

ON A SECRET SUBMISSION

Adapting to changes in the way people work, caused by the Covid-19 pandemic

The image displays a collage of screenshots from the Quest Marine Hull software, illustrating its features for managing shipping submissions and policy creation. The screenshots include:

- Submissions / Tracker:** Shows a list of submissions categorized into INBOX (4), IN REVIEW (2), and INCOMPLETE (1). Each entry includes details like account name, date created, and status.
- Submissions / Submission Overview:** A detailed view of a specific submission from Continental Shipping Ltd., showing submission information, policy requirements, and vessel schedule.
- Submissions / Dashboard:** A summary dashboard showing key metrics: 210 total submissions, 10 inbox items, 38 in progress, and 162 done items.
- Submissions / Policy fields:** A screen for creating a new submission, prompting for account, broker, date, assignee, and product selection.
- Submissions / Settings:** A general settings page for managing submission-related configurations.
- Dashboard:** A main dashboard providing an overview of the submission pipeline across different categories like Hull & War, Hull & Machinery, and Hull & IV.

THE PROJECT



Submissions / Tracker

James B JB

Search for an account, broking house, or assignee... Q

Displaying 12 submissions | Reset filters

Fleet size Product Hull policy score Date created Status

Inbox (4) In Review (2) Quoted (3) Done (3)

Category	Count	Actions
INBOX (4)	4	...
IN REVIEW (2)	2	...
QUOTED (3)	3	...
DONE (3)	3	...

Container Fleet Co. 23 Jan 2020 at 09:34 HISL Brokers Ltd 40 vessels Hull, Machinery, & War 3 HISL Brokers Ltd 40 vessels Hull, Machinery, & War 3 Ready for review Unassigned

Lightspeed Transportation 23 Jan 2020 at 09:34 Marine, Aviation & General Ltd. 23 vessels Hull & Machinery 7

Smooth Sailing Cruises 23 Jan 2020 at 09:34 Ed Broking LLP 81 vessels Hull, Machinery, & War 3 John S

OCP Gas Shipping 23 Jan 2020 at 09:34 Sturge Taylor & Associates 22 vessels Hull, Machinery, & War 10 John S

Freeworld Shipping 23 Jan 2020 at 09:34 Hyper Global Shipping 23 Jan 2020 at 09:34

Ed Broking LLP 34 vessels Hull & War 9 Ready for review Unassigned

JLT Specialty Limited 15 vessels Hull & War 8 John S

Atlantic Container Co. 23 Jan 2020 at 09:34 Tyrell Industries 23 Jan 2020 at 09:34

Willis 35 vessels Hull & IV 6 John S

Dashwood Brewer & Phipps Ltd 36 vessels Hull & IV 7 John S

Continental Shipping Ltd. 23 Jan 2020 at 09:34 Sunrise Fisheries Ltd 23 Jan 2020 at 09:34

Marsh 35 vessels Product not selected 6 INCOMPLETE Unassigned

Southern Seas 23 Jan 2020 at 09:34 Marsh 57 vessels Hull & War 9 John S

Dashwood Brewer & Phipps Ltd Vessel list not available Hull & Machinery 5 INCOMPLETE Unassigned

Suspicious Shipping Corp 23 Jan 2020 at 09:34 Marsh 89 vessels Hull & War 2 John S

Declined

< Hide sidebar

Submissions is a workflow tool set designed and developed as a module for our Quest Marine Hull product, and later scoped out for inclusion in our Quest Cargo product.

Its primary purpose was to modernise how marine insurance underwriters manage and assess incoming business in a post-Covid world where the traditional way of doing business was not currently viable.

The key idea was to use Optical Character Recognition and Machine Learning to ingest data from emails and documents, and then scan them for relevant information such as financials, claims data, and vessel IMO's.

This information would then be automatically populated into a digital submission which could be improved with our own data modelling scores.

The submissions could then become a draft or quote policy at the click of a button. This would mean a policy could be assessed for risk in a matter of minutes from when it was received via email, with no manual data entry.

TEAM STRUCTURE



Due to a quiet period in the development of Quest Automotive, it was decided that the Automotive team would be retasked to work on the design and development of the MVP of the submissions module, rather than hiring a dedicated team.

Due to lack of resources we did not have a Product Owner or Product Manager to oversee the project, so many of the responsibilities, such as stakeholder management, problem definition, and running sprints, were divided between myself and the Business Analyst.

To provide specific inside knowledge about submissions and marine insurance underwriting in general, we also had an internal SME who could dedicate some time to answering questions.

Engineering was split between two locations, with the majority of the team being based in Delhi, and one Front-End Developer and one QA based in London. This meant many meetings where scheduled across time zones and team interaction was across language and cultural barriers.

PRODUCT



Product Designer (me)



Business Analyst



Subject Matter Expert

ENGINEERING



Development Manager



Back-end Developer

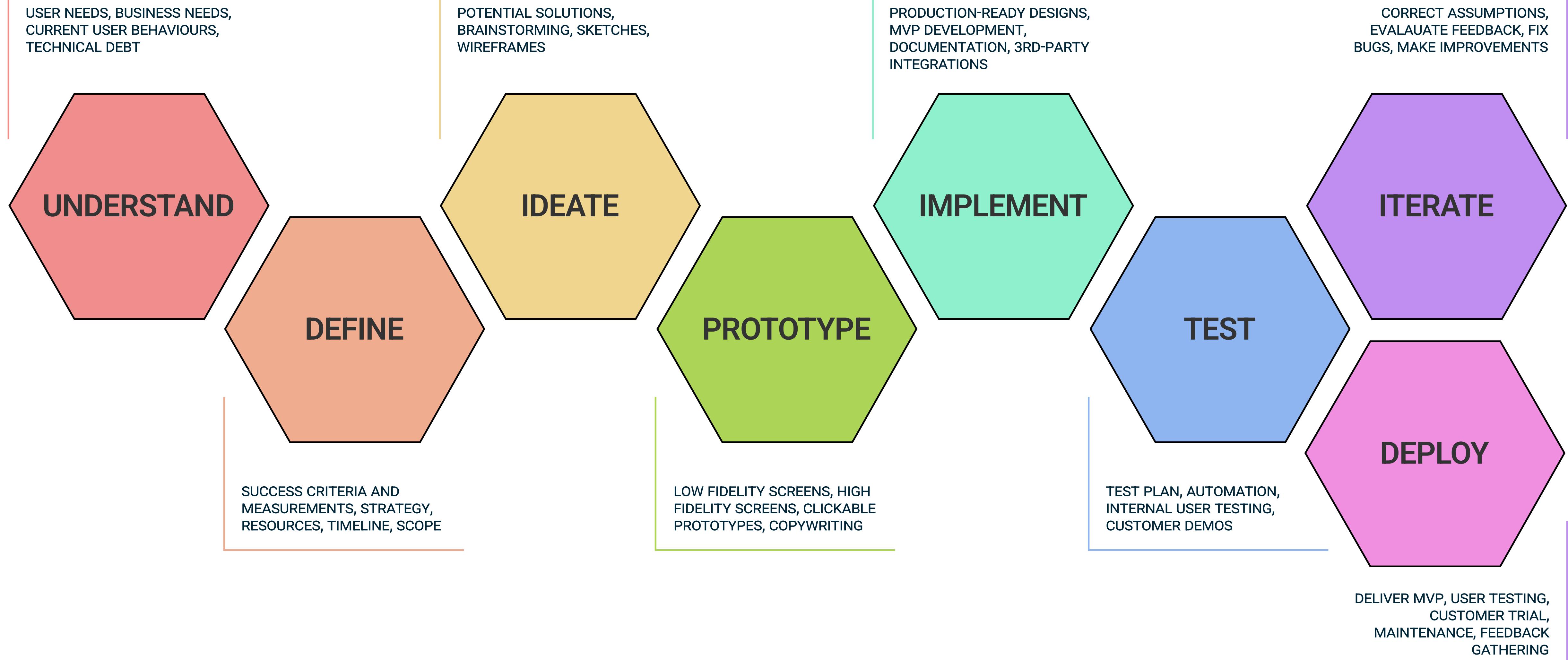


Test Automation Engineer



Front-end Developer

DESIGN AND DEVELOPMENT PROCESS



THE PROBLEM TO BE SOLVED



Early discussions about the problem space identified four main problems to overcome

1. **Marine insurance is a bit old fashioned**

- Lots of printing things out, visiting people at their desks, and handing them lots of paper to look at

2. **Data has to be entered manually into one or more systems**

- Data from 'submissions' had to be manually entered into various systems before it can be analysed

3. **Submission data is sometimes missing, incomplete, or outdated**

- Sometimes vessels might be missing an IMO or other data, and that has to be hunted down manually

4. **No automated analysis of the data**

- Even once all the data is collected and entered, it still needs analysing to become useful information



Having defined the problems, we were able to set the scope of what we wanted the product to achieve

1. Integrated seamlessly with Quest Marine Hull

- The new submissions module would be built on top of our existing platform, and should share its technology stack and design language

2. Automatically ingest emails

- A dedicated email inbox should receive emails with attachments and be able to analyse them for relevant data, such as IMOs, vessel names, and claims data

3. Trello-style workflow interface

- Data extracted from emails should be displayed as individual cards with key data such as fleet name, risk score, and product type visible at a glance

4. Enhanced and detailed views

- Each submission should have additional views where a complete set of data attributes can be viewed and edited

5. Automatic policy creation

- Users should be able to automatically create policies from any submission that fits their risk appetite profile



As with any team taking on a new project, there are often some hurdles to overcome

PROBLEMS

Lack of product familiarity

I was hired to work on the Automotive product and had spent very little time with the Marine products

Availability of internal resources

Our data science team are always very busy and wouldn't have capacity to support the data modelling activities we required

Short time frames

We needed to produce an MVP very quickly to capitalise on how business was rapidly changing

Lack of domain knowledge

I'd had very little exposure to the way marine insurance operated, since joining Concirrus

SOLUTIONS

Improve product familiarity

Utilise a cross-functional team who have familiarity with Quest Marine Hull

Decrease reliance on internal resources

Integrate with a third party to support modelling and analysing the incoming submission data

Optimise for fast design

Reuse existing layouts, designs, and components from existing Quest products

Improve domain knowledge

Spend time speaking with internal subject matter experts and existing clients



As part of the roadmap we had some success metrics we wanted to achieve during the project

1. **Rapid development**

- Our aim was to have a working MVP within 3 months

2. **Active trials**

- We wanted at least two existing Quest Marine Hull customers to agree to a trial period of using the MVP of the submissions module

3. **Feature usage**

- The submissions module contained enough features to be a product on its own, and we wanted to ensure all those features were being utilised

4. **Number of submissions submitted**

- To ensure stickiness with the customer, we wanted to make sure a large proportion of their submissions were being submitted to our module

5. **Trial conversion**

- The submissions module would be a paid optional extra for users of Quest Marine Hull, and we wanted customers to convert at the end of their trial period

THE FOUNDATION



The notification centre interface is a multi-column card-based layout. The columns are labeled 'To do (8)', 'In progress (2)', and 'Done (8)'. Each card represents a single incoming email submission that has been converted into a submission. The cards include details such as the submission ID (e.g., POL-20000203, POL-20000348), the date it was received (e.g., 23 Jan 2020 at 09:34, 23 Jan 2020 at 09:07), and the type of issue (e.g., Speeding (8), Excess mileage). The status of each submission is indicated by a color-coded box: orange for 'To do' (2nd action required), yellow for 'In progress' (3rd action required), and green for 'Done' (Contact made). The 'Done' column also lists the names of the operatives who handled the submission (Aaron Prescott, Daniel Rajendran, Alessandro Catania, Jordan Ferry).

A primary feature of Quest Automotive was its notification centre, a card-based work flow tool that allowed call centre operatives at our client car insurer to pick up various notifications and progress them from one state to another.

This is multi-column card-based layout was the planned base for Submissions, where each card would represent a single incoming email that had been converted into a submission.

The submissions could then be progressed from one column to another as they changed status and were eventually resolved.

A lot of time and effort had been dedicated to our cross-product component library in Figma, which would later become the basis for Stratus, our product and engineering design system.

Whilst submissions would require some completely new UI components, many would come from Quest Marine Hull, and were already built in a way that meant they could be easily reused for the submissions module MVP.

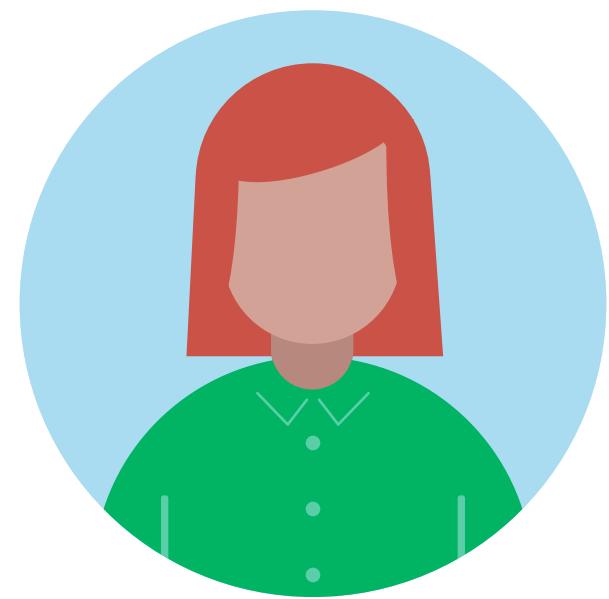
This would greatly speed up development of the initial high fidelity designs, as I could reuse menus, icons, navigation elements, and more.

The Stratus cross-product component library is a collection of reusable UI components designed for the Stratus product and engineering design system. The library includes various components such as labels, dropdowns, date pickers, and error messages. On the left side of the screenshot, there is a navigation and filtering interface with buttons for 'Filter default', 'Filter selected', and 'Filter disabled'. Below this are several examples of the components in use, such as a date picker for 'Start date' and 'End date', and an input field for 'Enter policy ID'. On the right side, there are examples of how these components can be used in a form, such as a policy entry screen with date pickers for start and end dates, and input fields for policy ID and amount.

GATHERING INITIAL FEEDBACK



We had numerous resources for getting initial feedback on the value proposition of our Submissions tool



SMEs

We first talked to our internal Subject Matter Experts who had experience working at or with marine insurance underwriters, to best understand the problem that potential clients are facing.



Existing Clients

We then spoke to some of our existing underwriter clients who use Quest Marine Hull and might be interested in participating in a trial of the product, and helping to train our data models.



Working Group

Finally we assembled a 'Working Group' that consisted of team members familiar with our potential trial clients and their business, but were not necessarily marine insurance SMEs.

We had numerous resources for getting initial feedback on the value proposition of our Submissions tool



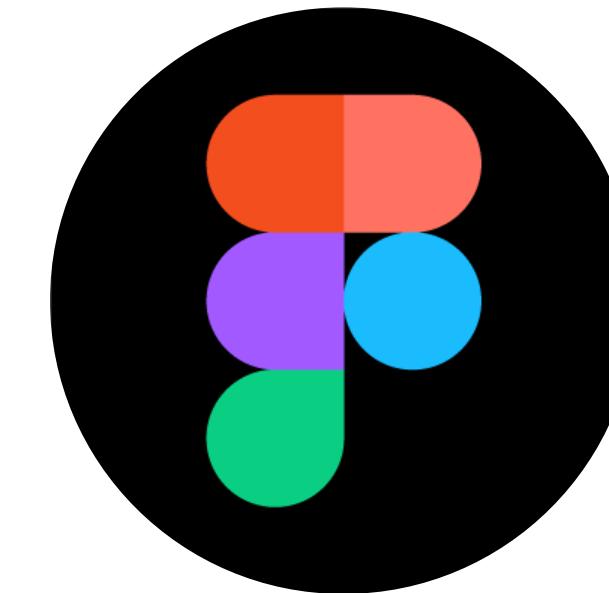
Flows & Journeys

We use previously used LucidChart for mapping flows, journeys, and other diagrams. Recently we've moved to using Miro, and additionally use it for brainstorming and other collaborative sessions.



Low Fidelity

When we do very early stage layouts and designs, we often rough things out on pen and paper before translating the basic structures into Balsamiq, to create general layout ideas.



High Fidelity

For our final designs and clickable demos we exclusively use Figma, as it allows us to collaborate quickly and easily across product streams and time zones.



As design and development of the submissions module continued, we made sure to gather regular feedback



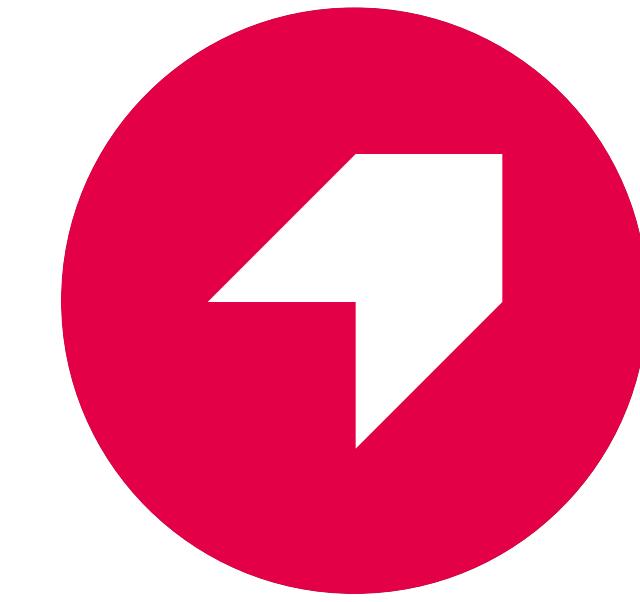
Internal

We ran regular usability testing sessions with our working group, starting with low fidelity designs, up until we had a clickable prototype. This helped identify early usability and design issues so they could be remedied.



External

With high fidelity designs and a clickable prototype complete, our SME was able to engage with our potential trial customers and prospects, validate our solution and gather feedback, so we could integrate it into the MVP.



Analytics

To gather information on usage, user journeys, account activity, and more, we used Pendo, a product analytics app. This allowed us to create multiple custom dashboards and reports to.



We had an MVP of the submissions module ready for customer trials within our 3 month window

1. Deployed to two customers

- We ran a rolling two-week trial period with regular interaction between customers and our sales and product teams

2. Teething problems

- The data models that analysed and ingested data from emails still required training as we'd mostly built them using 'perfect' examples of submissions

3. Rapid fixes

- Switched from 2-week to 1-week sprints to deploy fixes and improvements more quickly to our trial customers

4. Tour guides

- Using Pendo we were able to create lots of in-app guides to educate users on features, and guide them around the submissions module

5. Major improvements

- Customers are now experiencing 100% success rates on submissions being ingested correctly, even on fleets of several hundred vessels

SUCCESS STORY



The screenshot shows the Quest Marine Hull software interface. On the left sidebar, there are several menu items: Dashboard, Portfolio, Active risk manager, Account & vessel list, Watchlist, Claims management, Reporting, Submissions (which is currently selected), and a Hide sidebar button. The main content area is titled "Submissions / Tracker". It has tabs for "Tracker", "Dashboard", and "Settings". A search bar at the top right allows searching for accounts, broking houses, or assignees. Below the search bar, it says "Displaying 12 submissions" and "Reset filters". A modal window is open for a submission from "Continental Shipping Ltd." with status "READY FOR REVIEW". The modal contains sections for "Submission information" (Account: Continental Shipping Ltd., Broking house: Concirrus, Broker name: Sam Mellet, Date created: 17-Jan-2020, Number of vessels: 18, Vessel schedule: Incomplete, Product: Hull & IV, Hull policy score: 8) and "Vessel type overview" (a pie chart showing distribution: Bulk Carrier (8), Container Ship (3), Reefer (17), LNG Tanker (25)). It also includes "Quick actions" buttons for "Assign submission", "Move to review", "Decline", "Set as not won", and "Delete". An attachment "continental-ship....xls" is listed under "Attachments". At the bottom of the modal is a "View submission overview" button. The background shows a list of other submissions with their status (e.g., DONE (3), WRITTEN, NOT WON, DECLINED) and creation date (e.g., 23 Jan 2020 at 09:34).

We successfully ran our trial period with two customers, and over the course of a few months, were able to greatly improve their experience using the submissions module.

With regular interaction, training, and support, we were able to gradually increase adoption, usage, and reliance on the module, which we were able to regularly monitor with the use of Pendo.

With frequent releases of improvements and fixes, we greatly increased the customers confidence in the accuracy and reliability of our ingestion system.

At the end of the trial period both customers converted to full licenses, saying that they would “find it difficult to return to how we were doing work before”.



Continental Shipping Ltd.

7m ago

Submission information:

Account: [Continental Shipping Ltd.](#)
 Broking house: Concirus
 Broker name: Sam Mellet
 Inception date: 18-Sep-2021
 Number of vessels: 18
 Vessel schedule: [Incomplete](#)
 Product: [Hull & IV](#)
 Hull policy score:

Vessel type overview:

Attachments: [Edit continental-ship....xls](#)

[View submission overview](#)

Premium by Submission Status

This card shows the distribution of your total premium across submissions and total exposure based upon potential submissions

Total written premium [\\$325,000](#)
 Based on 103 submissions/policies

Total potential premium [\\$1,324,000](#)
 Based on 151 submissions/policies

Premium

\$1.2m
\$1m
\$800k
\$600k
\$400k
\$200k
0

INBOX IN PROGRESS WRITTEN NOT WON DECLINED

[View full premium breakdown](#)

Submission summary

210 Total submissions
10 Inbox
38 In progress
162 Done

Vessel schedule

Displaying 10 vessels | [Quick-fill schedule](#)

Vessel name	IMO number	Sum insured	Increased value	Vessel premium	Cover from
Panamera	1348480	16,000,000.00 USD	4,000,000.00 USD	73,600.00 USD	25-MAR-2020
Sulaco	1895047	8,000,000.00 USD	2,000,000.00 USD	36,000.00 USD	02-JAN-2020
Alaskan Lily	2214083	21,000,000.00 USD	5,250,000.00 USD	98,700.00 USD	18-SEP-2020
Rocinante	2466633	19,000,000.00 USD	4,750,000.00 USD	100,700.00 USD	13-MAR-2020
Normandy	2738650	4,500,000.00 USD	1,125,000.00 USD	40,500.00 USD	25-OCT-2020
Rodger Young	3156034	23,000,000.00 USD	5,750,000.00 USD	23,000.00 USD	09-JUL-2020
Prometheus	3393592	10,000,000.00 USD	2,500,000.00 USD	34,000.00 USD	08-AUG-2020
Serenity	4768731	24,000,000.00 USD	6,000,000.00 USD	134,400.00 USD	26-NOV-2020
Discovery	4959523	9,500,000.00 USD	2,375,000.00 USD	42,500.00 USD	14-FEB-2020
Athena	5355501	7,350,000.00 USD	1,837,500.00 USD	35,000.00 USD	29-APR-2020

[Add vessels](#) [Remove vessels](#)

Completed submissions by Hull policy score

of submissions

40
35
30
25
20
15
10
5
0

1 2 3 4 5 6 7 8 9 10

Written Not won Declined

Hull policy score [6](#)

Frequency [HIGH](#)
 Severity [MEDIUM](#)

Expected loss [\\$975,000](#)

Inbox

7 Incomplete **3** Ready for review
 ~3.2 submissions received per day

In progress

15 In review **23** Quoted
 ~4.2 days to review

Done

103 Written **16** Not won **43** Declined
 63.6% hit rate

Written premium by Vessel type

Vessel type:

- Bulk carrier (12)
- Container ship (10)
- Passenger ship (9)
- Tanker ship (4)
- Ro-Ro ferry (3)
- Other (3)

Total Premium:

- \$1,256,084
- \$812,756
- \$743,935
- \$467,346
- \$375,353
- \$283,756

Total 107 vessels

Not won by Reason

Reason:

- Quoted price not accepted by client (11)
- Quoted deductible not accepted by client (6)
- T&Cs not accepted by client (3)

Total 59 submissions/policies

Hyper Global Shipping
 Inception date: 23 Jan 2020

JLT Specialty Limited
 15 vessels
 Hull & War

4d ago

John S

Container Fleet Co.
 Inception date: 23 Jan 2020

HISL Brokers Ltd
 40 vessels
 Hull, Machinery, & War

7m ago

[READY FOR REVIEW](#)

Unassigned

Smooth Sailing Cruises
 Inception date: 23 Jan 2020

Ed Broking LLP
 81 vessels
 Hull, Machinery, & War

1w ago

John S

Atlantic Container Co.
 Inception date: 23 Jan 2020

Willis
 35 vessels
 Hull & IV

1w ago

John S

Lightspeed Transportation
 Inception date: 23 Jan 2020

Marine, Aviation & General Ltd.
 23 vessels
 Hull & Machinery

4d ago

John S

OCP Gas Shipping
 Inception date: 23 Jan 2020

Sturge Taylor & Associates
 22 vessels
 Hull, Machinery, & War

3w ago

[WRITTEN](#)

John S

EXPLORATORY WORK



Some examples of the early user flows I mapped out to better understand the problem

