routines?

Solution

Developing an **AR solution** to enhance plant productivity by providing users with comprehensive tools for

Efficient planning

Real-time monitoring

Plant-specific learning

Growth Simulation

Optimizing plant care routines and fostering increased productivity in gardening and plant care activities.

Significance

Efficiency

- **Reducing** the time spent on **trial-and-error** approaches.
- **Minimizing** the risk of **mistakes** in plant care routines.
- More **sustainable** use of resources such as water, fertilizers, and pesticides.

Learning

- **Interactive** and **immersive** learning experiences by overlaying digital plant animations onto the physical environment.
- The AR solution can cater to a **diverse range of users**, including individuals with varying levels of gardening experience and physical abilities.

Competitive Analysis

Garden Answers

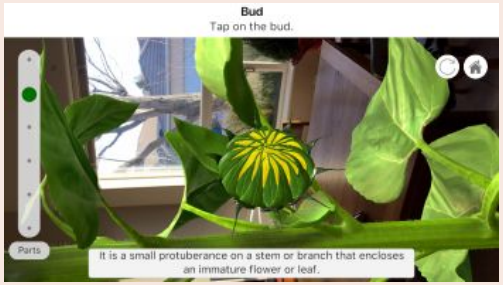
App Features

- **Scan** a plant to for instant **identification** on plant type and disease/infestation problems 👍
- **Forum-like posting** service to get advice from other horticulturists

Provides users with an active experience with real people across the world, but is currently only **limited to photographs**

Competitive Analysis

Plantale



App Features

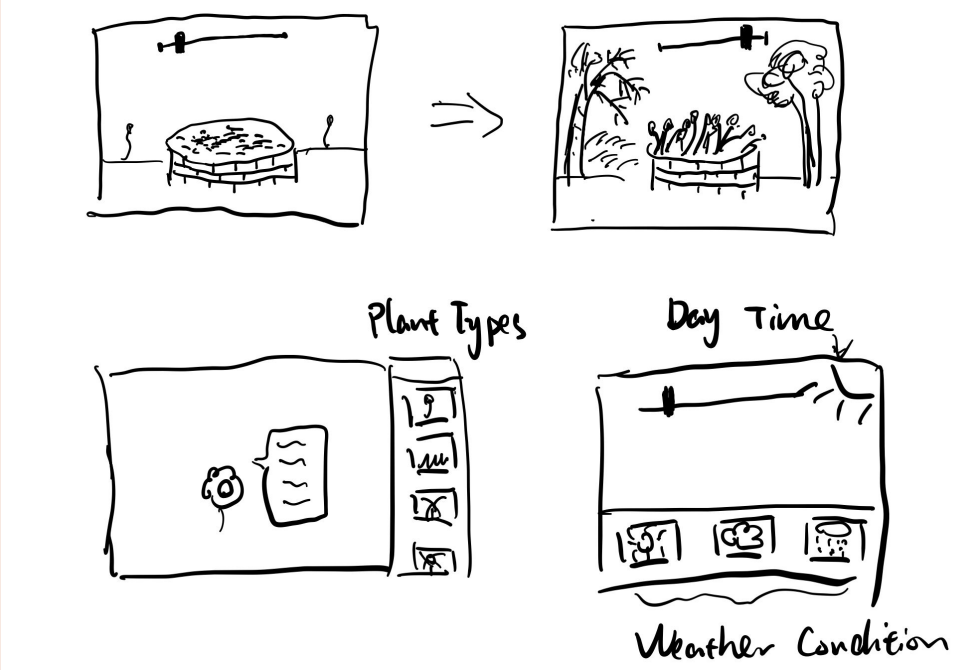
Explore the intricate internal anatomy of the root, stem, leaf, and flower

- Navigates users through **plant anatomy** and **biological** AR learning tools
- See life progression of a plant! 👍

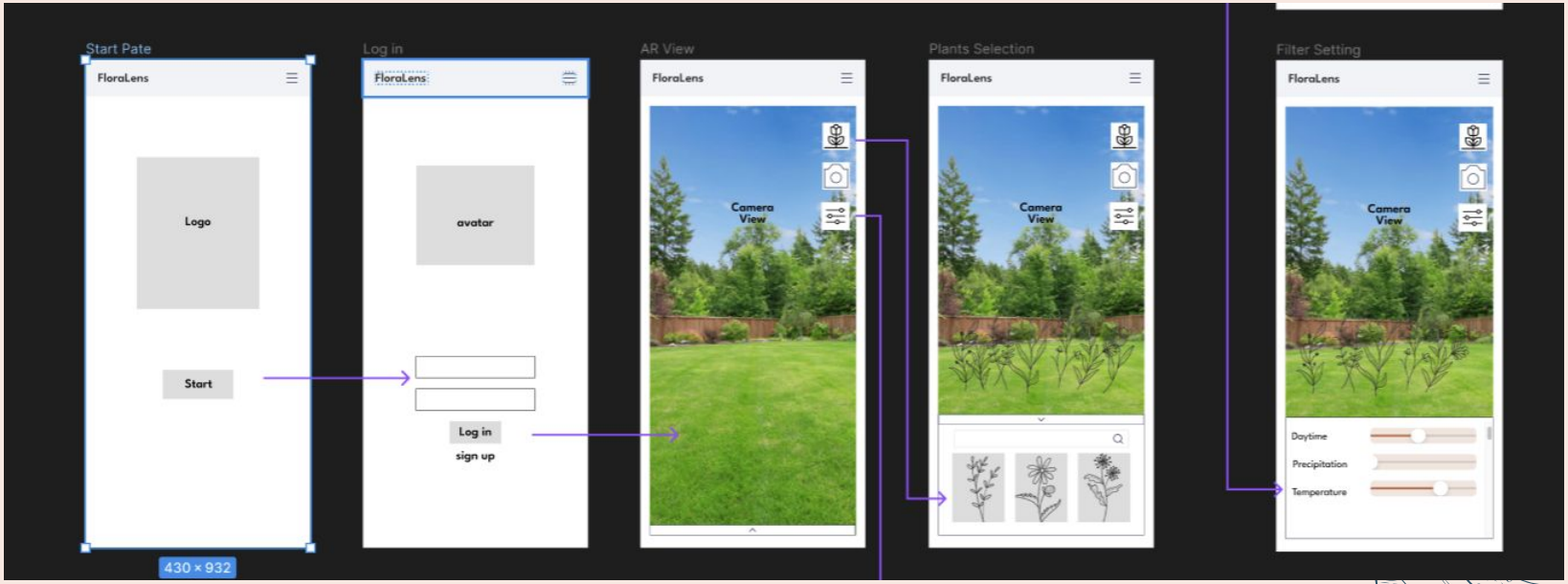
Great educational tool to learn about plant morphology -- but plants displayed in Plantale are all **digital.**

- Lacks the blend between physical and digital world 👎

Initial Sketches



Wireframes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FloraLens
Logo
Start
430 × 932
Log in
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avatar
Log in
sign up
AR View
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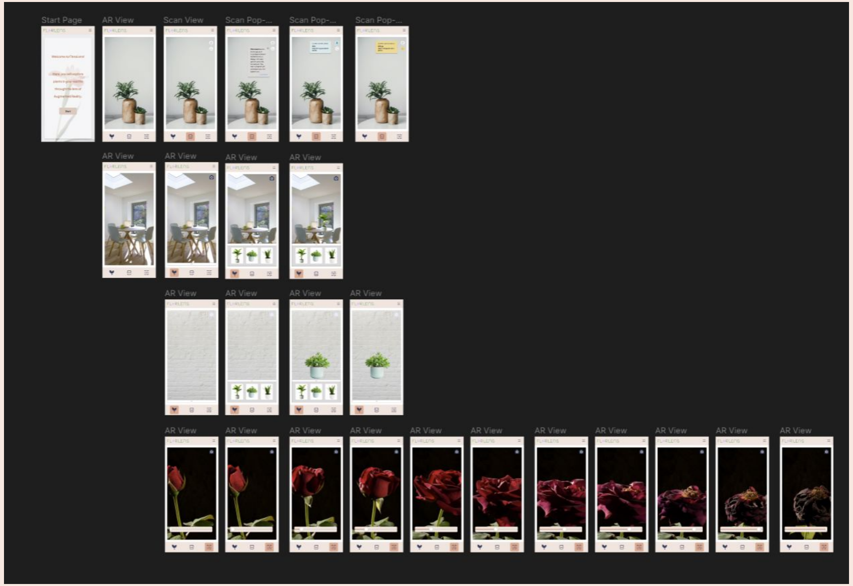
Camera View
Plants Selection
FloraLens
Camera View
Filter Setting
FloraLens
Camera View
Daytime
Precipitation
Temperature

Final Prototype



Link

Summary & Implications

Takeaways

- Introduces an AR solution for realtime plant care, spatial planning, plant identification, etc.
- Enhances user engagement with plants by improving knowledge and overall plant care.

Implications

- Supports local ecosystems and biodiversity
- Facilitates plants' roles in carbon sequestration, highlighting effects on climate change mitigation

Conclusion & Next Steps

ProtoLens allows for a way to **mix technology with horticulture and deepens engagement** with a user's **physical environment** through AR features.

- Next steps:
  - **User feedback and testing** for improvement and expansion into different markets
  - **Form partnerships** with botanical gardens and/or conservation groups to support biodiversity and education
  - **Add more features** i.e. soil analysis, invasive/noninvasive species for areas

Thank you!

Any questions?