

# ON A SECRET SUBMISSION

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

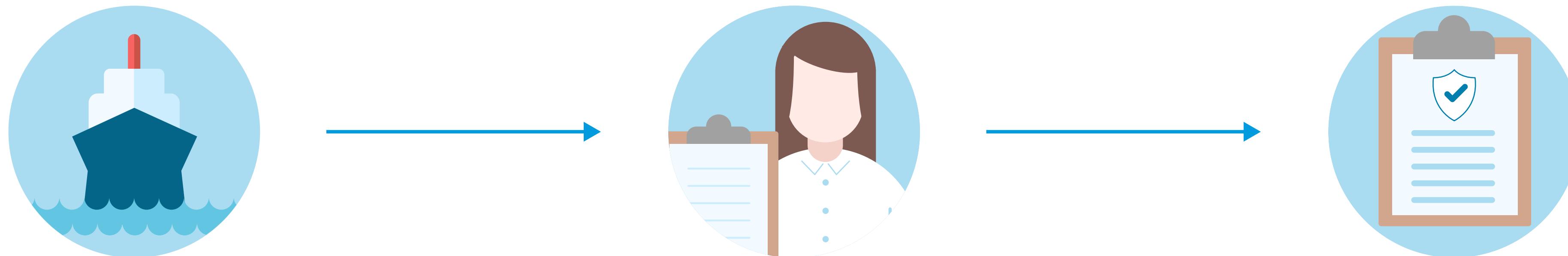
The image displays a collage of screenshots from the Quest Marine Hull software, illustrating its features for managing shipping submissions and policy creation. The screenshots include:

- Submissions / Tracker:** Shows an inbox with 4 items (Container Fleet Co., Lightspeed Transportation, Marine, Aviation & General Ltd., Hyper Global Shipping) and an in-review section with 2 items (Ed Broking LLP, JLT Specialty Limited). The sidebar includes links to Dashboard, Portfolio, Active risk manager, Account & vessel list, Watchlist, Claims management, Reporting, and Submissions.
- Submissions / Submission Overview:** A detailed view for Continental Shipping Ltd. showing 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), policy fields (Broker: Sam Mellet, Date created: 17-Jan-2020, Assignee: Click to assign a user), and a vessel type overview pie chart (Bulk Carrier 8, Container Ship 3, Reefer 17, LNG Tanker 25).
- Submissions / Submission Overview:** A detailed view for Allied Alaska Ltd. showing submission information (Broking house: Concirrus, Broker: Sam Mellet, Date created: 17-Jan-2020, Assignee: Click to assign a user), policy requirements (Choose an account, Which account would you like this policy attributed to?, Or is this a new account?), product (Product, Which product would you like to attribute your policy to? with options: Hull & War, Hull & War, Hull, War, Hull & IV), and vessel schedule (Vessel name, IMO Number, Sum Insured).
- Submissions / Dashboard:** A summary dashboard showing 210 total submissions, 10 inbox items, 38 in progress items, and 162 done items. It also shows counts for Inbox (7 incomplete, 3 ready for review), In progress (15 in review, 23 quoted), and Done (103 written, 16 not won, 43 declined). A bar chart at the bottom shows Premium by Submission Status: INBOX (\$1.2m), IN PROGRESS (\$800k), WRITTEN (\$200k), NOT WON (\$600k), and DECLINED (\$400k).

# WHAT IS A SUBMISSION?



A submission is a proposal for insurance to an underwriter



## Fleet Owner

An individual or organisation with one or more vessels that require insurance. They reach out to a broker to find a suitable insurance policy that will fit the specific needs of their fleet.

## Broker

The broker will gather key information such as vessel IMO numbers and claims history and package them into a submission. This submission is then sent out to various underwriters.

## Underwriter

Underwriters will analyse all the information in a submission, decide whether it is a risk they are comfortable with, and then respond to the broker with a quote for insuring the fleet.

# 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

# WHAT DID WE WANT TO BUILD?



The screenshot shows the 'Submissions' module of the Quest Marine Hull application. The left sidebar has a dark theme with white icons and text. The main area is titled 'Submissions' and shows a grid of 12 items. Each item has a small thumbnail, the company name, the date it was received, its fleet size, the product type (e.g., Hull, Machinery, & War), and the assignee (John S). There are also small colored circles indicating the status: purple for INBOX, orange for IN REVIEW, blue for QUOTED, and green for DONE. At the bottom of each item, there's a small button labeled 'READY FOR REVIEW' or 'INCOMPLETE'. A search bar at the top right allows users to search for specific accounts or assignees.

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 numbers.

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.

So why spend the time and resources building this new feature?



## A New USP

Automatic processing of submissions is a feature none of our competitors offer. Getting it to market quickly provides Quest Marine Hull with a new USP.



## Improved Stickiness

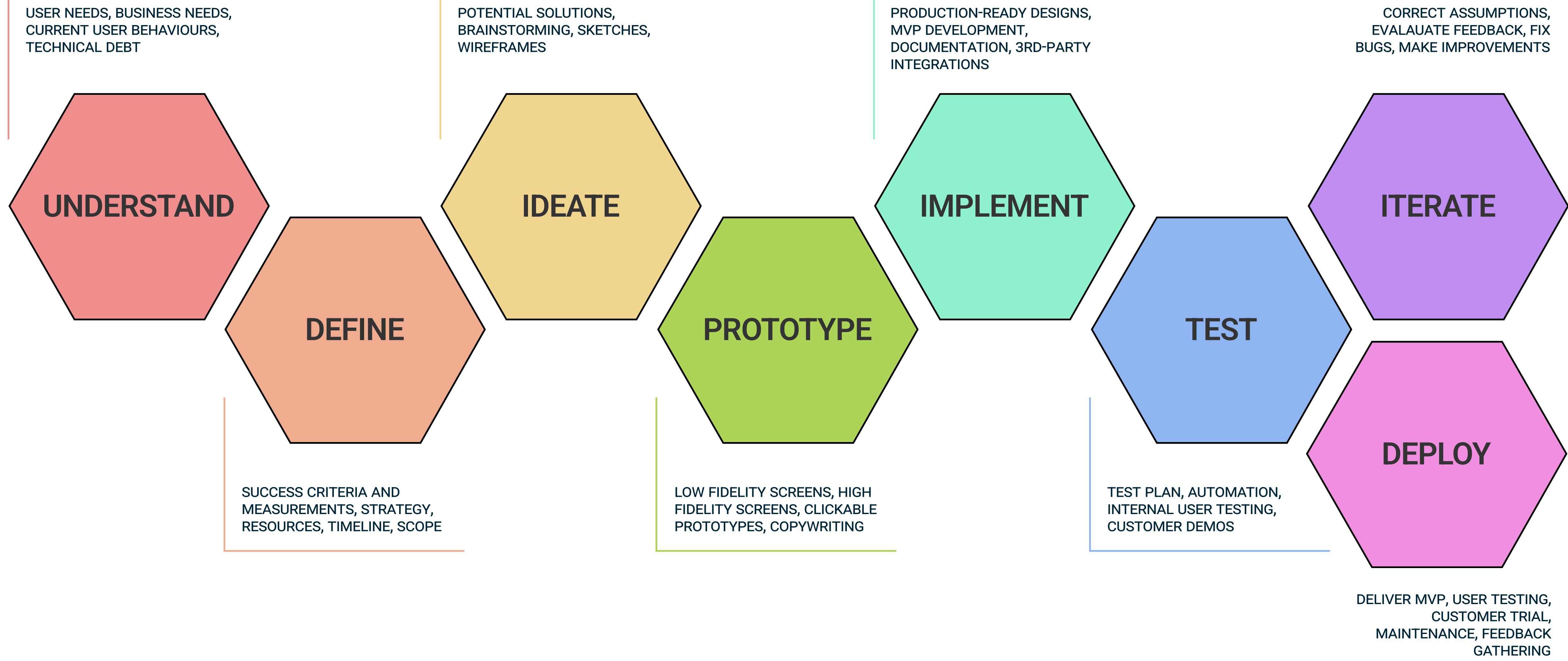
Integrating more tightly into additional parts of our customers' daily workflows means increased reliance on our products and improved customer retention.



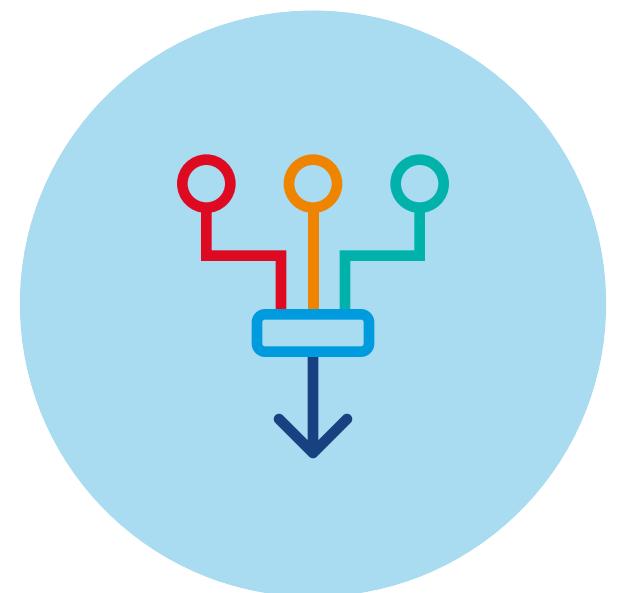
## Increased Revenue

As a completely new piece of functionality, the submissions module could be an up sell to existing contracts and also bring in new business.

# DESIGN AND DEVELOPMENT PROCESS



The proposed solution and how we could add value were defined early on in the discovery process



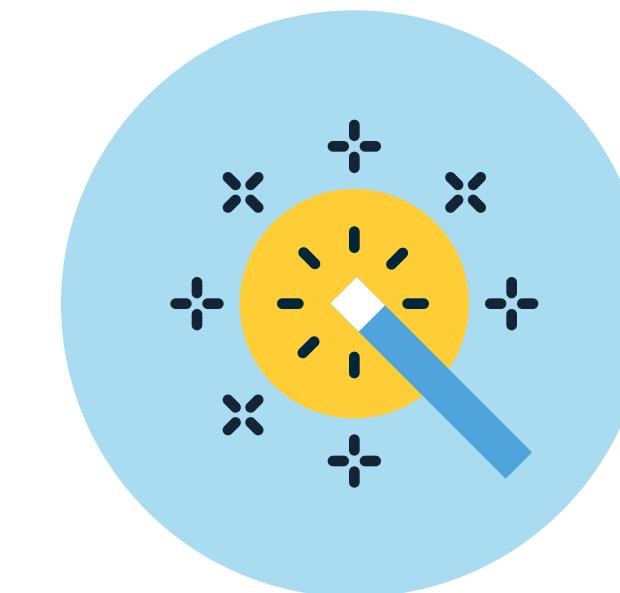
## Ingest

Submissions are already being sent around by email. Using a dedicated email inbox we can ingest these emails and their contents to be analysed.



## Analyse + Automate

Using technologies such as machine learning and optical character recognition we can scan the incoming emails and attachments for relevant data, and automatically populate them into a digital submission



## Enrich

With our own data models and other third party data sources, we can clean the incoming data, find missing information, and enrich the submissions with additional information to speed up the decision making process.



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 it's technology stack and design language

## 2. **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

## 3. **Enhanced and detailed views**

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

## 4. **Automatic policy creation**

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

# 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 status (e.g., Speeding (8), Excess mileage). Each card also includes a small icon representing the type of submission and a 'Contact made' checkbox.

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 UI components designed for reuse across different products. The screenshot shows a grid of components including labels, dropdowns, date pickers, and other form fields. Each component is accompanied by a set of icons for filtering, selecting, and disabling. The interface also includes a sidebar with navigation and search functionality.



The project goals were initially very business driven, but the product team had their own

## BUSINESS GOALS

### Rapid development

Our aim was to have a working MVP within 3 months

### Active trials

At least two existing Quest Marine Hull customers to agree to a trial

### Trial conversion

Customers should convert to a paid license at the end of the trial

## PRODUCT GOALS

### Accurate

Data must be populated in the right fields 100% of the time

### Fast

The time to ingest and analyse emails should be less than 10 minutes

### Platform agnostic

The module should integrate with our other SaaS products with minimal rework



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 only a small amount of 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 Concirus

## SOLUTIONS

### Solid support structure

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

### Learn from the best

Spend time speaking with internal subject matter experts, existing clients, and our working group

As a design team we used a few key applications during the various stages of our design and development



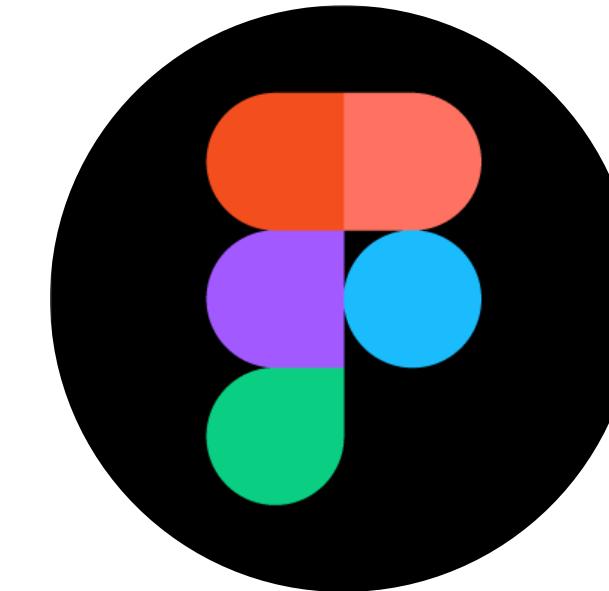
## Flows & Journeys

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.



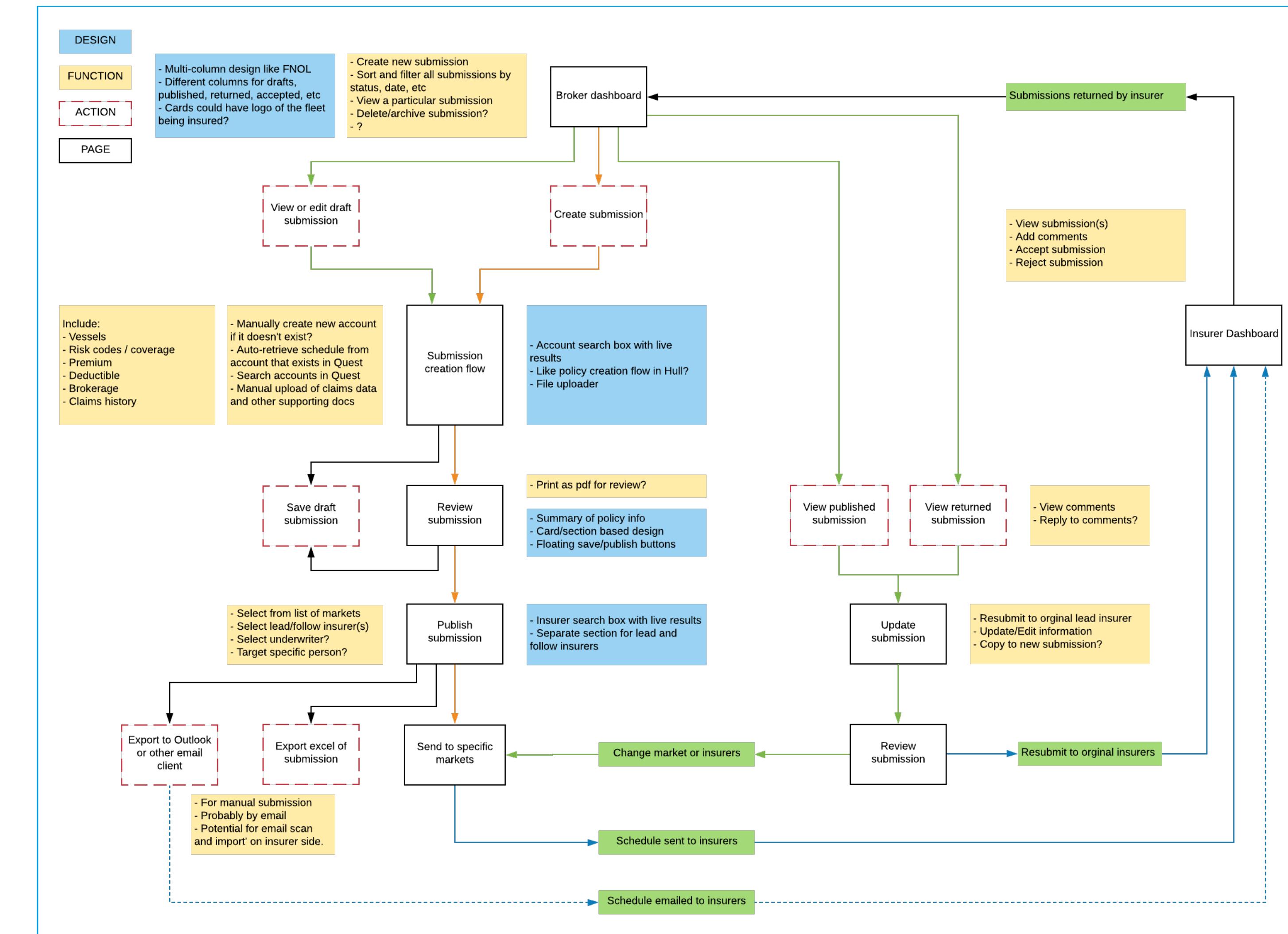
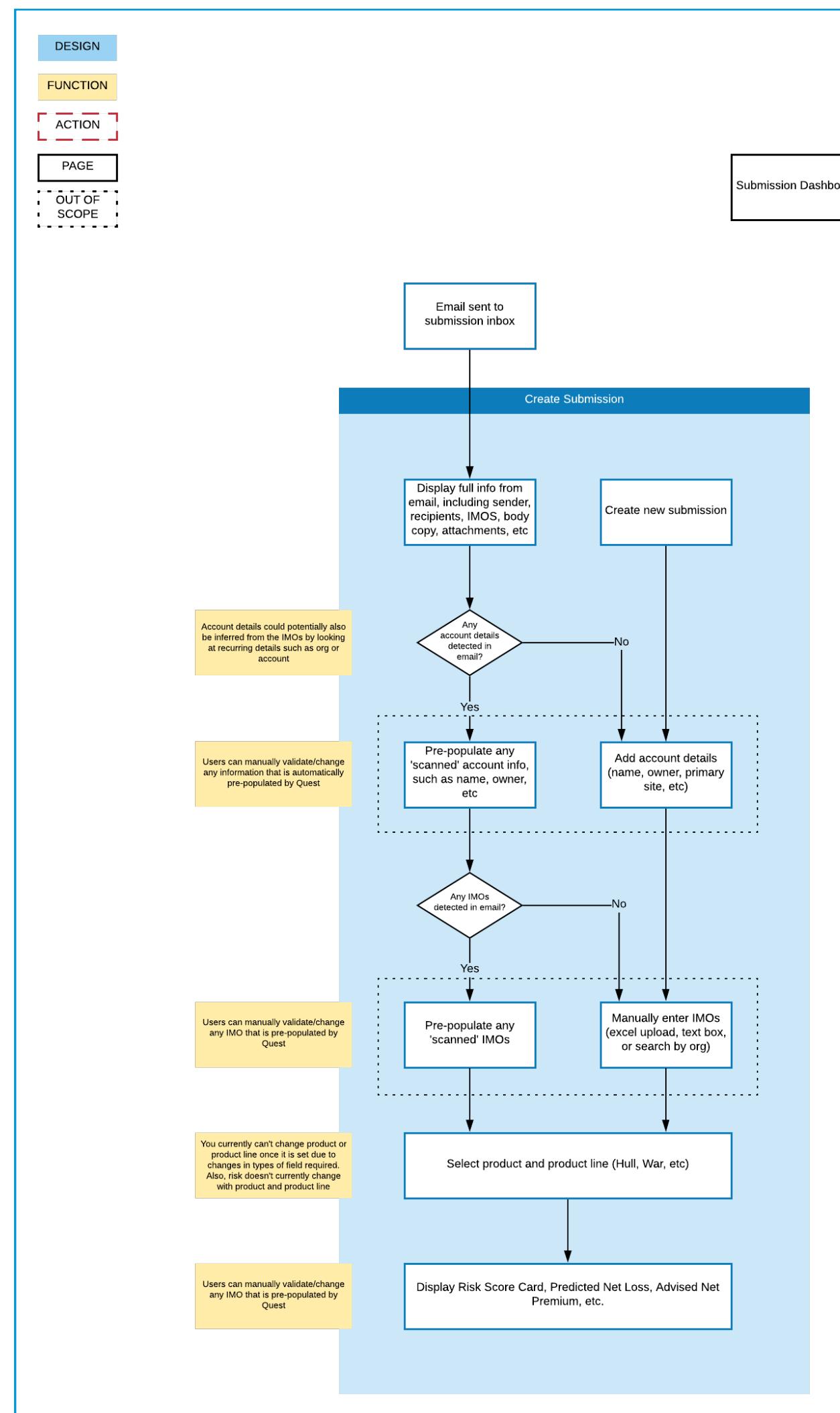
## High Fidelity

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.

# EXPLORATORY WORK



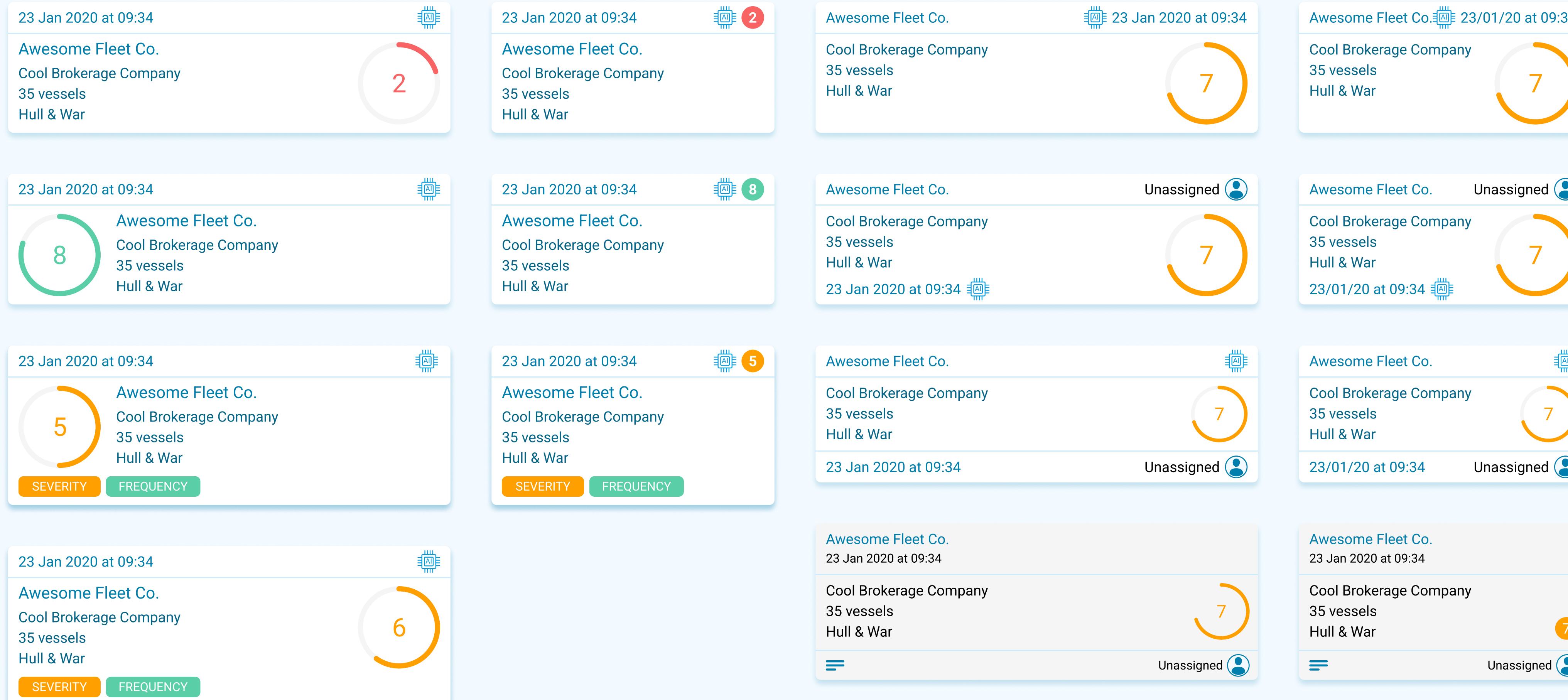
Some examples of the early user flows I mapped out to better understand the problem



# EXPANDING THE DESIGN



I started designing from the bottom up, iterating several times on the cards that would form the tracker



**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

[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](#)

**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) \$1,256,084
- Container ship (10) \$812,756
- Passenger ship (9) \$743,935
- Tanker ship (4) \$467,346
- Ro-Ro ferry (3) \$375,353
- Other (3) \$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

John S

**Container Fleet Co.**  
 Inception date: 23 Jan 2020

HISL Brokers Ltd  
 40 vessels  
 Hull, Machinery, & War

[READY FOR REVIEW](#)

Unassigned

**Smooth Sailing Cruises**  
 Inception date: 23 Jan 2020

Ed Broking LLP  
 81 vessels  
 Hull, Machinery, & War

John S

**Atlantic Container Co.**  
 Inception date: 23 Jan 2020

Willis  
 35 vessels  
 Hull & IV

John S

**Lightspeed Transportation**  
 Inception date: 23 Jan 2020

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

John S

**OCP Gas Shipping**  
 Inception date: 23 Jan 2020

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

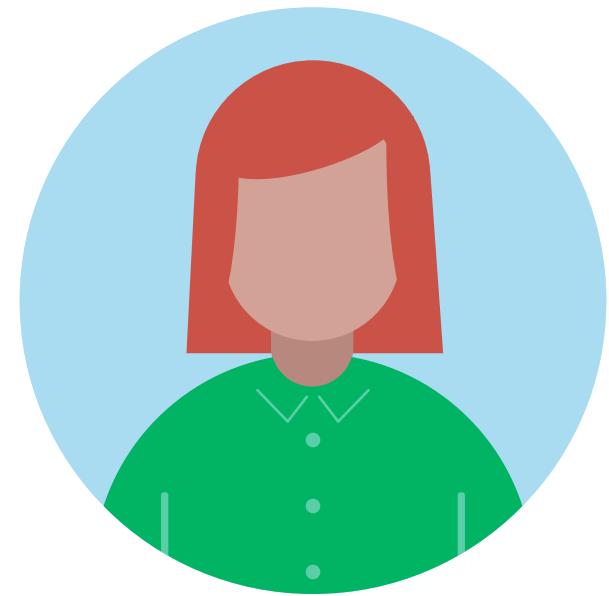
[WRITTEN](#)

John S

# 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

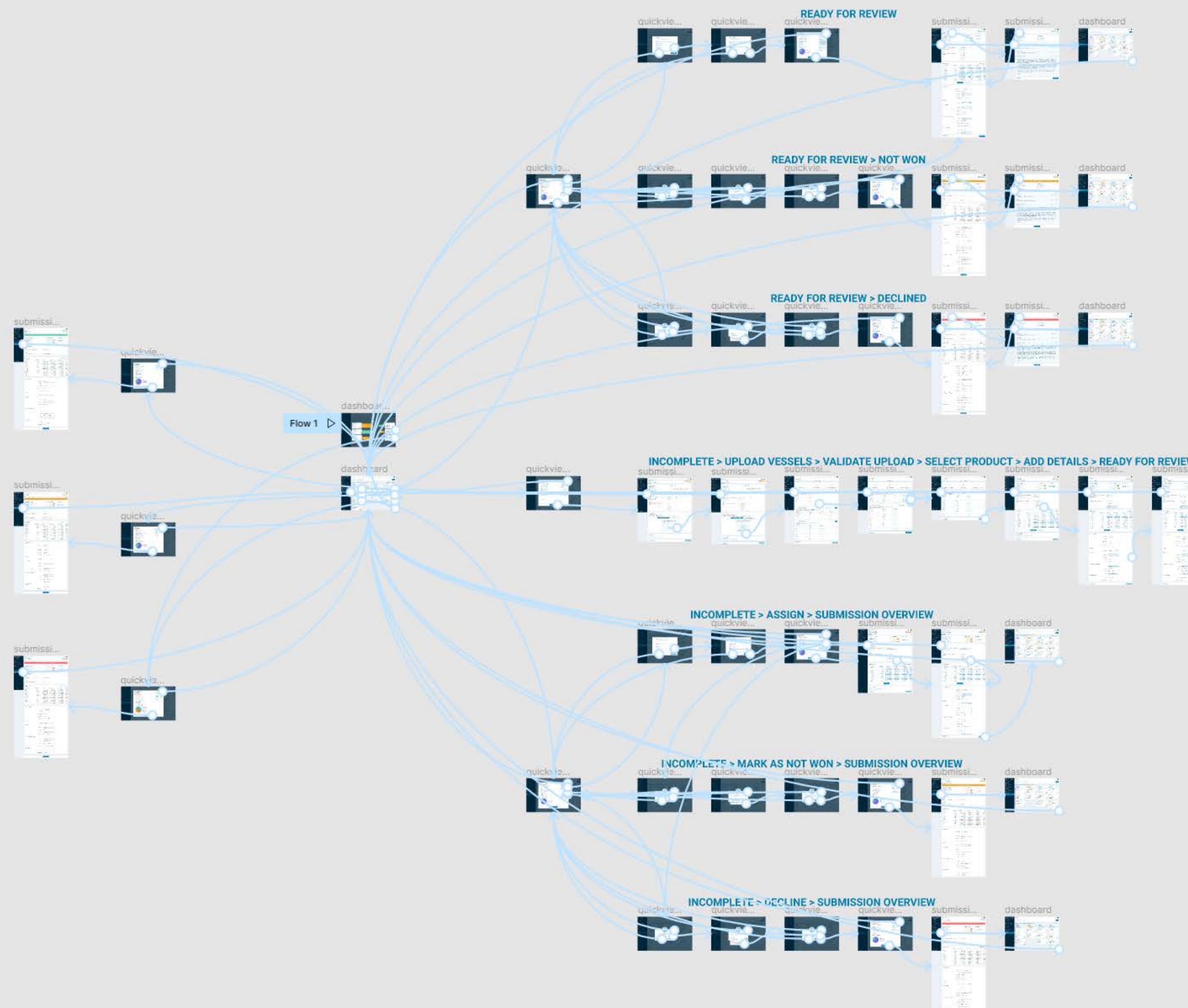
We then spoke to some of our existing underwriter clients who use Quest Marine Hull and might be interested in participating in a trial of the product, and helping to train our data models.



## 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.

# PROTOTYPE





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



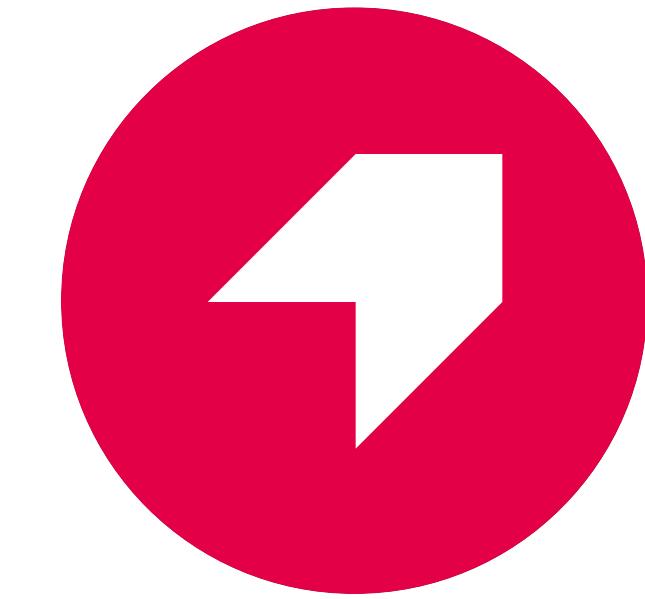
## Internal

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 monitor usage of the submissions module.

# SCREENSHOTS



**Submissions Overview**

The dashboard provides a high-level overview of submissions across various categories:

- Submissions:** Displays a grid of 12 submissions from different brokers, categorized by status: INBOX (4), IN REVIEW (2), QUOTED (3), and DONE (3).
- Written premium by Vessel type:** A pie chart showing the distribution of written premiums by vessel type.
- Declined by Reason:** A pie chart showing the reasons for decline.
- Broker list:** A table showing the number of submissions per broker, along with their total written premium and hit rate.

**Submission Overview for Allied Alaska Ltd.**

This screen shows the submission details for a specific account:

- Submission information:** Broking house: Concirrus, Broker: Sam Mallet, Date created: 17-Jan-2020, Assignee: Click to assign a user.
- Hull policy score:** Frequency: HIGH, Severity: MEDIUM, Score: 6.
- Expected loss:** \$975,000.
- Policy requirements:** Choose an account (Allied Alaska Ltd) and product (Hull & IV).
- Vessel schedule:** Displays 10 vessels with columns for Vessel name, IMO Number, Sum Insured, Increased value, Vessel premium, and Cover fr.

**Submission Overview for Allied Alaska Ltd.**

This screen shows the submission details for a specific account:

- Vessel schedule:** Displays 10 vessels with columns for Vessel name, IMO Number, Sum Insured, Increased value, Vessel premium, and Cover fr.
- Policy information:** Account name: Allied Alaska Ltd, Policy ID: AA180985, Policy start date: 01-Jun-2020, Policy end date: 31-May-2021, Business type: New.

**Submissions Dashboard**

The dashboard provides a detailed breakdown of submissions across various categories:

- Submission summary:** Total submissions: 210, Inbox: 10, In progress: 38, Done: 162.
- Premium by Submission Status:** A bar chart showing the distribution of total current premium based on submission status: INBOX, IN PROGRESS, WRITTEN, NOT WON, and DECLINED.
- Total current premium:** \$325,000, based on 103 submissions/policies.
- Total potential premium:** \$1,324,000, based on 151 submissions/policies.



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

# PRODUCT IMPROVEMENTS



Switching to 1-week sprints helped to rapidly improve the product experience and back-end performance

	At Launch	At 3 weeks	At 6 weeks
<b>Accuracy</b>	<b>65%</b>	<b>92%</b>	<b>100%</b>
<b>Ingestion Time</b>	<b>~5m</b>	<b>~3m</b>	<b>&lt;2m</b>
<b>Maximum Fleet Size</b>	<b>~70</b>	<b>~200</b>	<b>&gt;377</b>



At the end of the trial period, we reviewed our initial goals before planning further roadmap development

## 1. Rapid development

- MVP was completed within the time frame, but not deployed to trial customers for another month, due to additional testing and refinement

## 2. Active trials

- We started our trial period with our two customers, and had two more interested towards the end of our trial period

## 3. Trial conversion

- Both customers converted to a paid license at the end of the trial period, thanks to consistent improvements to the product and regular communication

## 4. Net Promoter Score

- By the end of the trial period we had a NPS of 9

# WHAT THE CUSTOMER SAID



The screenshot shows the Quest Marine Hull software interface. On the left is a sidebar with various navigation options: Dashboard, Portfolio, Active risk manager, Account & vessel list, Watchlist, Claims management, Reporting, Submissions (which is currently selected), and Hide sidebar. The main area is titled 'Submissions / Tracker' and shows a list of submissions. One submission for 'Continental Shipping Ltd.' is highlighted. The submission details include: 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](#), and Hull policy score: 8. Below this, there's a 'Vessel type overview' pie chart showing the distribution of vessel types: Bulk Carrier (8), Container Ship (3), Reefer (17), and LNG Tanker (25). A modal window is open for this specific submission, showing 'Submission information:' with the account name and broker details, and a 'Vessel type overview' section with the same data as the main page. The modal also includes sections for 'Assignee:' (Unassigned), 'Quick actions:' (Move to review, Decline, Set as not won, Delete), and 'Attachments:' (a link to a file named 'continental-ship....xls'). At the bottom of the modal is a 'View submission overview' button.

**“It could be a real game changer... if it works like you say it does”**

- During early discussions with existing customer

**“We can see the value in it, but we're just not getting it yet”**

- Early on in the trial period

**“We would find it difficult to return to how we were doing things before”**

- Three months after converting to a paid license