



The screenshot shows the TrackWise web application interface. At the top, there's a navigation bar with "Dashboards" and "Reports" tabs, a search bar labeled "Search by ID", and a user profile for "Jane Williams". Below the navigation bar, there's a sidebar with "PROJECTS" and "FILTERS" sections. The main content area is titled "Assigned To Me" and displays a table of projects. The table has columns for ID, Short Description, Project, Date Due, and State. Each row has a corresponding state button (e.g., Open, In Progress, Approval In Progress, Ready For Work).

ID	Short Description	Project	Date Due	State
12893	Labels on bottles are incorrect	North America CAPA	4/21/2016	Open
12901	Broken tablets in pill containers	APAC Investigation	5/12/2016	In Progress
14655	Correct refrigeration of raw materials	North America Complaint	5/24/2016	Open
14701	Customers discovered misleading labels	EMEA Complaint	7/21/2016	Approval In Progress
15654	Investigate TY Chem manufacturing pro...	North America Complaint	7/29/2016	Ready For Work
15800	Improve bottle sealing process	APAC CAPA	9/1/2016	Open

- An enterprise web application that helps companies manage quality.
- Over 100 global companies use TrackWise, mostly in regulated industries such as pharmaceutical and medical device.
- Highly-customizable from an administration perspective.

The Problem

Although rich in functionality, TrackWise developed a reputation for being difficult to use. This was substantiated by feedback amassed from customer engagements and win-loss analysis.

New competitors were rising in the space, creating products that were fresh and more intuitive. This caused strain on sales and concern from customers.

The Challenge

Improve the experience of TrackWise so that a large breadth of users see benefits while also increasing our competitive edge from a sales perspective.

Due to the complexity of TrackWise, it was not feasible to do a complete redesign. We needed to target an area that was:

- Frequently used by most user personas.
- Suffered from a substantial number of issues that could benefit from a redesign.
- Could be rebuilt without major impact on core code.

My Role

My role was critical as I was responsible for identifying the areas of focus, creating the new design vision and validating that vision with stakeholders and customers.

I would also play a key role in breaking the work into user stories and prioritizing them as to reach a minimum viable product according to timelines.

The Approach | Discovery

Our first goal was to identify prominent problem areas and the user personas that were affected. We approached this from 4 different angles:

- **Internal discussions** — interview internal people that had frequent customer interaction and experience with TrackWise.
- **User engagement** — hold focus groups and interviews with users, analyze documentation from past user feedback sessions.
- **Heuristic evaluation** — leverage a thorough heuristic evaluation that had been done years prior, applying our own lens.
- **Backlog analysis** — analyzed defects and enhancement requests to identify patterns.

We concluded that users struggled most figuring out **which work items they were responsible for** and **how to act on them**. This led us to a deep analysis of the home screen where we identified 6 problem areas that could be our areas of focus.

Screen Layout
Unclear delineation of work areas.
Lacks resonance with common apps.

Scope / Query
Unclear association between values and records displayed.
Concepts unfamiliar to first time users.
Understated.

Family records
Unclear usage, take users out of context.

Record preview
Unclear association with selected record.
Poor organization.

Visual Design
Scale - style and icons.
Lacks use of fonts/ colors for meaning.

Record #	Supplier Name	Site Name	Project	Short Description	Status
1115	Supplier ABC		Supplier	Supplier ABC provides packaging materials	In Progress
1115	Supplier ABC	Supplier site is Mountain View	Supplier Site	Supplier ABC provides packaging materials	In Progress
1115	Supplier ABC	Supplier site is Mountain View	Supplier Audit	Supplier ABC needs audit on Mountain View site	Pending Response Approval
1115	Supplier ABC	Supplier site is Mountain View	Supplier Finding	Supplier ABC needs audit on Mountain View site	Opened
1115	Supplier ABC	Miami, FL	Supplier Site	Supplier ABC provides packaging materials	Opened
1115	Supplier ABC	Supplier site is Mountain View	Supplier Audit	Supplier ABC needs audit on Mountain View site	Pending Audit

Users

- Patty the Call Center Agent**
Mostly originates records from incoming calls, performs basic searching.
- Miguel the Coordinator**
Reviews, coordinates and delegates actions to others. Assists moving incidents through the process.
- Rucha the Contributor**
Conducts investigations, analyzes the cause of issues within her area of expertise.
- Nancy the Approver**
Reviews and approves quality issues for accuracy and completeness. Balances many inputs across the organization.

The Approach | Wireframe

To validate our findings, I created wireframes (using [Balsamiq](#)) that could be shared with stakeholder groups. I presented the mockups at our monthly customer engagement meeting with over 100 customers. The feedback was extremely positive so...

The wireframe illustrates a web application interface for 'TrackWise'. The top navigation bar includes the logo, search, notification, and user profile (Walter White). Below this is a secondary navigation bar with 'Desk Top', 'Analytics', 'Documents', and 'Administration' menus, along with a 'New Event...' button.

The main content area is titled 'Assigned To Me' and shows 8 results. A table lists the following data:

ID	Project	Title	Assigned To	Date Due	Status
1782	Complaint North America	Broken tablets in pill containers	Miguel Maldonado	28-Sep-2015	In Progress
1799	CAPA North America	Correct refrigeration of raw materials	Rucha Patel	12-Oct-2015	Open
1845	Complaint APAC	Customers discovered misleading labeling	Miguel Maldonado	2-Nov-2015	In Progress
1908	Investigation EMEA	Investigate TY Chem manufacturing	Rucha Patel	25-Sep-2015	Ready for Approval
1922	CAPA APAC	Improve bottle sealing process	Alan Williams	22-Feb-2016	Open
2123	Complaint EMEA	Pharmacy sold expired medicine bottles	Alan Williams	22-Jan-2016	Open
2134	CAPA North America	Repair HVAC systems in various plants	Angela Donald	3-Mar-2016	Ready for Review

A detailed view of the task with ID 1799 is shown on the right. It includes the title 'Correct refrigeration of raw materials', project 'CAPA North America', and status 'In Progress'. Below this, a 'My Activities' section contains three buttons: 'Review Product Information...', 'Send For Review...', and 'Cancel...'. A 'Details' tab is active, showing a text description: 'There were several batches of raw materials found to be refrigerated at the incorrect temperature. A few of the batches were not at optimal temperature but others were at levels rendering them useless. more...'. Additional metadata is listed below:

- Assigned To: Rucha Patel
- Date Due: 12-Oct-2015
- Severity: High
- Reported By: Miguel Maldonado

The Approach | Wireframe

...we refined the (sketchy) wireframes with more fidelity. We iterated on this a few more times continually making adjustments in accordance with feedback. I also began working with the Product Owner to evaluate the potential impact and risks.

TrackWise Miguel M

Dashboards Reports

PROJECTS Complaint, CAPA, Inve...

FILTERS My Filters

Assigned To Me

Due Soon

Reported By Me

Public Filters

Assigned To Me

8 results

ID	Project	Title	Assigned To
1782	Complaint North America	Broken tablets in pill containers	Miguel Maldonado
1799	CAPA North America	Correct refrigeration of raw materials	Rucha Patel
1845	Complaint APAC	Customers discovered misleading labels	Miguel Maldonado
1908	Investigation EMEA	Investigate TY Chem manufacturing process	Rucha Patel
1922	CAPA APAC	Improve bottle sealing process	Alan Williams
2123	Complaint EMEA	Pharmacy sold expired medicine bottle	Alan Williams
2134	CAPA North America	Repair HVAC systems in various plants	Angela Donaldson
2233	Investigation EMEA	Investigate ABC manufacturing process	Rucha Patel

1845

Customers discovered misleading labels
Complaint APAC

Investigation Plan

My Activities

Create Investigation...

Cancel...

There were several batches of raw materials found to be refrigerated at the incorrect temperature. A few of the batches were not at optimal temperature but others were at levels rendering them useless. [more...](#)

Assigned To: Miguel Maldonado

Date Due: 2-Nov-2015

Severity: High

Reported By: Patty Smith

Patty S

New Item

Recently Created

- Complaint North America
- CAPA North America
- Choose another project...

Assigned To

Miguel Maldonado

Rucha Patel

Miguel Maldonado

Rucha Patel

Alan Williams

Alan Williams

Angela Donaldson

Rucha Patel

22-Feb-2016 Open

22-Jan-2016 Open

3-Mar-2016 Ready for Review

25-Sep-2015 Open

Reported By Me

Public Filters

PROJECT ACTIVITY

1845	Complaint APAC	Customers discovered misleading labels	Miguel Maldonado		
1908	Investigation EMEA	Investigate TY Chem manufacturing process	Rucha Patel		
1922	CAPA APAC	Improve bottle sealing process	Alan Williams	22-Feb-2016	Open
2123	Complaint EMEA	Pharmacy sold expired medicine bottle	Alan Williams	22-Jan-2016	Open
2134	CAPA North America	Repair HVAC systems in various plants	Angela Donaldson	3-Mar-2016	Ready for Review
2233	Investigation EMEA	Investigate ABC manufacturing process	Rucha Patel	25-Sep-2015	Open

The Results

After several iterations, we were able to zero in on the main areas of focus.

I collaborated with the Product Owner and agile teams to break the work into epics and user stories. We began prioritizing and assigning effort to get a clearer picture of the work.

Messages
Confirms results of actions performed.
Informs users of important events in the system.

Messages / Tasks
Alerts users of important items.
Act immediately and links directly to the items.

Complaint approved
approved by Nancy Roberts
[1845 - Customer discovered misleading labels](#)
Dismiss

Filter Bar
Increased space to view.
Standard layout.

Record Preview
Intuitive access record information.
Quickly act on records without opening.

Improved Family View
In-context, does not require running a new query.
Clearer indicator.

TrackWise
Dashboards Reports
Nancy R

Assigned To Me
8 results

ID	Project	Title	Assigned To
1782	Complaint North America	Broken tablets in pill containers	Miguel Maldonado
1799	CAPA North America	Correct refrigeration of raw materials	Rucha Patel
1845	CAPA North America	Customers discovered misleading labels	Miguel Maldonado
1908	Investigation EMEA	Investigate TY Chem	Rucha Patel
1922	CAPA APAC	Investigate TY Chem	Alan Williams
2123	Complaint EMEA	Investigate TY Chem	Alan Williams
2134	CAPA North America	Investigate TY Chem	Alan Williams
2233	Investigation EMEA	Investigate TY Chem	Rucha Patel

1845
Customers discovered misleading labels
Complaint APAC
Ready For Approval
My Activities
Approve...
Reject...
There were several batches of raw materials found to be refrigerated at the incorrect temperature. A few of the batches were not at optimal temperature but others were at

Backlog
QUICK FILTERS: Features Defects Only My Issues Recently Updated
TRACKWISE-10030
TRACKWISE-11640
TRACKWISE-10329
TRACKWISE-11236
TRACKWISE-10942
TRACKWISE-10296
TRACKWISE-10336
TRACKWISE-11245
TRACKWISE-10681
TRACKWISE-10582
TRACKWISE-10584
TRACKWISE-10295
TRACKWISE-10683
TRACKWISE-8453
TRACKWISE-11395
TRACKWISE-11620

The Results

We finalized the vision by applying a clean and modern visual design. The visual design was consistent with other products in our portfolio, our brand, and common practices of modern design.

We presented the final designs at our monthly customer meeting and at our annual user conference. The presentation received a standing ovation giving us final validation that we had reached our goal!

The image displays two overlapping screenshots of the TrackWise software interface. The top screenshot shows a list of tasks assigned to the user, filtered by 'Assigned To Me'. The bottom screenshot shows a detailed view of a specific task (ID 14701) with a modal dialog box for actions.

TrackWise Interface - Assigned To Me

ID	Short Description	Project	Date Due	State
12893	Labels on bottles are incorrect	North America CAPA	4/21/2016	Open
12901	Broken tablets in pill containers	APAC Investigation	5/12/2016	
14655	Correct re Fridgeration of raw materials	North America Complaint	5/24/2016	
14701	Customers discovered misleading labels	EMEA Complaint	7/21/2016	
15654	Investigate TY Chem manufacturing process	North America Complaint	7/29/2016	
15800	Improve bottle sealing process	APAC CAPA	9/1/2016	

Task Detail View (ID 14701)

Customers discovered misleading labels
EMEA Complaint

Open

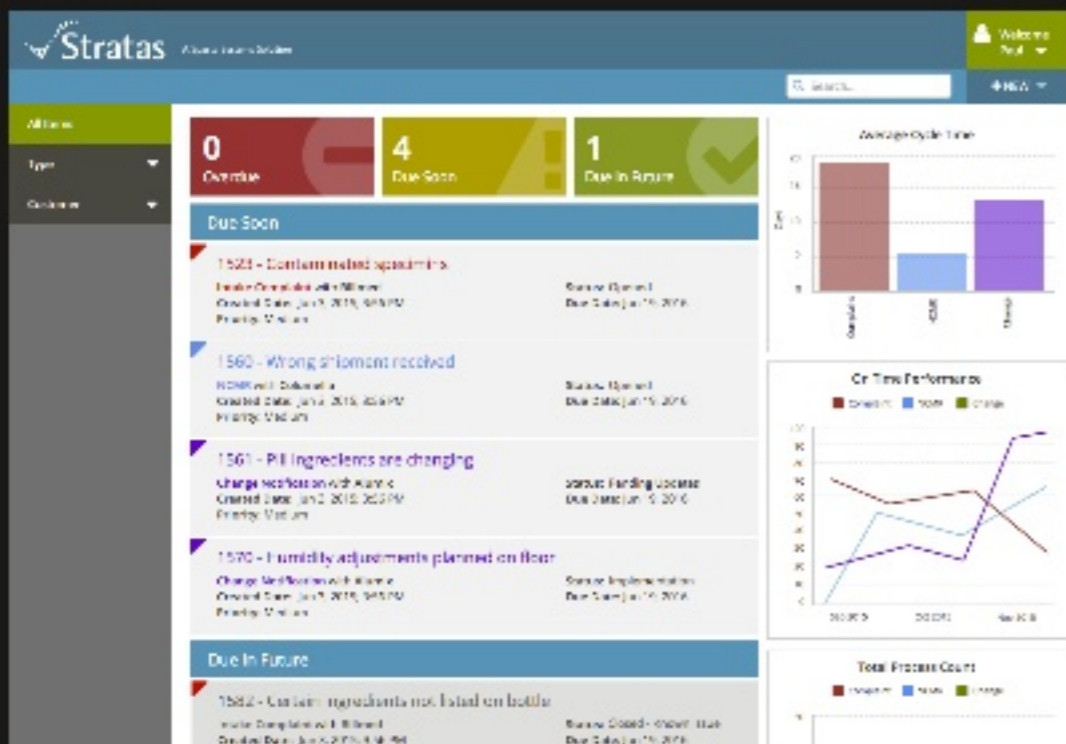
My Activities

Investigation required...

Cancel...

There were several batches of raw materials found to be refrigerated at the incorrect temperature. A few of the batches were not at optimal temperature but others were at levels rendering them useless.

Assigned To: Miguel Moldonado
Date Due: 2-Nov-2015
Severity: Medium
Originator: Patty Smith



The Problem

Due to vast increase of outsourcing across our customer base, managing quality across their supply chain was becoming difficult and expensive. In addition to managing quality internally using TrackWise, they needed to extend the same level of quality control to their external partners. Most customers were trying to do this either with home-grown portals or via email/fax — both means proving very inefficient and risk-prone.

The Challenge

Create way for TrackWise customers to more efficiently manage quality with external suppliers. This means must be superior to their current means, which is mostly email and paper based.

- Suppliers may lack technical expertise.
- Cannot charge suppliers to use solution.
- Certain customers could have thousands of suppliers.

My Role

My role was end-to-end product designer. I was responsible for creating the product vision based on the business needs and ensuring agile teams were empowered to build the solution. This meant molding the vision to a minimum viable product and owning the user stories in their entirety (acceptance criteria and designs).

Since the solution would be the first of its kind and the users would be tech-averse, I would also need to validate from both a business need and usability perspective.

The Approach | Discovery

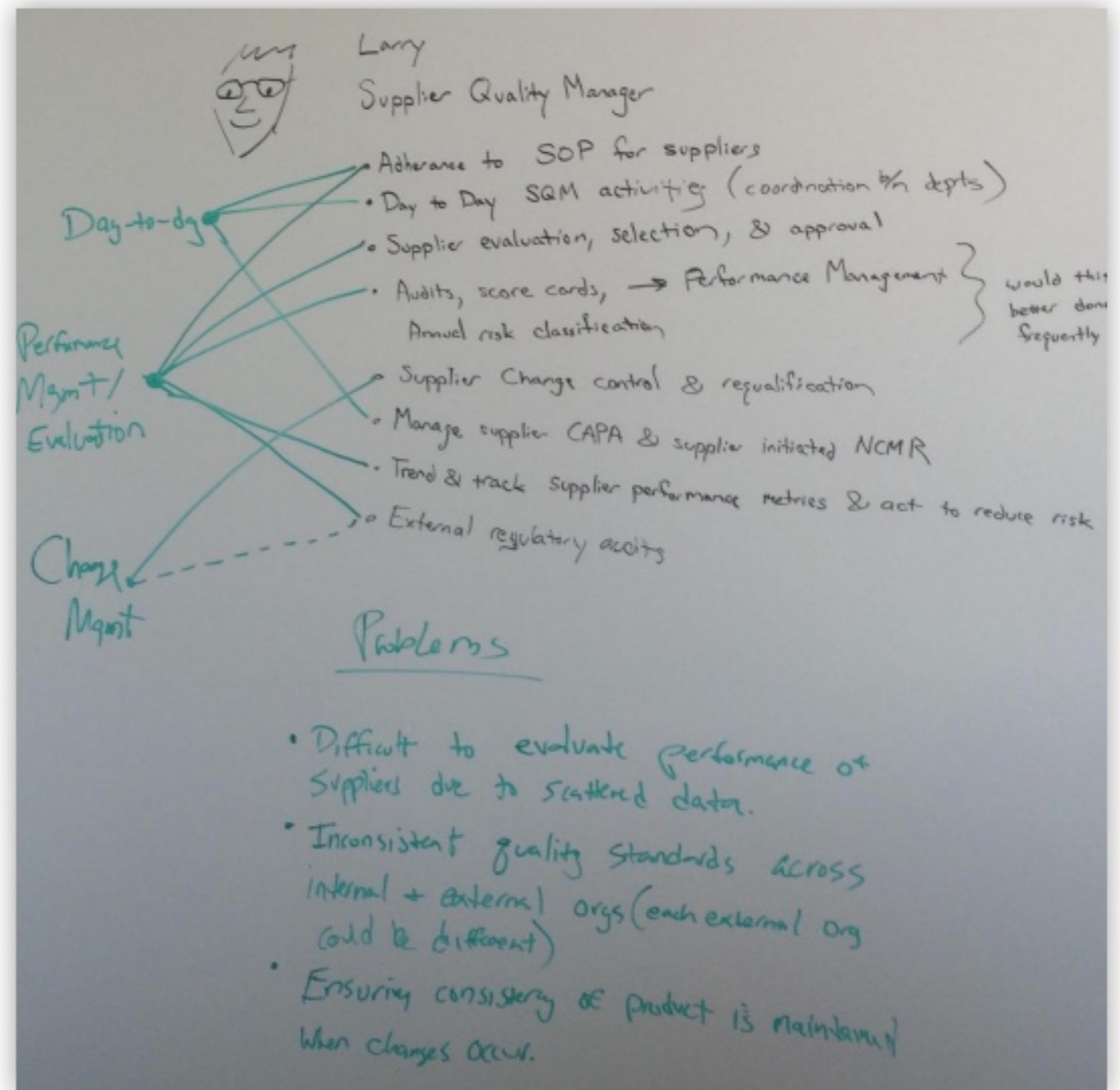
The early goal was to understand the players involved in supplier quality management (SQM). We already understood our users from an internal quality perspective but this was a variation.

Leveraging our existing customer network, we engaged with them via on-site visits and remote focus groups to learn about their external quality needs. We learned that a separate quality group existed that dealt solely with external suppliers.

The people in this group helped us understand how they do business and their pain points. This allowed us to build new user personas related to SQM.

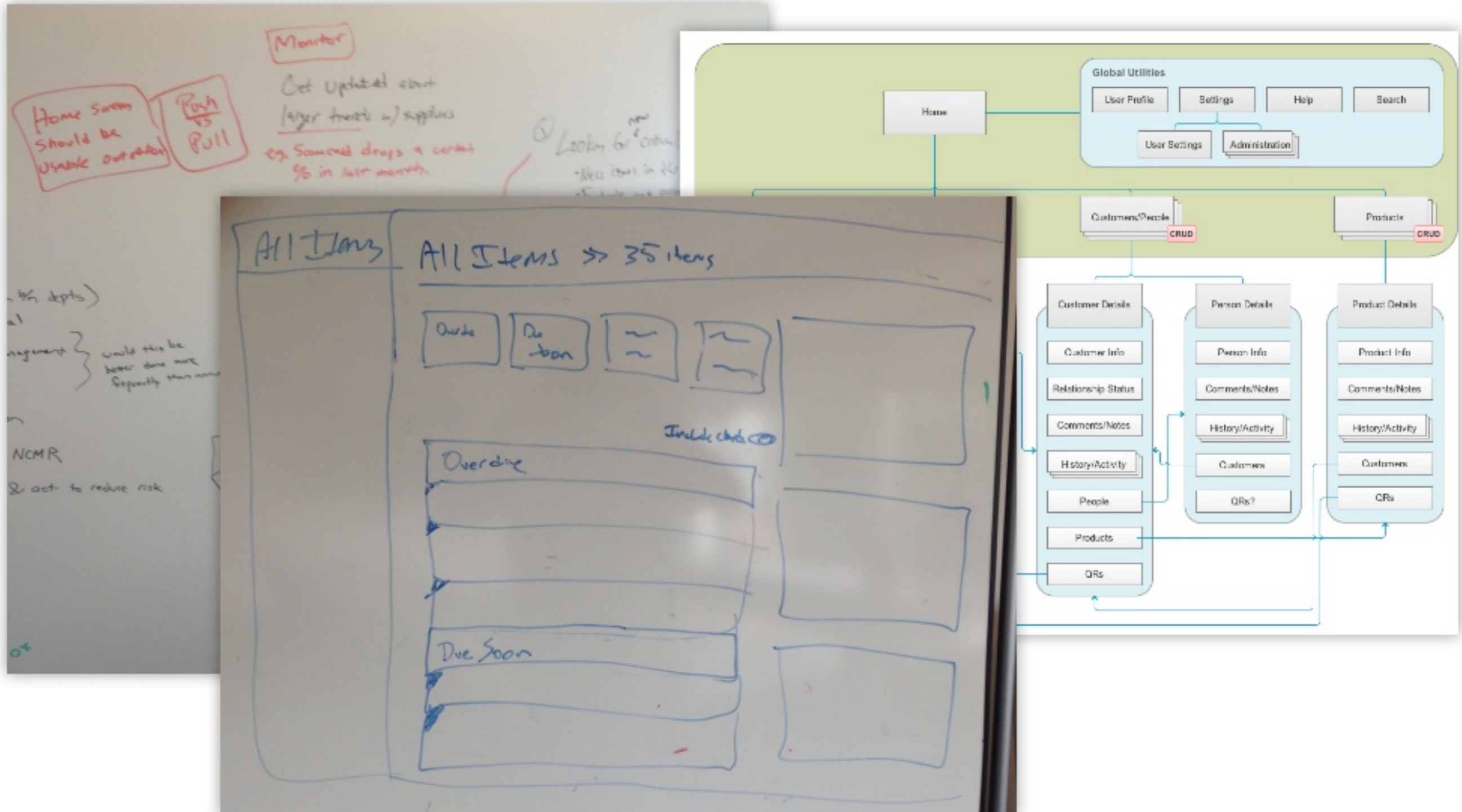
Larry the Supplier Quality Manager was the most pivotal as he controlled all outgoing and incoming communication with suppliers and monitored their performance.

We found as many Larrys as we could and gathered them together in a series of focus groups. This was meant for us to learn but, more importantly, to allow them to share their experiences so we could all align on best practices. These practices were vital to building a solution that could be used across the board.



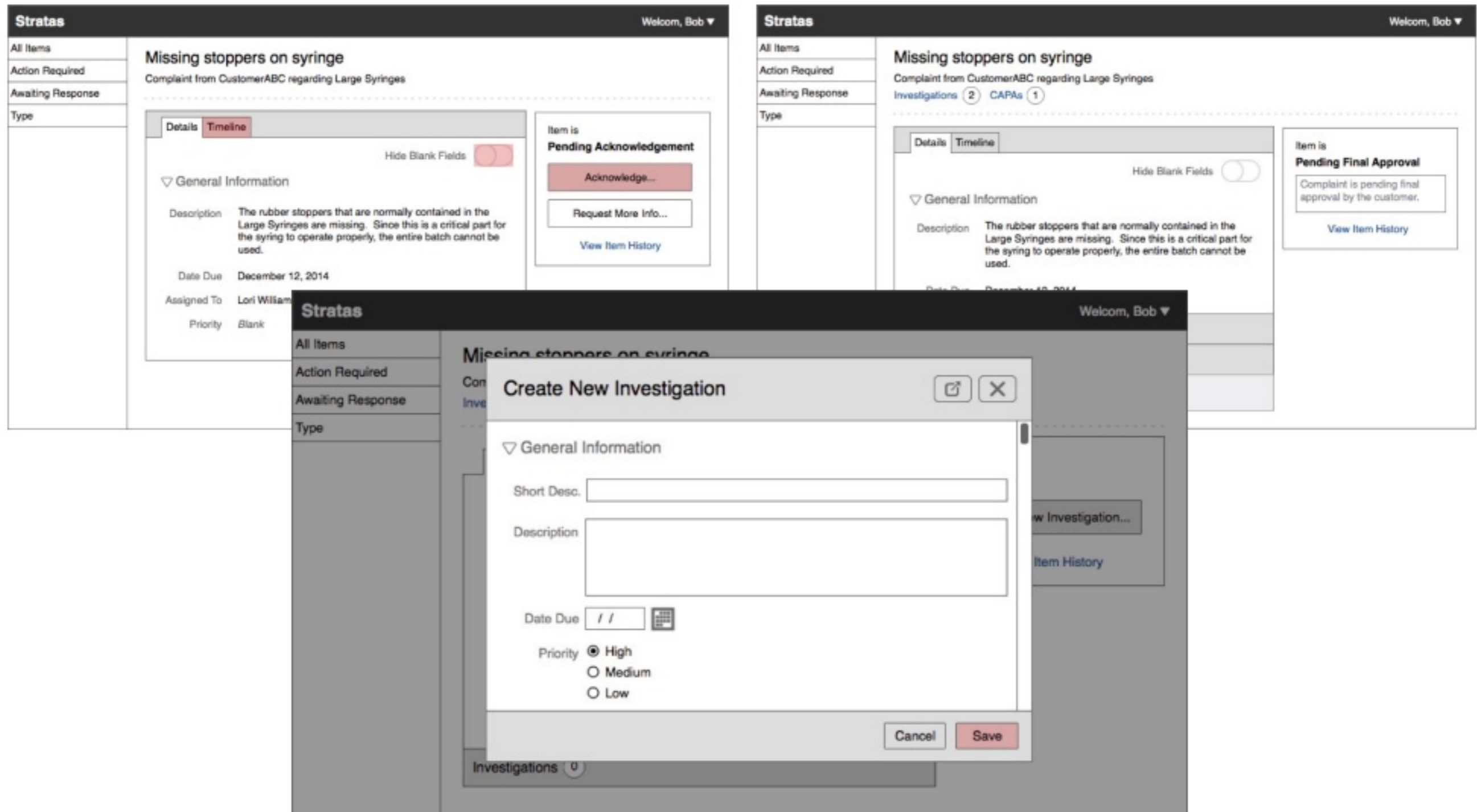
The Approach | Sketch

Given our learnings and the constraints of the project, we felt a SaaS-based portal that extended TrackWise would be the solution. This would allow the SQM-specific parts of a process to be visible to the portal so suppliers could collaborate with the internal customer. We sketched and created an initial sitemap to represent the entities in the system and how they related.



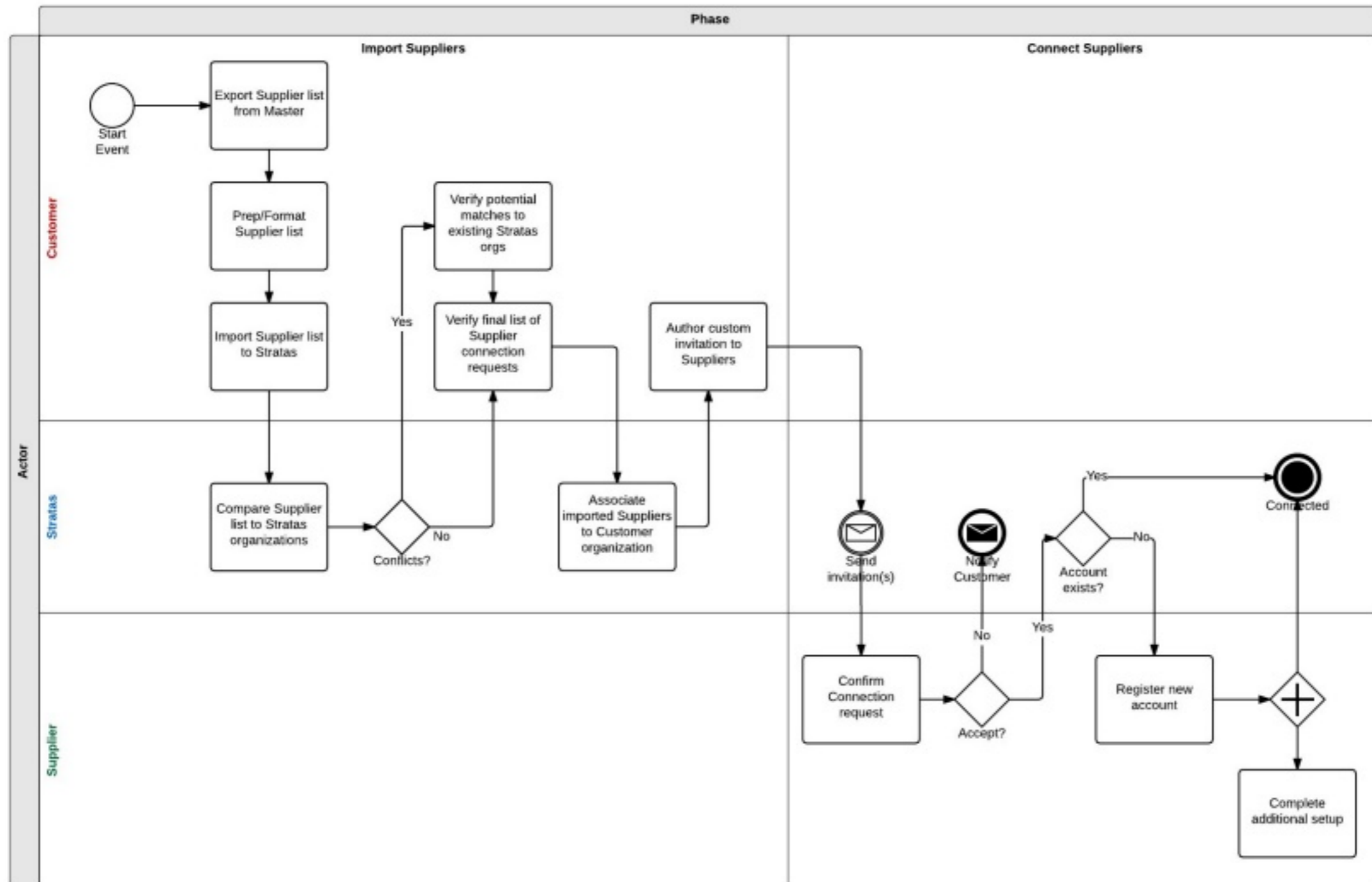
The Approach | Wireframe

We then sketched out an end-to-end Complaint process using Balsamiq. I made the prototype interactive so we could demo the process to our stakeholders at the focus group. The feedback was overwhelmingly positive as users could visualize a solution that hadn't existed prior.



The Approach | Process Modeling

One key area we needed to nail down was the on-boarding process for suppliers. Given it was a SaaS-based service, suppliers would need to register their accounts. I built out a process flow representing the interaction between the system and user personas. Making this process simple and intuitive was vital to ensuring adoption by suppliers.



The Results

After many iterations, the visual design was applied. After learning of the need for monitoring capability, we added some Dashboard-like features to the home page. This allowed the Larrys of the world to do exactly what they wanted — monitor the performance of all suppliers from a single place. Larry and friends were a happy group!

The image displays three overlapping screenshots of the Stratas web application interface, illustrating the results of the visual design and monitoring capabilities.

Top Screenshot: NCR Detail View

- Header:** Stratas | A Sparta Systems Solution. User: Welcome Paul.
- Search:** Search...
- Navigation:** All Items, Type, Customer.
- Title:** 1264 - Leaking pipes in dry dock
- Sub-Title:** NCMR with Manchester United Engineering
- Buttons:** Details, Timeline, Hide Blank Fields.
- Status:** Opened
- Actions:** Submit, Cancel, Edit NCMR.

Middle Screenshot: Dashboard Overview

- Header:** Stratas | A Sparta Systems Solution. User: Welcome Paul.
- Search:** Search... + NEW
- Summary Cards:**
 - 0 Overdue
 - 4 Due Soon
 - 1 Due In Future
- Due Soon List:**
 - 1523 - Contaminated specimens**
Intake Complaint with Billmed
Created Date: Jun 3, 2015; 3:56 PM
Priority: Medium
Status: Opened
Due Date: Jun 19, 2016
 - 1560 - Wrong shipment received**
NCMR with Columella
Created Date: Jun 3, 2015; 3:56 PM
Priority: Medium
Status: Opened
Due Date: Jun 19, 2016
 - 1561 - Pill ingredients are changing**
Change Notification with Alunix
Created Date: Jun 3, 2015; 3:56 PM
Priority: Medium
Status: Pending Updates
Due Date: Jun 19, 2016
 - 1570 - Humidity adjustments planned on floor**
Change Notification with Alunix
Created Date: Jun 3, 2015; 3:56 PM
Priority: Medium
Status: Implementation
Due Date: Jun 19, 2016
- Due In Future List:**
 - 1582 - Certain ingredients not listed on bottle**
Intake Complaint with Billmed
Created Date: Jun 3, 2015; 3:56 PM
Status: Closed - Known Issue
Due Date: Jun 19, 2016
- Charts:**
 - Average Cycle Time:** Bar chart showing days for Complaint, NCMR, and Change.
 - On Time Performance:** Line chart showing percentage for Complaint, NCMR, and Change from Sep 2015 to Nov 2015.
 - Total Process Count:** Line chart showing count for Complaint, NCMR, and Change.

Bottom Screenshot: Account Activation

- Header:** Stratas | A Sparta Systems Solution.
- Title:** Activate Your Account
- Form Fields:** Name (Thomas Datrain), Username (thomas.datrain@spartasystem.com), Password, Confirm password.
- Checkbox:** I agree to the Terms of Use.
- Button:** Activate Account.

The Results | Testing

The final step was to test. Through remote sessions and in-person at our annual user conferences, we vigorously tested the portal with excellent results (SUS Score of 83.4). We also gathered new feature requests that would help evolve the system further.

Stratas Usability Testing

Summary

The purpose of this study was to obtain feedback on Stratas, which was initially released in late 2013 followed by 2014. There was a total of 15 usability tests performed whereby subjects were asked to complete 6 tasks in approx Stratas. The subjects were observed while performing the tasks and most of the sessions were recorded. The in remotely (via GoToMeeting) during the period from January 2014 to March 2014. The final 8 tests were conducted 2014 in Munich and April 29-30, 2014 in San Diego during the Sparta Systems User Conferences.

Collectively, all test participants were able to complete the tasks with little or no prompting. Overall, users thought and easy to navigate. The main usability issues found revolved around organization and filtering of records and not familiar with Stratas.

Participants

Seven people participated remotely and 8 participated in-person at the Sparta user conferences (5 attendees in San Diego). Collectively, the participants were from AbbVie, Baxter, Catalent, Quintiles and Sparta (internal tests). All users on some level and were interested in Stratas to evaluate replacement of their existing (manual) process for. Most participants expressed a deep interest in evaluating Stratas to assist with supplier audits.


Key Usability Findings

Issue	Severity	Recommendation
Several users experienced general confusion about what they were expected to do once logged in. They felt constrained by the single list of items and were not sure which items deserved their attention over others. Overall, the application could provide more guidance and flexibility when dealing with the pool of records for the supplier.	High [Frequent/Major]	Add additional views to a clearer high-level and their records: <ul style="list-style-type: none">Views by attribute - of Stratas records & date due, by customerAction Required/When easily allow users to their action and the are waiting for customer Each view should also have visual indicators to alert items that require attention
Registration - when the user skipped entering a last name and scrolled down to submit, the error for the missing field was off the page and he did not know why the form was not submitting.	High [Frequent/Major]	Provide indication that a submission. The indicator regardless of the location Ensure the first error on potentially via auto-scroll
Initial notification to non-Stratas users is not informative/clear enough for a user that is not familiar with Stratas.	High [Frequent/Major]	Refine the messaging in first-time users. The purpose to communicate the purpose benefits the user will gain calls to action. Allowing message to the invitee who sent the invitation

Users felt long text fields were too small if the user is expected to write a lot of information in them.

Low [Infrequent/Inconvenient]

Auto-size long text fields based on the amount of content entered.

 STRATAS-508 - View all text in a text area as it is typed (autosize text area)

New Features Requested

- Ability to have a conversation with the customer, regardless of the workflow step. Some users wanted to "Request More Info" at any point in time, not just prior to acknowledgement. Wanted more flexibility around this.
- Text search capability to find records.
- When acknowledging an issue, some way of sending a custom message back to the issuer.
- Branding on the invitation email with custom terms and conditions from the issuing company.
- After an activity is performed, briefly display a message that the activity was completed successfully (a gritter-type alert).
- Way of cc'ing a colleague on completion of an activity.
- Hint text and/or blue clues, where relevant, throughout the application.
- Display e-sig indicators in conversation view and history for activities where e-sig was applied.
- Ability to view customer connections.
- Ability to send a custom message in notifications
- 2 users expressed concern about the supplier seeing the other company suggestions.
- Concerns about security/separation of the data.

Recommendations

In the short-term, we recommend giving some attention to the issues cited around registration, training and notifications for first-time users. Given Stratas will be dealing with increasing numbers of users who are on-boarding, the latter recommendations are critical at this point in time. Also, we strongly recommend introducing both views and some basic filtering/sorting to find records more easily.

In the long-term, we recommend more extensive improvements around notifications and further improvements around training and contextual help. The low to medium issues cited should also be dealt with in an ongoing basis.

SUS Score: 83.4 (A on curved distribution)