



Semina

Project Proposal

by team mindframe



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Project Overview

Overview

The development of Semina is planned in phases, starting with project setup and core features like plant scanning, sensor integration, and AR visualization. Later stages focus on adding notifications, insights, and refining the user experience, followed by testing and final deployment.

Problem

Many plant owners struggle to maintain healthy plants because they lack knowledge about proper care, environmental conditions, and plant identification. It can be difficult to monitor soil moisture, temperature, and other factors that affect plant health. Additionally, users often do not know the ideal placement for plants or how to track their care routines over time.

The Solution

Semina provides a smart plant care solution that helps users monitor and maintain their plants effectively. The app integrates real-time soil sensors, a plant scanner for identification, AR visualization to check plant placement, and a logbook to track plant care activities. By combining these features, Semina helps users make informed decisions and keep their plants healthy.



Main features



Plant Health Scanner

Allows users to scan and identify plants instantly using the device camera and receive basic care recommendations.



Real-time sensor monitoring

Connects with smart soil sensors to monitor important plant conditions such as soil moisture and temperature.



AR plant visualization

Uses augmented reality to help users visualize how plants will look and fit within their space.



Plant logbook

Enables users to record watering, fertilizing, and other plant care activities to track plant growth and health over time.



Data driven features

Real time sensor data

Semina integrates with smart soil sensors to collect real-time environmental data such as soil moisture and temperature. This data allows users to continuously monitor the health of their plants and understand whether their plants are receiving the proper conditions for growth.

Personalized Care Recommendations

Using the collected sensor data along with plant information, the application provides personalized recommendations for watering and plant care. These insights help users make better decisions and maintain optimal conditions for different plant types.

Plant Health Monitoring

The app analyzes sensor readings and user inputs to help detect potential plant health issues early. By monitoring changes in soil conditions and plant care activities, users can identify problems and take corrective actions before the plant is damaged.

Care History and Data Tracking

Semina stores plant care activities such as watering, fertilizing, and environmental readings in the plant logbook. This allows users to review historical data, track plant growth over time, and better understand how different care routines affect plant health.

Competitor Analysis



Competitor analysis

Several existing plant care apps such as Planta, PictureThis, and Garden AR were analyzed to understand current market features. While these apps provide plant identification, care tips, or AR visualization, they often focus on limited functionalities.

	Semina	Planta	PictureThis	Garden AR
Plant Health Scan				
AR Space Suitability				
Real-time Sensors				
Plant Logbook				



User Persona



Beginner



About

Alex loves the aesthetic of "urban jungles" on social media but has a track record of killing succulents. They work long hours and often forget about their plants until they see a drooping leaf. Alex is intimidated by the conflicting advice found online and is afraid of wasting money on plants that won't survive their low-light apartment.

Alex Chen (Beginner)



Age
26 years



Occupation
Marketing Coordinator
living in a studio
apartment.



Location
No. 20 Opposite
Omolaso College, Offa,
Kwara State



Marital Status
Married

Pain Points

- Doesn't know if the "bright indirect light" in their living room is actually enough.
- Over-watering out of guilt, then under-watering out of forgetfulness.

Key Goals

- Successfully grow a "hero" plant (like a Monstera) without it dying in three months.
- Learn the basics of plant care without reading long articles.

How Semina helps

AR Planner

Shows Alex exactly where a plant will fit before they buy it.

Health Scanner

Provides instant reassurance when they notice a brown spot.

Automated care

Sends push notifications that take the guesswork out of the watering schedule.



Intermediate



About

Sarah has been growing plants for three years. She knows the basics but struggles with the volatility of outdoor gardening—unexpected frost, pests, and nutrient deficiencies. She is tired of "guessing" why her tomato yield was low last year and wants to move from just "keeping plants alive" to "maximizing growth."

Sarah Miller (Intermediate)



Age
26 years



Occupation
Freelancer



Location
No. 200 Opposite
matlab College, Offa, Javalgar
State



Marital Status
unmarried

Pain Points

- Losing an entire crop to a pest infestation because she didn't catch it early enough.
- Managing different care needs for 15+ different pots simultaneously.

Key Goals

- Produce enough basil, kale, and peppers to use in weekly meals.
- Understand the micro-climate of her balcony (wind levels and heat retention).

How Semina helps

External Sensors

Sarah uses the optional sensors to get precise soil moisture and nutrient data for her high-value crops.

Climate Smart-tips

The app alerts her to bring plants inside when a local weather alert predicts a sudden temperature drop.

Growth tracking

Provides a digital journal to compare this year's harvest to last year's.

Expert



Ayush Sharma(Expert)



Age
33 years



Occupation
Teacher and
Public Speaker



Location
52/7 Wettewa, rd ,
Utra Pradesh India



Marital Status
Married

About (Expert)

Ayush is a tech-savvy professional who enjoys balcony gardening but struggles to keep up due to his demanding work schedule. He often forgets care tasks or misses early plant issues. He prefers smart, data-driven tools that offer automation, personalized insights, and visual guidance to help his plants thrive without constant effort.

Pain Points

- Frequently forgets or delays essential care due to workload.
- Doesn't always know what issue is affecting a plant until it's too late.
- Lacks time to research or plan for plant care schedules.
- Wants smarter alerts, not generic reminders.

Key Goals

- Maintain a healthy balcony garden without disrupting his work-life balance.
- Receive intelligent reminders and actionable tips based on real-time plant conditions.
- Use automation to monitor, track, and schedule care without micromanaging.

How Semina helps

AI plant health scanner
Uses mobile camera to detect stress symptoms like wilting, yellow leaves, or pests instantly.

Sensor integration
Syncs with plant sensors for moisture, light, and temperature insights—reducing guesswork.

Automated care reminders
Sends personalized notifications based on plant type, last care action, and real-time weather.

Design & Development plan



Design plan

Week 1	Finalize team, define project scope, and brainstorm ideas.
Week 2	Research market, target users, and analyze competitors
Week 3	Create user flows, personas, and feature mapping
Week 4	Branding system + Low-fidelity wireframes
Week 5	UI components + High-fidelity wireframes
Week 6	Refine hi-fi screens and build full mockup set
Week 7	Mockups, icon sets, and illustration styles
Week 8	Mockup revisions + clickable prototype
Week 9	Prepare social/marketing design assets
Week 10	Conduct user testing + identify design issues
Week 11	Finalize pitch deck design + visual polish
Week 12	Print-ready promotional materials
Week 13	Final presentation materials & documentation



Development plan

Week 1	Project setup: tech stack, repo, file structure
Week 2	Database design (plants, sensors, logbook, users)
Week 3	Authentication flow + user onboarding
Week 4	Plant Scanner integration + plant identification
Week 5	Plant Scanner integration + plant identification
Week 6	Plant Dashboard (My Plants + basic plant data display)
Week 7	AR Plant Placement feature (visualization in space)
Week 8	Plant Logbook (watering, fertilizing, care tracking)
Week 9	Notifications system (care reminders & alerts)
Week 10	Responsive frontend polish
Week 11	Internal testing + bug fixes
Week 12	Final QA + performance improvements
Week 13	Final build, deployment, and presentation

Design softwares

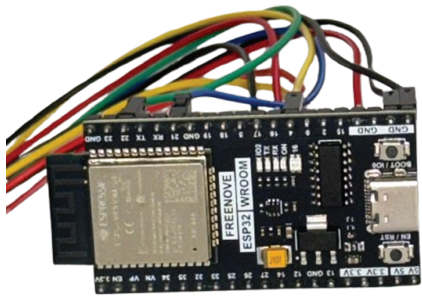


We used Adobe Illustrator, Adobe Photoshop, Figma, and Blender together to create a clean, consistent, and visually engaging design for our project. Illustrator helped us build sharp, scalable icons and vector elements, while Photoshop was used to edit and enhance images for a polished look. Figma served as our main design and prototyping tool, allowing us to structure screens, maintain consistent styles, and test user interactions efficiently. Blender was used to create and refine 3D elements, adding depth and a more realistic feel to the overall design. Using all four tools ensured our app was visually strong, well-organized, and professionally developed.

Development Softwares

The development of the Semina app involves both front-end and back-end technologies to ensure smooth functionality and data management. The front-end is responsible for building the user interface and handling user interactions within the mobile application. On the back-end, services such as authentication, databases, and cloud storage are used to manage user data, plant information, and sensor readings. These technologies enable real-time data processing, secure user management, and seamless communication between the app, sensors, and cloud infrastructure.

Smart Plant Monitoring System



ESP 32 dev board kit

Acts as the central controller to collect and process sensor data.
Enables real-time communication between sensors and the Semina app via Bluetooth/Wi-Fi.



DHT22

Measures ambient temperature and humidity levels around the plant.
Provides accurate environmental data to support better plant care decisions.



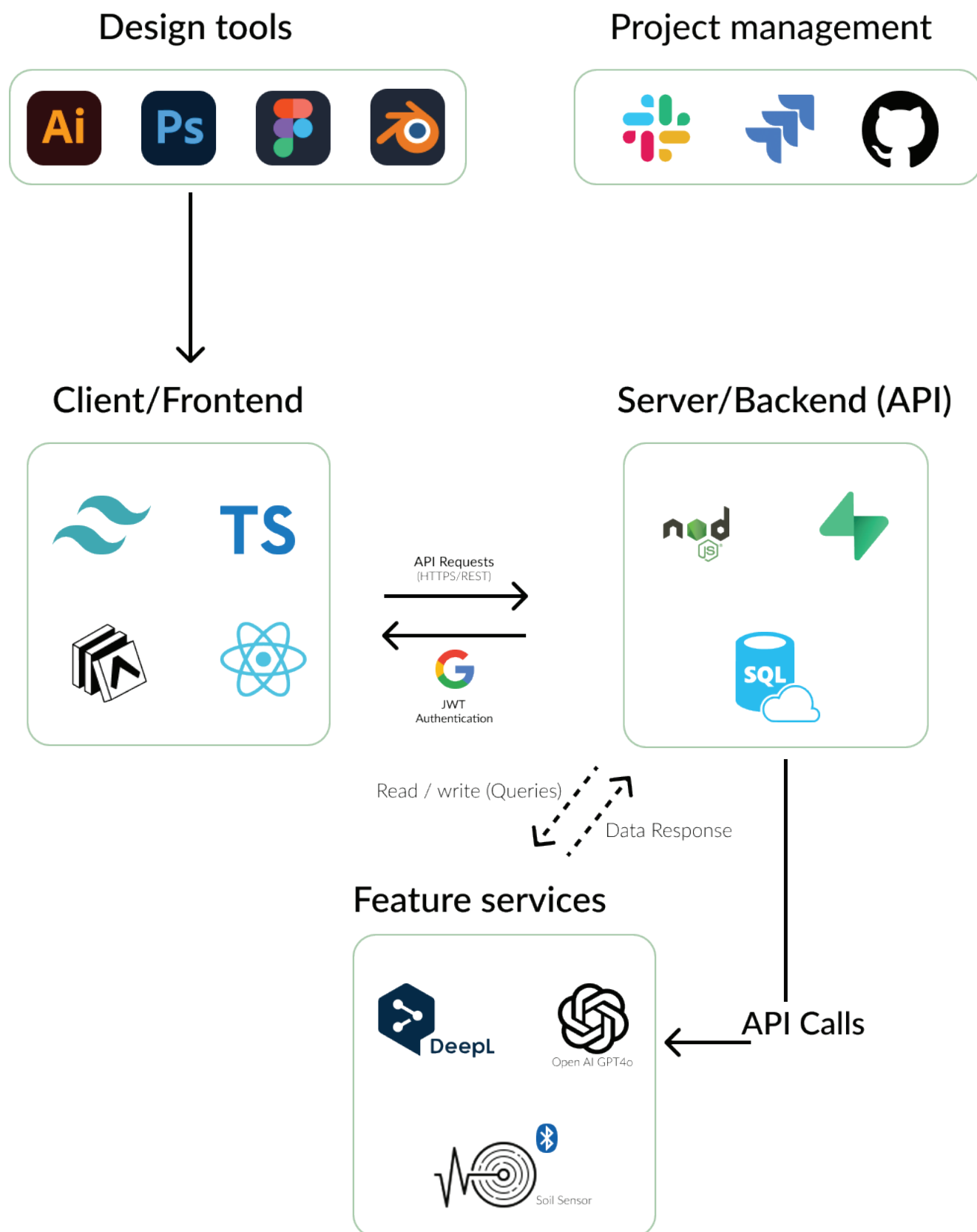
GY-302

Monitors light intensity using the BH1750 digital light sensor.
Helps determine if plants are receiving optimal lighting conditions.



SOIL CAPCATIVE

Detects soil moisture levels without corrosion over time.
Ensures accurate watering recommendations based on real soil conditions.





UI kit

UI kit

Logo

Semina Semina



Typography

Heading

Lato

ABCDEFGHIJKLMNOPQRSTUVWXYZ

abcdefghijklmnopqrstuvwxyz

0123456789

!@#\$%&/()=;:_.

Body

Lato

ABCDEFGHIJKLMNOPQRSTUVWXYZ

abcdefghijklmnopqrstuvwxyz

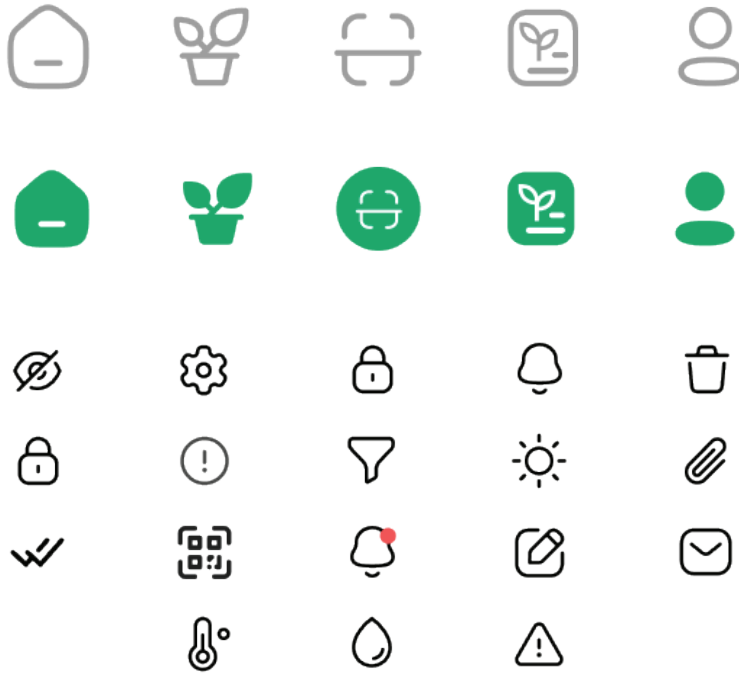
0123456789

!@#\$%&/()=;:_.

The Semina UI kit was designed to create a clean, consistent, and user-friendly interface that reflects the app's focus on plant care and nature. Green tones were chosen for the color palette to represent growth, health, and sustainability, while accent colors help highlight important actions and interactive elements. The logo uses simple plant-inspired shapes to build a recognizable identity, and the Lato typeface was selected for its clarity and readability across screens. Together, these elements create a cohesive visual system that supports usability while reinforcing the natural theme of the Semina app.



Icons



Color Palette

Primary #266427




Secondary #006641




Accent Colors



Components




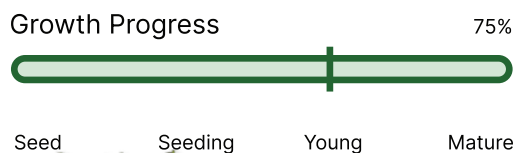
Daisy
Healthy
Started: 10 Jan




Add new plant



Daisy
Healthy
Plant is healthier and watered everyday



Grow a Plant
Build a smarter care routine

Active Tab Inactive Tab Inactive Tab

Flowering Plants



Home



My Plants



Log Book



Account



Smart Watering System



Experience Level

Beginner



1

2

3

4

5

6



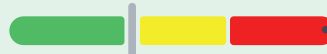
Add a plant

Add a plant manually with description

Lorem Ipsum

Drained

Soil moisture is below ideal level. recommend watering within 12 hours.



 Alert Message

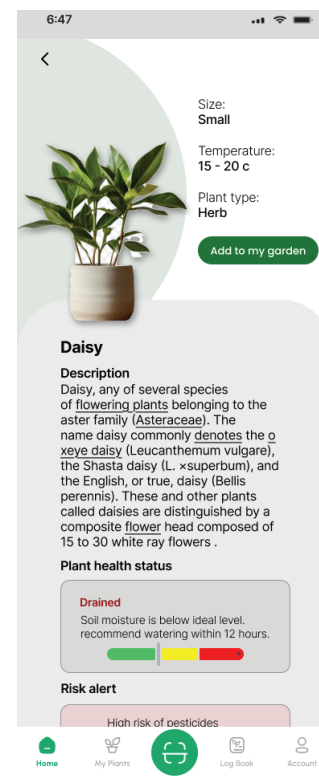
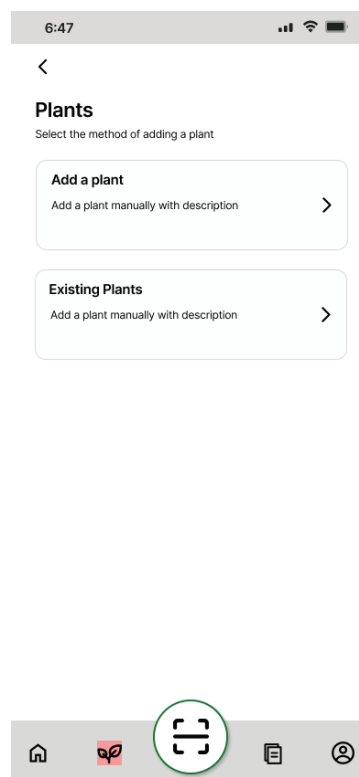
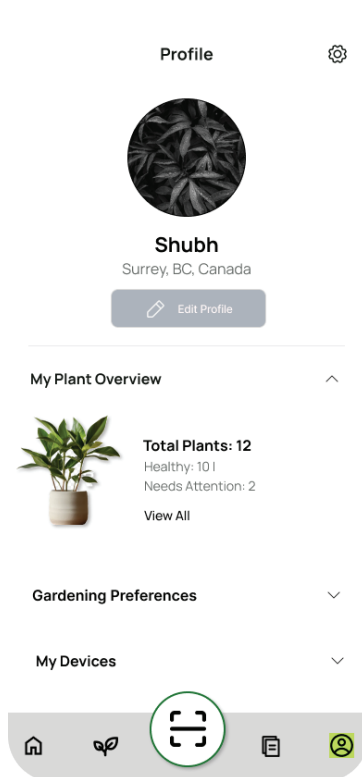
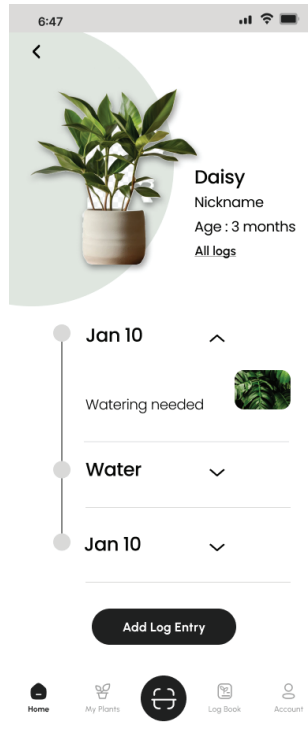
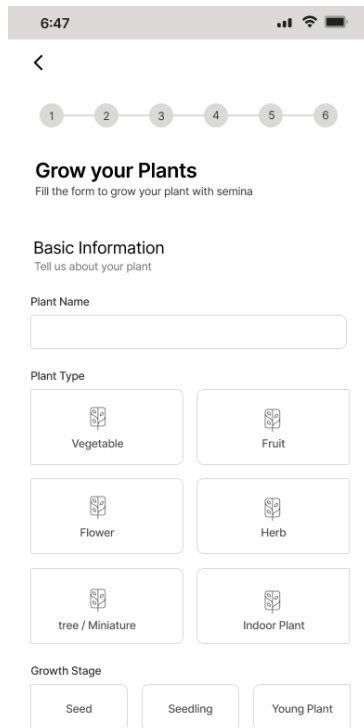
 Alert Message



Wireframes & Mockups

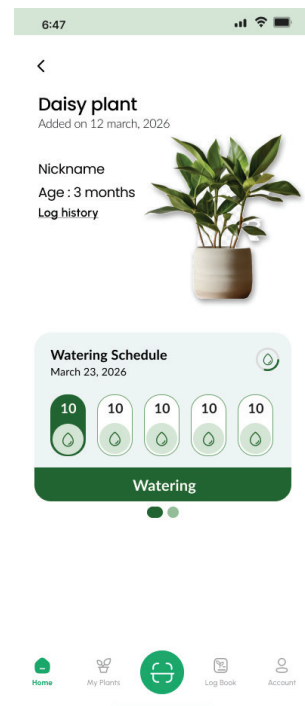
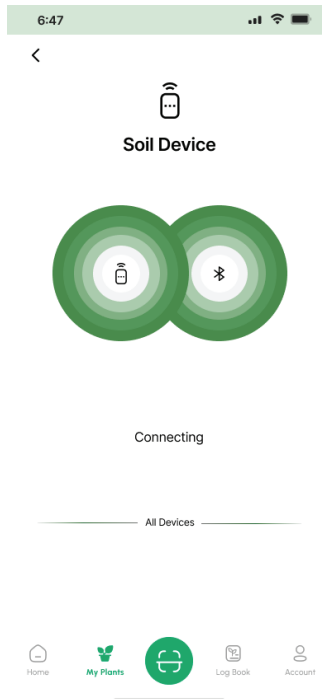
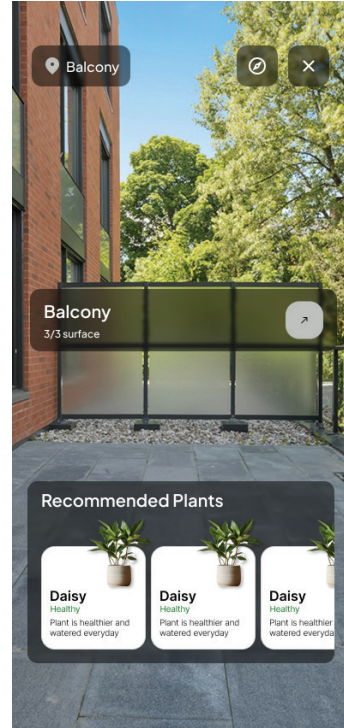
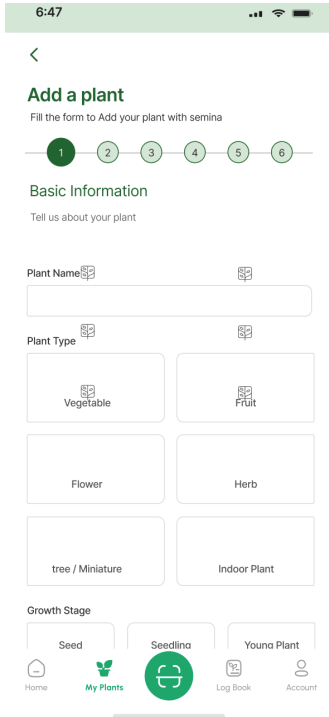


Wireframes

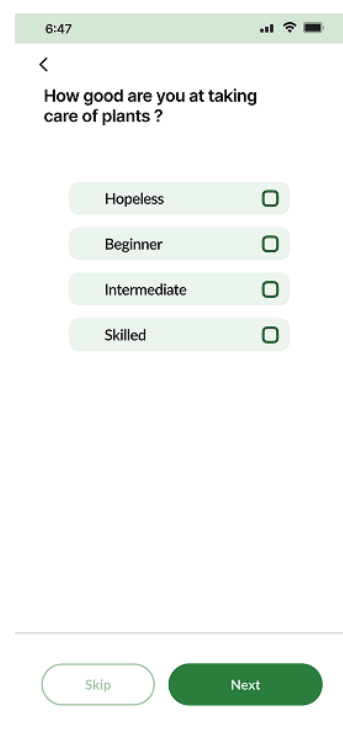
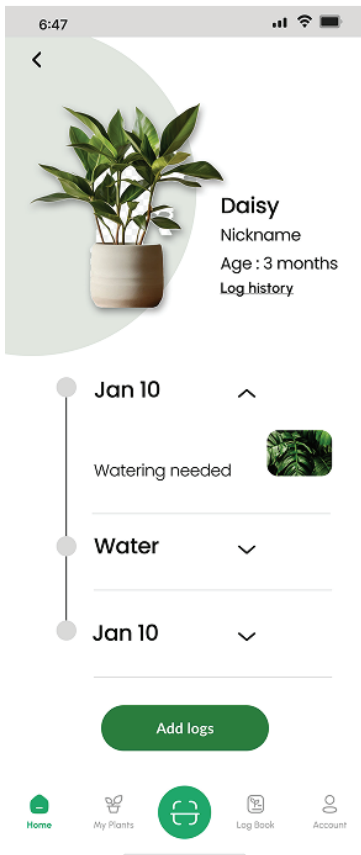
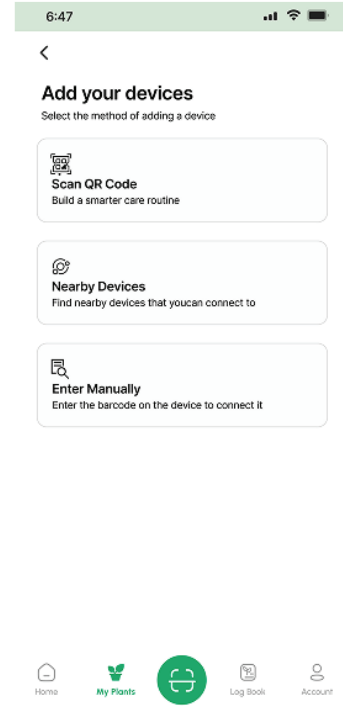
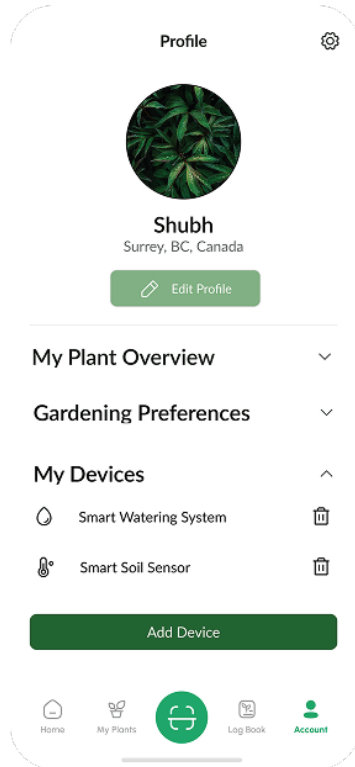




Mockups

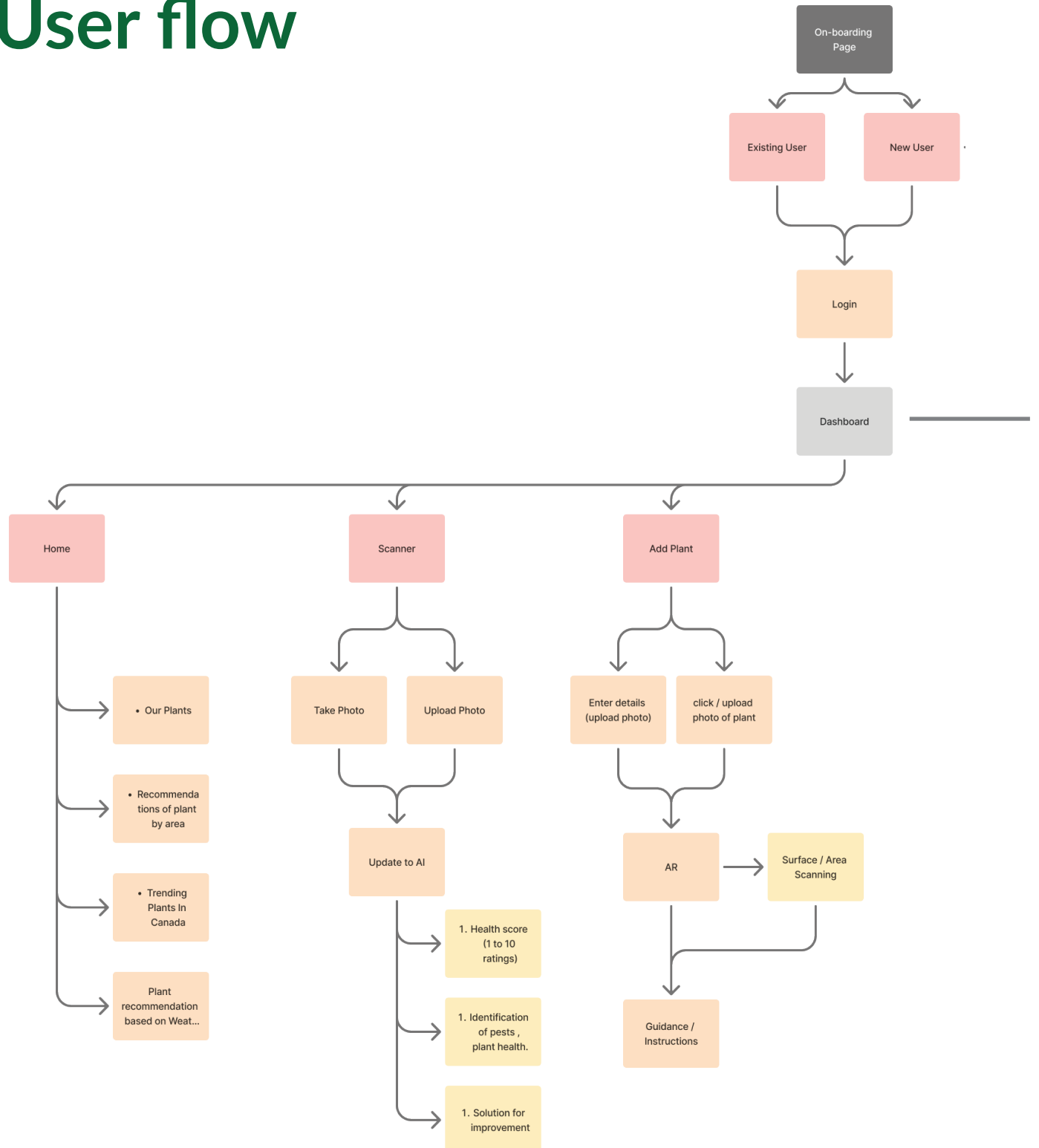


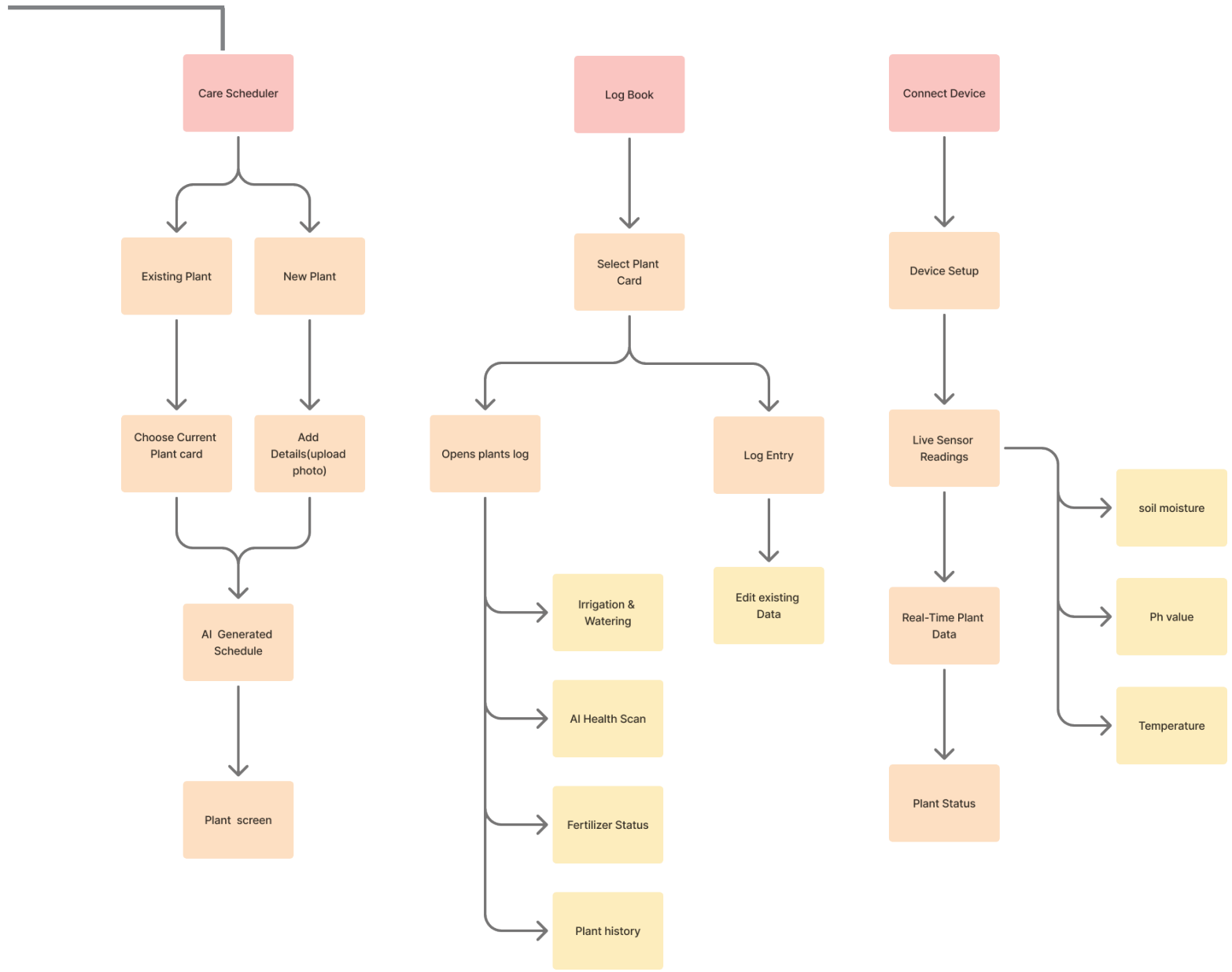
Mockups





User flow





Business model





Buisness model

Grow smarter, anywhere

\$0 /mo

Free Plan

- ✓ Add three Plants only
- ✓ Basic Logbook
- ✓ One AI scan
- ✓ Care tips for plants

Get started

\$9.99 /mo
or **\$79.99 /year**

Pro Plan

- ✓ Everything in Free plan
- ✓ Add Unlimited plants
- ✓ One Smart device
- ✓ Deep AI analysis
- ✓ Advanced Health alerts
- ✓ AI chatbot

Get started

\$19.99 /mo
or **\$159.99 /year**

Premium Plan

- ✓ Everything in Free plan + Pro plan
- ✓ Three Smart devices
- ✓ Priority "Plant ER"
- ✓ AR Space Mapping
- ✓ Pest/Disease Diagnosis

Get started



Meet The Designers



Ravkaran Singh
UI/UX Designer - Lead

[in ravkaran-singh](#)

Leads the design team and defines the overall user experience strategy. Ensures intuitive interfaces, design consistency, and user-centered solutions.



Shubham Maini
UI/UX Designer

[in Shubham maini](#)

Designs user-friendly interfaces and improves overall user experience. Creates wireframes, prototypes, and visually appealing layouts.



Naveen Kumar Pal
UI/UX Designer

[in Naveen-pal](#)

Focuses on designing clean and intuitive digital interfaces. Works on user flows, wireframes, and interactive prototypes.



Uzman Inayathullah
UI/UX Designer

[in Uzman-inayat](#)

Designs engaging interfaces that enhance usability and accessibility. Works on visual layouts, design systems, and user journey improvements.



Sahil Juneja
UI/UX Designer

[in Sahil-juneja](#)

Creates modern and responsive UI designs for digital products. Focuses on improving usability and delivering smooth user experiences.



Mann Modi
UI/UX Designer

[in Mann modi](#)

Designs visually appealing and user-centered interfaces. Works on prototyping, layout design, and improving interaction flow.



Meet
The Developers



Gaurav Kumar
Lead developer (Full stack)

[in](#) Gaurav-kumar

Leads the development team and oversees both front-end and back-end architecture. Ensures scalable, efficient solutions and maintains overall code quality.



Neel Surani
Front-end developer

[in](#) Neel-surani

Builds responsive and user-friendly interfaces using modern web technologies. Focuses on clean layouts and smooth user experience.



Gurdit Singh
Full stack Developer

[in](#) Gurdit-singh

Develops both client-side and server-side features of the application. Integrates front-end interfaces with databases and APIs.



Shubham Sharma
Backend Developer

[in](#) Shubham-sharma

Manages server-side logic, APIs, and database operations. Ensures the system runs securely and efficiently.



Manmeet Singh
Full stack Developer

[in](#) Manmeet-singh

Works on both front-end and back-end development of web applications. Focuses on performance, functionality.

References



Sem^{na}

Created in Association with

Langara.

The College Of Higher Learning

References

Josue Menjivar - Instructor at Langara college and Design guide for our project.

Binazir Farokhi - Instructor at Langara college and development guide for our project.

Jason Madar - Instructor / Program co-ordinator at Langara college and Design Consultant for guiding our project.





Semina

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