



Project Case Study - SphereWMS

Client: SphereWMS

Website: spherewms.com



Introduction

Shispare has a proven track record of handling complex WMS systems for our customers based out of North America, we are a preferred vendor for Sphere WMS.com for the last 6+ years and have handled 3 versions of their ERP. We handle all of their fortune 200 customers in the US.

We have developed a couple of supply chain ERPs for them and also enhanced the existing legacy app, solving inventory visibility issues and increasing throughput via designing best picking method.



We have Helped our customers go from completely paper based work to paperless. Helped them improve the operations, efficiency and reduce theft and missing items, making tracking easy for exceptional scenarios.

In the following slides, we will describe the process of how we modified SphereWMS legacy ERP system (30 years old), redesigned it, added dashboards to it and improved inventory visibility, operations and picking efficiency, Make the system user friendly and improve user experience.

Project Overview

SphereWMS is a real-time warehouse management system capable of handling large inventories of an organization. By streamlining the warehousing process, SphereWMS prevents human errors, makes work more efficient and allows effective management of labour.

SphereWMS is currently revamping its products, redesigning the front-end while maintaining the integrity of its backend database along with introducing further stand-alone versions of the system built with a modern technology stack.





Problem

Our client is using a 30 year old system and its hard to use from user respective, inventory visibility and inefficient picking issues. Every customer account is cloud based and need to bring them in a single architecture.



Challenge

The most difficult challenge was to improve user experience for a 30 years old command based system.



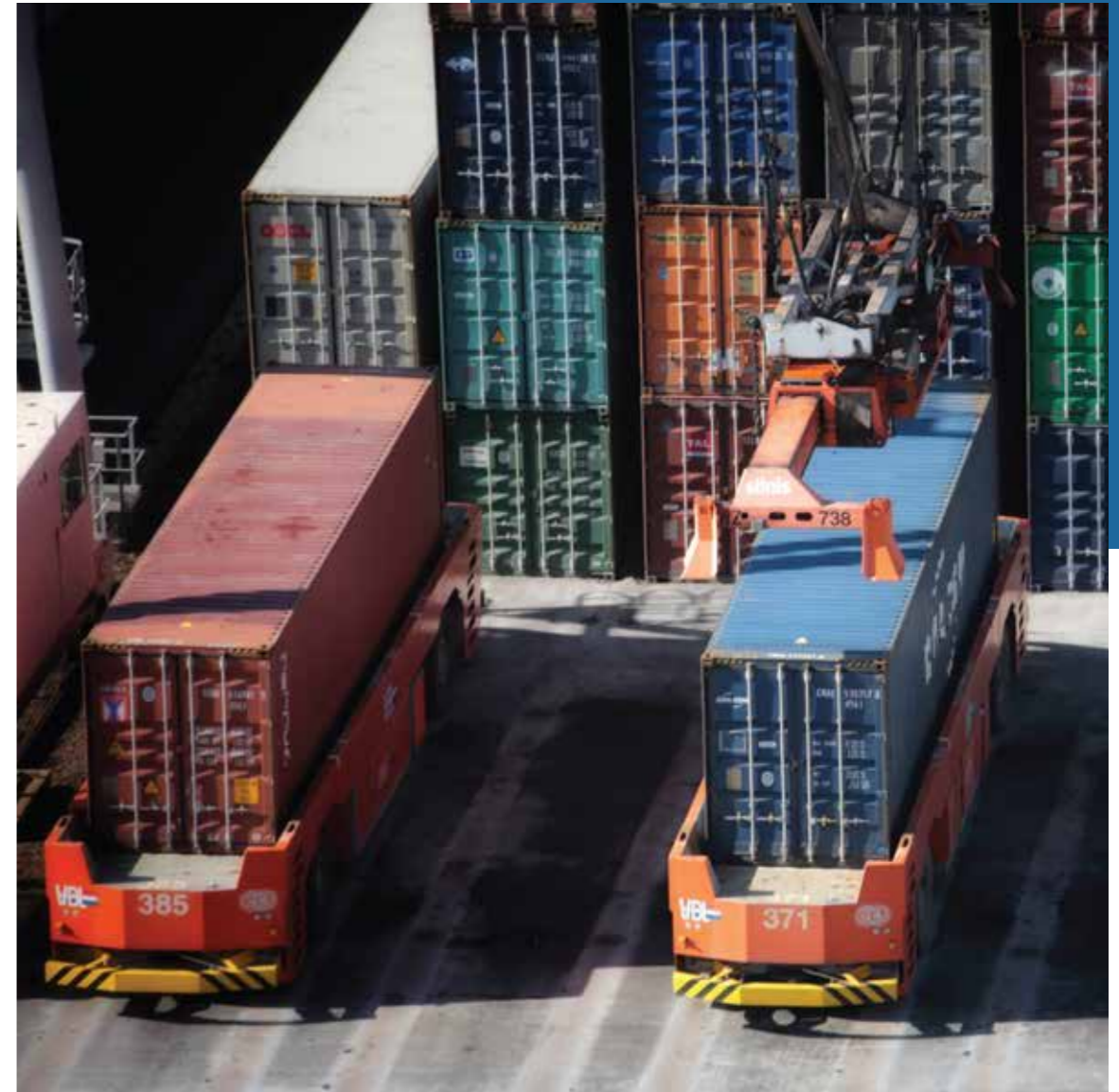
Solution

We iterated the user interface in line with current trends while keeping the old backend in place. So we used Angular to build the front end and integrated it with the old Unicode backend. We created new dashboards for visibility and created new Pick Methods for efficient picking in the warehouse.

Warehouse Management system

SphereWMS Case Study

An organization with the product of warehouse management system, those have big warehouses use this application to have a track of their inventory and store and send the order to the customer as per multiple connected systems like ERP & eCommerce stores etc.



Order Management System

An order management system is a way to manage the life cycle of an order digitally. A single system manages orders, inventories, fulfillment, and after-sales service. Businesses and buyers have visibility into the OMS.

WE, Shispare is Shopify's official partner. We Provide setup, integrations, and customization along with other OMS to these most giant ecommerce.



Pick Methods

A picking method involves retrieving items from inventory locations in a warehouse or distribution center, such as bins, shelves, or pallets, to fulfill an order. It has the following types:



Single Order Picking

Each order is picked individually by the picker. It is common for pickers to repeat the same route throughout their shift as they search the warehouse for each item one by one.



Bulk Order Picking

It is the process of picking a group of orders simultaneously, one stock-keeping unit at a time, by a single picker. Multiple orders containing the same SKU can be handled in this way. route throughout their shift as they search the warehouse for each item one by one.



Zone Order Picking

In zone picking, an order picker is stationed in a specific zone in a warehouse.

- Multi-batch order picking
- Cluster picking
- Wave picking



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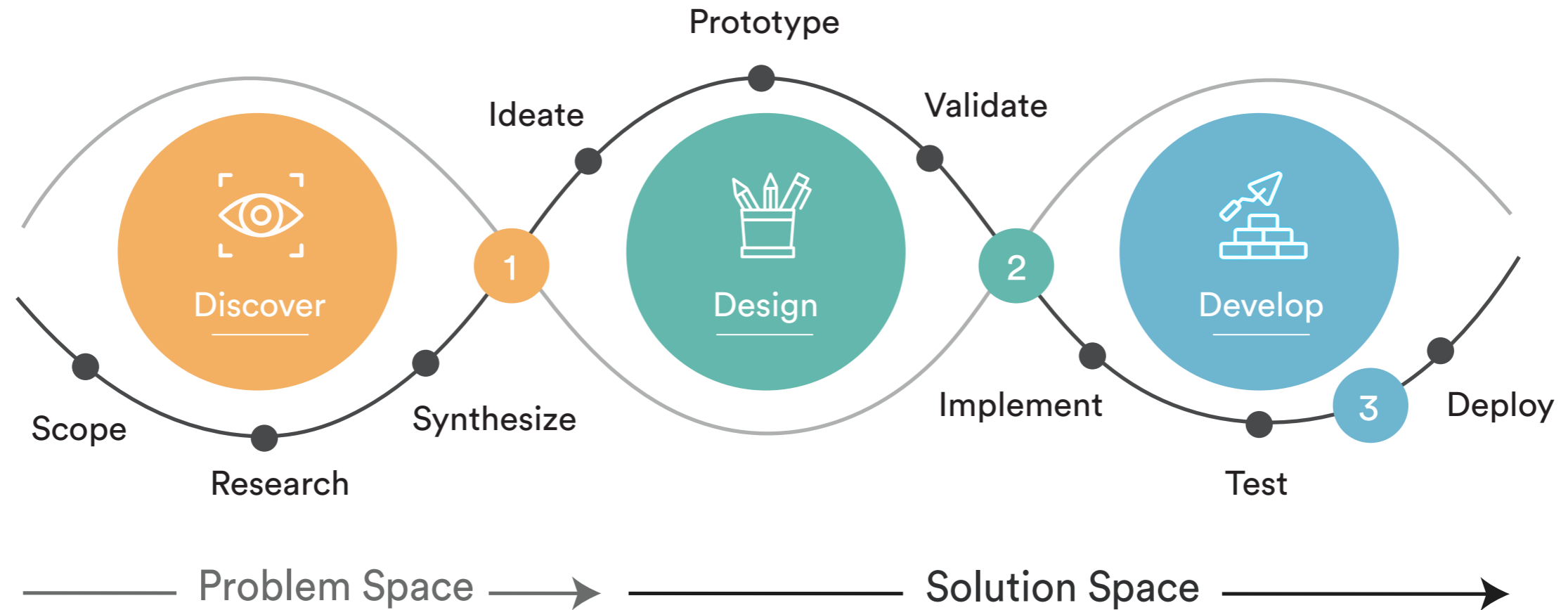
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■ Cluster Picking



Design Process



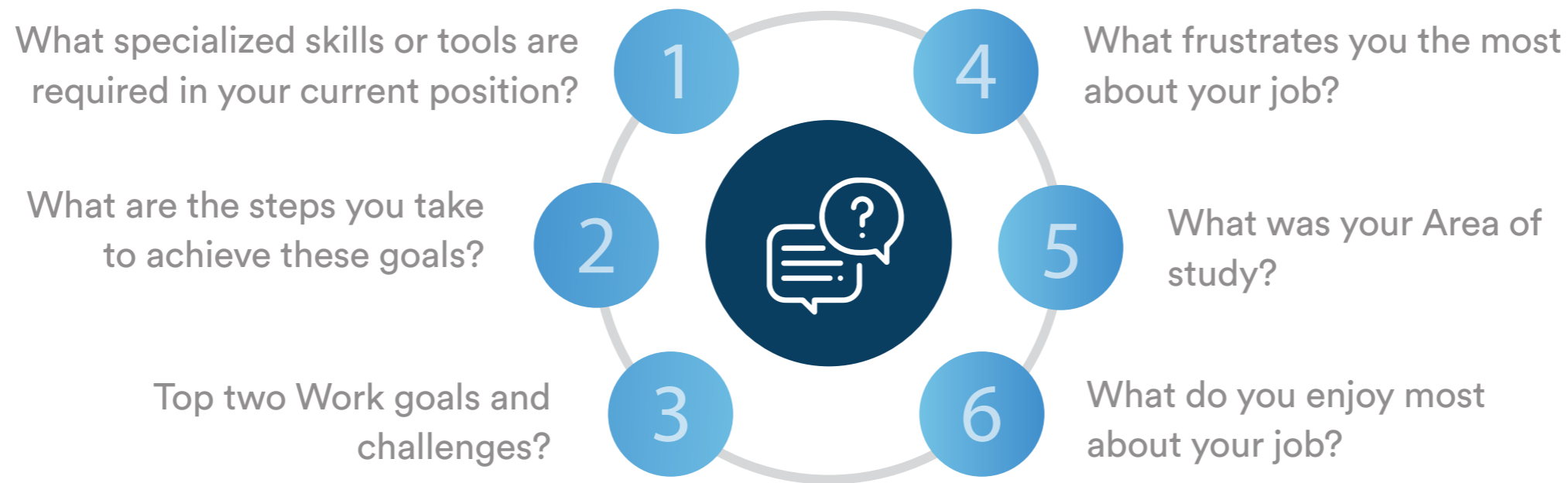
Our Competitors

We Identified the competitors and analyzed their business strategies to determine their strengths and weaknesses to WMS

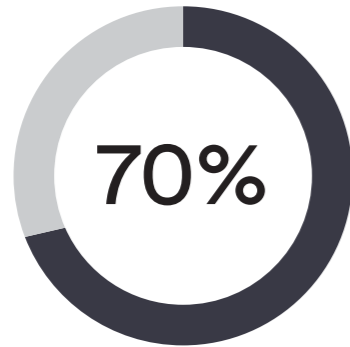


Empathize

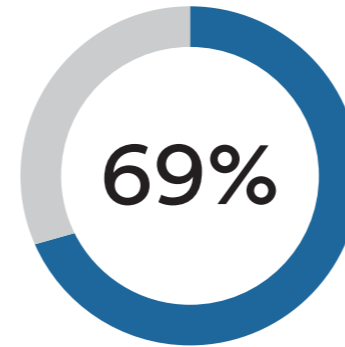
In the research phase of this project, we interviewed Nine users of ages 35-62 to better understand user challenges and motivations. Below are some questions that were asked.



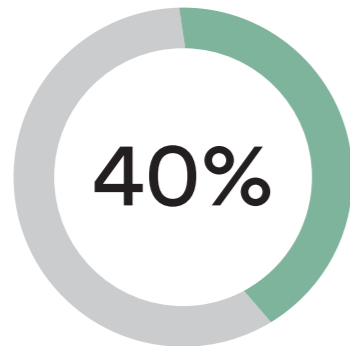
Survey Results



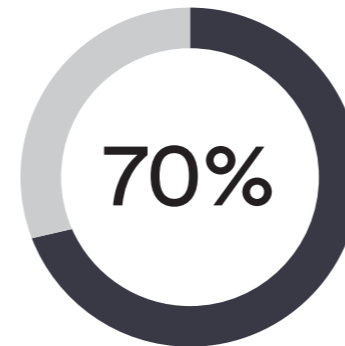
Most of the worker are high school graduate or GED



Using small screen devices to achieve their goals



So many steps to achieve one goal of their job.



Entries are wrong in the system by worker they don't understand the system clearly

Bringing Some Fictional Characters To Life



Charles Woodburn
56 years old
Warehouse Manager
Ohio, USA

GOALS

- Keep track of the current inventory of the warehouse
- Schedule the truck for the shipments

FRUSTRATION

- Navigation of the application
- System don't get update the records
- No real times reports



Linda
41 years old
Supervisor
Ohio, USA

GOALS

- Create Pick list for the picker.
- Work on any discrepancy on floor.
- Create batches and assign to users

FRUSTRATION

- System is to slow.
- Can't find menu options.
- Floor update comes too late.



Sebastian
44 years old
Outbound Picker
Ohio, USA

GOALS

- Pick the inventory of my queue.
- Run cycle count.

FRUSTRATION

- Instruction are not clear on device.
- Step are not proper as per floor.
- Text on device is too small

User Journey Map

Warehouse Supervisor



Wireframe

To brainstorm and test the initial design, We created wireframes. For this reason, the only tools we used were Figma. There were two system user roles and one module we had to design for :

Warehouse Supervisor

This user represents an individual and will be created by the warehouse manager, As all the floor functions that need to perform have to be run by this user

Warehouse Supervisor

This user represents an individual and will be created by the warehouse manager, As a Picker, he has to perform all the order needs to fulfil everyday activity and perform those actions which are asked



Typography and Colors

We used Roboto font throughout the user interface to give the Product a modern and elegant look. To keep the product professional and feel more secure, We use company logo colors as primary and

Aa

Roboto Font Family

the quick brown foz jumps over a lazy dog

THE QUICK BROWN FOZ JUMPS OVER A LAZY DOG

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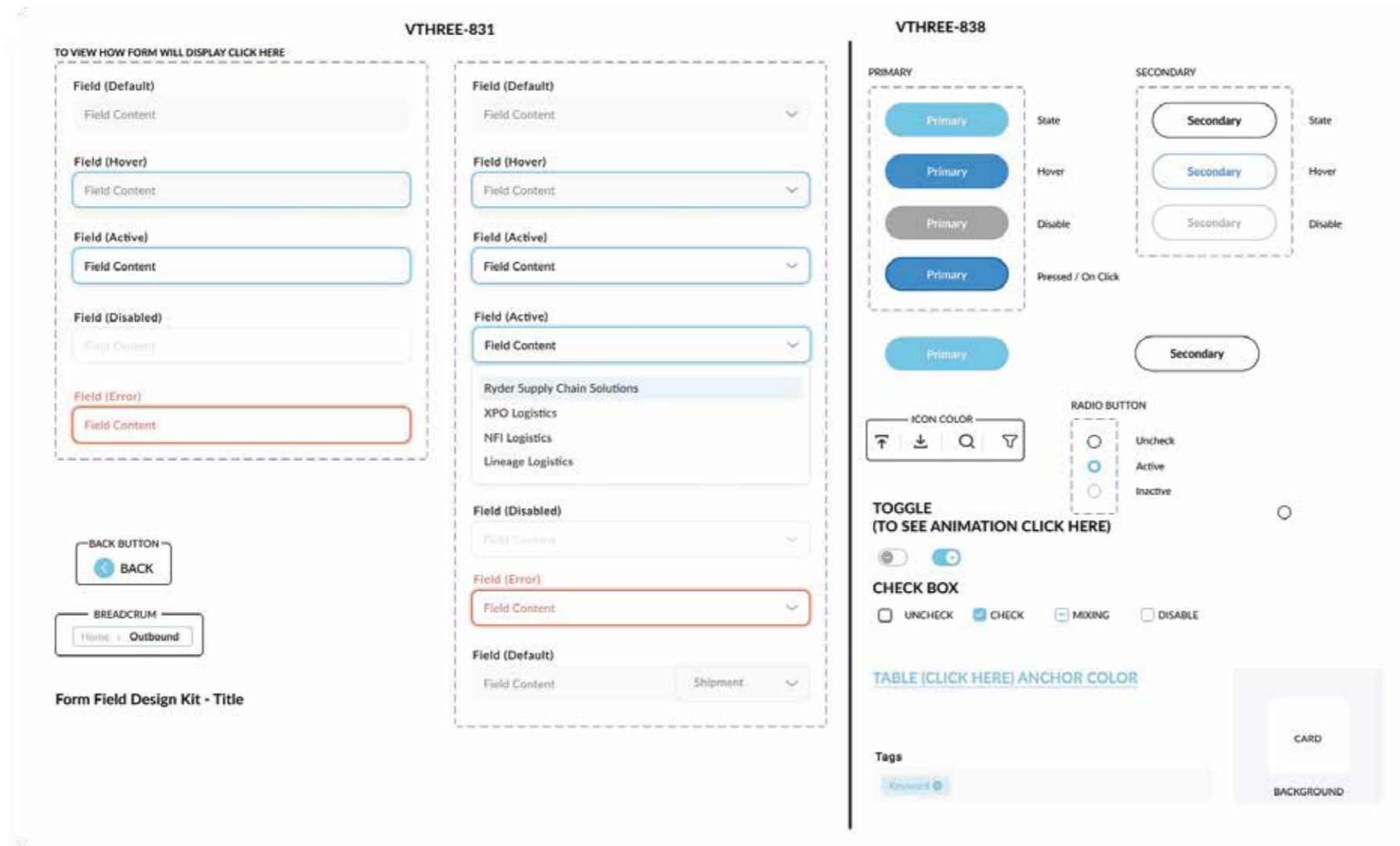
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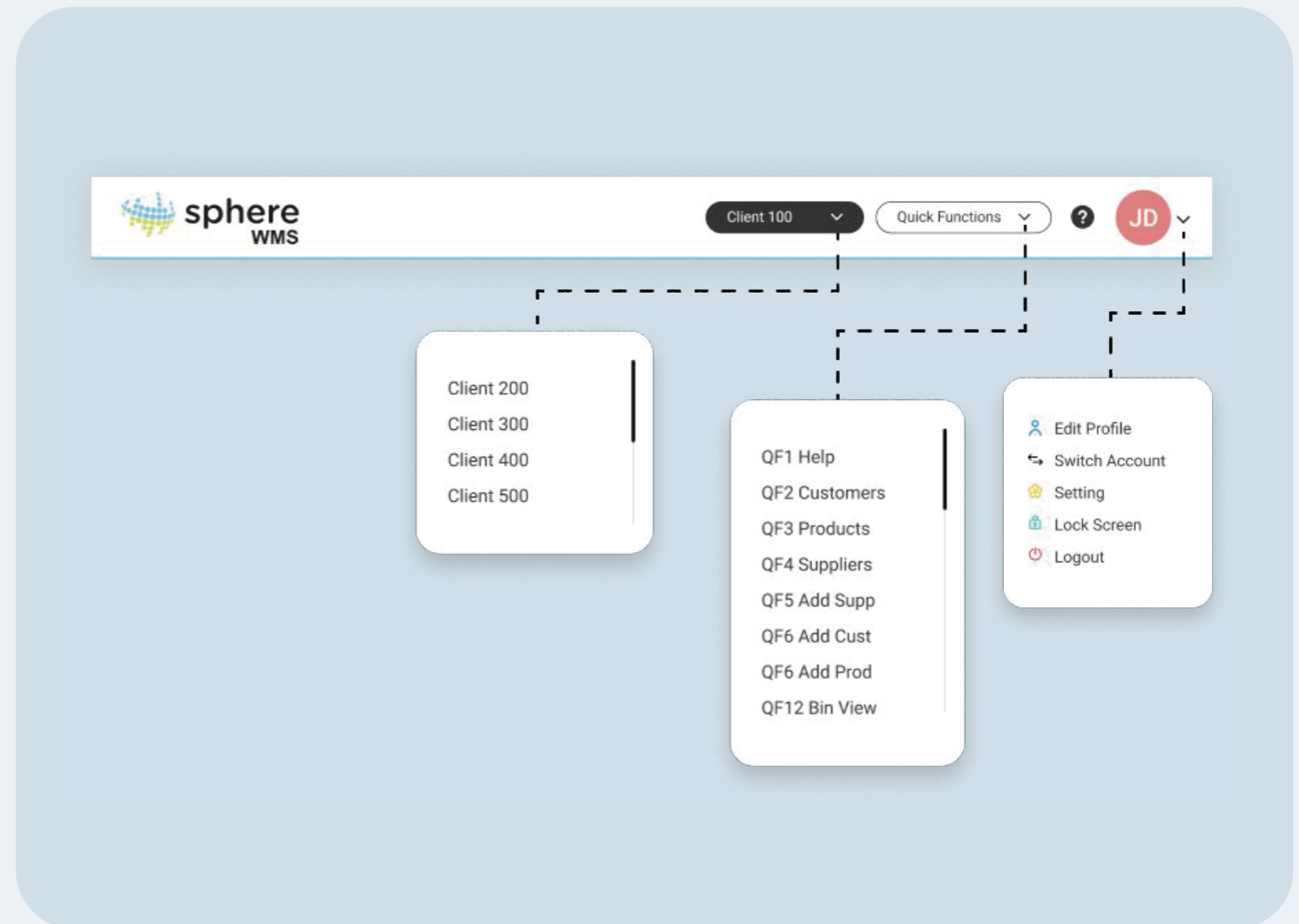
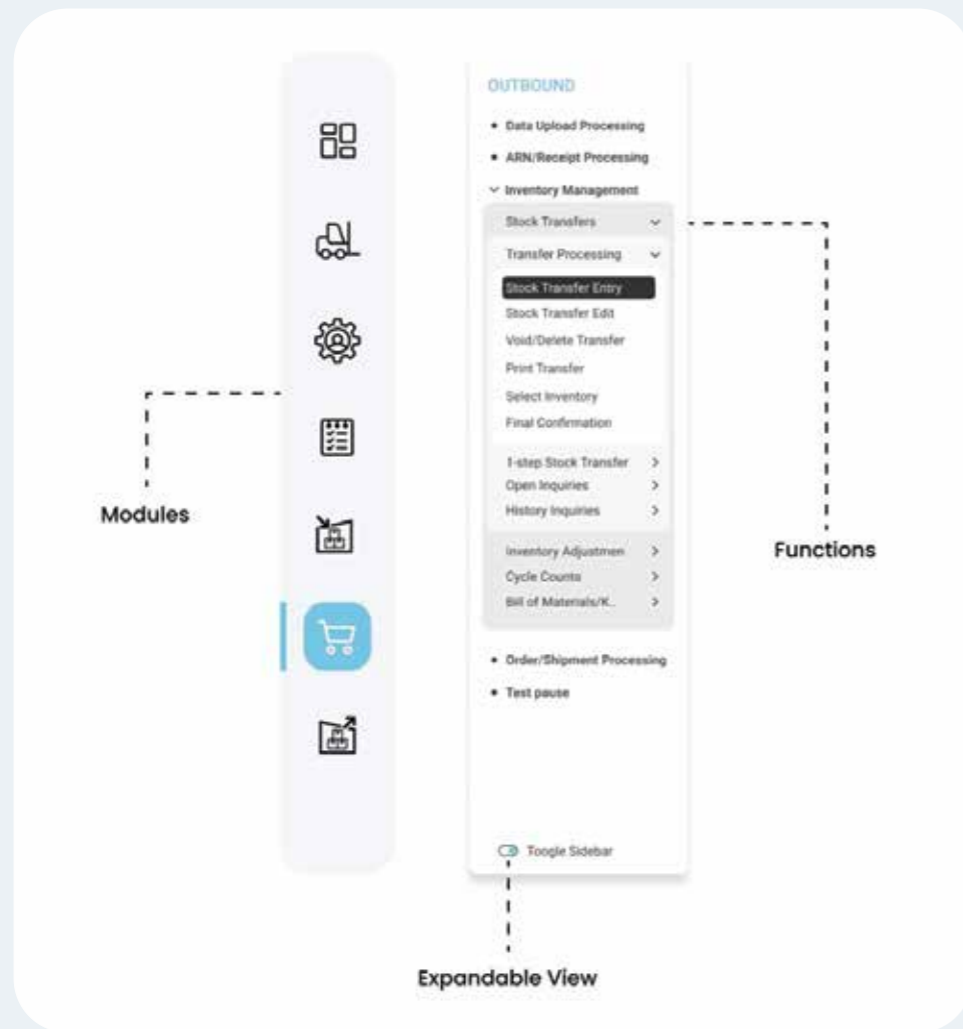
UI Kit

Define complete UI Kit to have easier transformation for the development.



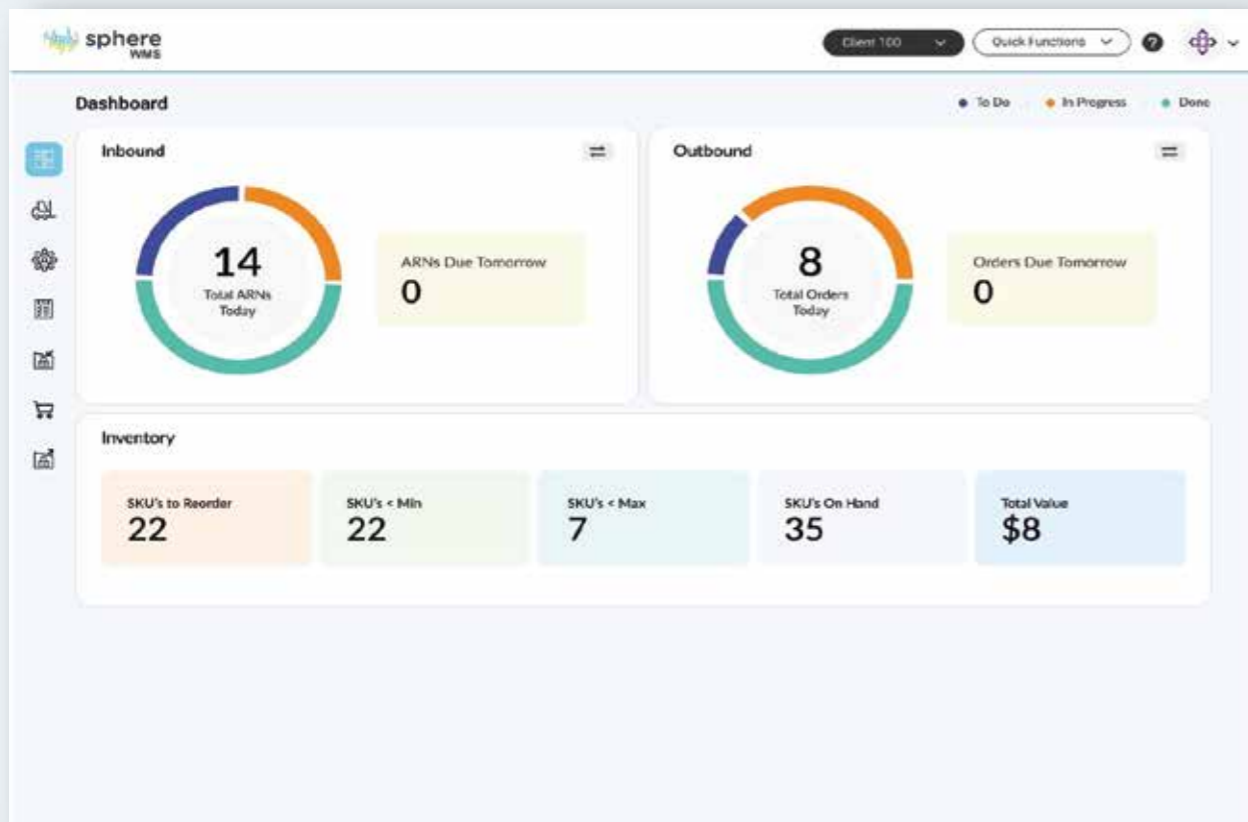
Navigation And Header

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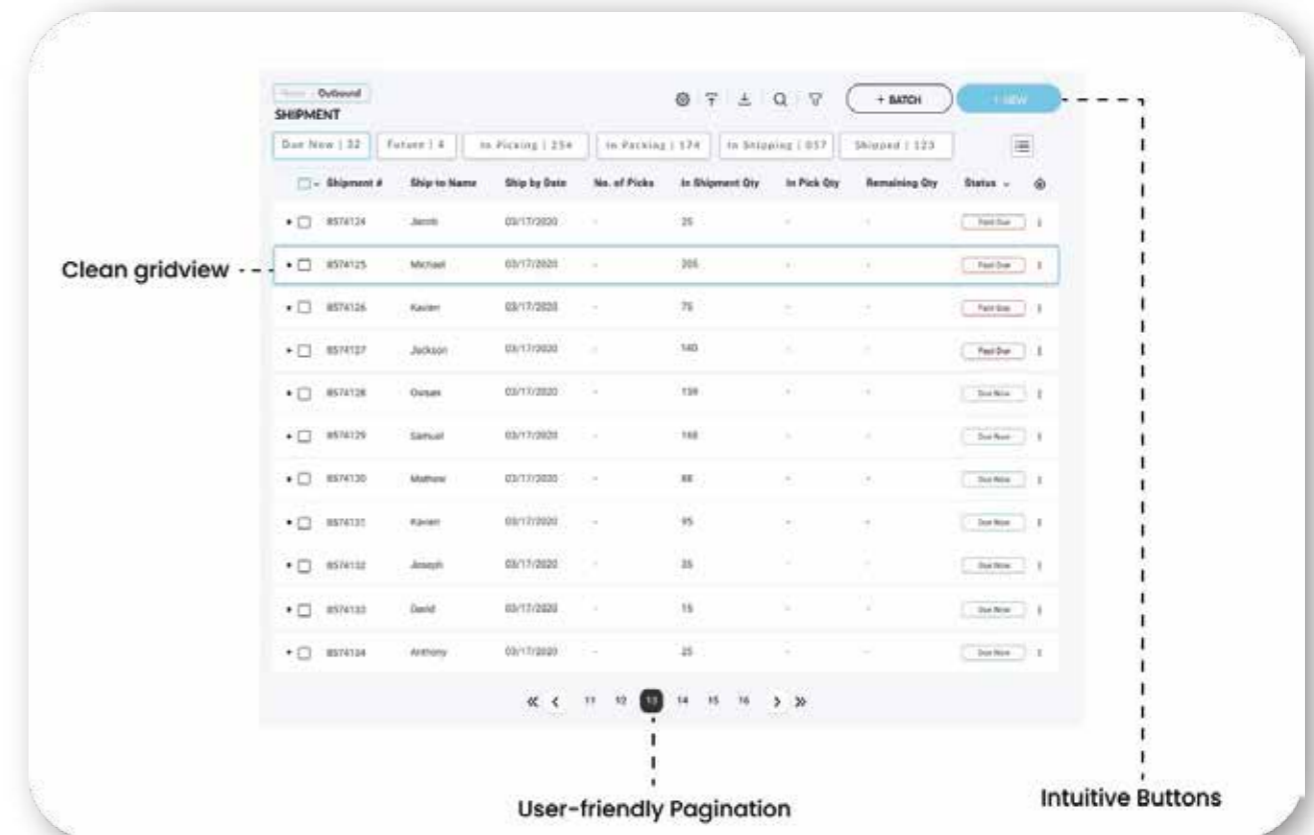
Dashboard

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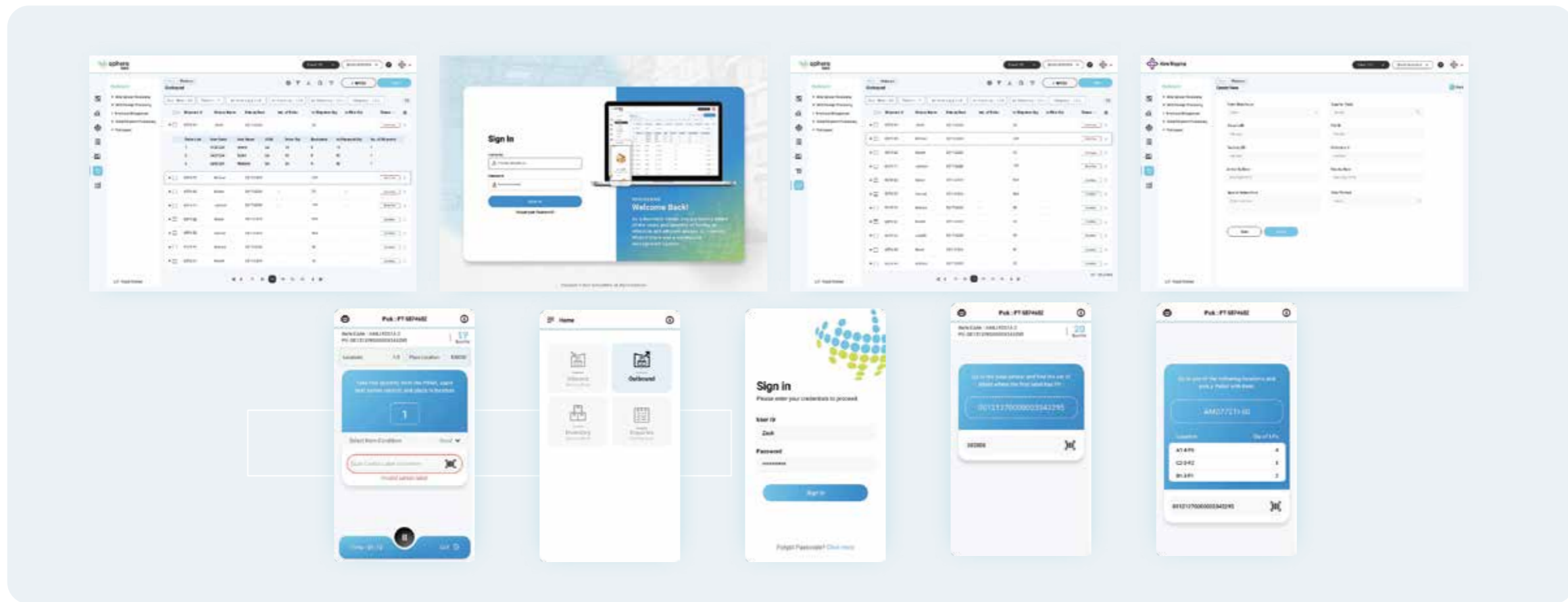
Grid View

Improve and user friendly Grid view clear focus on the actions and visibility



Final Product

A User's first impression forms typically within the first 50 milliseconds of exposure to a product. In today's Hyper-competitive market, strong visual design is a key differentiator for customers. Our primary focus was to add all necessary features in a way that is quite intuitive and assist them at every step of the way, by providing an informative onboarding session and including a bot if they need any help.



Outbound Flow

- Improved Outbound flow which is error free and faster for the warehouse system
Create Shipment form the order received from the e-commerce and EDI's
- Converter those orders into the release where we configure our defined pick method which is as per item class and quantity.
- For those releases divide them into Pick Ticket so each picker can pick it and complete the picking as per allocation. Each picker will perform picking as per their pick method as per configuration was created for them.
- Send it to the next step as per the defined configuration.



Testing and Usability



Clean Gridview and given me clear visibility to perform my task.
Reporting got more easier for me now!



For me Navigation got very easy and I can easily navigate around
Getting notify on every new update made my work fast.



Picking got easier, now its very clear on steps this way my accuracy got ingress

Major Features

Highlights of Key Bullet Points:



Truck Management Feature:



- For Handling truck slots.
- Availability for dock doors.
- Manage Truck appointments.



Reporting:



- Developed a reporting option.
- Making reporting accurate and efficient.



WMS Receiving:



- Different Types of freight from different vendors.
- Designed and Developed receiving feature that enabled barcode scanning receiving and that ensured 2 to 3 million cartons in a month.
- In receiving feature, we have a global barcode GS1 standard scanning capability.
- Also dealt with the exception cases of different scenarios.



Major Features



Labor Planning:



- Projecting the labour force.
- Allocating their tasks.
- Scheduling the labour force for upcoming weeks, months and years.



Dashboard



- New designs for dashboards for better Workability
- The easy interface of Dashboard for better visibility.
- Dashboards are user-friendly for making all the warehouse activities smooth across all the stages in a granular form.



Audit



- Developed an audit feature.
- Making cycle count more efficient and accurate.
- Developing a well-timed cycle for further processes.



Customer Success Story

Managing **Inventory** and **Fulfillment** for 50+ Fortune 200 companies in US, and also managing Inventory Tracking and **Warehouse Operations** for 3PL & Brands in North America on behalf of SphereWMS.

