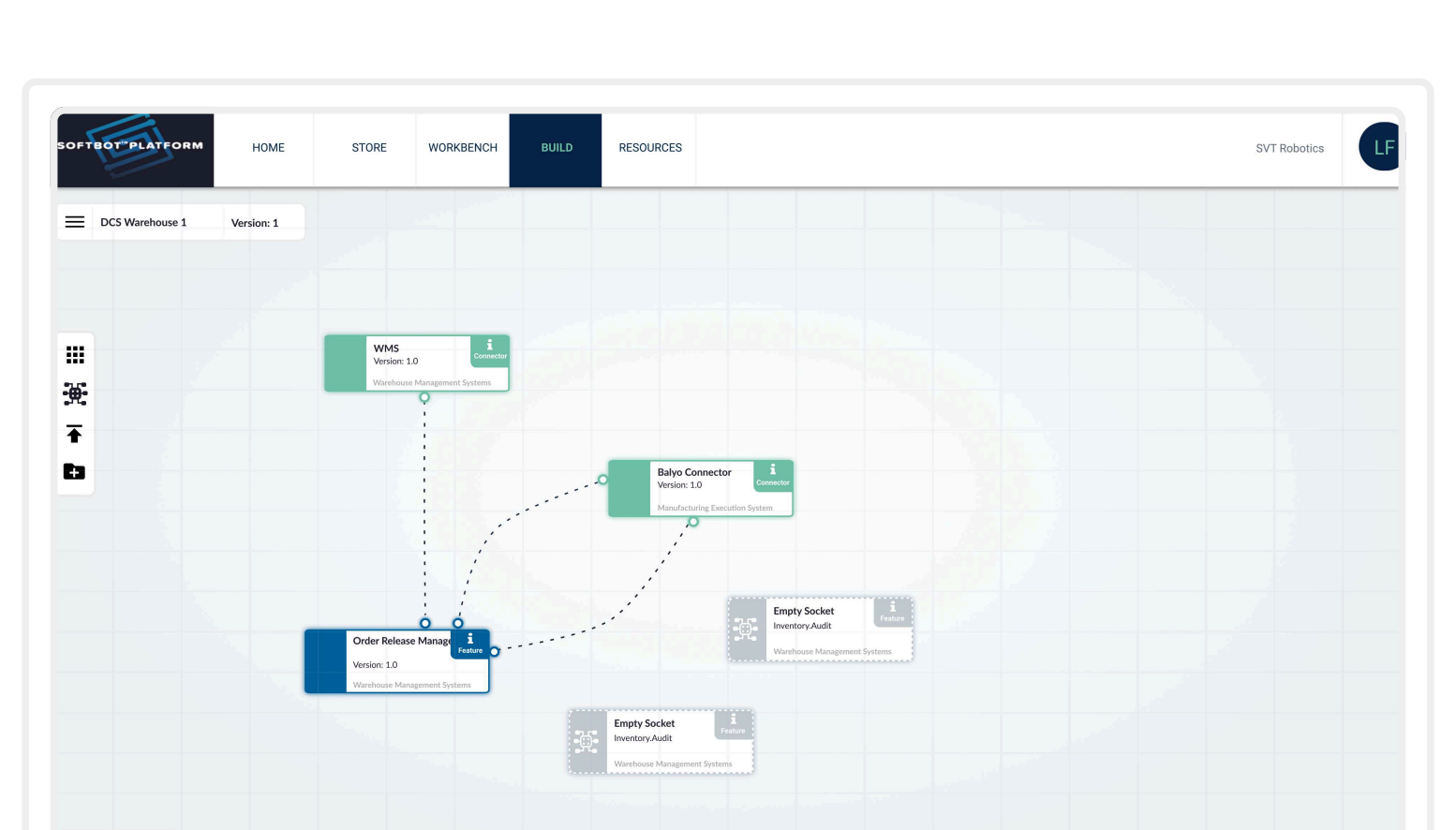
SOFTBOT

Transforming Warehouse Automation:

Enhancing Usability with SOFTBOT Designer



Overview

In the rapidly evolving field of warehouse automation, the ability to build efficient, customizable, and scalable solutions is critical for success. SVT Robotics sought to enhance the usability and user experience of its flagship product, the SOFTBOT Designer, a tool designed for rapid connector creation and seamless automation implementation. The primary goal was to develop a platform that enables companies to deploy robotics technology quicker in warehouse settings, reducing time-to-value and improving scalability.

This case study explores the challenges, research insights, and user-centered design enhancements that transformed the SOFTBOT Designer into a platform that empowers users while driving business growth.

ROLE	DURATION	TEAM SIZE
Product Designer User Researcher	5 Months Design	10

The Challenge

Breaking Barriers to Usability

The SOFTBOT Designer faced significant usability challenges that hindered its adoption and efficiency. Users experienced pain points ranging from debugging inefficiencies to mismatched specifications. Additionally, prior to the team's pivot, the target user base was overly broad, diluting the platform's focus and usability. Specific issues included:

- Constant switching between execution logs and the softbot canvas.
- Frequent accidental deletions during editing workflows.
- Difficulty in formatting inputs and outputs correctly.
- Execution logs displaying irrelevant information and poorly labeled entries.
- Narrow journal blocks requiring excessive scrolling to view code.

These challenges translated to delays, frustration, and a steep learning curve, jeopardizing the platform's mission to enable rapid automation at scale.

Project Background and Scope

Laying the Foundation for Usability Enhancements

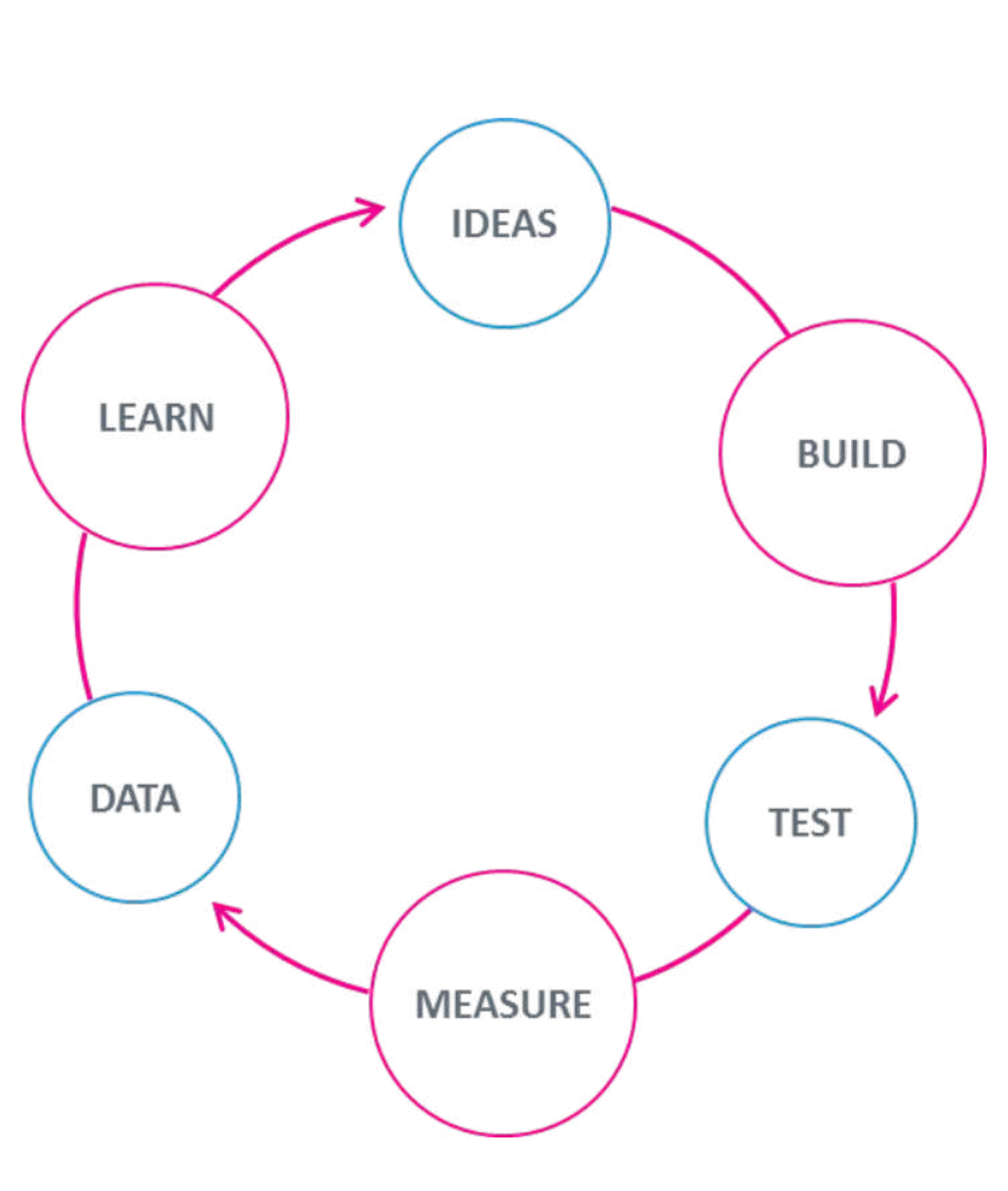
SVT Robotics envisioned a robust, no-code platform that would empower users to quickly design and deploy automation solutions. This initiative encompassed:

- ✓ Gathering qualitative and quantitative feedback from key stakeholders.
- ✓ Pivoting the target audience to warehouse automation professionals.
- ✓ Conducting design audits to evaluate existing workflows.
- ✓ Crafting a roadmap to guide UX improvements from April to September 2022.

My Role and Responsibilities

Leading the Pivot and Driving User Research

As a key team member, I was responsible for leading user research efforts to uncover pain points and opportunities for improvement. This included:



- ✓ Conducting interviews with users to gather actionable insights.
- ✓ Synthesizing feedback to refine the target user base, shifting from a broad to a more focused demographic.
- ✓ Collaborating with cross-functional teams to develop and validate design solutions.
- ✓ Overseeing the creation of prototypes and testing iterations to ensure usability and efficiency.

Our Primary Objectives

To address these challenges, the project centered around three primary objectives:

01 **Optimize Usability:** Streamline debugging and workflow creation processes.

02 **Refine Target Audience:** Narrow the user base to focus on warehouse automation professionals.

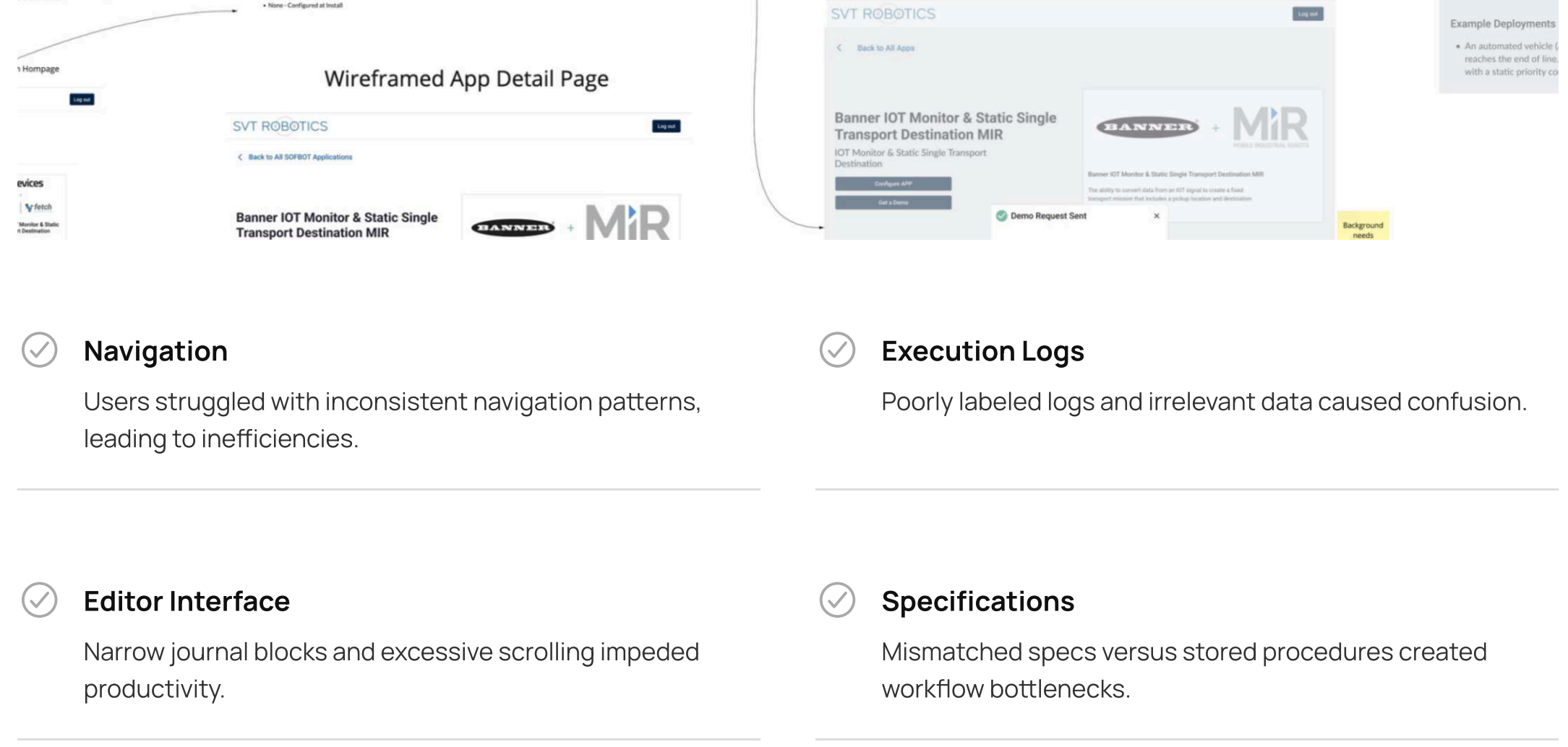
03 **Boost Scalability:** Enable users to build more SOFTBOTs in less time, enhancing deployment speed.

Discovery and Research

Design Audit

Evaluating the Current State

A comprehensive design audit identified key usability issues and areas for improvement in the SOFTBOT Designer. The audit focused on:



Navigation
Users struggled with inconsistent navigation patterns, leading to inefficiencies.

Execution Logs
Poorly labeled logs and irrelevant data caused confusion.

Editor Interface
Narrow journal blocks and excessive scrolling impeded productivity.

Specifications
Mismatched specs versus stored procedures created workflow bottlenecks.

UX Research

Unveiling the User Experience

The UX research process aimed to answer critical questions about user behavior and platform effectiveness. Insights from the research revealed:

- Users Found Debugging Tedious And Error-Prone, With Repeated Actions Like Switching Between Logs And The Canvas Slowing Progress.
- Mismatches Between Specifications And Stored Procedures Caused Inefficiencies.
- Lack Of Clarity In Execution Log Names And Excessive Scrolling In Journal Blocks Frustrated Users.

These findings highlighted the need for a cohesive design strategy to address user pain points and unlock the platform's potential.

UX Feedback Highlights and Themes

Listening to Our Users

User feedback revealed recurring themes that guided the design process:

01 **Testing & Debugging**
Users found debugging tedious due to constant switching between logs and workflows.

02 **UI Accessibility**
Limited visibility and narrow journal blocks hindered user efficiency.

03 **Knowledge Gaps**
A lack of accessible documentation increased onboarding time and error rates.

Direct quotes from users:

> "Able to spin up pass-through connectors incredibly quickly that can handle incoming and outgoing messaging as well as data mapping between internal and external models."

> "Getting from nothing to a simple published working workflow is a breeze."

> "also the log is also odd too…it's just exceptions rather than error message… can get kind of frustrating"

Competitive Analysis

Benchmarking Excellence in Warehouse Automation

To ensure the SOFTBOT Designer's enhancements were market-leading, a competitive analysis was conducted. The analysis compared SVT Robotics' solutions against key players such as Fetch Robotics, Locus Robotics, and Hai Robotics. Key findings included:

Company	*Description*	Strengths	Weaknesses
Fetch Robotics	*Pioneer of On-Demand Automation. Fetch's Autonomous Mobile Robots (AMRs) are used for optimized each picking in fulfillment centers*	Advanced autonomous mobile robots, seamless warehouse integration.	Limited customization options for user workflows.
Locus Robotics	*Innovative and award-winning multi-bot picking system*	Award-winning multi-bot systems, intuitive user interface.	Higher costs and limited pre-built workflow templates.
Hai Robotics	*Autonomous case-handling robotic (ACR) system includes the HAIPICK robots, charging stations, customizable storage units, workstations, and HAIQ software platform.*	Comprehensive ACR systems, strong hardware-software integration.	Steep learning curve for non-technical users.
RightHand Robotics	*Builds a data-driven intelligent picking platform solutions.*	Intelligent picking platforms leveraging advanced data analytics.	Lacks support for large-scale multi-user workflows.

User Persona

Understanding Our Key Users

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Alex Rivera

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Project Development Lead

With 8+ years of experience in warehouse automation, Alex specializes in deploying scalable robotics solutions. They oversee SOFTBOT Designer implementation across multiple client projects.

Goals

- Reduce time spent debugging workflows.
- Ensure seamless integration of connectors.
- Improve team productivity with user-friendly tools.

Frustrations:

- Tedious debugging processes that slow progress.
- Frequent errors when inputting or formatting data.
- Limited visibility into execution logs and unclear error messaging.

Technology Proficiency:

- Advanced knowledge of warehouse automation software.
- Comfortable using scripting languages but prefers no-code tools for efficiency.

Research Findings

Themes That Shaped the Design

01 **Testing & Debugging:**
Users needed streamlined processes to identify and resolve errors.

02 **UI Accessibility:**
Enhancements to journal block sizes and visual clarity were critical.

03 **Knowledge Base:**
A centralized repository of best practices and tutorials was essential for onboarding and troubleshooting.

The Proposed Solution

User-Centered Design Meets Technical Innovation

The transformation, following rigorous UX research, encompassing one-on-one interviews with users from the development and service teams. Feedback was synthesized to identify recurring pain points, prioritize improvements, and inform design iterations. This approach led to targeted enhancements:

01 **Debugging Optimization**
- Added journal data functions and redesigned execution logs for clarity and relevance.

02 **Dashboard UI Improvements**
- Expanded journal block dimensions and introduced better visual cues for inputs and outputs.

03 **Knowledge Accessibility**
- Developed a comprehensive knowledge base and user guide to reduce onboarding time.

04 **Streamlined Processes**
- Implemented pre-defined workflows and automatic activity arrangement to simplify connector creation.

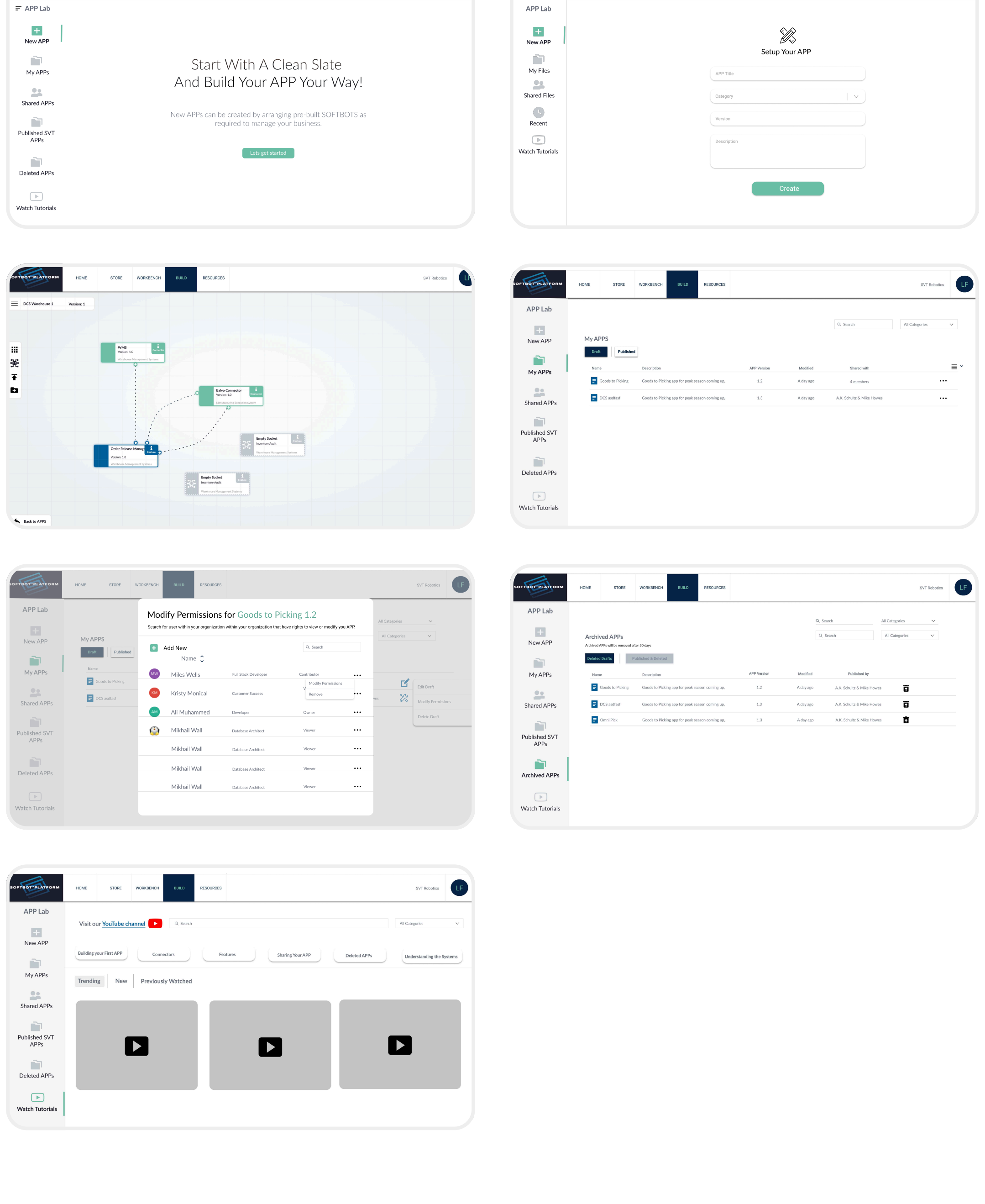
Wireframing and Prototyping

From Vision to Validation

Wireframes and prototypes were developed to test proposed solutions with users. Iterative feedback cycles refined features such as:

- Redesigned execution logs with clearer labels and filters.
- Expanded journal block dimensions for improved readability.
- Interactive guides embedded within the platform to assist users in real-time.

Some Final Dashboard Screens


HOME
STORE
WORKBENCH
BUILD
RESOURCES
APP Lab
New APP
My APPs
Shared APPs
Published SVT APPs
Deleted APPs
Watch Tutorials
Start With A Clean Slate
And Build Your APP Your Way!
New APPs can be created by arranging pre-built SOFTBOTS as required to manage your business.
Lets get started
Setup Your APP
Create
Modify Permissions for Goods to Picking 1.2
Archived APPs
Visit our YouTube channel

Conclusion

A Platform Transformed

The SOFTBOT Designer's enhancements resulted in measurable improvements:

30%	25%	++
Efficiency Gains	**Higher Satisfaction**	**Scalability**
Users reported a 30% reduction in time required to build connectors.	An increase in consultation bookings within the first 3 months.	The platform achieved its goal of enabling 400 connectors.