



Toro SMRTScape North Star

Design Overview

January 11, 2024

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Agenda

- 01 **Background**
- 02 **Research & Strategy**
- 03 **Outcomes**
- 04 **Next Steps**

01

Background

Background

Toro is looking to create a **unified SMRTscape experience** that will both best competitors and delight customers.

Project Goals

- 01 Understand the current state of the experience and its users. Identify pain points, opportunities for improvement, and prioritized workflows.**
- 02 Design, prototype, and test a modern and streamlined vision for key workflows and accompanying signature experiences.**
- 03 Provide implementable, high-fidelity design assets and prototypes of key workflows, setting the Toro team up for future scale.**



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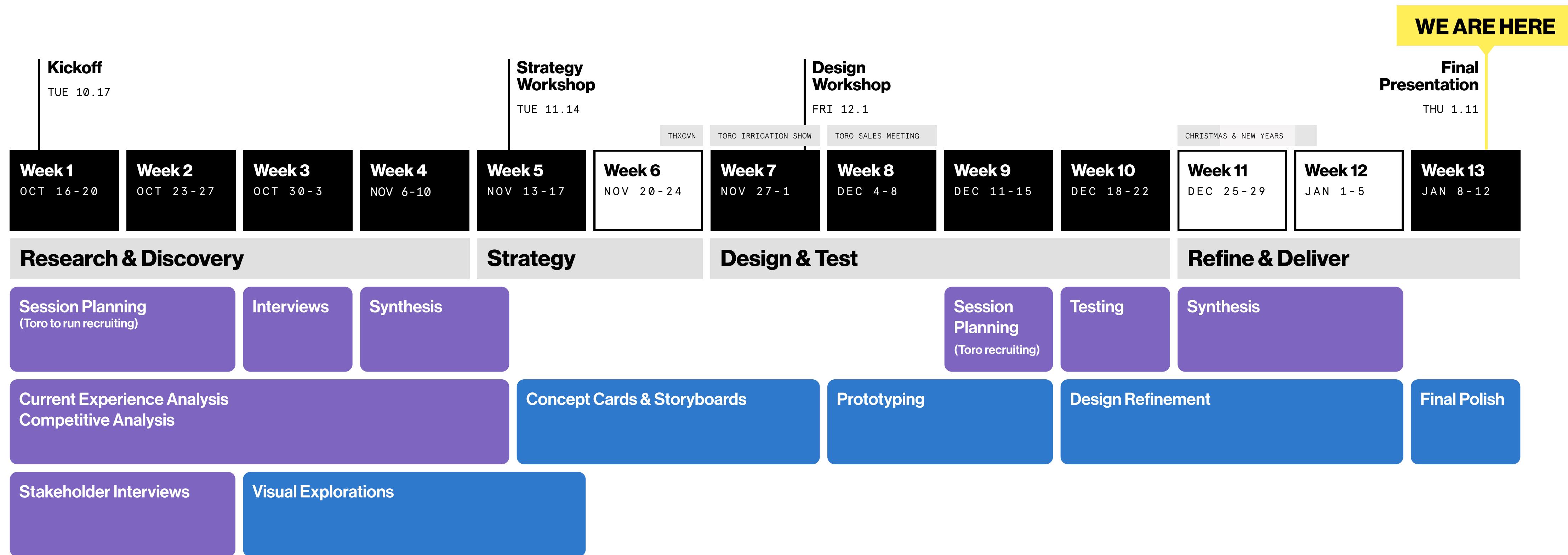
Angela Gauerke
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Project Timeline

■ Research ■ Design



*outlined weeks are heavily impacted by holidays and other commitments

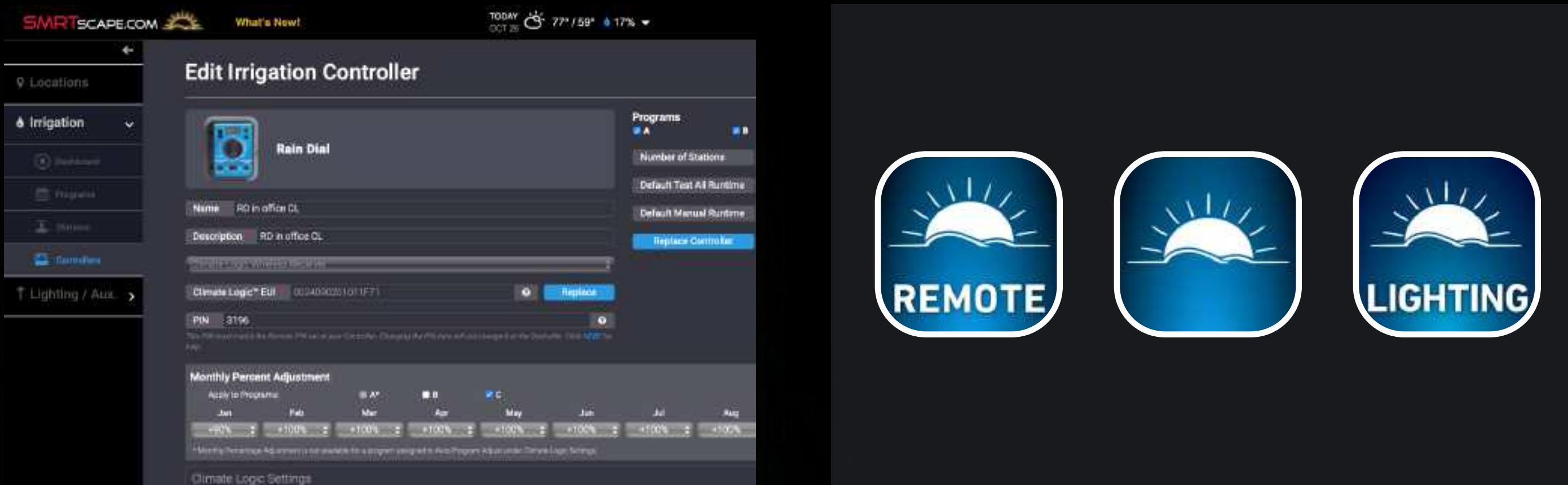
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02

Research & Strategy

Current Experience

Starting out, the team already had a good understanding of SMRTscape's strengths and weaknesses.



An outdated interface

The market has moved towards wifi-based controllers instead of radio-based. The current digital experience needs to be updated to be more responsive, and easier to navigate and learn.

Too many touchpoints

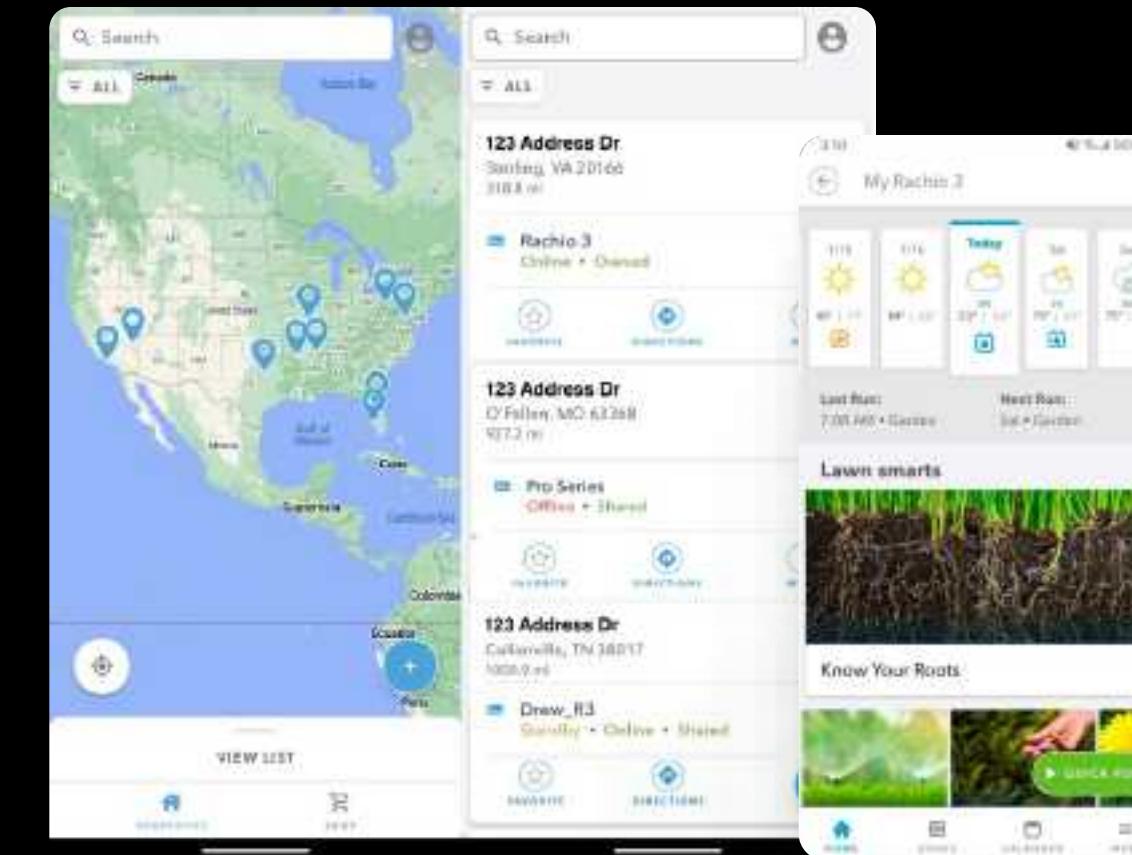
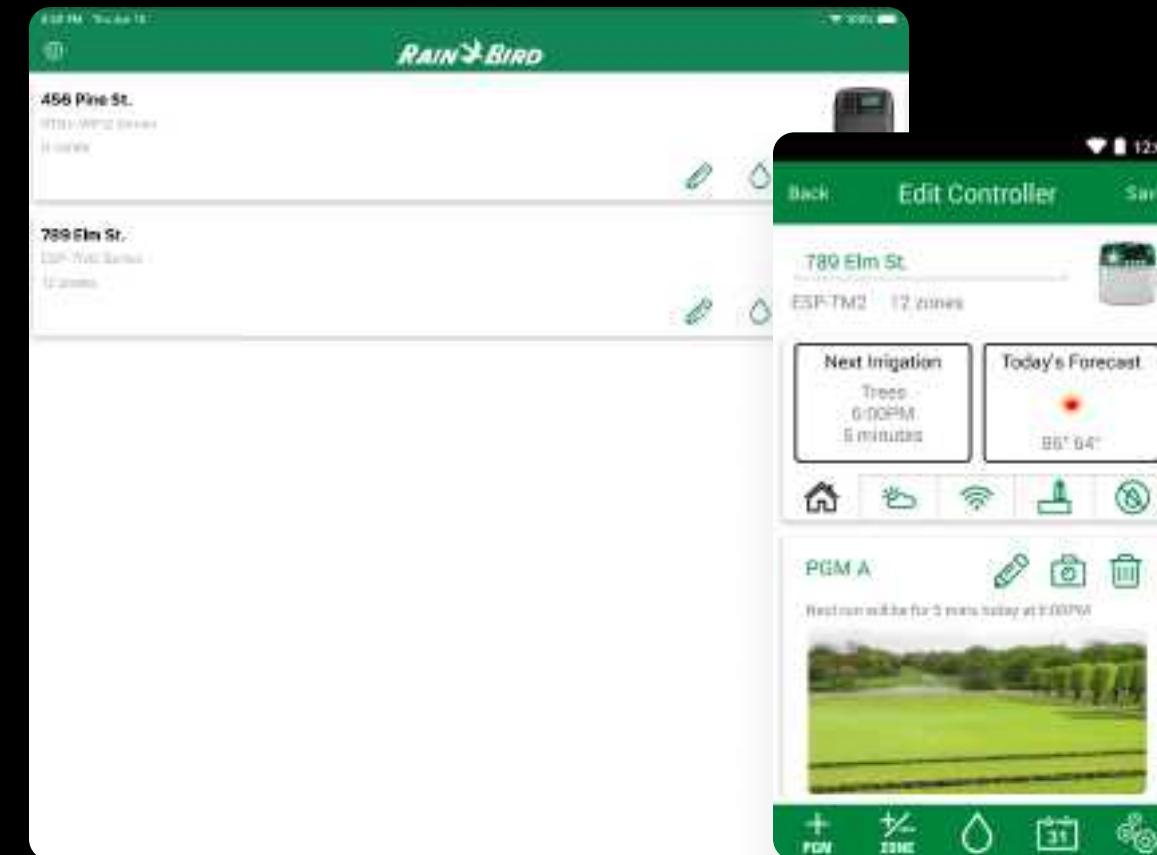
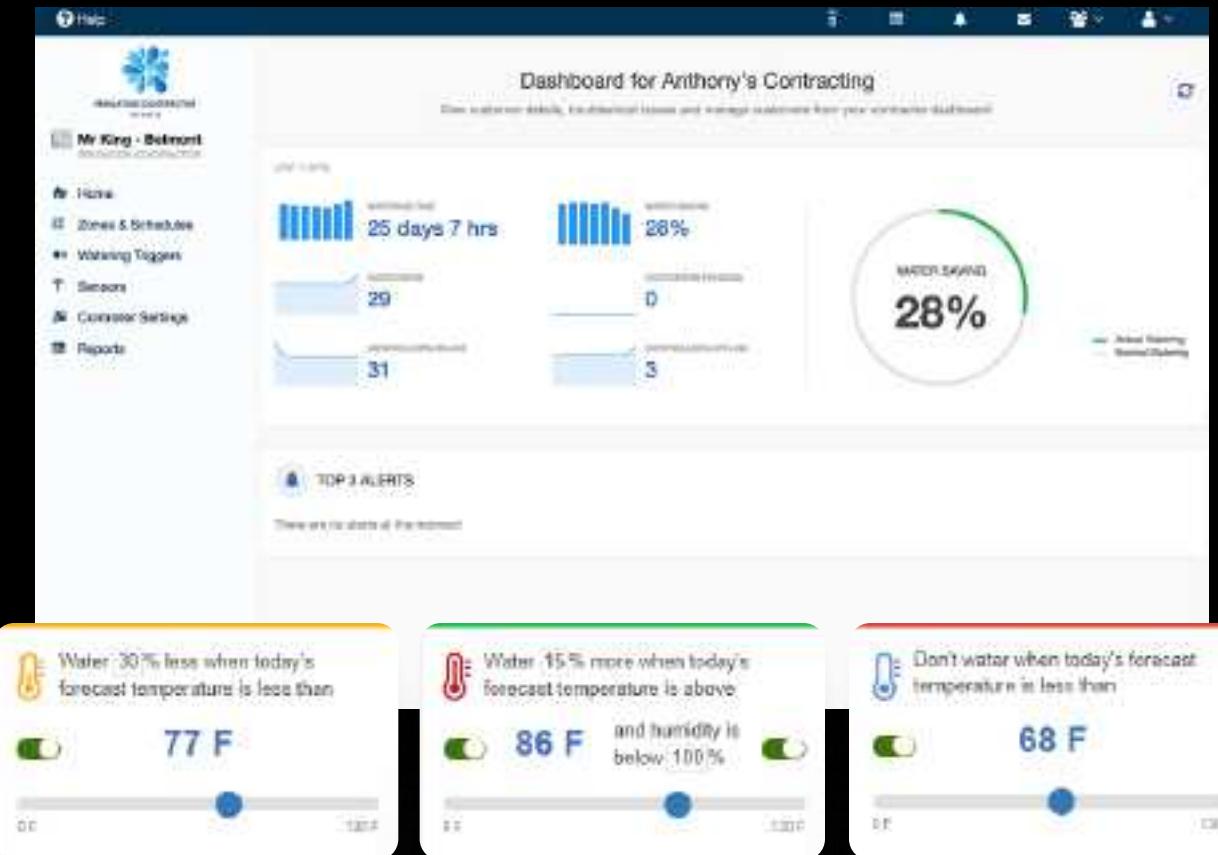
Although the SMRTscape gateway connects all products, multiple apps with limited features are causing confusion and frustration. The desktop experience is currently the most useful and unified.

Difficult to share

Sharing an account with homeowners post-installation is complicated. Permissions should be designed for both homeowners and maintenance contractors, including limited employee access.

Competitor Experiences

Competitors have been offering better digital experiences, which has lead to greater contractory loyalty.



Hydrawise

The market leader, Hydrawise is designed for both homeowners and contractors, providing a simple setup wizard, custom alerts, and easy sharing of access for those in Hunter's directory.

Rain Bird

A popular product with both mobile and tablet offerings. The LNK2 plug allows users to set up controllers when wifi isn't available. Offers Alexa integration and a companion app with support and documentation.

Rachio

Limited functionality, but the most modern look and feel in the market. Rachio allows contractors to easily transfer ownership and integrates with Alexa, Google, Samsung and IFTTT.

Foundational Interviews

We completed **11 interviews** with contractors

Sessions focused on better understanding essential user needs and pain points, reasons for using competitors, and preferred modality.

>100 Accounts

6

Lighting
Experience

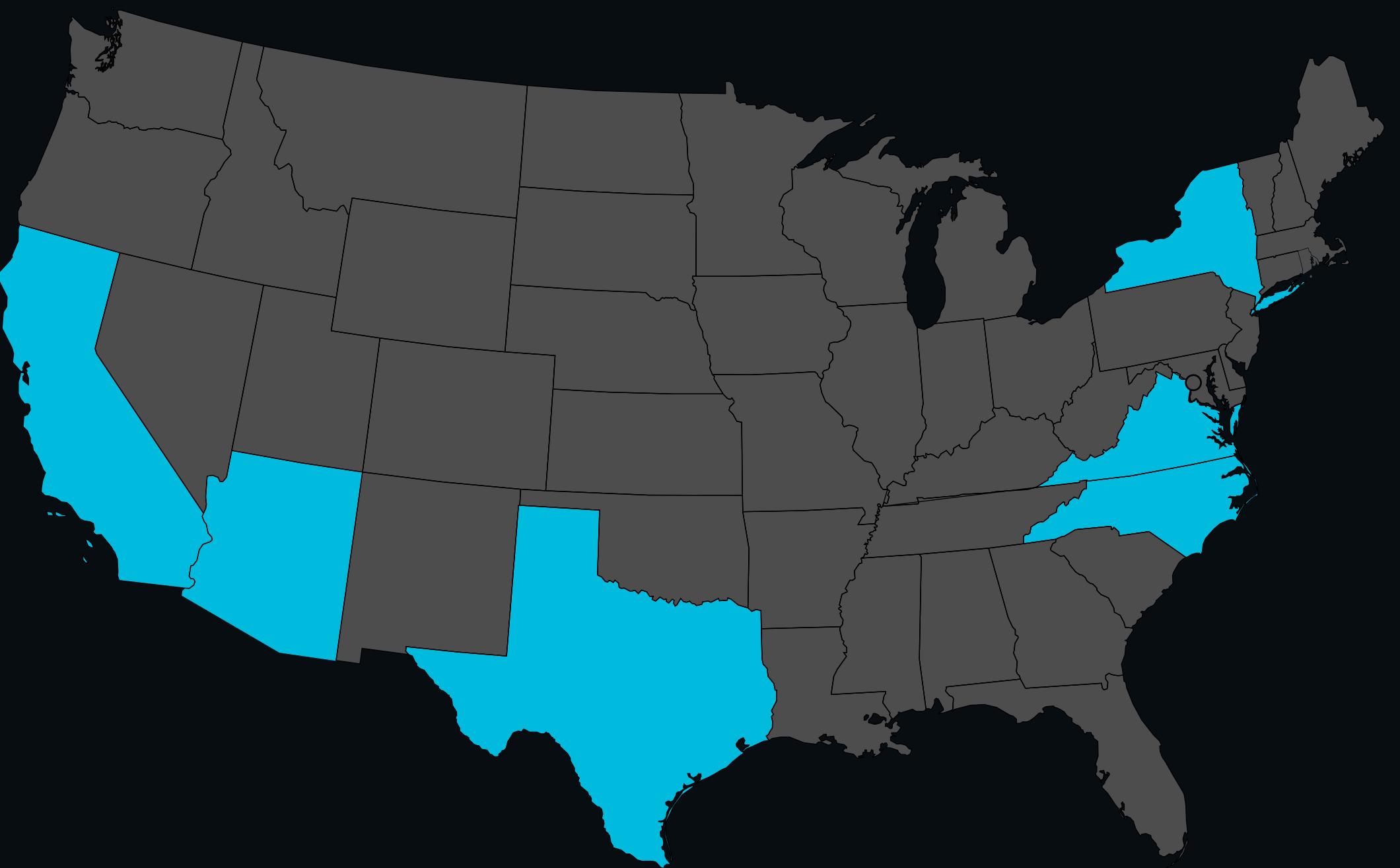
3

Non-Toro Users

8

Native
Spanish Speaker

1



Key Takeaways

Contractors need an intuitive system that's easy to teach to homeowners and employees

Most contractors said they primarily used Hunter's Hydrawise system for irrigation because it is very easy to use and has wifi connectivity.

Desktop operations are still needed but it has much lower usage than the need for mobile

Most contractors expressed a need for both desktop, mobile, and tablet use in their regular operations however their use was weighted in mobile app and tablet use.

The product needs to protect the irrigation/lighting systems from homeowner mistakes

Most discouraged use of the applications, especially irrigation systems since it is perceived that most homeowners will disrupt the programming.

The most valuable data are flow rates & alerts, and water usage to monitor breaks and leaks

Flow rates and water usage are integral to since they used to help determine how systems may be adjusted to weather changes and whether there are any breaks in the system.

Lighting and irrigation crews need a way to track the changes that homeowners make

Crews need to know when and where those changes were made so they can understand how to address any issues and determine responsibility.

Contractors would pay for global control as well as flow tracking and water usage, but only if they had to

Some contractors are already paying for features such as global control, flow tracking and water usage but they indicated that they do it begrudgingly and consider it the cost of doing business.

In Their Own Words

“

I would say that the biggest issue [with Hydrawise] is that it's web-based and not app-based. So, you cannot set it up on your phone. You have to set it up on a computer, and people don't have computers.

– Participant 1 when asked about their frustrations with Hydrawise

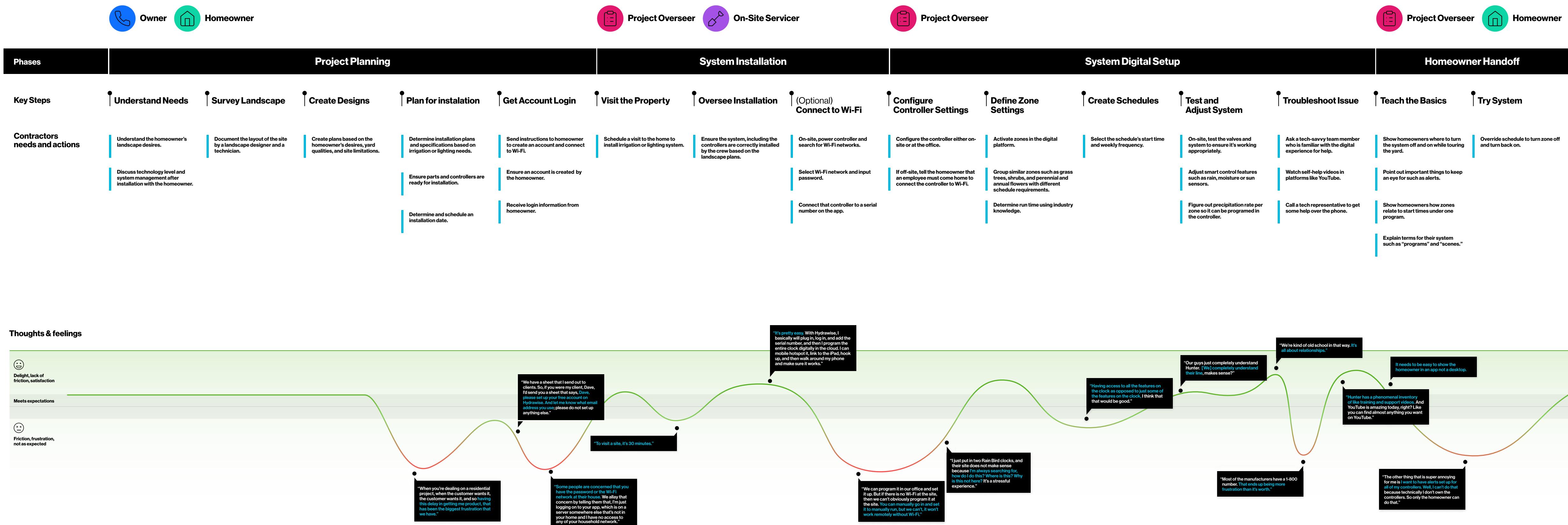
In Their Own Words

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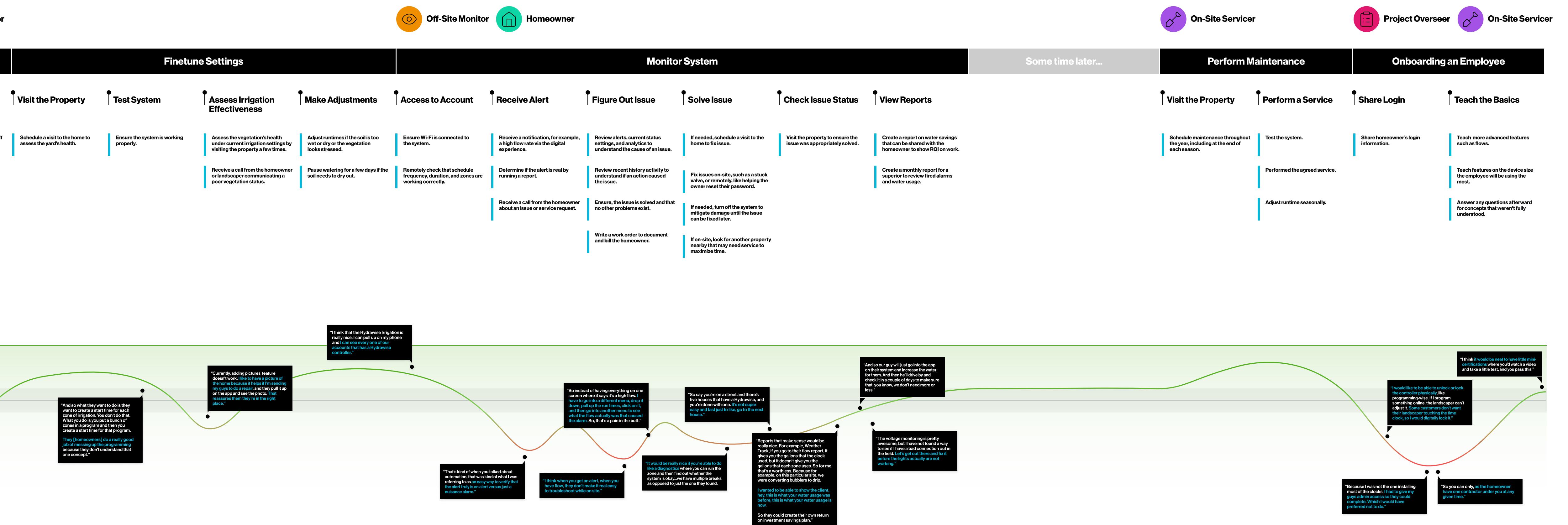
**I just think there's too many features and
there's too many ways to do the exact
same thing.**

– Participant 7 when asked about their frustrations with Hydrawise

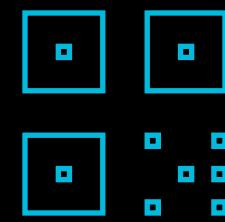
User Journey Map



User Journey Map



Focus Areas



Simplified Setup

How might we craft a simplified setup flow so contractors can do their jobs faster?



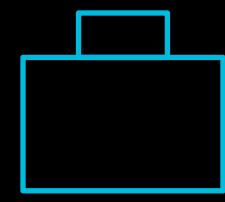
Streamlined Handoff

How might we remove bottlenecks that occur when handing off to homeowners?



Advanced Monitoring

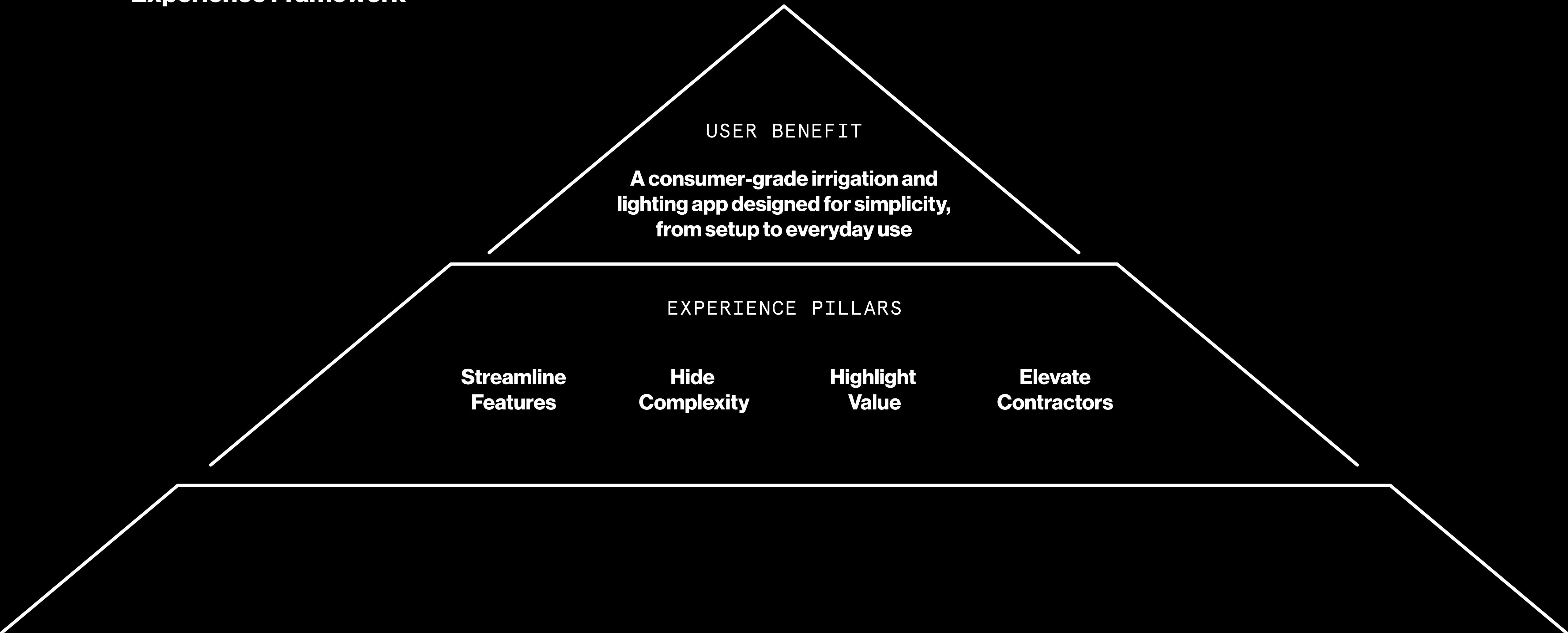
How might we design an intelligent system that surfaces value after installation?



Client Management

How might we help contractors manage their business more effectively?

Experience Framework



Experience Pillars

Streamline Features

"I just think there's too many features [in Hydrawise] and there's too many ways to do the exact same thing."

Speed is key, so strive to reduce bottlenecks, remove redundancy and design a fast, easy setup with consistent features, naming conventions, and bulk actions.

Highlight Value

"I wanted to show the client, 'Hey, this is what your water usage was before; this is what your water usage is now.' So they could see their return on investment."

At the end of the day, people want to save money. Create ways to highlight accurate usage and savings data, helping contractors recognize and maximize their (and their customers') ROI.

Hide Complexity

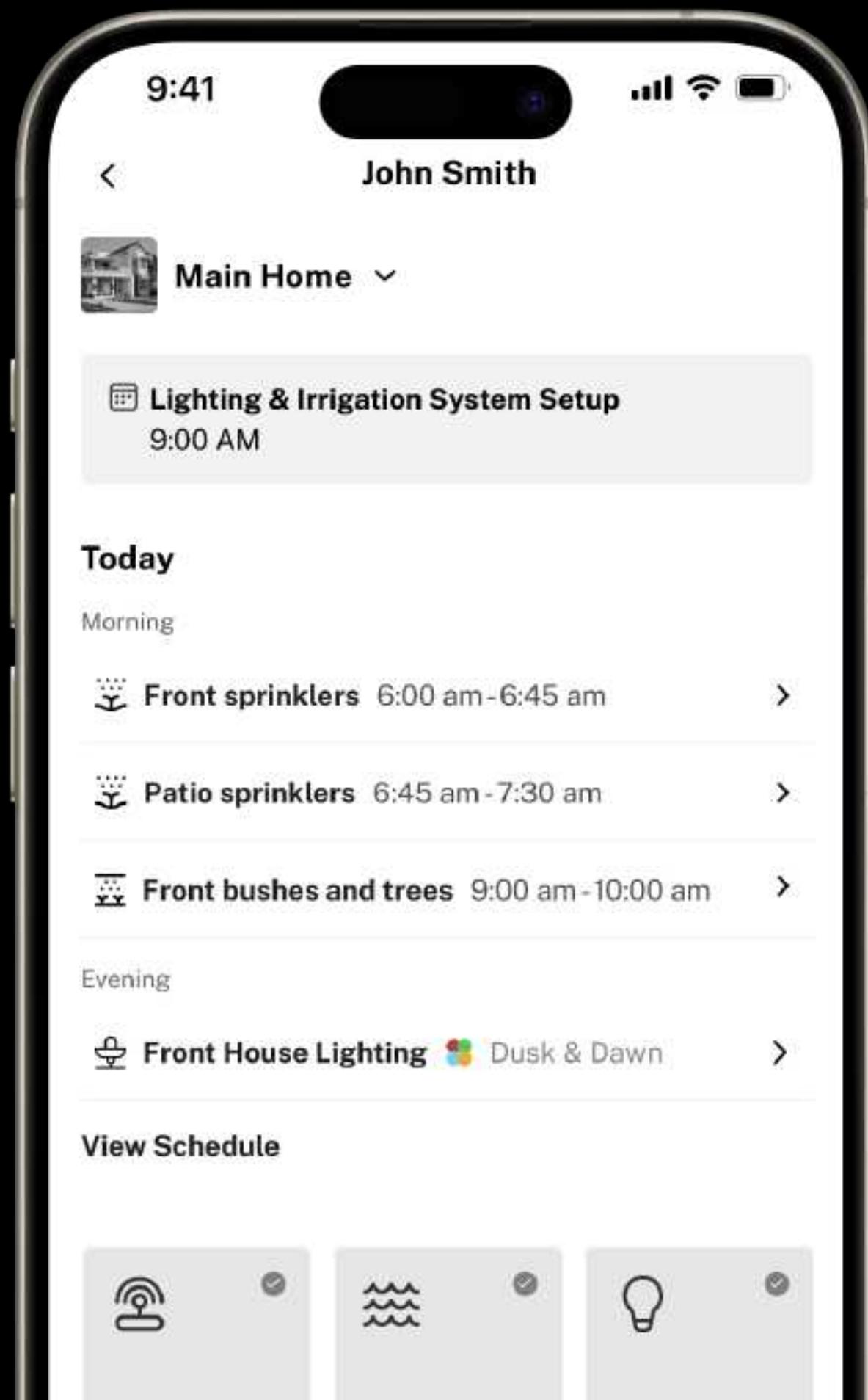
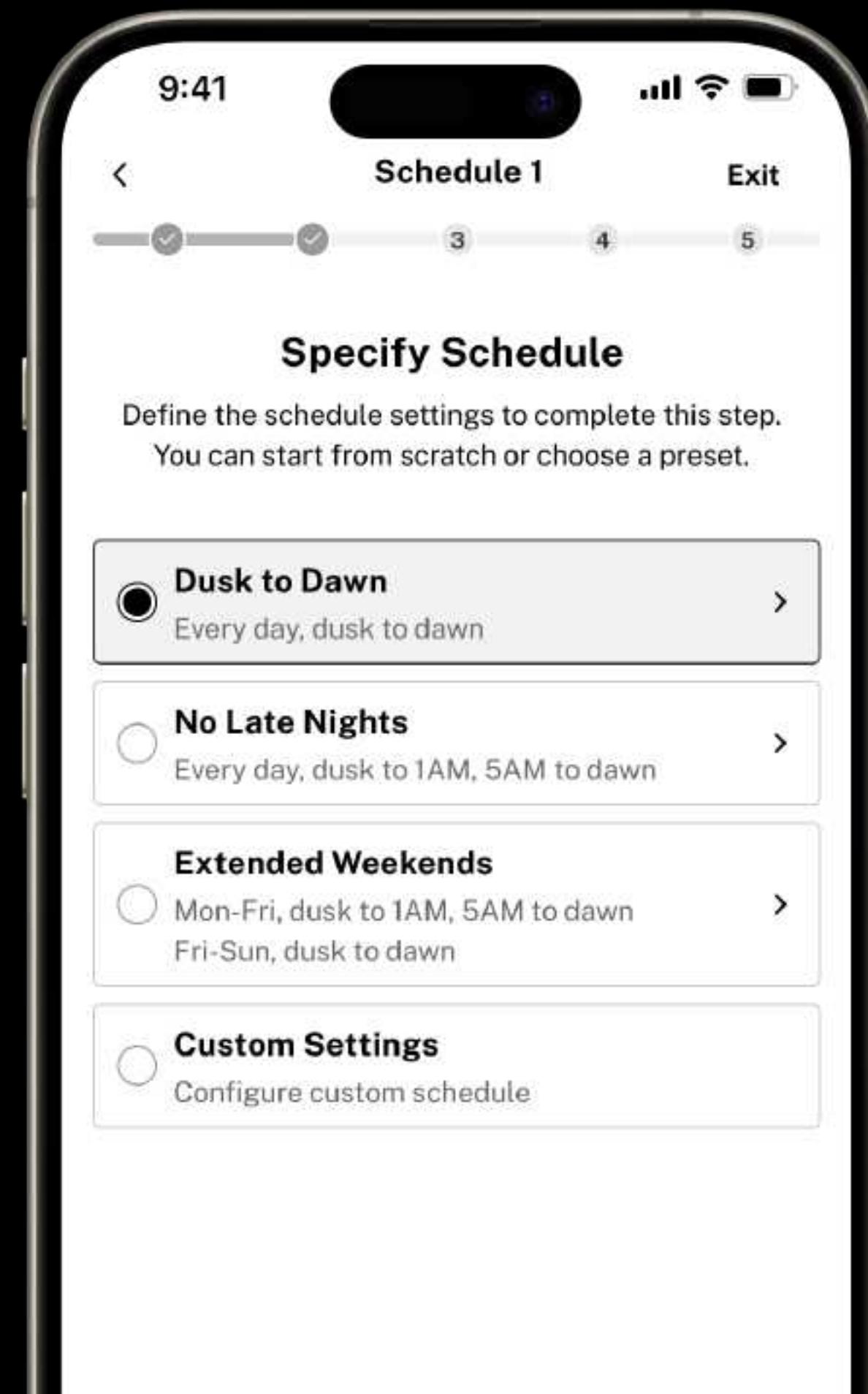
"[Hunter's controllers] aren't overly complicated...we need to be able to teach homeowners and our employees how to use them."

Not everyone needs immediate access to everything. Look to compartmentalize advanced features and create a simplified view of the essentials for non-technical users.

Elevate Contractors

"We could be alerted if we have abnormal flows. That's the key, right? That we are contacting the client before they even know that they've got a broken main line."

Contractors are trying to give best-in-class service, and their tools should help support that with a proactive design that considers how to provide value to the homeowner at every step.



Concept Testing

We completed 10 interviews with contractors

Sessions focused on getting feedback on preliminary designs for irrigation/lighting setup, until handoff to the homeowner.

>100 Accounts

2

Lighting
Experience

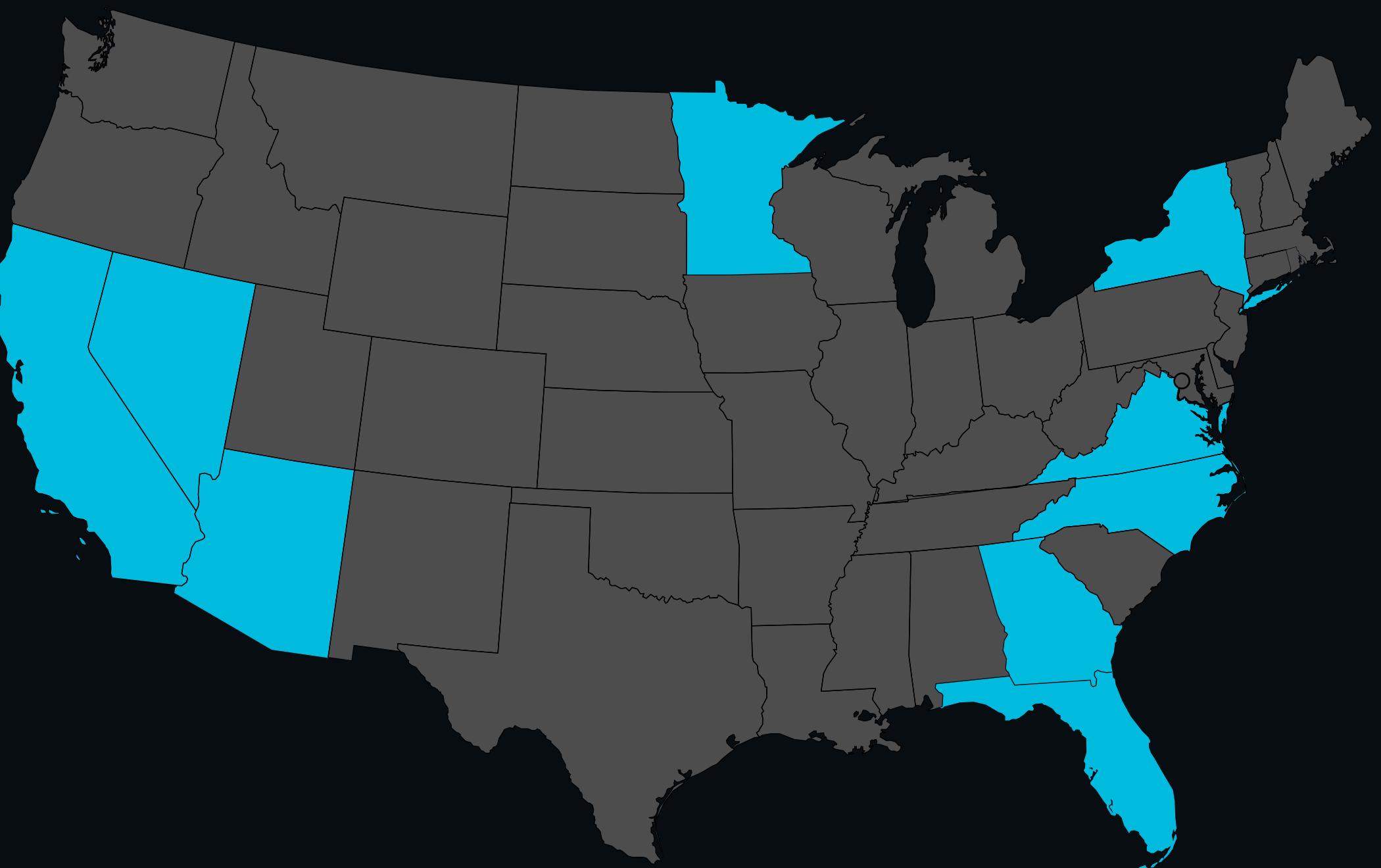
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Spanish Speaker

2



Key Takeaways

The map stood out as a key part of the experience

The map was perceived as a better way than photos to provide a description of the property because its aerial view would allow for a quick and easy way to identify properties and select zones.

The homeowner schedule needed some improvement to make it more helpful

It was suggested that the homeowners might get confused by seeing lighting and irrigation on the same schedule and that it may be more helpful to add in past, future or predicted usage so homeowners can make comparisons over time.

Setting up schedules was missing key elements

Some participants pointed out that when selecting zones for run times this step was missing the ability to designate a specific time for each zone.

Desktop isn't needed for setup and installation but still important for big tasks

Setup and installation could primarily be done on a mobile or tablet version of the app but a few indicated that they would still need a desktop during those times when they're programming controllers, running reports, and monitoring systems.

Adding fixtures could use more grouping capabilities

Grouping lighting types and adding in fixtures was valued by most participants who suggested the ability to group them by type of fixture such as path light, up lights, spot lights, well lights, and flush mounted lights.

The concepts were considered as good as competitors but could be better with a few tweaks

The concepts shown were similar to what participants are currently using in both usefulness and the ability to make their work more efficient, but they would be perceived as even better if changes and additions requested were made.

In Their Own Words

“

It seems to be streamlined... I've been frustrated with other platforms that just seem to be convoluted... All you gotta do is follow the process and it gets done.

– Participant 5 when asked about how useful is the concept of connecting the gateway and setting up the controller

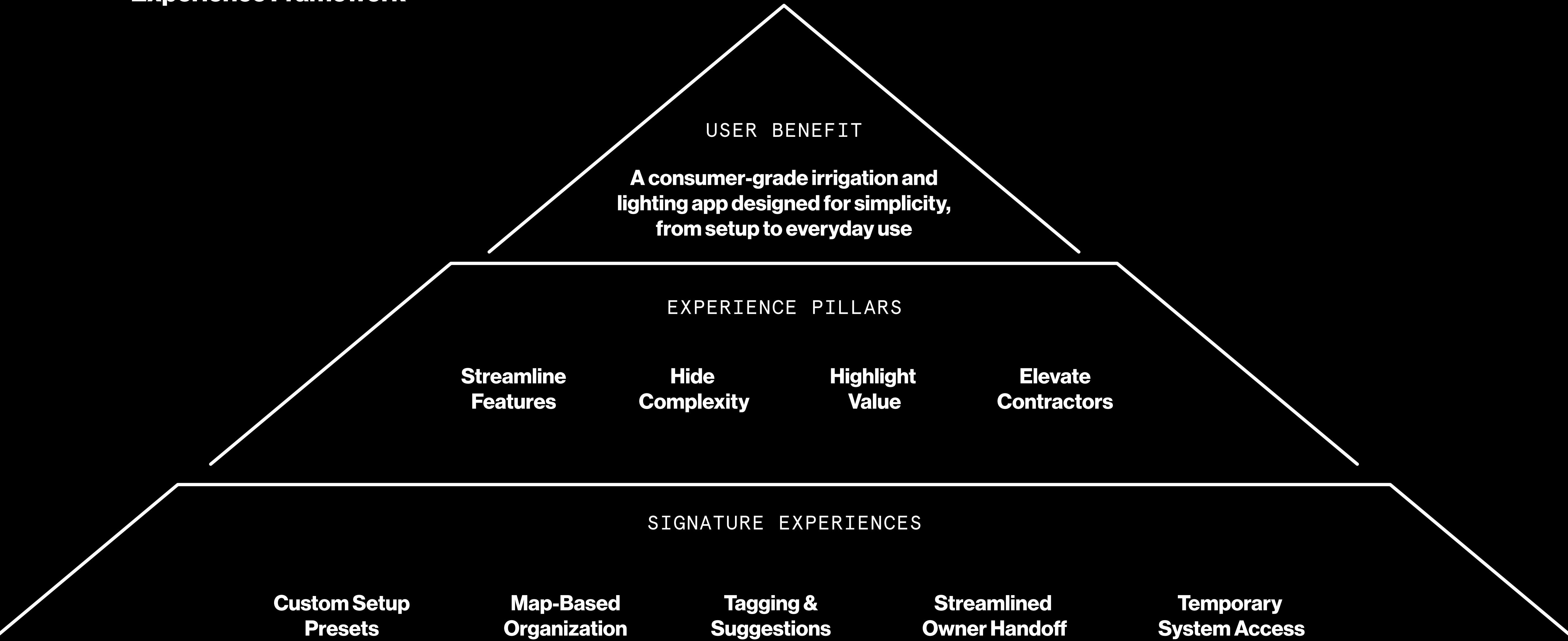
In Their Own Words

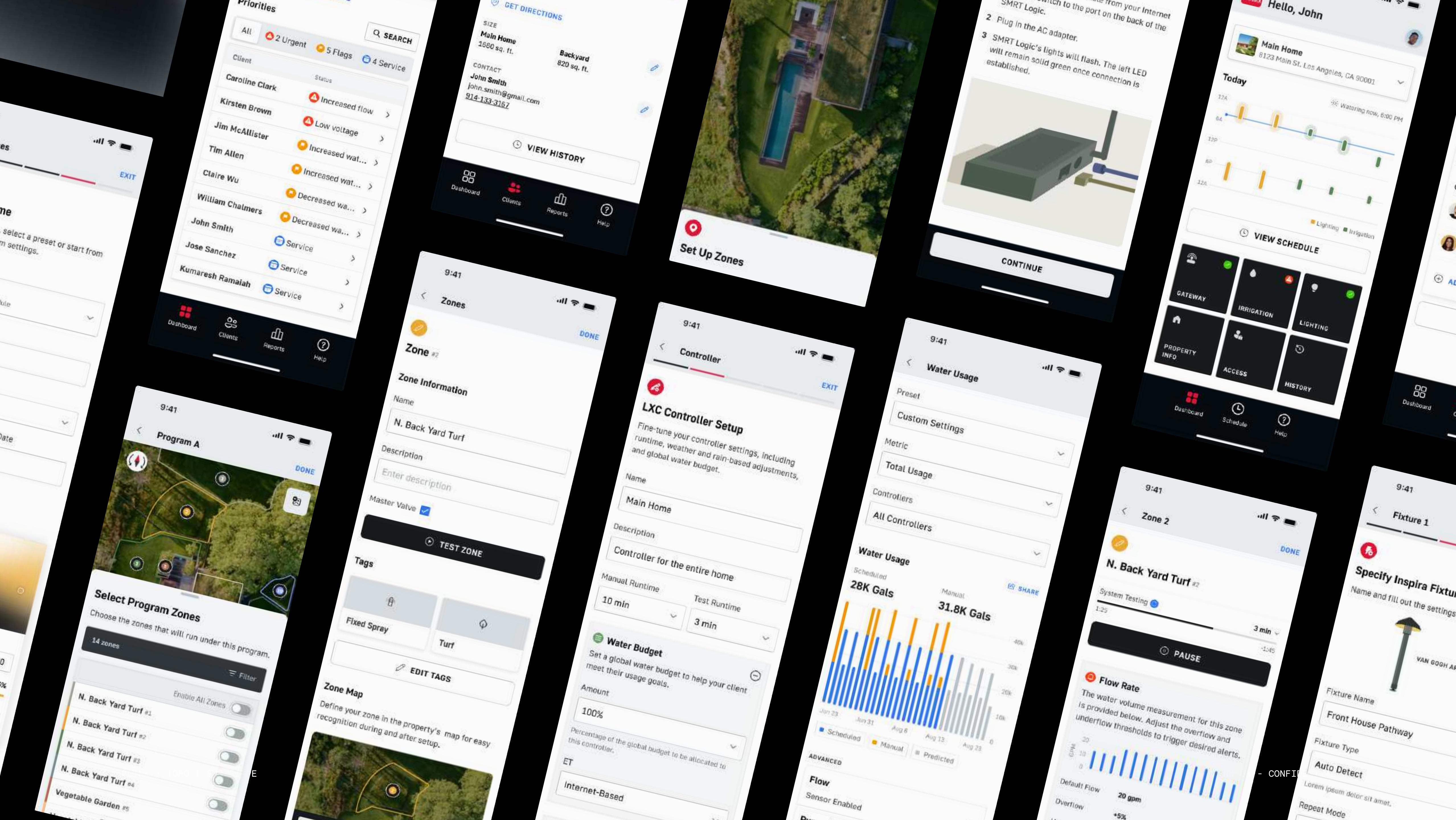
“

**It walks you through. It has instructions...
it follows a normal thought process of a
contractor.**

– Participant 2 when asked about how intuitive system setup is

Experience Framework





03

Outcomes

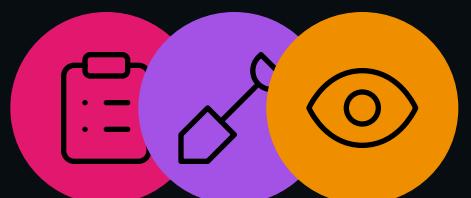
Golden Path Scenario

Our primary deliverable is a set of high-fidelity Figma prototypes based on a contractor's day-in-the-life.

OVERVIEW

Jamie works at a growing irrigation and lighting business, where they complete a standard job and walk the homeowner through their new system. Later, Jamie get a notification of an issue, so they coordinate a time for an employee to visit the client. Afterwards, Jamie reviews the client history to see what happened.

ARCHETYPE

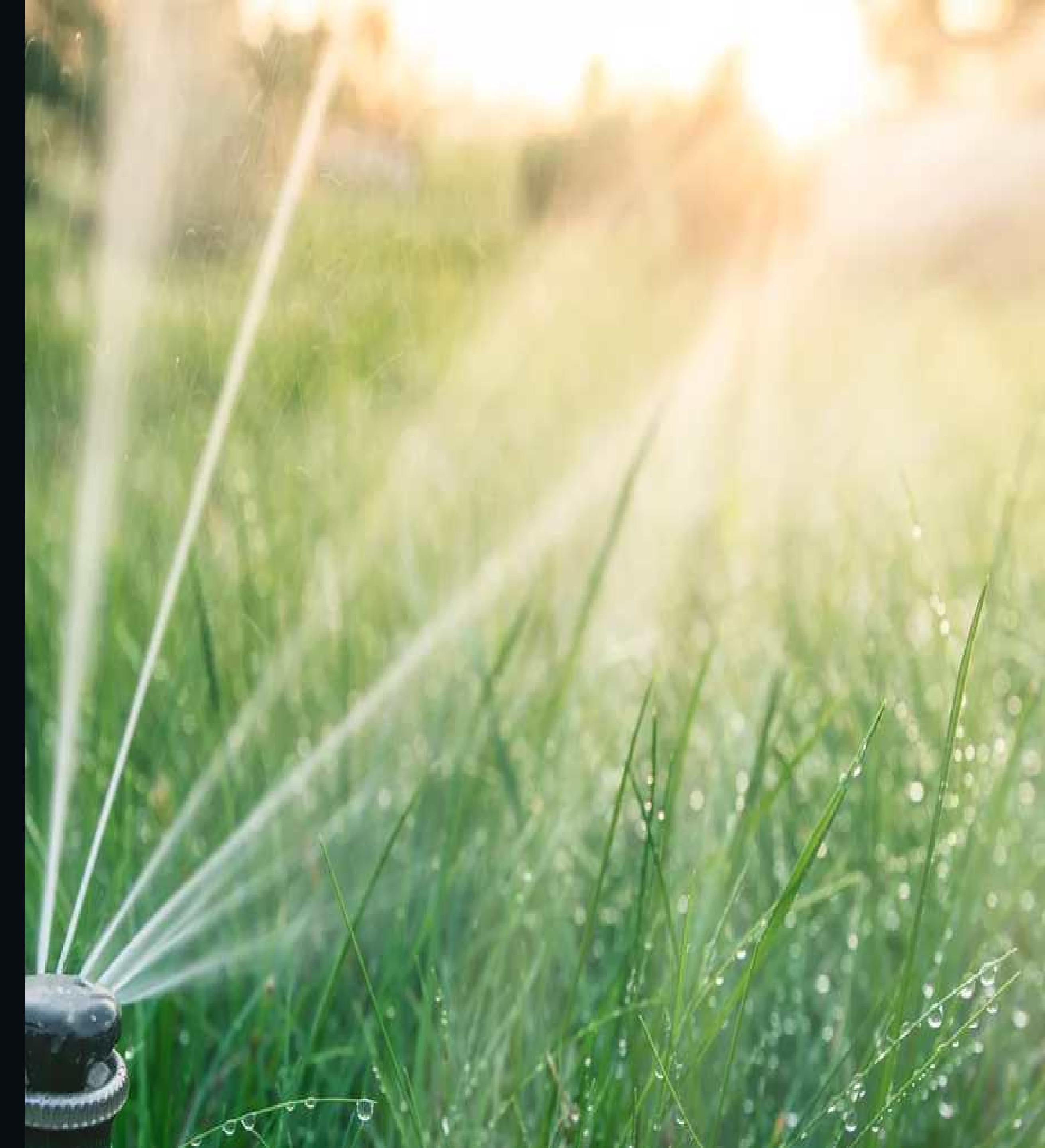


Jamie

Project Overseer, On-site Servicer, & Off-site Monitor

Morning Check-In

Jaime looks for any alerts that may have occurred overnight and reviews the details of today's appointment before arriving on-site.



Morning Check-in Key Features



The image displays two side-by-side screenshots of a mobile application interface. The left screenshot shows the 'Today' dashboard, featuring a grid of two appointment cards: one for 'John Smith' at '8123 Main St.' at 9:00 AM and another for 'Jose Sanchez' at '234 Bay St.' at 2:00 PM. Below these are buttons for 'VIEW ALL APPOINTMENTS' and 'SEARCH'. Underneath is a 'Priorities' section with a 'SEARCH' bar and four categories: 'All', '2 Urgent' (indicated by a red triangle icon), '5 Flags' (indicated by an orange circle icon), and '4 Service' (indicated by a blue square icon). This section lists three clients with their names, status icons, and names: 'Caroline Clark' (Increased flow), 'Kirsten Brown' (Low voltage), and 'Jim McAllister' (Increased wat...). The right screenshot shows a detailed 'Customer Overview' for 'John Smith'. It includes an 'Irrigation System Adjustment Appointment' for tomorrow at 9:00 am, three property images (two houses and a pool area), and a link to '+3 more'. Below this are sections for 'ADDRESS' (Main Home: 8123 S. Main St., Los Angeles, CA 90001), 'SIZE' (Main Home: 1660 sq. ft., Backyard: 820 sq. ft.), and 'CONTACT'.

Contractor Dashboard

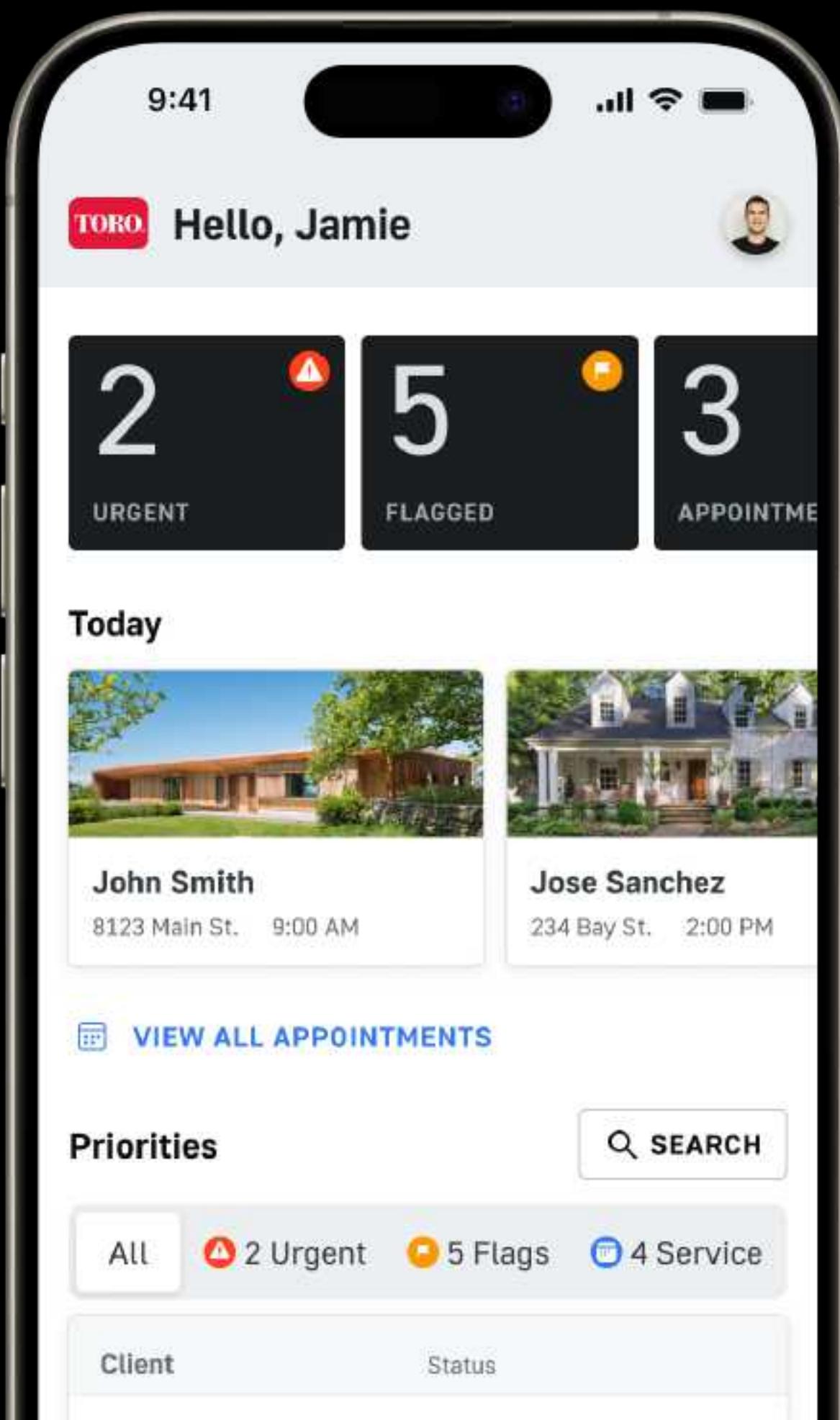
A simplified dashboard giving quick access to the day's appointments and priorities across one's book of business

Customer Overview

A single location for all of a customer's property details, system information and settings, and service history.

Morning Check-in Prototype

 Click here to view Figma prototype



In Their Own Words

“

I have a tool in my hand that I can use to decide if I need to go to the property or not. This would be a super useful tool.

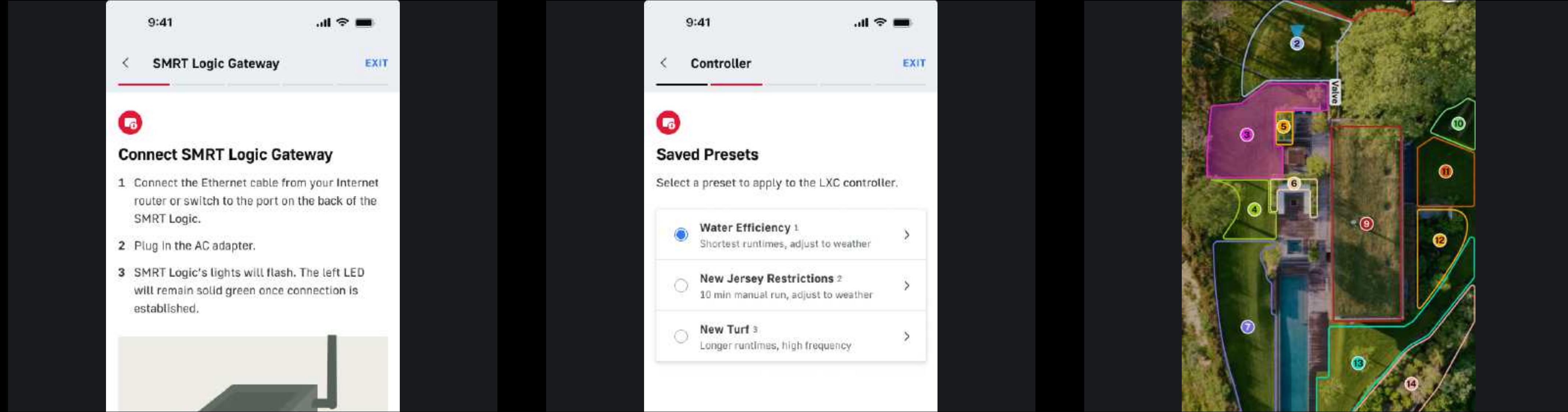
– Participant 3 when asked how they would feel if they had the dashboard concept and level of property details with alerts.

System Setup

Jaime connects the gateway, and configures the customer's irrigation and lighting systems before testing to make sure everything is functioning correctly.



Irrigation Setup Key Features



Guided Workflow

A simplified workflow with detailed instruction helps users complete setup quickly and easily.

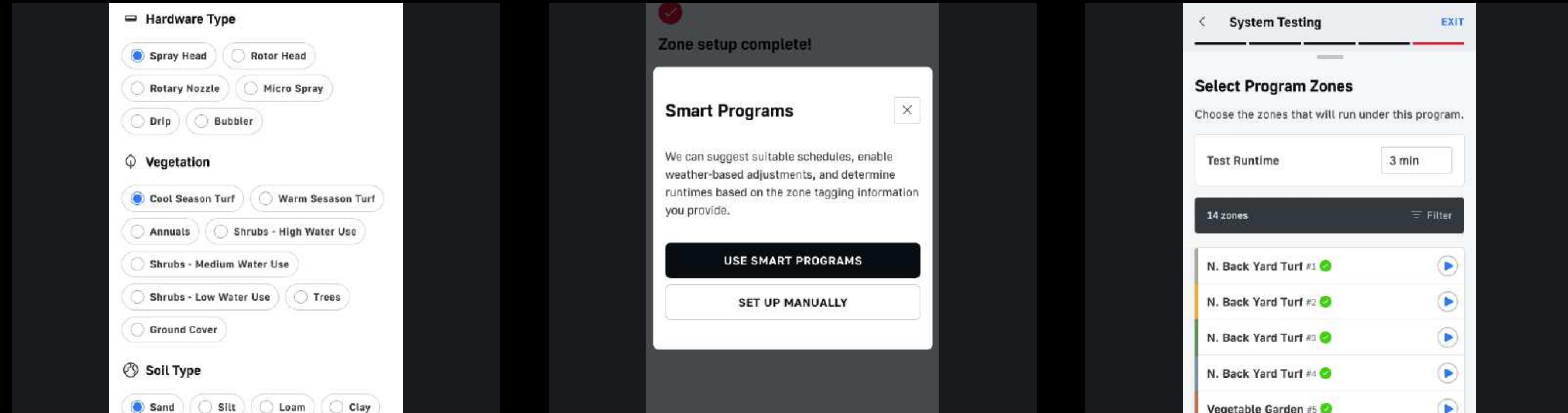
Controller Presets

Predefined controller settings help users skip the majority of setup by using a configuration they already know.

Map Organization

A new map-focused layout gives greater reference for zone location, with visual indication of status.

Irrigation Setup Key Features



Zone Tags & Filters

Simple tags let users organize and classify their zones, allowing for quick filtering and smart suggestions later on.

Smart Suggestions

Using the previously mentioned tags, SMRTscape suggests program settings and weather-based adjustments.

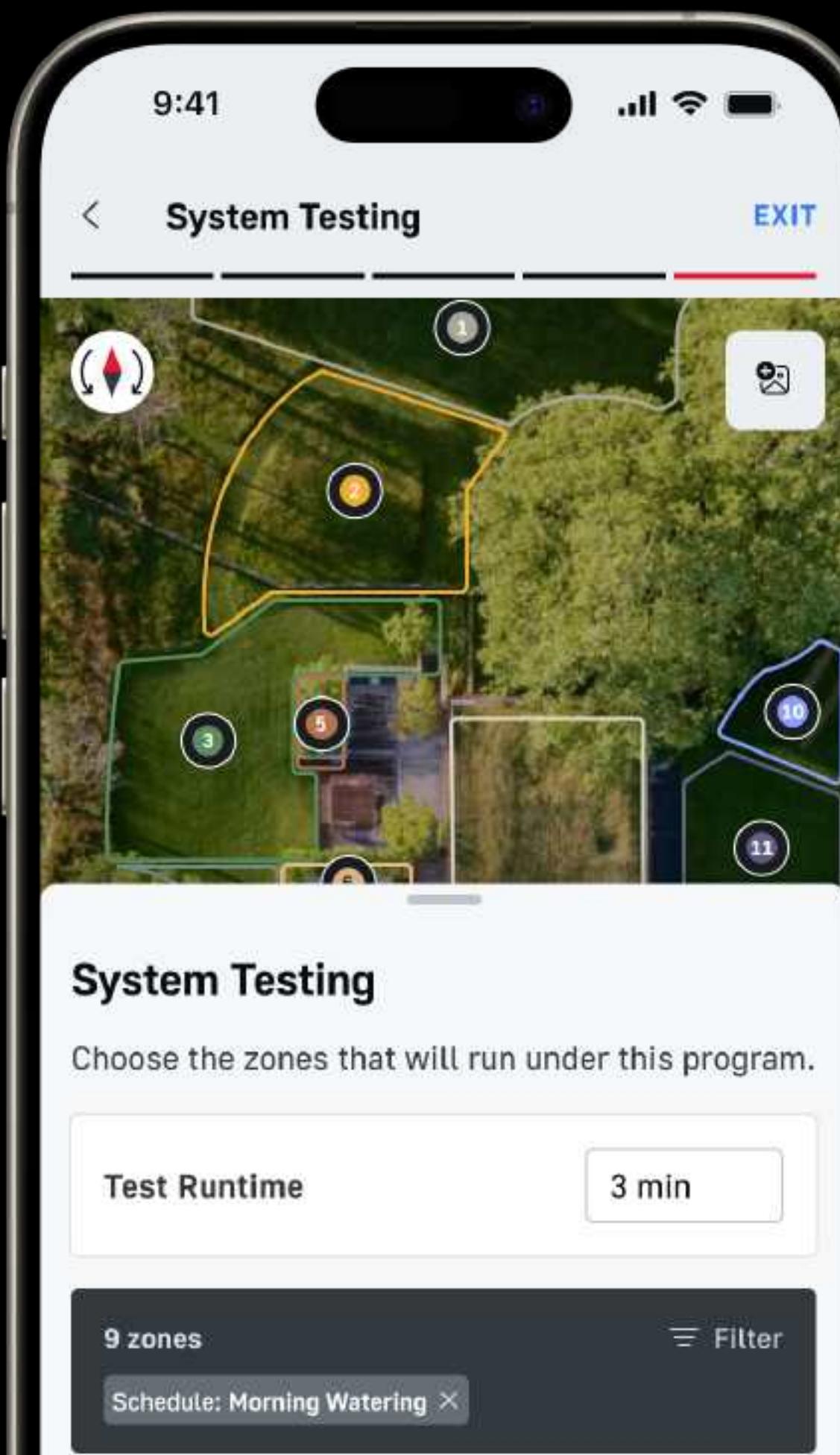
Live Testing

A configurable testing step lets users quickly check to make sure everything is functioning as it should.

Irrigation Setup Prototype



[Click here to view Figma prototype](#)



Irrigation Setup

- 1 Gateway Connection**
- 2 Controller Setup**
- 3 Zones Setup**
- 4 Programs Setup**
- 5 Zone Testing**

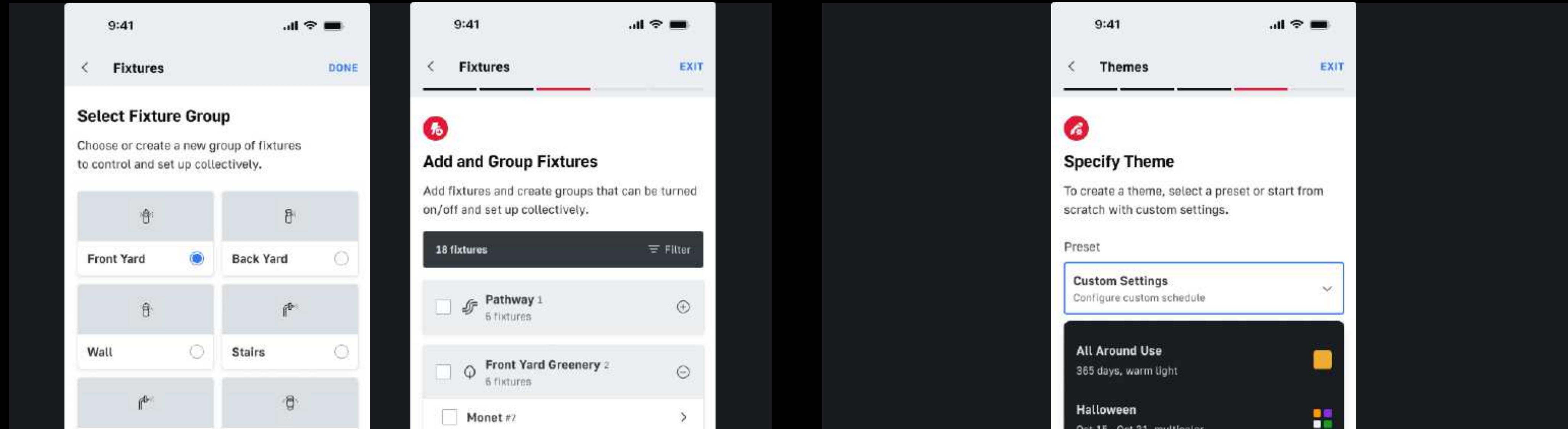
In Their Own Words

“

The map's going to be more useful than having a photo of each zone because you would have to figure out what angle the person took the photo from to make sure you're looking at the same spot.

– Participant 3 when asked about the map view for organizing zones

Lighting Setup Key Features



Fixture Grouping

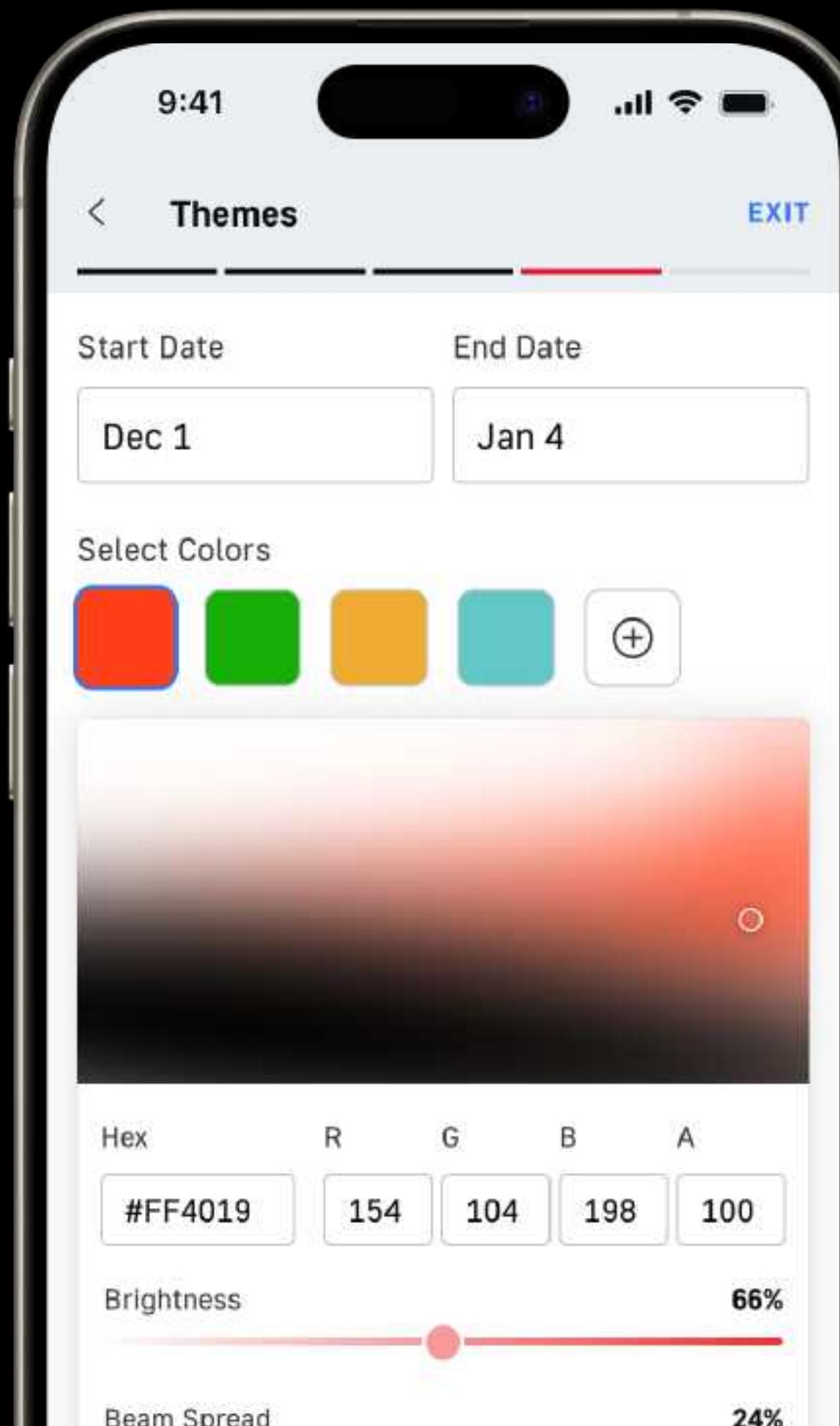
Like irrigation zones, group fixtures by location and type for easy setup and maintenance later on.

Theme Presets

Preset themes help contractors get up and running in seconds, rather than configuring each fixture individually.

Lighting Setup Prototype

 Click here to view Figma prototype



Lighting Setup

- 1 **Gateway Connection**
- 2 **LPCU-A Setup**
- 3 **Schedule Setup**
- 4 **Adding + Grouping Fixtures**
- 5 **Organizing Fixtures**
- 6 **Theme Setup**
- 7 **Fixture Testing**

In Their Own Words

“

***Having the presets in there is very useful.
Nobody that I know has preset themes.
[Currently] you have to program them all.***

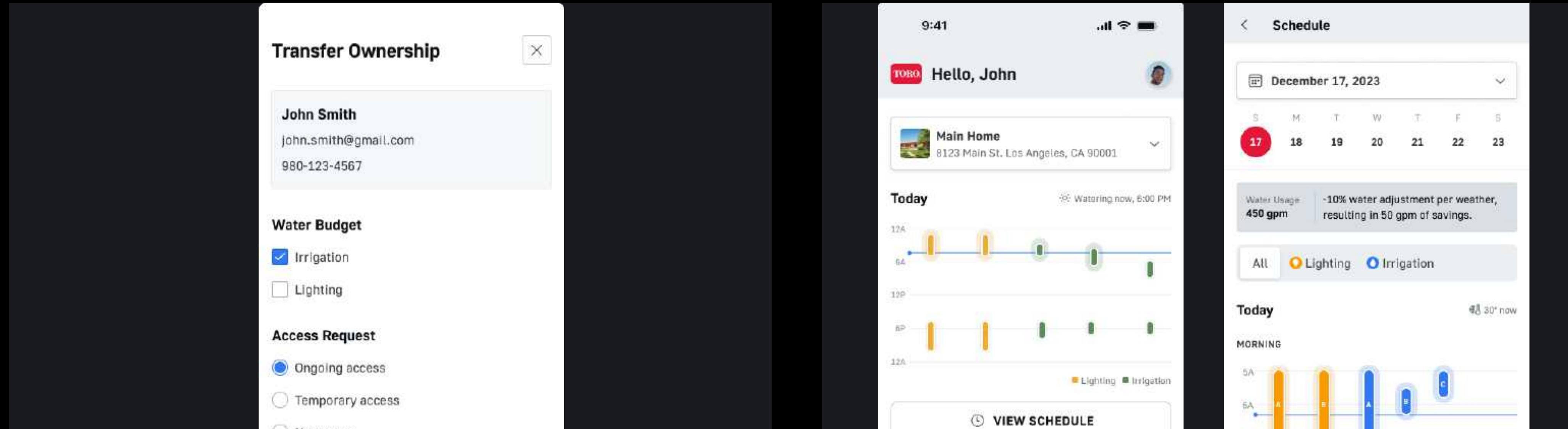
– Participant 4 when discussing lighting themes

Handoff & Monitoring

Jaime transfers ownership to the customer and walks them through their version of the app. Later, Jaime responds to an alert and, after assigning a team member to resolve the issue, reviews the fix.



Handoff Key Features



Ownership Transfer

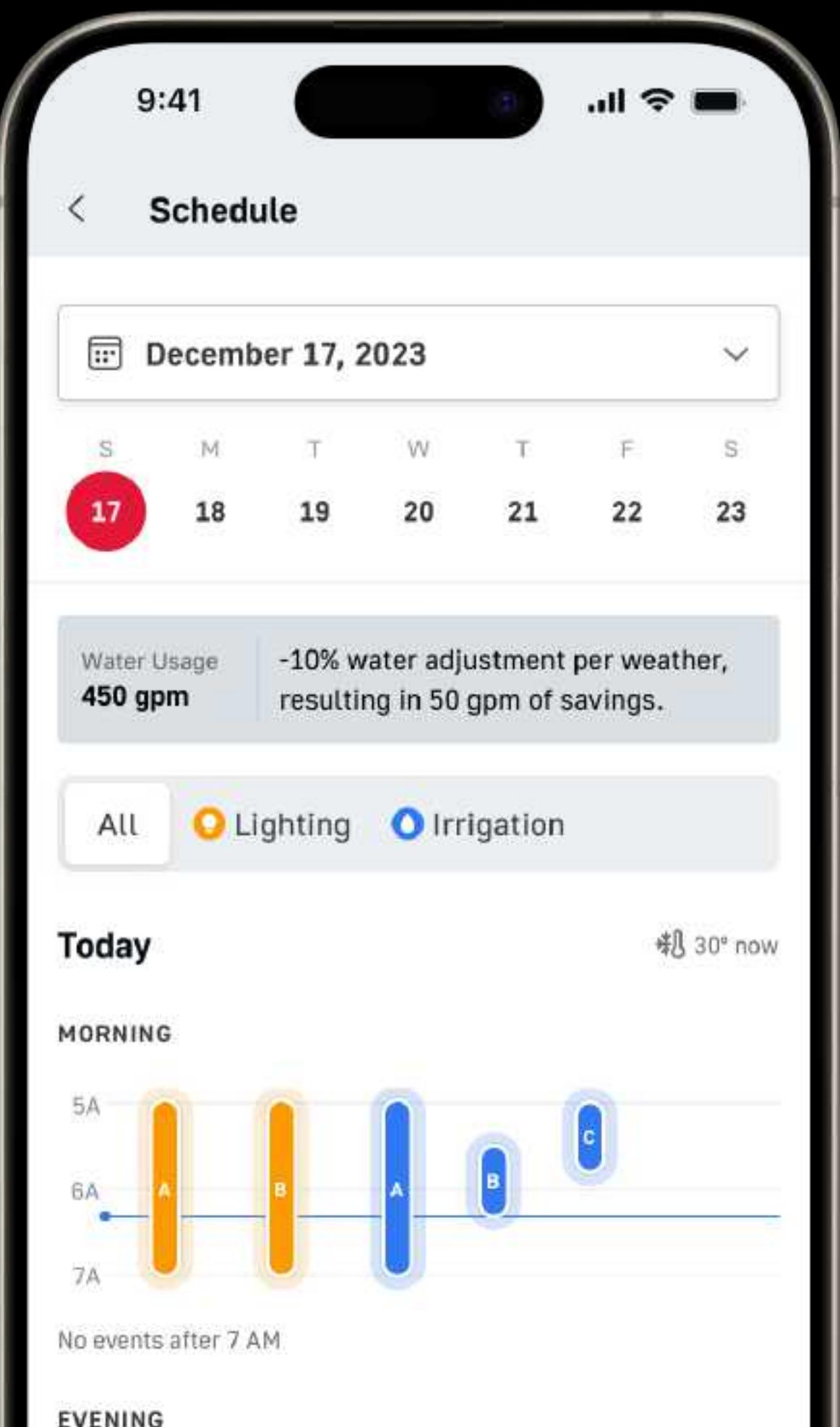
No more customer bottlenecks blocking setup. Start setup on your own account and transfer ownership in a few clicks.

Homeowner Dashboard

A dedicated homeowner view displays basic information while deprioritizing more advanced features.

Handoff Prototype

 Click here to view Figma prototype



Homeowner Handoff

- 1 Irrigation
- 2 Lighting

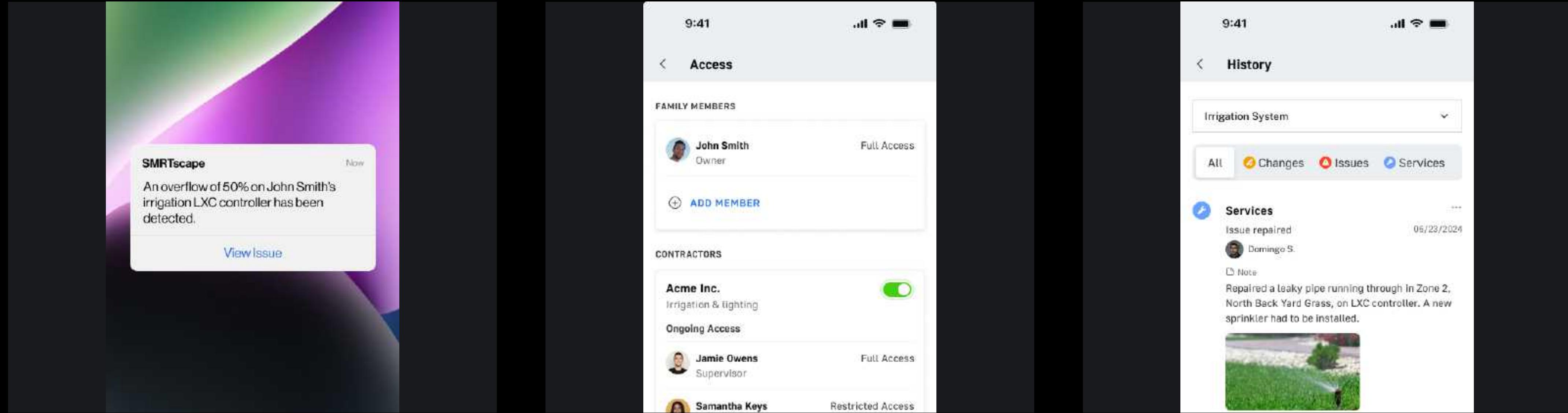
In Their Own Words

“

Its very easy and streamlined. There's only three clicks to transfer it. And there's still some contractor access.

– Participant 5 when discussing homeowner handoff

Monitoring Key Features



Problem Alerts

Proactive alerts help contractors stay on top of potential issues.

Temporary Access

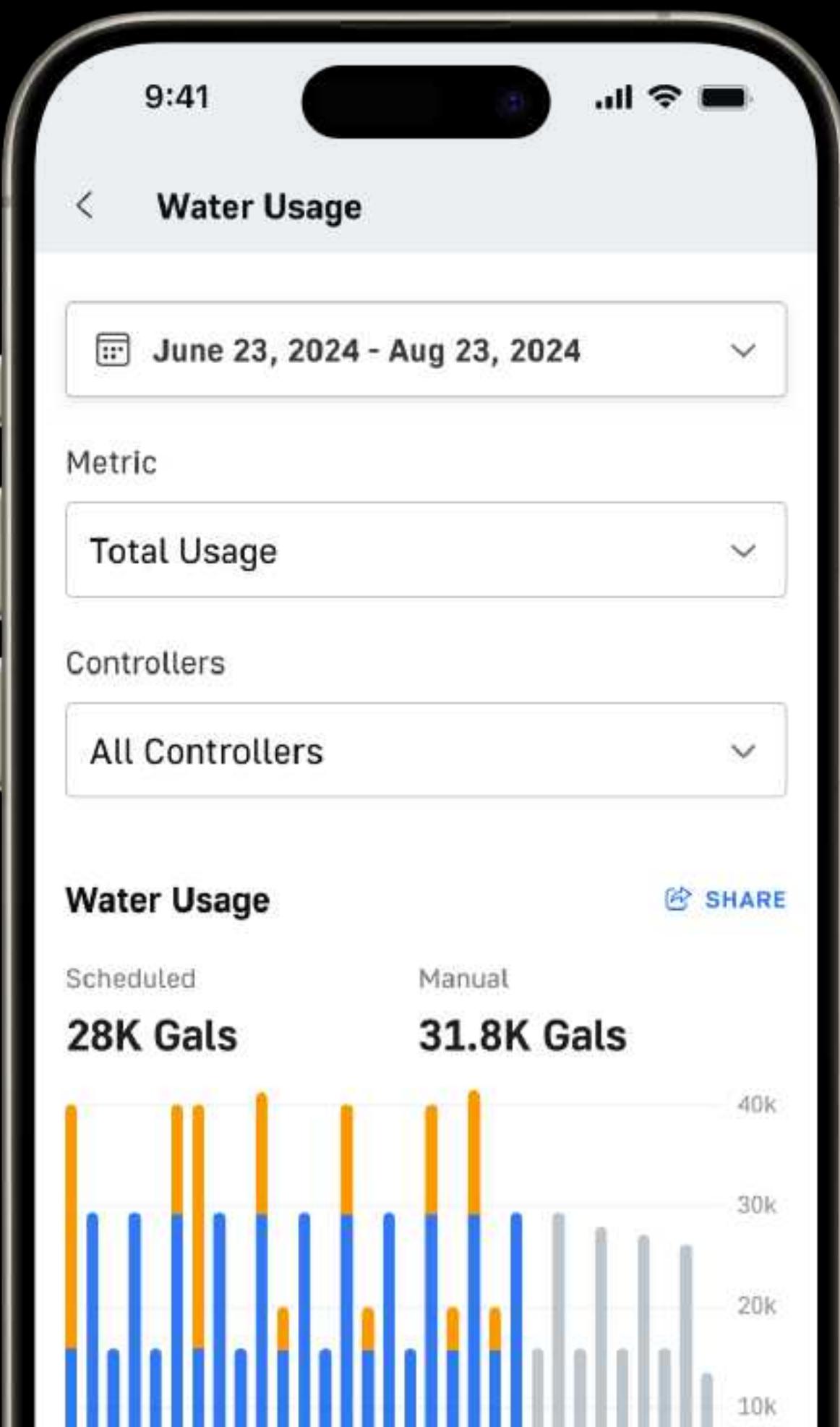
Quickly give team members access to customer settings while on site.

Property History

An ongoing log of all activity and service makes troubleshooting a breeze.

Monitoring Prototype

 Click here to view Figma prototype



In Their Own Words

“

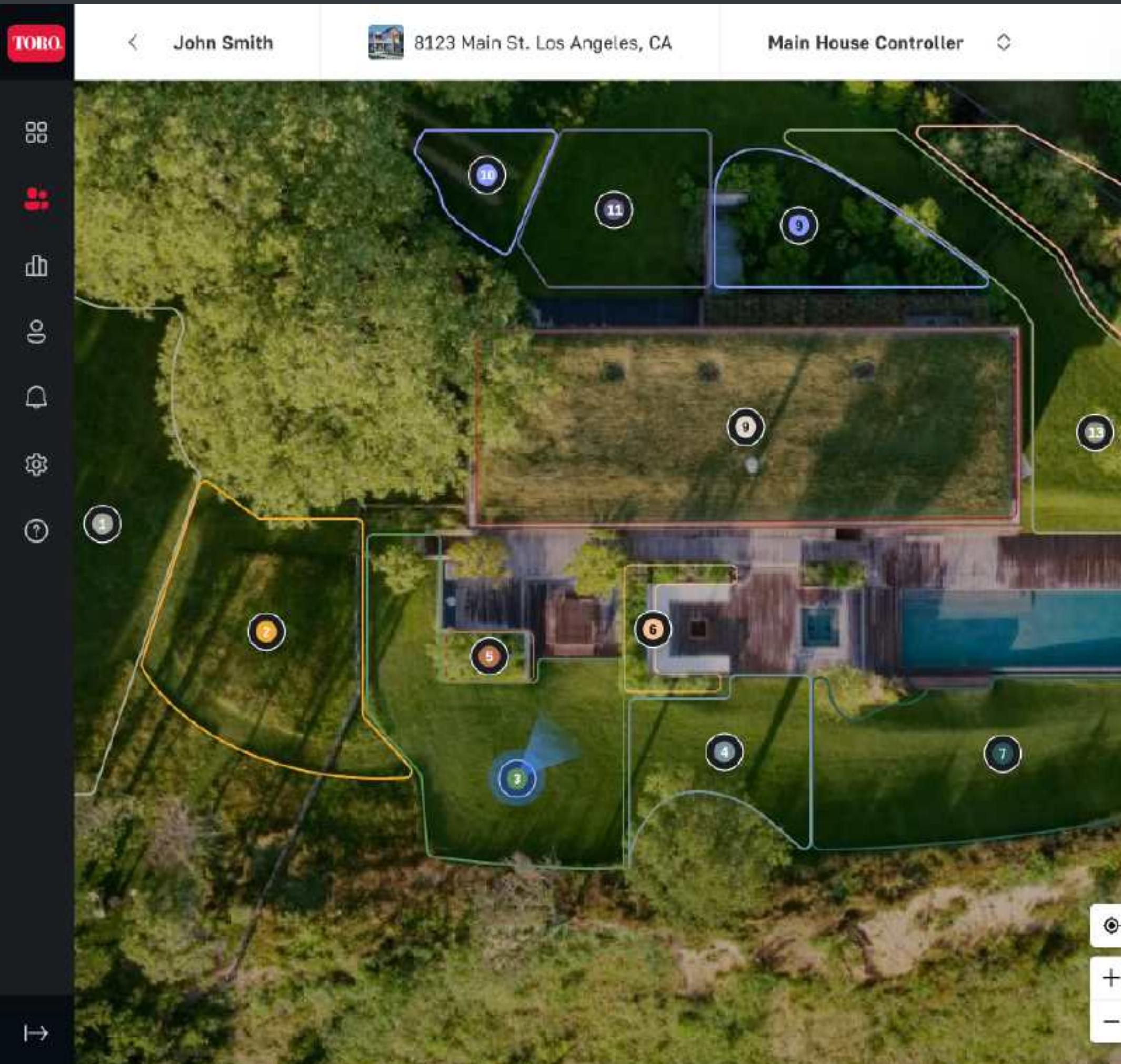
It looks easy and organized. The shut off and schedules is all right there. It's not overwhelming.

– Participant 9 when discussing the homeowner version of the dashboard

BONUS!

Desktop Explorations

We recommend retaining a desktop version of the SMRTscape experience that maintains feature parity with mobile.



Desktop Dashboard

Hello, Jamie

2 URGENT **5** FLAGGED **3** APPOINTMENTS

Today

John Smith
8123 Main St. 9:00 AM

Jose Sanchez
234 Bay St. 2:00 PM

Kumares Ramalah
8123 Church St. 3:00 PM

[VIEW ALL APPOINTMENTS](#)

Priorities

9 All Priorities **2** Urgent **5** Flags **4** Service

SEARCH

Client	Address	Distance	Status	Date
Caroline Clark	2042 High Street, Livermore CA 94550	2.0 miles	⚠️ 50% increased flow	Jun 23, 2024
Kirsten Brown	24 Upland St, Sacramento CA 92134	20.4 miles	⚠️ Low voltage	Jun 22, 2024
Jim McAllister	5396 Reese Ave, Sacramento CA 92134	2.0 miles	⚠️ 50% increased water usage	Jun 19, 2024
Tim Allen	2335 Orchard Lane, Livermore CA 94550	6.5 miles	⚠️ 23% increased water usage	Jun 15, 2024
Claire Wu	4439 Gale Street, Livermore CA 94550	7.0 miles	⚠️ 25% decreased water usage	Jun 01, 2024
William Chalmers	2025 Ninth Street, Carmel CA 94701	24.7 miles	⚠️ 10% decreased water usage	May 24, 2024

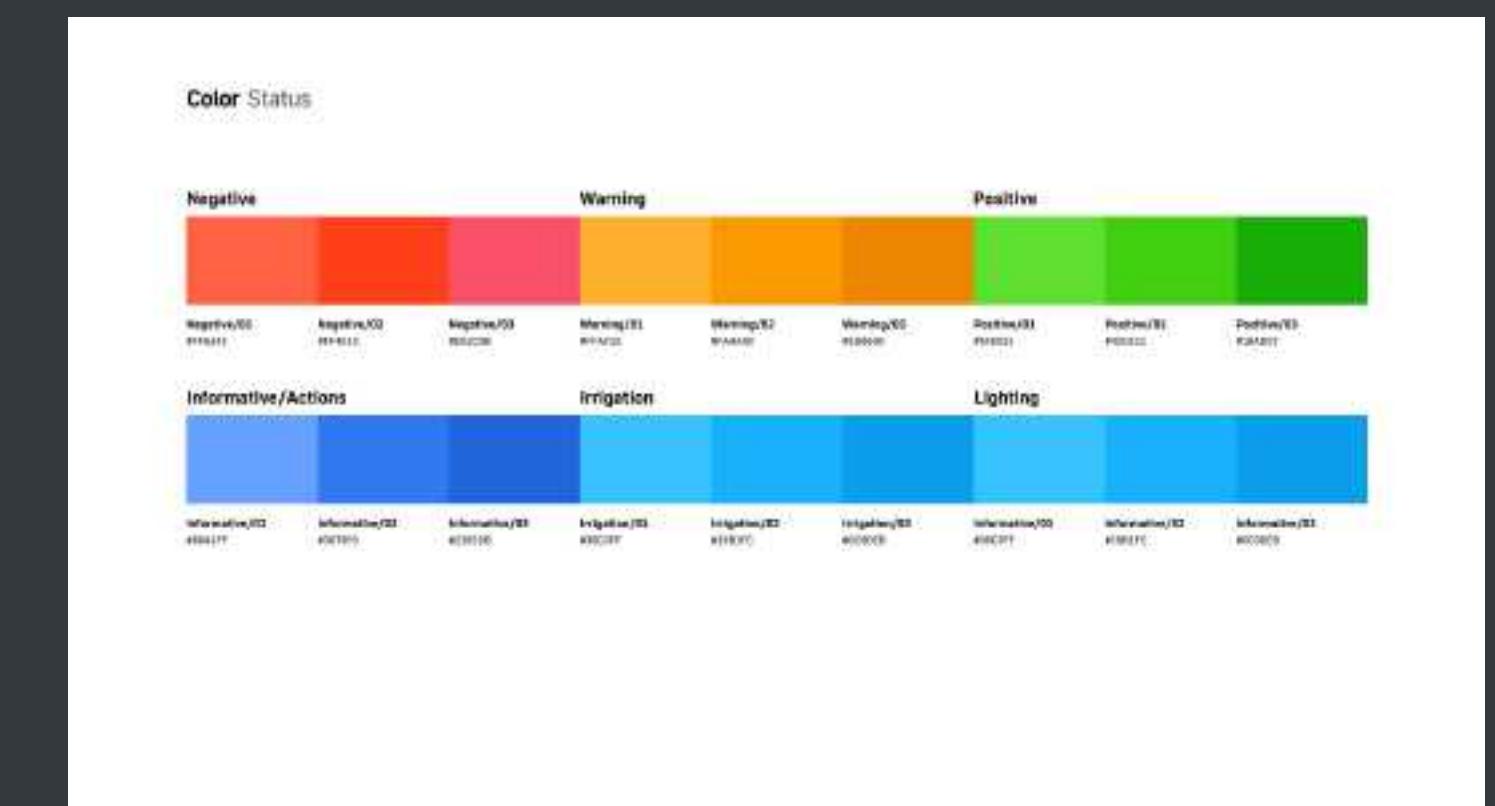
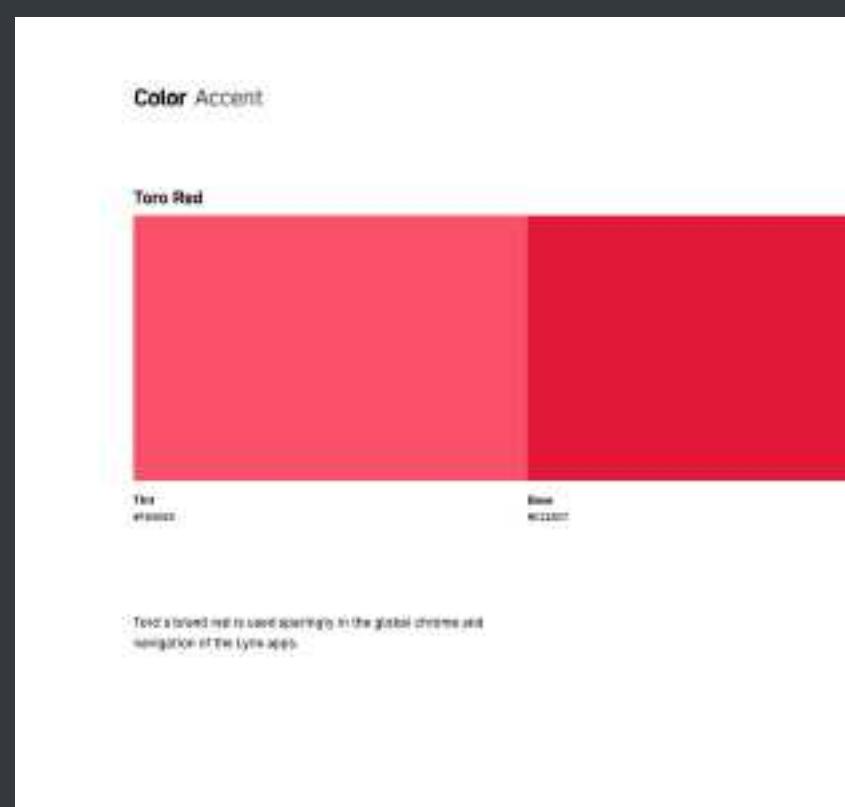
Desktop Zones

The screenshot displays the Toro SmartScape desktop application interface. On the left is a map of a residential property with 14 numbered irrigation zones (1 through 13) outlined in various colors (blue, orange, green). The zones are distributed across the lawn, around a pool, and near the house. A central navigation bar includes the Toro logo, user name "John Smith", address "8123 Main St. Los Angeles, CA", and "Main House Controller". To the right is a detailed "All Zones" configuration panel titled "Status" with a green checkmark. It features sections for "Watering Delay" and "Pause Programs". Below these are buttons for "14 zones" and "Filter". The main list contains 14 entries, each with a play/pause icon and a color-coded vertical bar:

- N. Back Yard Turf #1
- N. Back Yard Turf #2
- N. Back Yard Turf #3
- N. Back Yard Turf #4
- Vegetable Garden #5
- Vegetable Garden #6
- Poolside Turf #7
- S. Back Yard Turf #8
- Rooftop #9
- Front House Turf #10
- Front House Turf #11
- Mix Plants #12
- Front House Turf #13

Visual Design Direction

Our visual design direction is based on the look and feel already established during the Toro Lynx project, but with modifications to appeal to a more consumer audience.



Major Needs Addressed

Crafted a refined setup flow that's uncomplicated and easy to use

Used competitive analysis, user interviews, and stakeholder interviews to create a user-focused app that generated high usefulness and promoter scores, most averaging a >4.0 or an 8.8, respectively.

Surfaced essential presets to speed up setup & scheduling

Leveraged findings to bring forth presets such as time-based schedules, regional distinctions, seasonal restrictions, and ET settings. Utilized zone properties to provide smart recommendations.

Prioritized essential data to make monitoring breaks and leaks easy

Brought forward flow rates, water usage, broken lines within the dashboard and property info to help users determine weather adjustments and identify breaks in the system.

Added premier map functionality for organizing zones and lighting

While the map stood out to most as a signature feature, we increased its efficiency by adding numbers and outlines, photo uploads, and a compass to help identify and navigate to zones.

Built homeowner controls that are essential and not disruptive

Prioritized homeowner features such as daily schedule, alerts, and past or predicted water and energy usage so homeowners know what their systems are doing. Moved more complex features to the background.

Streamlined scheduling and boosted zone testing

Enabled zone-specific run times, added breadcrumbs to signify the selected program, and implemented the ability to tailor testing times and zone sequence.

04

Next Steps

Continued User Research

Not all research questions can be covered in a single study, so ongoing user research and design refinements will help Toro answer these questions optimize the SMRTscape software to address user needs.

Usability testing should be done as soon as you have a prototype that users can click through. The app doesn't have to be fully ready.

Usability Testing Considerations

Early-stage usability testing has many benefits, such as early identification of information architecture issues, usability problems, and missing features, which ends up saving lots of time and money.

Focus on collecting insights from owners, contractors, managers and installers.

Surface findings, and anecdotes about how people use the app to discover and solve problems in the user experience, whether users understand how a product works, and satisfaction with the overall experience.

Don't forget to speak to the homeowners.

Additional segments to focus on should include the homeowner since this will provide insight into how homeowners will use the dashboard and what their desires are past the dashboard.

Recruiting demographics to consider:

- 5 owners and managers
- 5 installers
- 5 users between ages of 21 and 45
- 5 users between ages of 46 and 65
- 5 homeowners between ages of 21 and 45 (when testing the homeowner dashboard)
- 5 homeowners between ages of 46 and 75 (when testing the homeowner dashboard)

Additional Research

We recommend considering further studies to answer additional research questions that came up throughout the project.

A diary study will help you understand how the app is performing in the field and surface essential features.

Use a diary study such as dscout's qualitative research platform to help capture use & behavior over time and in context, as participants report at several touch points throughout the day and across the week.

This will help reveal areas of confusion and opportunities to improve across a number of factors including:

- Intuitive design: How effortless is navigation
- User needs: Real world needs pinned to daily use
- Satisfaction: If the user likes using the product

A marketing survey will help you further understand user perceptions.

Use a survey as a broader approach to gain a deeper understanding of attitudes and opinions about Toro SMARTscape.

Keys To Success

Our foundational research and concept testing uncovered many opportunities to capture more of the market. Here are some things to focus on to ensure the new SMRTscape is a success.

Continue to ensure that it's painless to set the system up by the app simple, easy, and uncomplicated to use.

Minimize ways to accomplish similar tasks since too many features and too many ways to do the same thing ends up making the system slow and cumbersome to use.

The homeowner dashboard should continue to be easy and efficient with only the must-have features at the foreground.

Easy ways to identify zones and scenes, turning settings on and off and setting run times and clear ways of finding, understanding, and interpreting water usage.

The contractor dashboard should provide visibility into homeowner adjustments.

Alerts via email or in app notifications to let contractors know if significant changes are made since getting ahead of any potential problems will help them avoid any disruption to the systems.

Keys To Success Cont.

Prioritize desktop initiatives to offsite setup and management tasks.

The scope of desktop developments should be centered on the initial period of use when programming controllers, setting initial run times and scenes, monitoring systems for water usage and alerts, and running reports is frequently done.

Alternatively mobile and tablet initiatives should prioritize site checks that may include turning off and on the system, checking run times and adjusting sprinkler times.

Small improvements to hardware may provide big gains and pull users toward Toro.

Consider enabling Bluetooth or providing a swappable faceplate (manual to wifi) so crew members can set up the controller during those times when phone signal or internet connection is not available.

Implement hard wired capabilities that allow crews to connect directly from their phone or iPad to a controller so they can adjust and program without needing a bluetooth or wifi connection.

Provide personalized customer service experience.

Personalized contact and connections makes clients feel more valued and inspires great brand loyalty.

Keys To Success Cont.

Increase marketing efforts by advertising SMRTscape as an all-in-one integrated solution.

Ensure that reliability, ease of use, and customer service are at the forefront of all marketing communications. Make certain that customers understand that they have easy access to flow rates, water usage, and ET are included.

Hold off on monetizing any features and data on the app.

Since contractors indicated that they unenthusiastically pay for features such as global control and flow rates as part of doing business we recommend waiting to charge for them till SMRTscape has a stronger hold on the market.

Project Deliverables

RESEARCH

Session Guides

[01 Research & Discovery/](#)

Session Transcripts

[01 Research & Discovery/](#)

User Journey Map

[240112-Toro SMRTscape-Journey Map.pdf](#)

DESIGN

Figma Handoff File

[240112-Toro SMRTscape-Final Designs.fig](#)

Figma Component Library

[240112-Toro SMRTscape-Component Library.fig](#)

Clickable Prototype

See links earlier in presentation

OTHER

All Presentations

[03 Meetings/Presentations/](#)

Strategy Workshop

[Mural Board URL](#)

Design Workshop

[Mural Board URL](#)

Thank you!

blink

AP

Appendix



Business Owner

Challenges

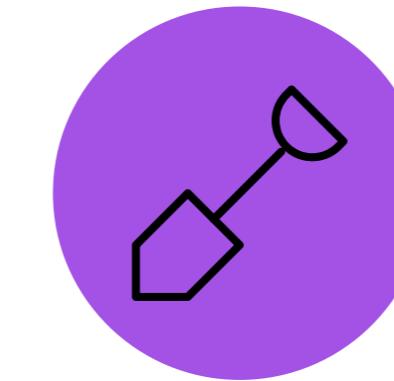
- Balancing costs and profits
- Ensuring customer satisfaction
- Saving water while maintaining vegetation healthy
- Choosing the best products



Project Overseer

Challenges

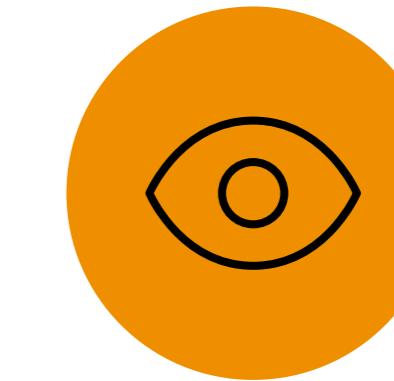
- Balancing costs and profits
- Overseeing installation crew
- Working around Wi-Fi availability
- Ensuring homeowner creates and share their account
- Needing a bigger device size to view big picture when setting up controllers



On-Site Servicer

Challenges

- Ensuring Wi-Fi is connected
- Working on a property for the first time with limited knowledge
- Troubleshooting issues efficiently
- Using an account in a language that may be different from the user's native language
- Needing a portable device to work in the field



Off-Site Monitor

Challenges

- Ensuring Wi-Fi is connected
- Keeping track of alerts
- Distinguishing between a genuine alert and a false one.
- Pinpointing issue causes
- Communicating with homeowners about services

Feature and Device Summary

 Available  Unavailable  Non-Applicable

Digital Experience	Global Mgmt Control	Flow Monitoring	Voltage Monitoring	Issue Monitoring	Predictive Watering	Activity	Reports	Employee Permissions	Contractor Directory	Other Languages	Mobile	iPad	Wearable	Desktop
Hydrawise Irrigation Hunter														
Smart Watering Rain Bird														
Smart Sprinkler Controller Rachio														
B-hyve Pro HydroRain														
Luxor Lighting FX Luminaire														
Brilliance Smart Brilliance LED														
VistaPro Smart Vista Professional Outdoor...														