UI Specification Document

DE BOER, Lucas (K2023556)

Kingston University

1 Introduction

This document outlines the processes used to design the system. The second chapter will introduce how the system will meet its accessibility goals through typography, colour, and consistent icons. The user interface's design will be discussed by showcasing the evolution of low-fidelity sketches to higher-fidelity wireframes made in Figma. The project followed this methodology because fundamental problems in design are more easily changed when done quickly on a piece of paper rather than a higher fidelity wireframe, not to mention the time saved from iterating on paper versus a digital wireframe. Low fidelity allows an immediate opportunity to test design ideas and get feedback from others. This chapter also discusses reusable components and how utilising them can benefit the system by making the design more consistent.

The fourth chapter will discuss using the Unified Modelling Language (UML) activity and sequence diagrams to visualise the steps and users involved in all system workflows. Both allow the project's stakeholders to gain a more effective and precise understanding of what the system needs to do and how.

A usability plan has been developed, which will be conducted to validate the system's design. Usability testing will contribute to the system's overall success by ensuring it is user-friendly, efficient, and aligned with user expectations.

The results of the usability testing have been written up. This section will discuss the common issues in the system's UI design along with ways in which these issues can be mitigated or fixed entirely. The impact of these fixes will also be discussed.

The project will be utilising a combination of agile and Scrum methodologies. Scrum will have time-limited iterations called sprints and brief daily meetings. However, the meetings for this project will only occur once a week. The sprints will last around four weeks to have a finished product by the end. This design document was made from the consolidation of many weekly deliverables.

2 Accessibility

Accessibility means that the system is designed and developed in a way so that people with disabilities can use it. Everyone can perceive, understand, navigate, and interact with the system (Education and Outreach Working Group, 2023). The importance of system accessibility cannot be overstated, as it serves various critical purposes:

Inclusivity: Accessibility ensures that individuals of all abilities can access and take advantage of the information and services available on the web. This promotes inclusivity and equal opportunities for participation in the digital age.

Legal Compliance: Several countries have enacted laws and regulations requiring web accessibility to guarantee that digital services are accessible to everyone. Failure to comply could result in legal repercussions.

User Experience: Accessible design often improves overall user experience for all users, not just those with disabilities. Websites that are well-designed and accessible are typically more user-friendly and easier to navigate.

To ensure that this system is accessible to all users, the project will follow the established guidelines for web accessibility, known as Web Content Accessibility Guidelines (WCAG). These guidelines provide a framework for creating web applications that are easy to use by people with disabilities. They cover various topics, such as typography, colour, and familiar icons, to ensure everyone can easily access and use the web application.

2.1 Typography

This section focuses on whether a user can easily read and comprehend the textual information on a page. The font style, size and letterspacing can all play a role in affecting text readability. It is recommended to avoid using serif fonts because they have decorative strokes on the letters, making reading difficult for some people. To ensure that most people easily read the content, sans-serif fonts with a font size of at least 16px will be used. Additionally, the length of the lines will be optimised by ensuring they are not too long or too short. The ideal range is between 45 and 75 characters per line, with a preferred comfortable target of 66 characters per line.

2.2 Colour

The role of colour in web design cannot be overstated. However, it is imperative to ensure that the use of colour does not hinder individuals with visual impairments, including those who are colourblind. This project must consider several factors to ensure that colour is used in a way that is inclusive and accessible to all users.

The developers need to ensure that an adequate amount of contrast exists between the text and its corresponding background. This is particularly crucial

for individuals with low vision or colour vision deficiencies. Following the Web Content Accessibility Guidelines (WCAG), text and images containing text must possess a contrast ratio of no less than 4.5:1 (World Wide Web Consortium, 2023).

The project aims to eliminate the exclusive use of colour to convey information. For example, using red to indicate an error occurrence in a form field is insufficient. To address this issue, the developers have incorporated the red colour into a text label that explicitly states the nature of the error and its cause. This strategy aims to provide users with a clear understanding of the problem and ensures that someone with colour-oriented impairments will not struggle to comprehend that an error has occurred in the first place. By not relying on colour alone to convey information, the system will be much easier to understand and navigate for every user type.

2.3Icons and Symbols

Individuals facing language comprehension, learning, or reading challenges may find symbols valuable aids for comprehending and navigating content. Additionally, symbols benefit those dealing with attention difficulties, assisting them in navigating various forms of content.

Accessible icons are defined as icons that all website users can understand despite their disabilities, limitations, or impairments. The developers should use commonly recognised, standard icons to use icons within the system effectively. These familiar icons, images, and symbols should convey a single, clear meaning and be placed next to the content they relate to for reduced ambiguity. This is important as first-time users will associate an icon symbol with its function. The user would be confused if the same symbol were used for a different function. Furthermore, the project will incorporate a pre-existing icon set to maintain consistency in icon design and ensure ease of comprehension. This will help guarantee that the developers are utilising designs that are well-known and proven to be effectively understood by users. The project can provide a standardised design scheme that is both reliable and user-friendly.

3User Interface

The usability and design of the user interface are critical as they influence how users engage with the system. A poorly designed layout can impede the comprehension of output data and hinder user interaction. Similarly, a complex workflow can significantly increase task completion time and reduce usability. Given the critical role of the user interface, a design cycle spanning from low to high fidelity has been proposed. This approach aims to cater to the needs of stakeholders at different stages of the design process and ensure that the final product meets the expected quality standards.

By employing low-fidelity prototypes at the initial design stages, designers can quickly test and validate concepts while minimising the resources invested. As the design progresses, high-fidelity prototypes can be used to evaluate the product's functionality, usability, and aesthetics more accurately. This iterative design cycle allows for refining the user interface at various stages, significantly enhancing the overall design and leading to better user experiences.

It is worth noting that this system will be a desktop application, so all sketches and wireframes have been designed with this in mind.

3.1Initial sketches

Low-fidelity sketches allowed for the quick visualisation of user requirements. The initial sketches provided an opportunity to test design ideas and see the general layout and appearance of the system. Furthermore, initial sketches such as Figure 3.1.1 allow for identifying repeated UI elements, which can later be converted into reusable components.

A comprehensive list of initial sketches can be found in Appendix B.

3.2Reusability through Reusable Components

Once an initial sketch for all user requirements was made, a comprehensive evaluation of similar and repeated UI elements across all pages was conducted. The investigation revealed the most notable reusable components in the system to be buttons, forms, layout containers, images, and display cards, all of which were consistently implemented throughout the system. These reusable components were redrawn in various parts, as shown in Figures 3.2.1 to 3.2.4.

Identifying and creating reusable components is essential to maintain a consistent layout throughout the system. Learning and recognising new designs and elements can be time-consuming for many users. Therefore, using the same UI elements in the same places for every screen is better. This will help new users learn and use the system more efficiently. Once a reusable component is available, the developing team can implement UI sprints much faster. This is due to less repeated code and potentially less time debugging. By eliminating the need for redundant code, development is streamlined, and resources can be utilised more effectively.

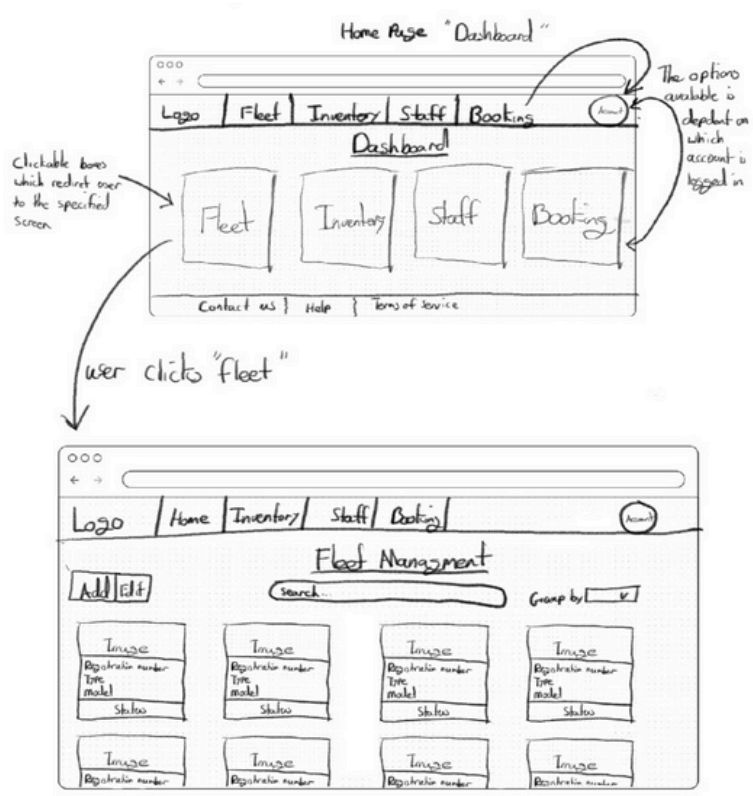


Figure 3.1.1 Low Fidelity Sketch for “View Fleet” (Business Owner User Type).

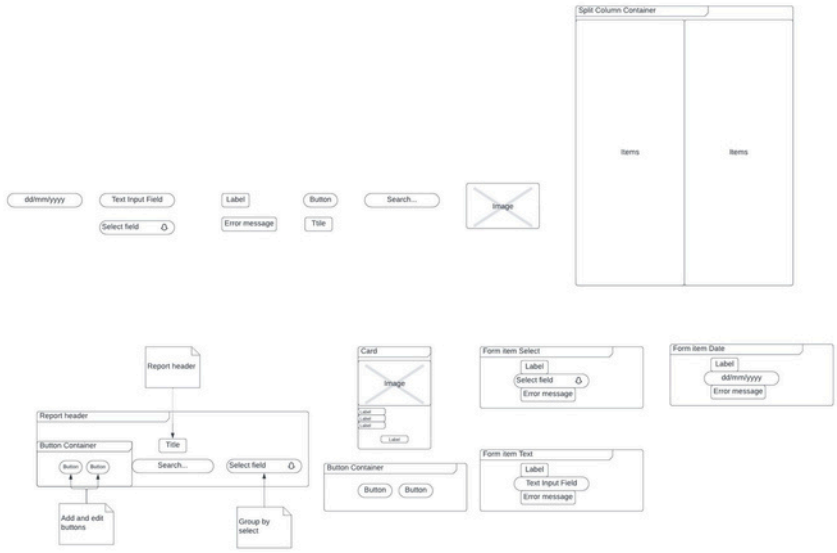


Figure 3.2.1 Diagram Showing Reusable Components.

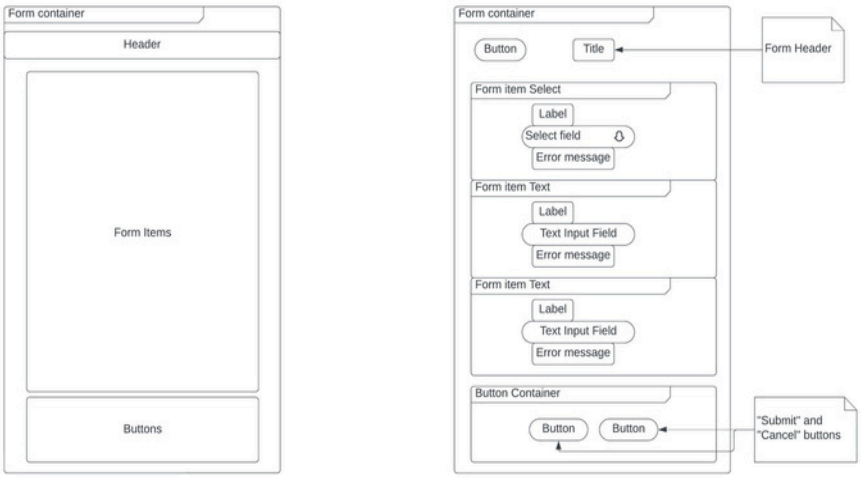


Figure 3.2.2 Diagram Showing Form Reusable Components.

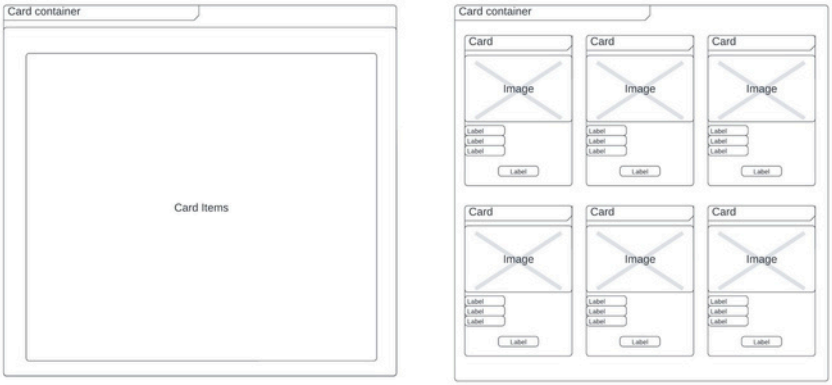


Figure 3.2.3 Diagram Showing Card Reusable Components.

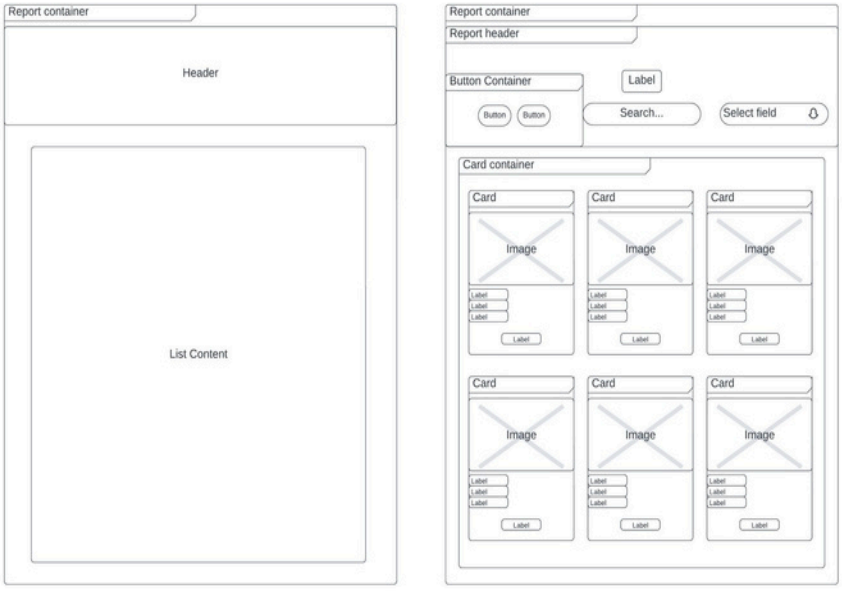


Figure 3.2.4 Diagram Showing Report View Reusable Components.

3.3 Wireframes

Medium-fidelity wireframes were created for all user requirements using the Figma software tool. These wireframes utilised the reusable components identified in the prior section. Furthermore, this was the first time in the design process that colour choices could be seen within the system, and thus, changes were made accordingly to follow best practices. Figures 3.3.1 and 3.3.2 show the medium fidelity wireframe for the fleet management page and watercraft form. The top bar, header bar, display cards and form elements are all separate reusable components.

The medium-fidelity wireframes presented will elicit more specific and advantageous user feedback than their low-fidelity counterparts. These wireframes are intended to be used during the upcoming usability test, outlined in Chapter 5, the "Usability Test Plan."

A comprehensive list of medium-fidelity wireframes can be found in Appendix D.

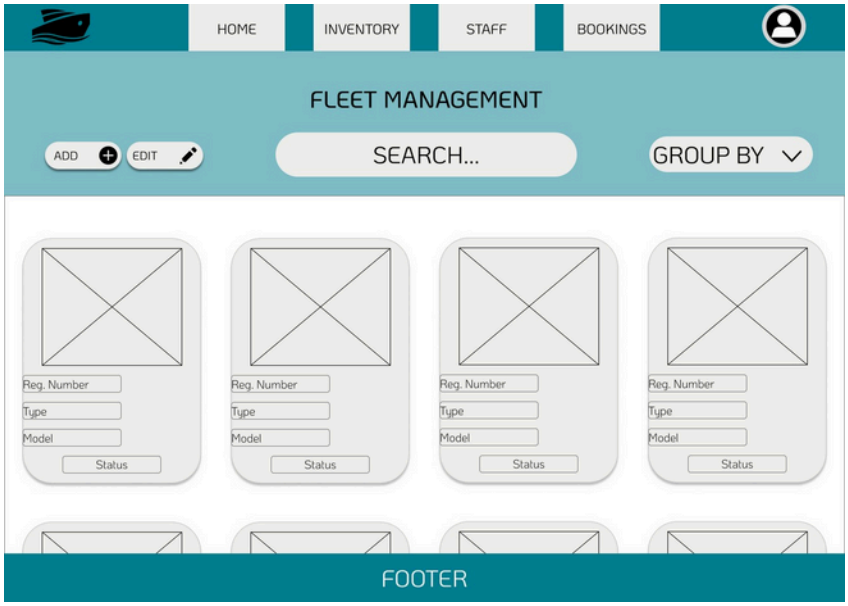


Figure 3.3.1 Medium Fidelity Wireframe for "View Fleet"

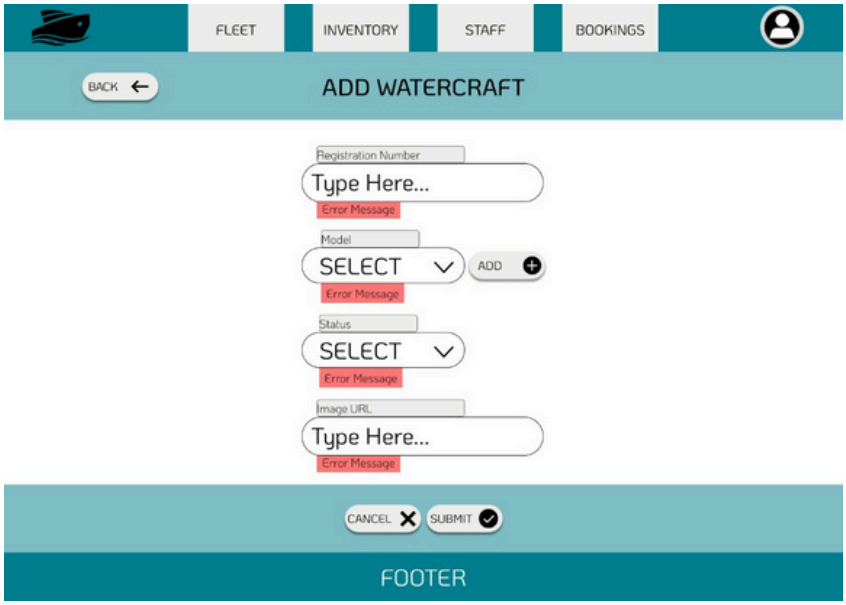


Figure 3.3.2 Medium Fidelity Wireframe for "Add/Edit Watercraft"

3.4 Navigation

A navigation diagram, such as Figure 3.4.1, visually represents the website's structure and hierarchy. It outlines the relationships between pages and helps organise content clearly and logically. This clarity is essential for users to understand and navigate the website easily.

It also contributes to the consistency of the website's design. It ensures that similar types of content are grouped together and that there is a uniform approach to navigating through the site. Consistency in navigation enhances the overall user experience and reduces confusion.

The diagram presented here offers a simple way to ensure that the primary functionalities of the system are easily accessible within three clicks. The three-

click rule was developed to encourage system designers to create user-friendly applications that allow users to find the information they need with the least possible effort. This rule assumes that users will become frustrated if they cannot find what they want within three clicks. Although there is no concrete evidence to support this, the developers of this project will keep the three-click rule in mind to ensure that this system is easy to navigate.

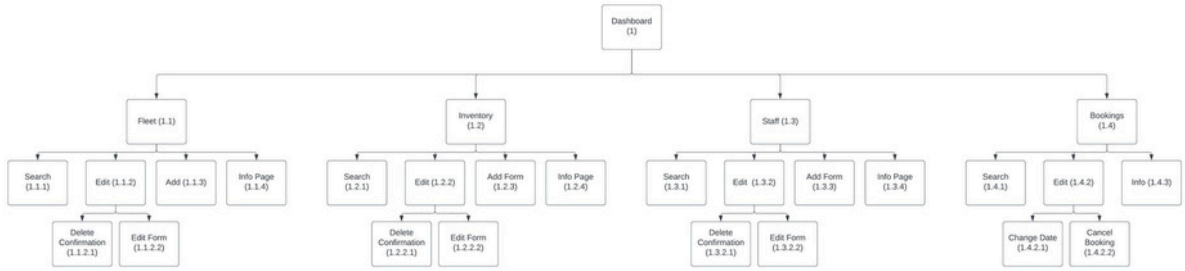


Figure 3.4.1 Navigation Diagram

4Process Modelling and Workflows

Process modelling is a technique used to represent the different workflows of a system. It involves creating graphical representations using Unified Modelling Language (UML) diagrams such as activity and sequence diagrams. These illustrate the steps, interactions, and dependencies required to accomplish the different flows. Process modelling aims to improve our understanding of the requirements needed to complete a specific task in a system. By breaking down complex processes into smaller and more manageable tasks, process models can assist in project planning and identify any dependencies. Since the system is designed with these dependencies and flows in mind, it ensures that each user story is handled correctly and thoroughly to account for any decisions that may cause the process to deviate from the main flow, such as an error or cancellation.

4.1Activity Diagrams

An activity diagram, such as Figure 4.1.1, illustrates the flow from one step to another. These diagrams visually depict the progression of events from a starting point to an end. The diagram represents many alternative paths the user or system can take to complete a process.

An activity diagram was made for every user story as it effectively communicates the complex process to the project’s client. Visual representations make conveying complex ideas and requirements easier, reducing the likelihood of misunderstandings.

A comprehensive list of activity diagrams can be found in Appendix A.

4.2Sequence Diagrams

The sequence diagram is another way of visually breaking down a complex workflow. In contrast to activity diagrams that emphasise the progression from one step to another, sequence diagrams concentrate more on the involvement of different users in executing the workflow. They highlight user interactions and showcase how each participant collaborates with others to achieve the desired outcome.

Figure 4.2.1 shows an example of a sequence diagram. Here, the Business owner needs to change a client’s reservation time. However, this cannot be done without the client's approval first. Thus, a time change request is sent to the client for approval. If approved, the time is changed; however, the reservation time is kept the same if rejected.

Sequence diagrams were only made for a few workflows requiring modelled interactions between different user types. The sequence diagrams can be found in Appendix A

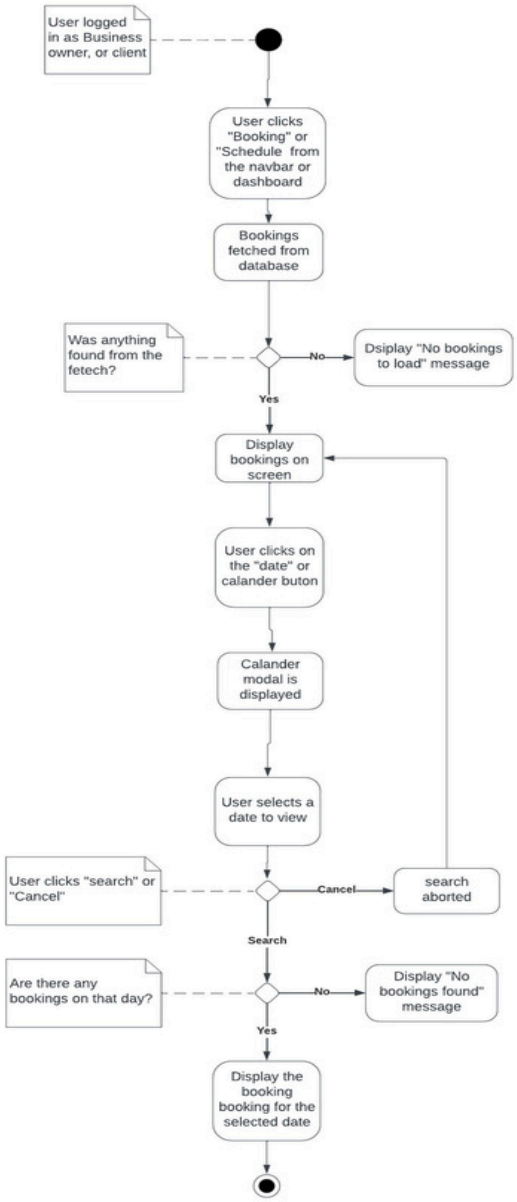


Figure 4.1.1 Activity Diagram for “Search Booking by Date”.

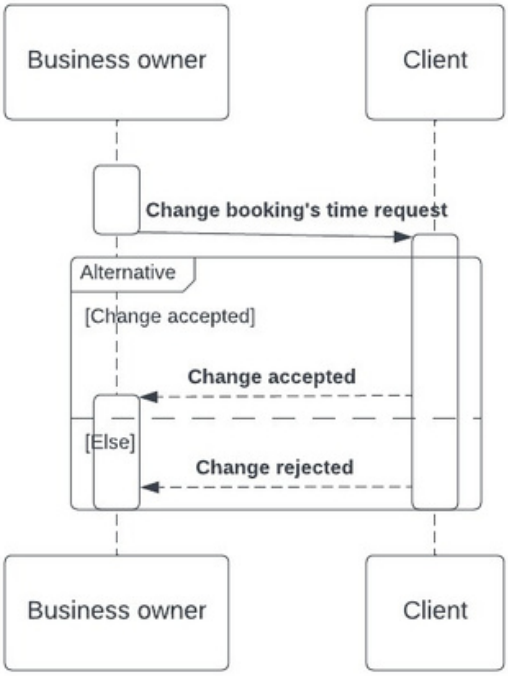


Figure 4.2.1 Sequence Diagram for "Request Change booking time (Owner)".

5Usability Test Plan

5.1The Goals of the Test

1. Identifying Usability Issues: Identifying any obstacles or challenges users may encounter while interacting with the system is essential. These can range from issues with navigation to design, functionality, or any other aspect that could hinder the user experience. Thoroughly assessing and addressing these issues can lead to a more positive user experience and improved system functionality.
2. Improving Design: Usability testing provides an opportunity to identify user preferences regarding design elements, features, and overall user interface. Analysing user feedback can identify areas that would benefit from an improvement to meet these needs and preferences.
3. Improved understanding of the user: This can be achieved through thoroughly analysing the test results. This analysis will allow for a more informed assessment of the user's technical proficiency, along with any common challenges a specific user group has and thus must be addressed.

Usability testing will contribute to the system's overall success by ensuring it is user-friendly, efficient, and aligned with user expectations.

5.2How the Tests will be Conducted

Using Figma wireframes, an interactive prototype can be made. This prototype can be coupled with software called Maze. Maze is a usability testing software. It allows for creating goal-defined tests, such as testing whether a user can get from the home page to the editing page. This can be done for any workflow which needs to be tested.

Maze will allow usability testing to take both a moderated and unmoderated approach where users can complete the tasks online on their own time. This flexibility is invaluable as the testing can be better scheduled around the user's availability. However, a moderated approach will allow the tester to see firsthand the frustrations and issues a user runs into. A tester can pick up on subtle nuances which may not be captured well in text form. The user will also be encouraged to think aloud while trying to accomplish the tasks so that the tester will know precisely why they are clicking in certain areas. This will give insight into how users think; thus, a better understanding of the user types can be gained. An attempt to conduct all usability tests in a moderated format will be prioritised over unmoderated.

Before commencing the test, the user will be given a comprehensive overview of the test procedures to ensure they clearly understand what is required. The user needs to know that the test uses a wireframe prototype, meaning that not everything is clickable. This provides context and prevents the user from any unnecessary frustrations later. Furthermore, some users may be anxious to do a moderated test. It needs to be made clear that they are not the ones being tested; only the design is being tested. This may help remove any nerves a user may have during the test.

5.3The Data which will be collected and how they will be collected

The Maze tool provides quantitative data like the miss-click rate and the time the user takes to complete a task. However, this usability test will focus on gathering qualitative data. This will be accomplished by asking follow-up questions to the participant in person or through a questionnaire filled out by the user. Any additional information obtained from moderated tests, such as the user's reasoning for clicking in certain areas, will also be analysed.

By analysing the data, I get back from the testing. I can find problems in my design and see where users get stuck. Furthermore, by asking open-ended questions and getting another user's response, I may gain a deeper understanding of the problems that users face when going through my design. This will allow me to make improvements to my design.

5.4How many participants

This usability plan will follow the five-user rule for testing (Nielsen, 2000). This rule was first proposed by Jakob Nielsen, a researcher and founder of Nielsen Norman Group, a world leader in research-based user experience. The rule follows the logic that as you add more users, the number of unique problems found decreases due to subsequent testers running into the same issues. Five user testers will uncover 85% of usability problems; The more users added after five users, the less effective they become. It is worth noting that this rule is only for tests focused on qualitative data gathering.

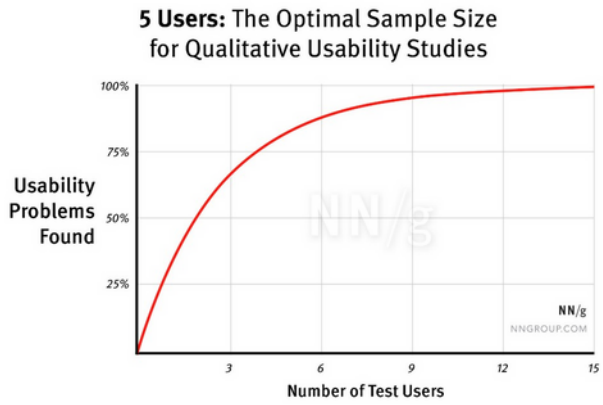


Figure 1 graph from (Nielsen, 2000) shows the decrease in usability problems found as the number of test users increases.

5.5How many sessions will occur, and when will they occur?

The testing will be held over five sessions, one per user and no longer than one hour, during January and February.

6Usability Test Results

This section will discuss the usability testing results and how certain changes can be made based on the feedback. It will go through the comments made by the testers, especially addressing the areas of the system that cause a common struggle between multiple testing sessions. This section will also go through the more positive comments towards the design of the interface. The test was carried out slightly differently than what was outlined above. All participants were given the clickable wireframe prototype. Each participant had a set of tasks that introduced them to the system features. There were two participants for each user type.

It should be noted that all users could carry out all tasks successfully; however, a couple needed help along the way. This usually occurred when the participant was asked to modify or delete something. The UI element, which handles the showing and hiding of the edit and delete functionality, causes many difficulties. Furthermore, this UI style carried over to the booking's cancel and change date functionality. Essentially, most participants felt it unintuitive to click the "Edit" button (located on the top of the page) before being able to edit the individual cards themselves. Some thought this "Edit" button would edit the page, not the items. Regarding the booking page, both participants felt that the word "Edit" did not truly represent the task of cancelling a booking or changing its date, so they never knew to click it to reveal these functionalities. To fix this issue, most participants suggested that the " modify" and "delete" buttons always be present on all item cards. This would remove the need to have the unnecessary and often unclear "Edit" button, which would originally show and hide these buttons. The number of clicks required for a user story will also decrease.

The client user type was asked to manipulate their bookings. As discussed, pressing the "Edit" button on the page to reveal the cancellation and date-changing functionality was an issue that resulted in both participants needing to ask for help. While the suggestion to always have the functionalities present was

given, one participant noted another possibility when changing the booking date. Their immediate navigation course was to click on the individual booking to enter its details. On the details page, the participant then expected to see a Calander or “booking date” button; however, he was not met with either and thus struggled to finish the task. From this behaviour, it was noted that the system should provide the CRUDLE functionalities for each item, not only on the list view but also on the details view of a specific item. Essentially, there should be two paths to accomplishing the same task. Implementing this should be of minimal impact to the design as it would only attribute to a couple more button being added to the details page

Some users also had some initial confusion about the dashboard page. While they loved the large buttons which clearly defined their purpose, the testers did not like how the normal navigation bar was also present at the top of the page. Each page on the top bar navigator has a huge button on the dashboard. Regardless of whether a user clicks “Watercraft” on the dashboard or top bar, it will take them to the same page. However, a tester did not intuitively know this and did find this doubling of possible navigation paths confusing. They thought the top bar navigator would take them to a different set of pages than the dashboard. While only one tester struggled with this, it is worth looking at as it would be a simple fix to hide the navigation bar on the dashboard page. This change would not hinder the system’s functionality and may make the system more intuitive to use.

A tester expressed confusion about what the term “status” meant regarding the watercraft and felt that a description would be beneficial. A tooltip system can be implemented and triggered to address this concern whenever a user hovers over an unfamiliar term.

Many participants commented on the system’s use of familiar UI icons, including those for modification, deletion, and the profile page. Thus, it can be stated that the implementation of familiar icons has successfully achieved its intended effect of allowing the testers to more easily learn how to use the system and what functionalities are present. Furthermore, using large buttons throughout the system was highly regarded and helped make navigation clear, as it was hard not to see a button due to everything being laid out clearly. The colour scheme, which complemented these icons and buttons, was also liked and allowed the system functionalities to stand out.

7 Conclusion

In conclusion, the project's design phase aimed to turn the written requirements of the system into a visual user interface, which could then be tested and validated by a small group of users. This project has successfully achieved that goal. The system’s user requirements have been converted into graphical user interfaces by creating low-fidelity sketches to higher-fidelity wireframes. The accessibility of each interface has been considered to ensure that as many users as possible can effectively use the system regardless of disability.

Furthermore, activity diagrams have broken down each requirement into individual steps. These diagrams will help the development team better understand what the system needs to do to accomplish each desired workflow. To provide a more comprehensive understanding of workflows involving multiple

user types, sequence diagrams were developed to demonstrate the order and direction of user interactions.

The usability plan has been developed to validate the proposed design. Usability testing will contribute to the system's overall success by ensuring it is user-friendly, efficient, and aligned with user expectations. In summary, the test will help identify usability issues, help with improving the system’s design, and enhance the project’s current understanding of the system’s user type.

Overall, the testing was successful; however, it would have been useful to have recorded the meetings to ensure the entirety of the testers’ feedback was catalogued. It has provided the team with extensive feedback on how unfamiliar individuals perceive and use the system. It is easy for the development team to make assumptions about how the system would be used. The testing has allowed these assumptions to be checked and, most importantly, modified if incorrect.

8 References

Education and Outreach Working Group (2023) ***Introduction to Web Accessibility.*** Available at: https://www.w3.org/WAI/fundamentals/accessibility-intro/#what (Accessed: 10 January 2024)

Nielsen, J. (2000) ***Why You Only Need to Test with 5 Users.*** Available at:https://www.nngroup.com/articles/why-you-only-need-to-test-with-5-users/ (Accessed: 10 January 2024)

World Wide Web Consortium (2023) ***Introduction to Web Accessibility.*** Available at: https://www.w3.org/WAI/WCAG21/Understanding/contrast-minimum.html (Accessed: 10 January 2024)

Appendix

Appendix A - Workflows

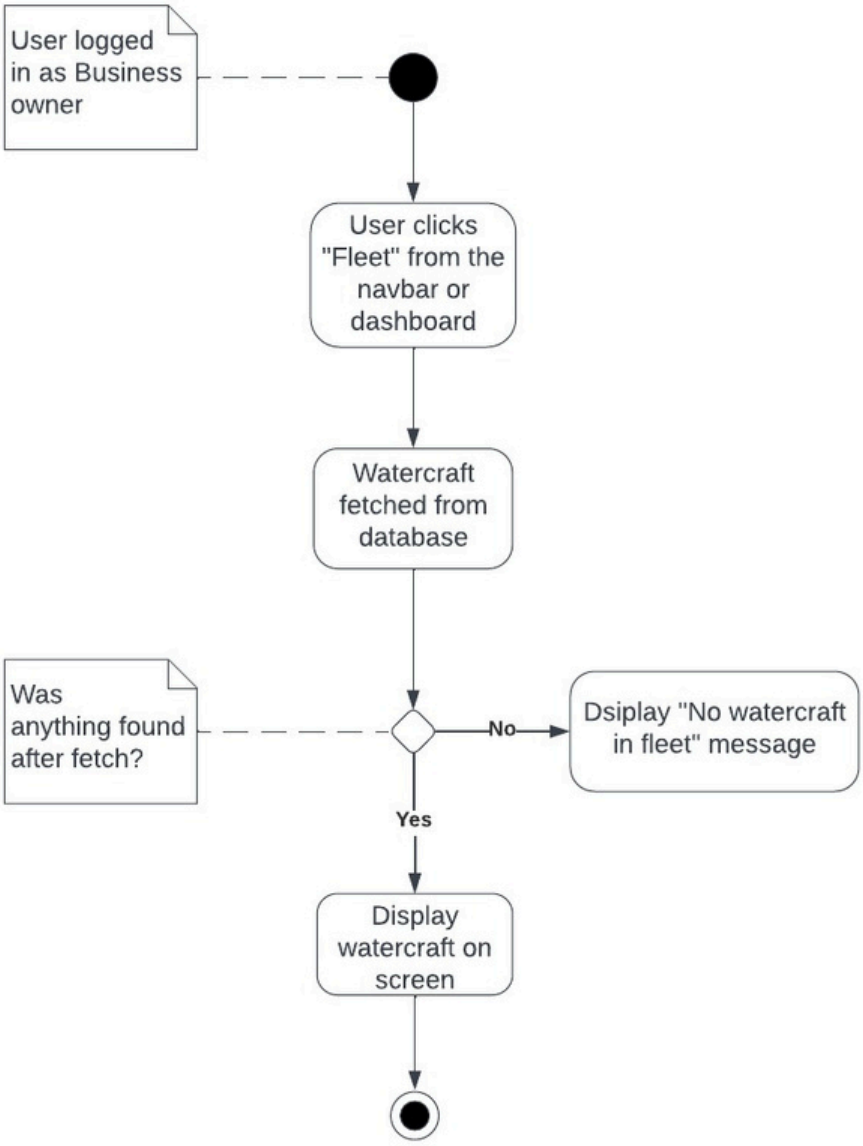


Figure A.1 Activity Diagram for “View Fleet”.

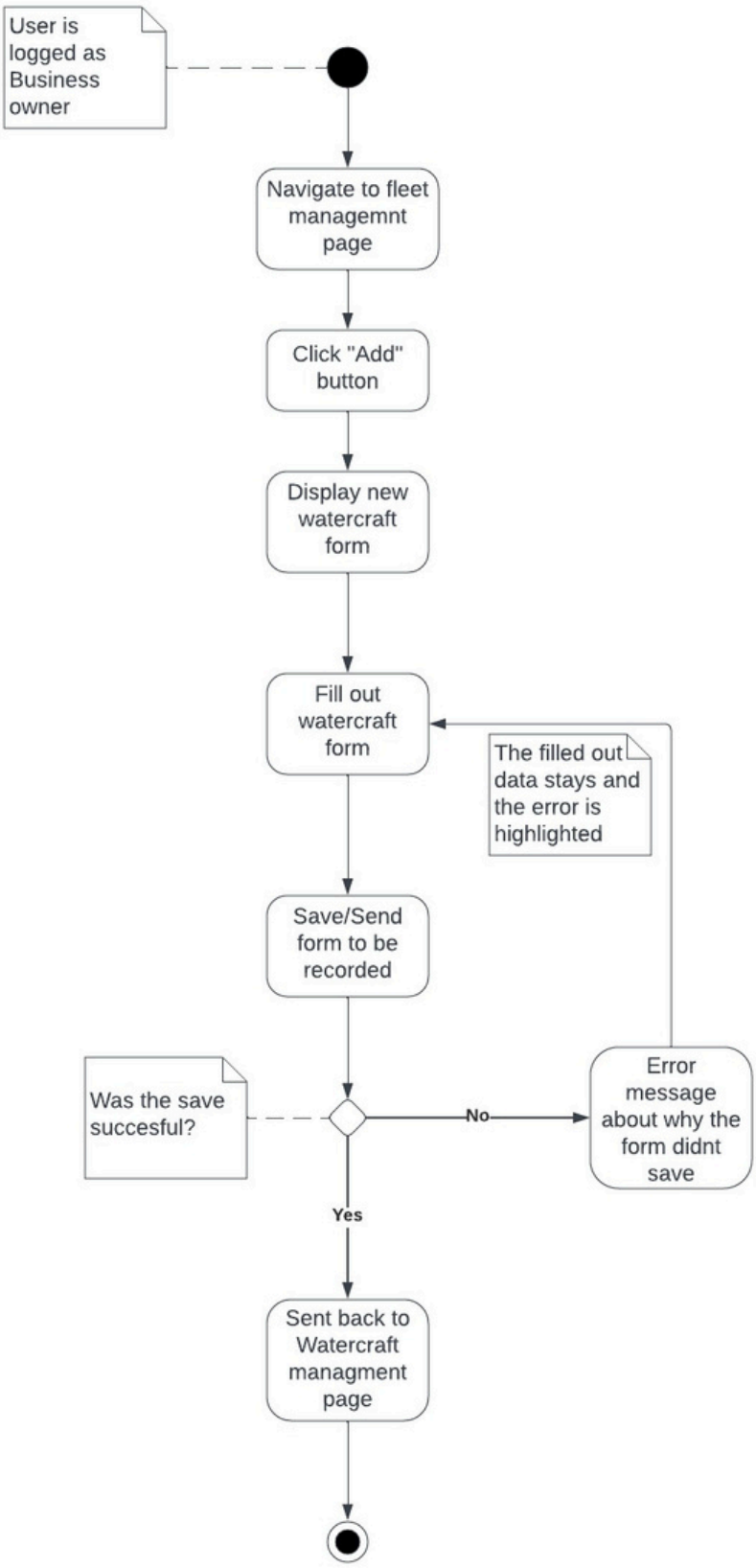


Figure A.2 Activity Diagram for "Add Watercraft".

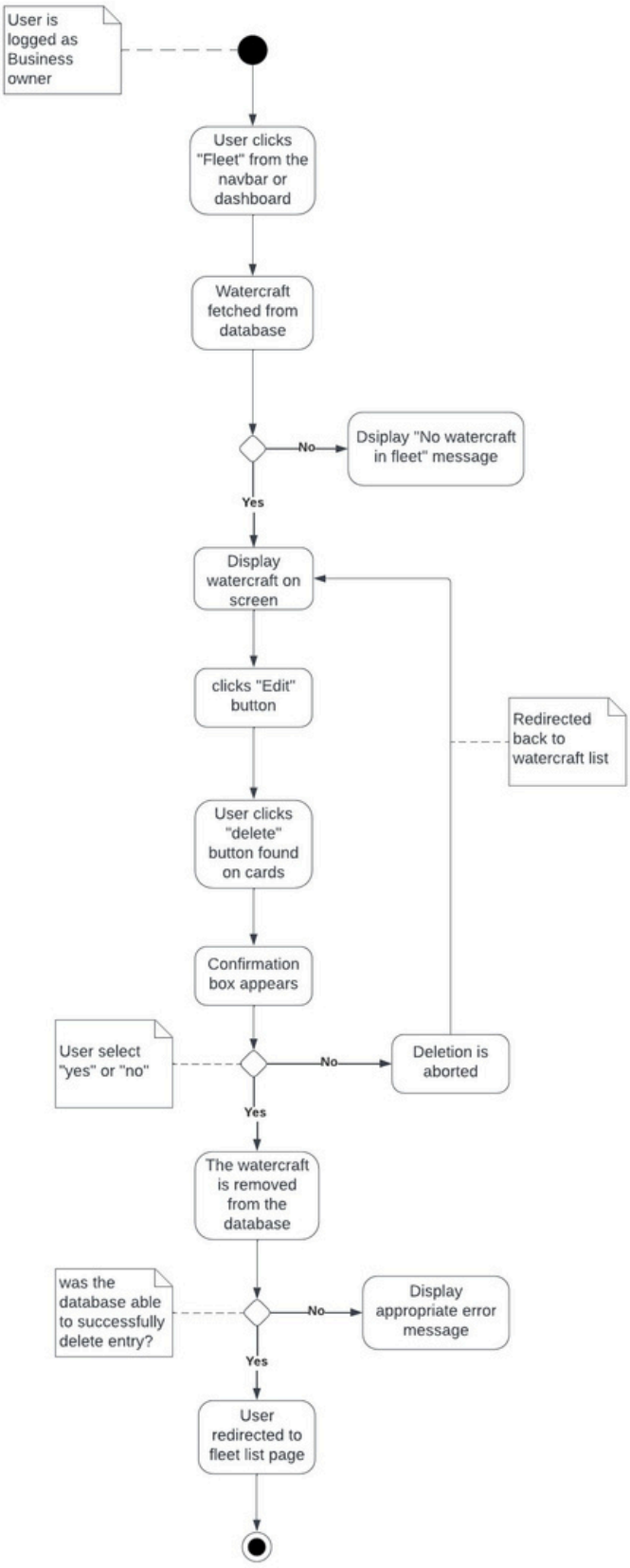


Figure A.3 Activity Diagram for "Delete Watercraft".

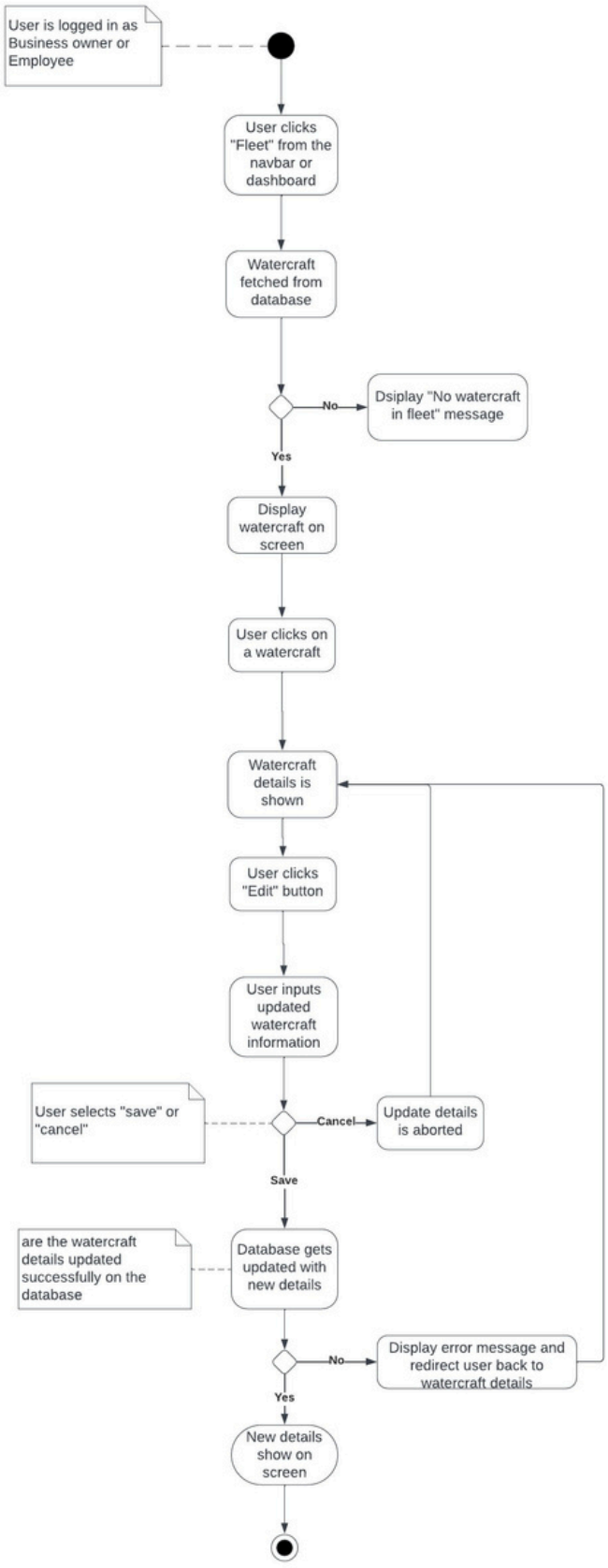


Figure A.4 Activity Diagram for "Edit Watercraft".

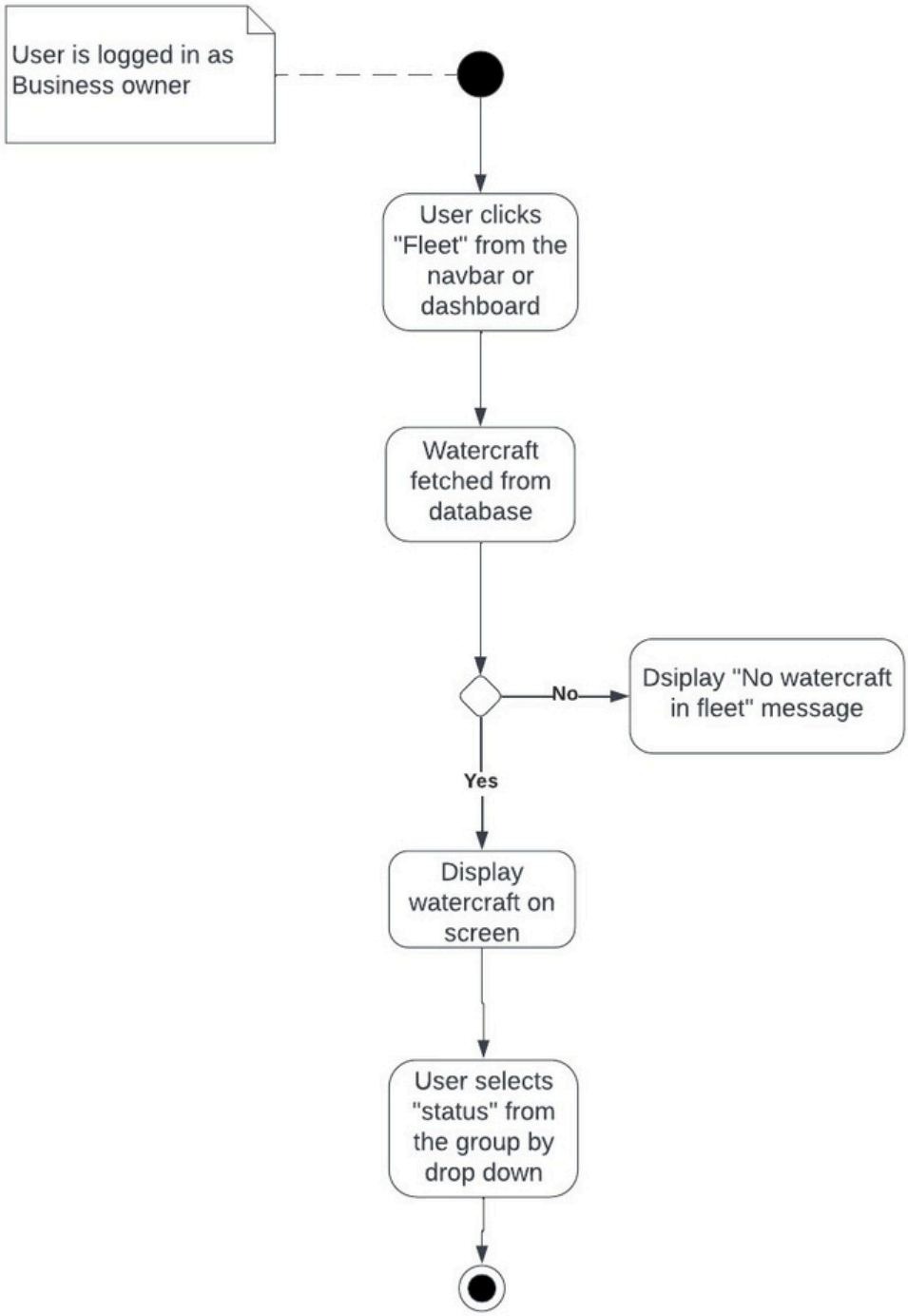


Figure A.5 Activity Diagram for "Group Watercraft by Status".

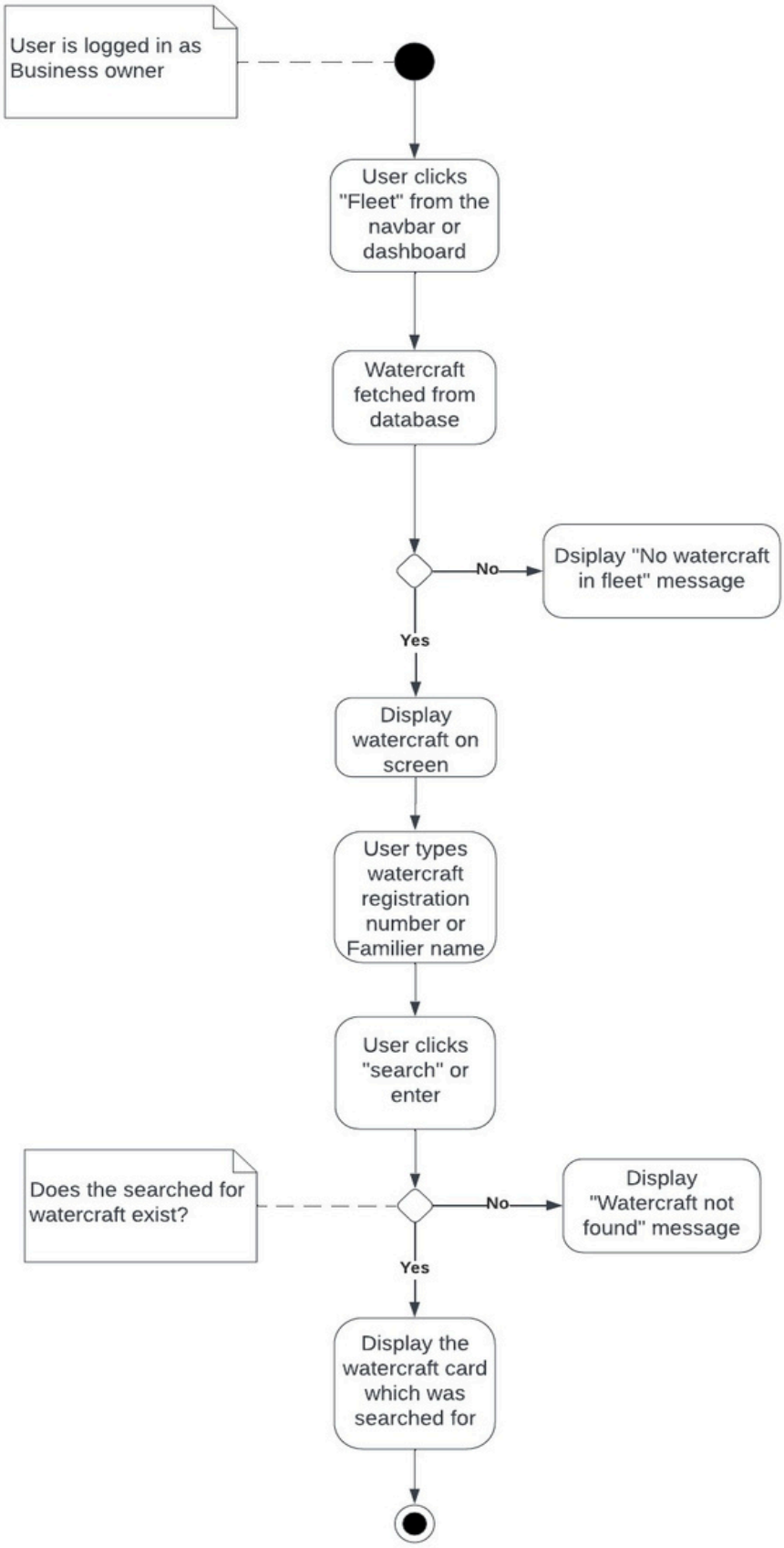


Figure A.6 Activity Diagram for "Search for Watercraft".

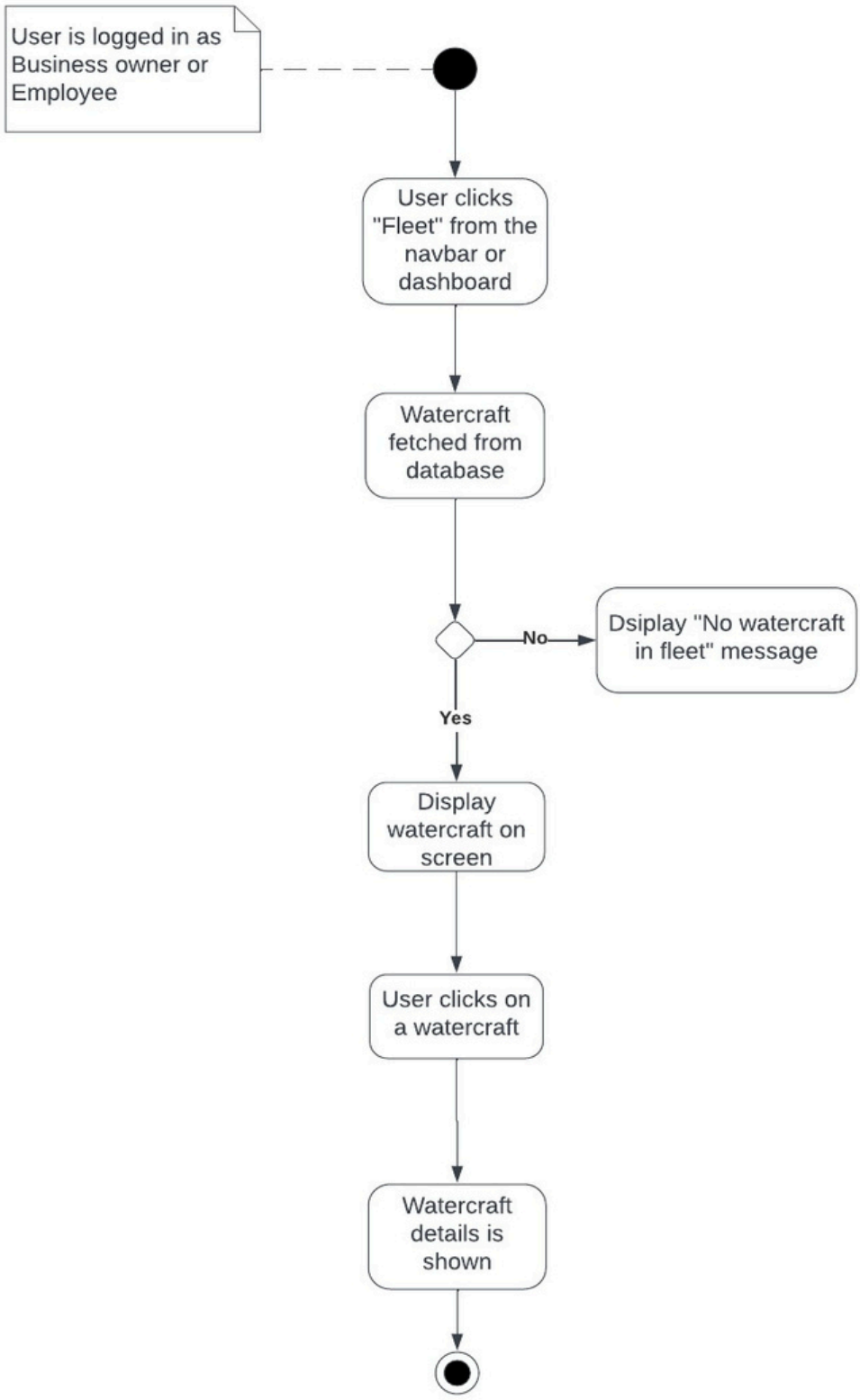


Figure A.7 Activity Diagram for "View Watercraft Details".

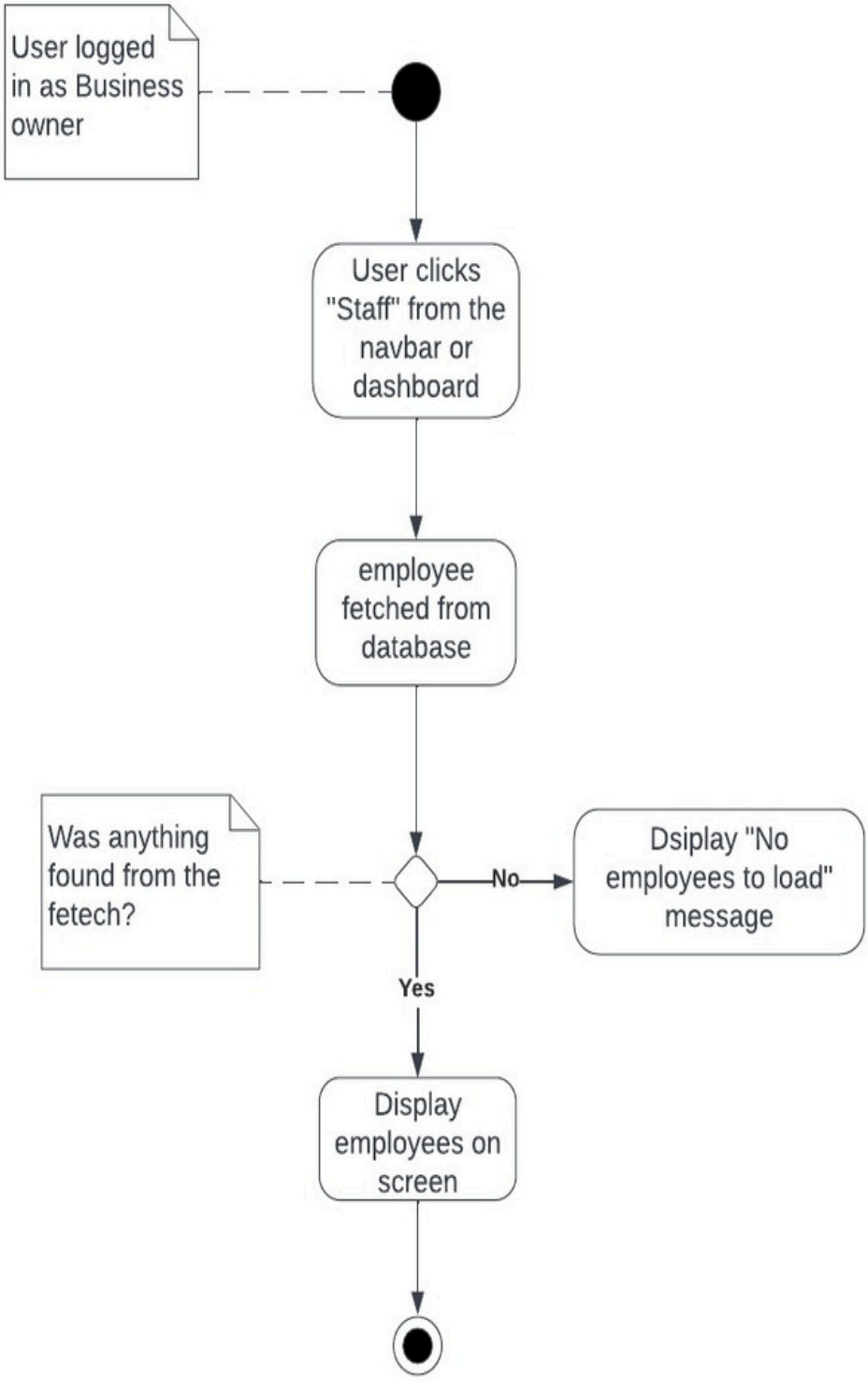


Figure A.8 Activity Diagram for "View All Employees".

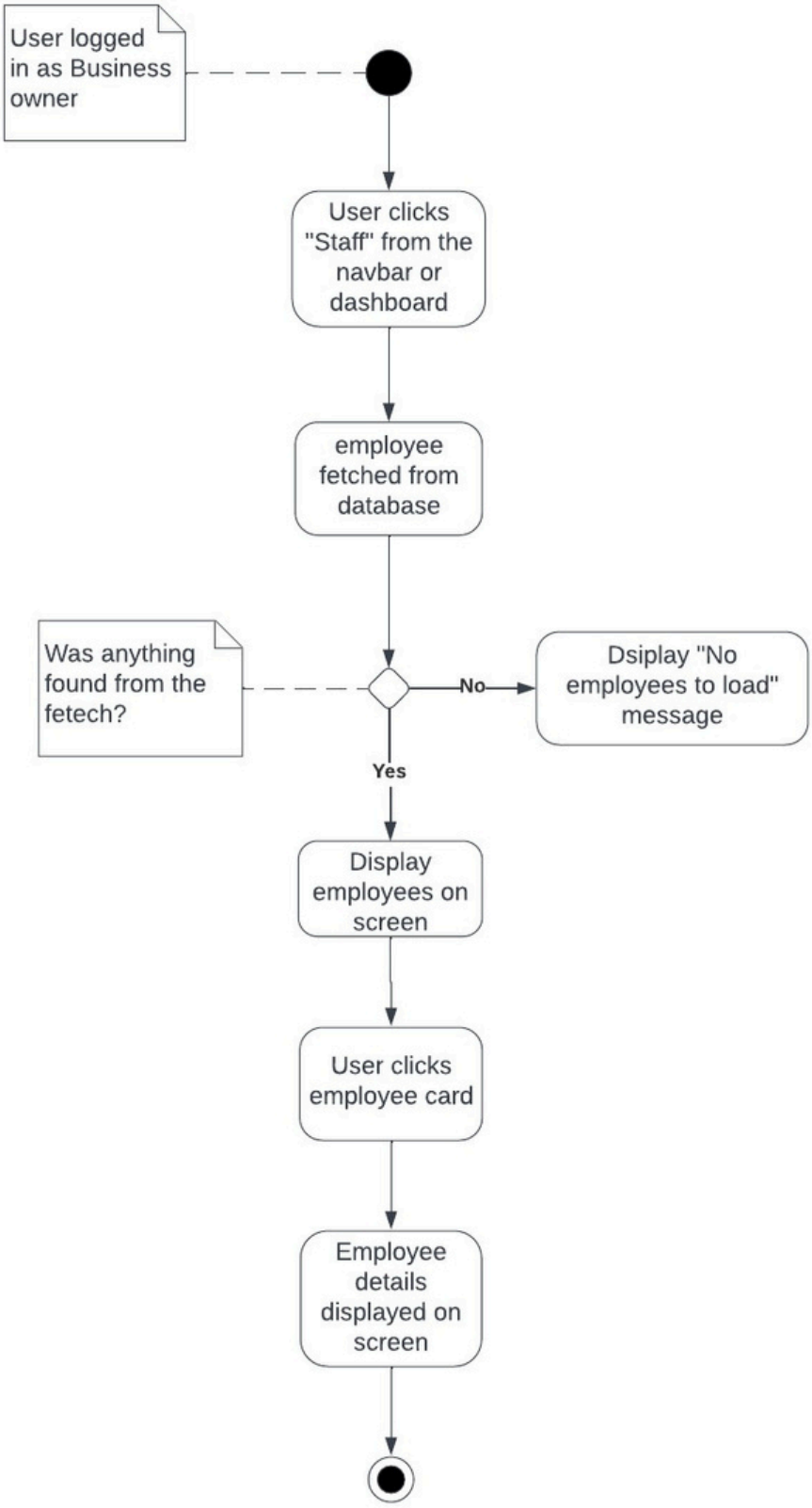


Figure A.9 Activity Diagram for "View Employee profiles/details".

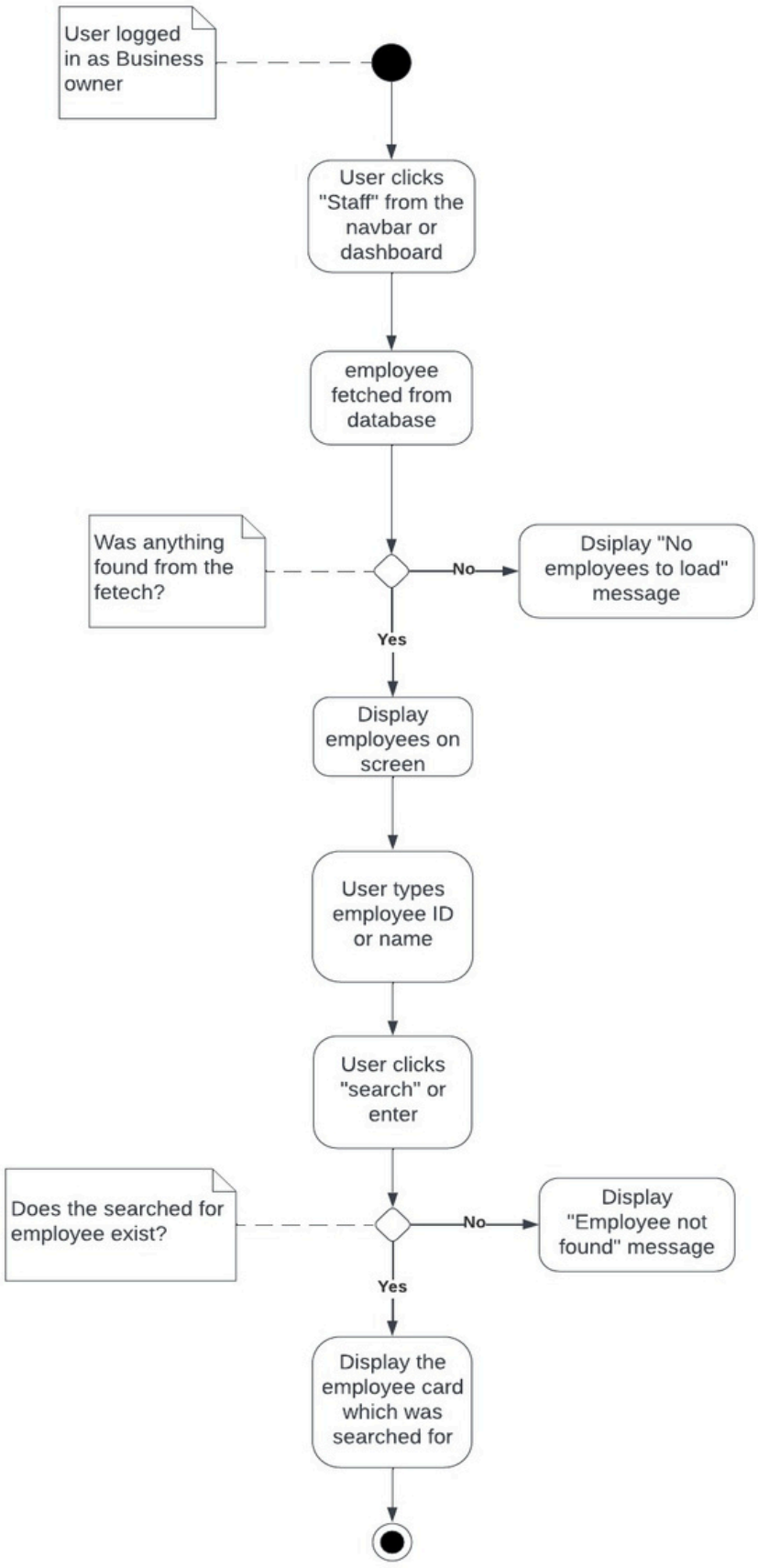


Figure A.10 Activity Diagram for "Search for Employee".

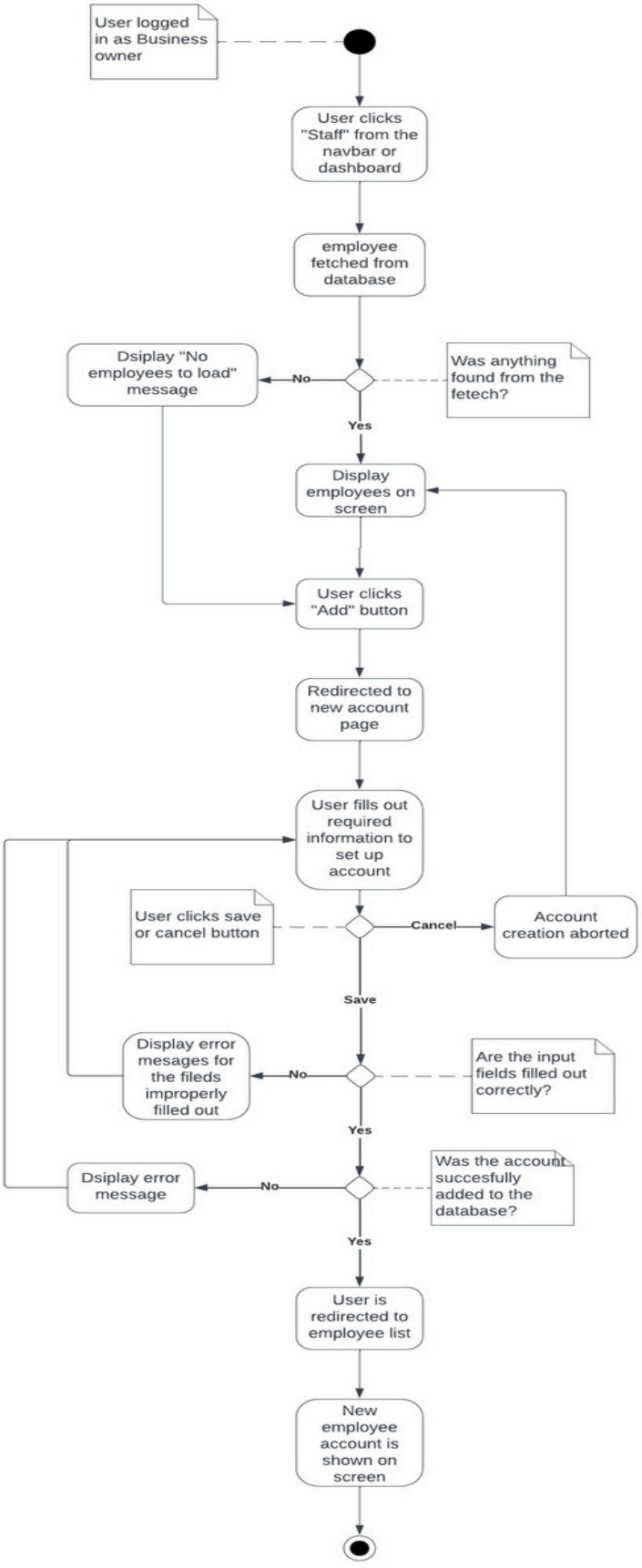


Figure A.11 Activity Diagram for "Create Employee Account".

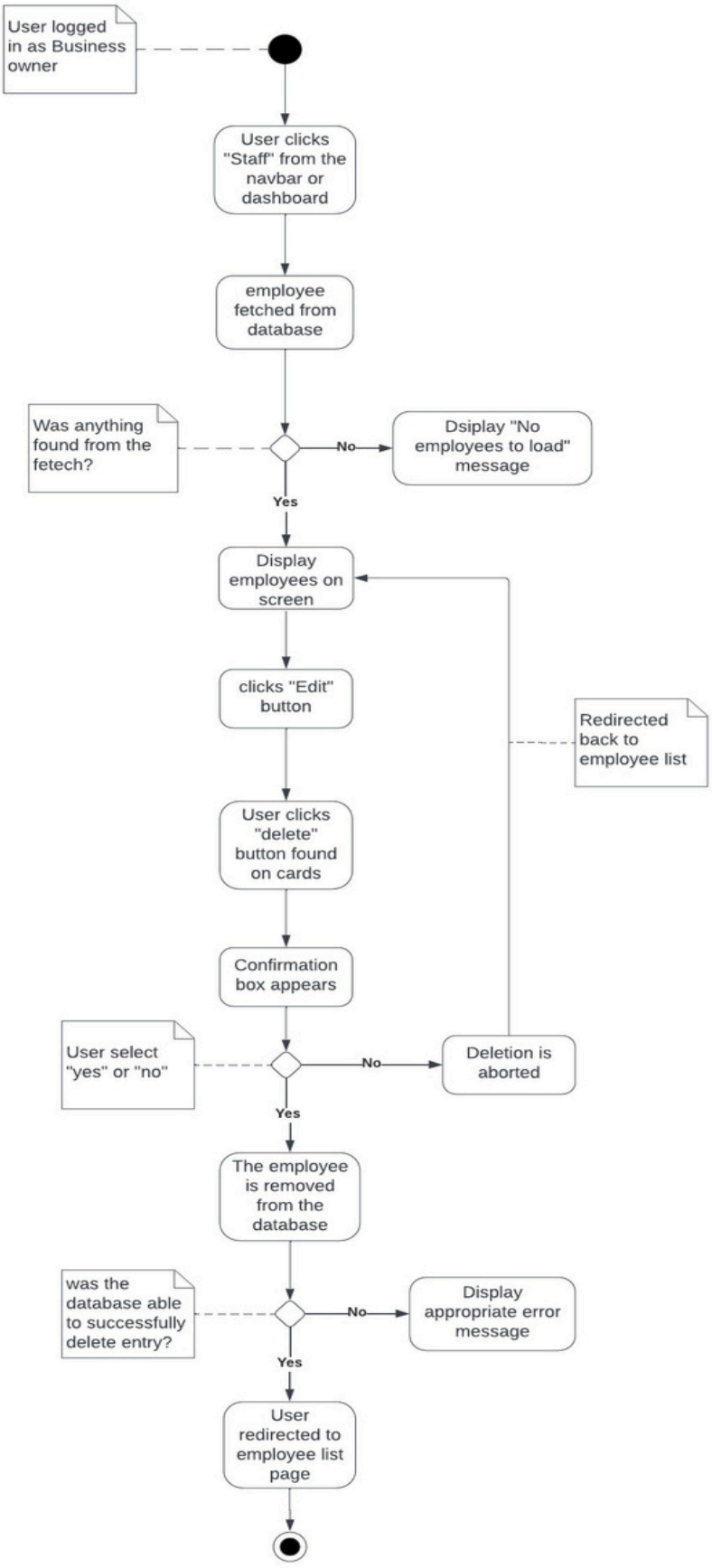


Figure A.12 Activity Diagram for "Delete Employee Account".

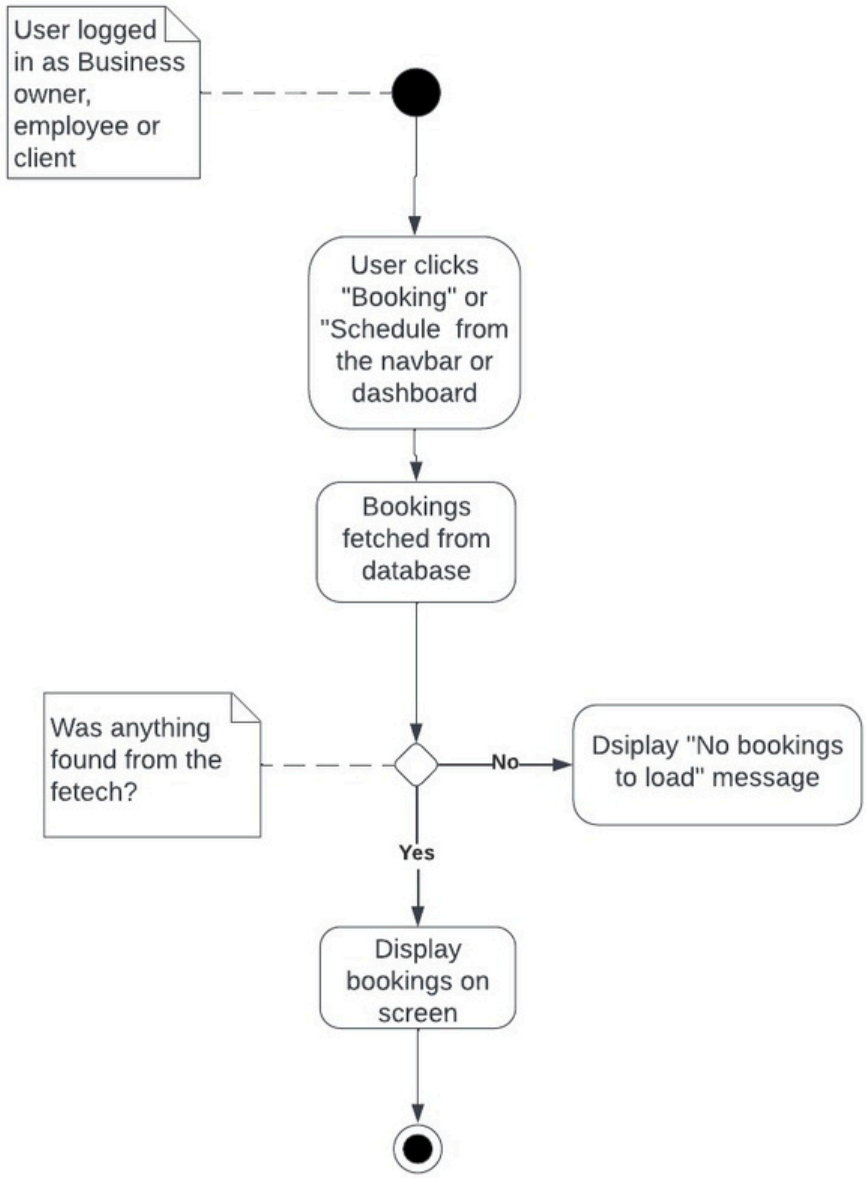


Figure A.13 Activity Diagram for “View all Bookings”.

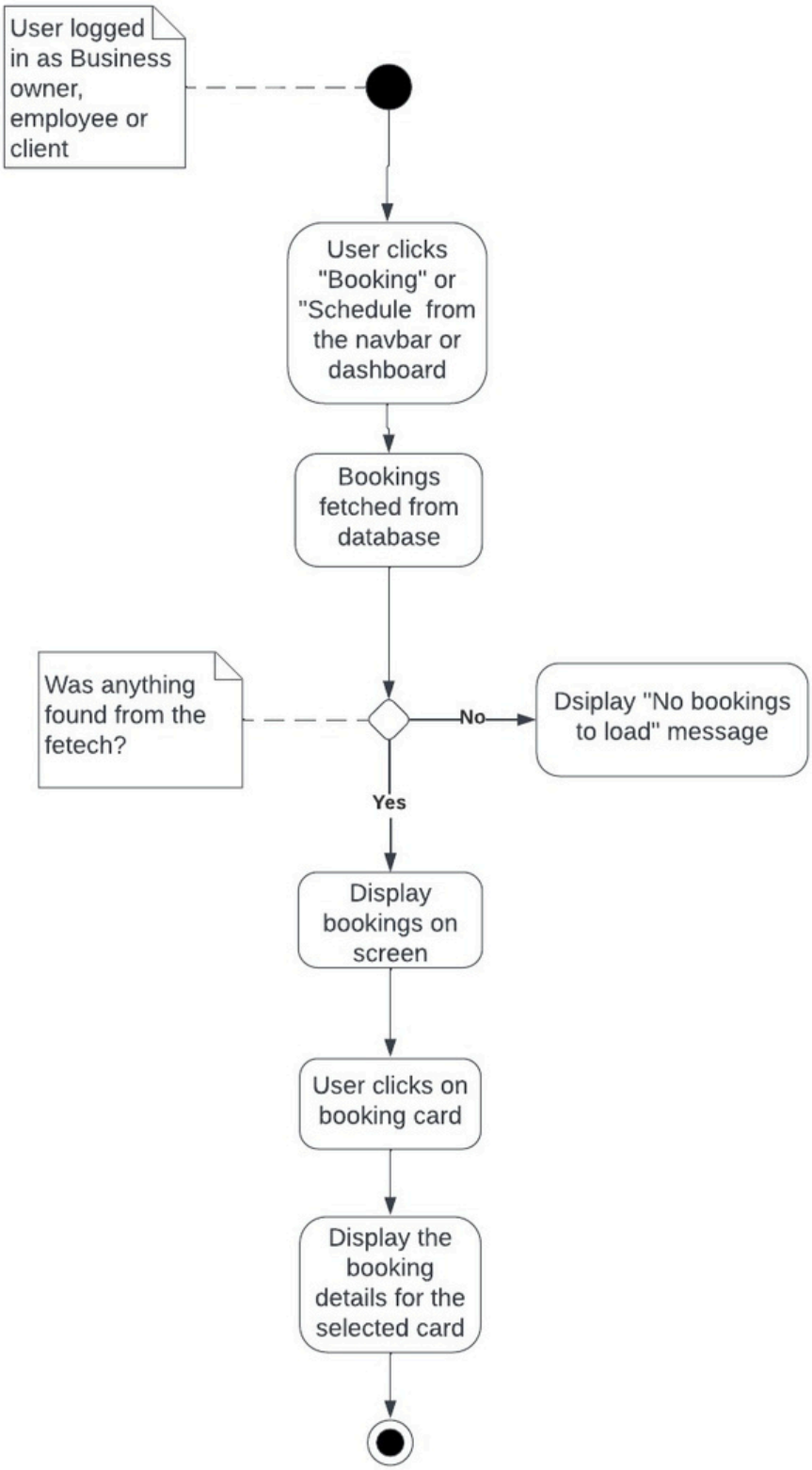


Figure A.14 Activity Diagram for "View Booking Details".

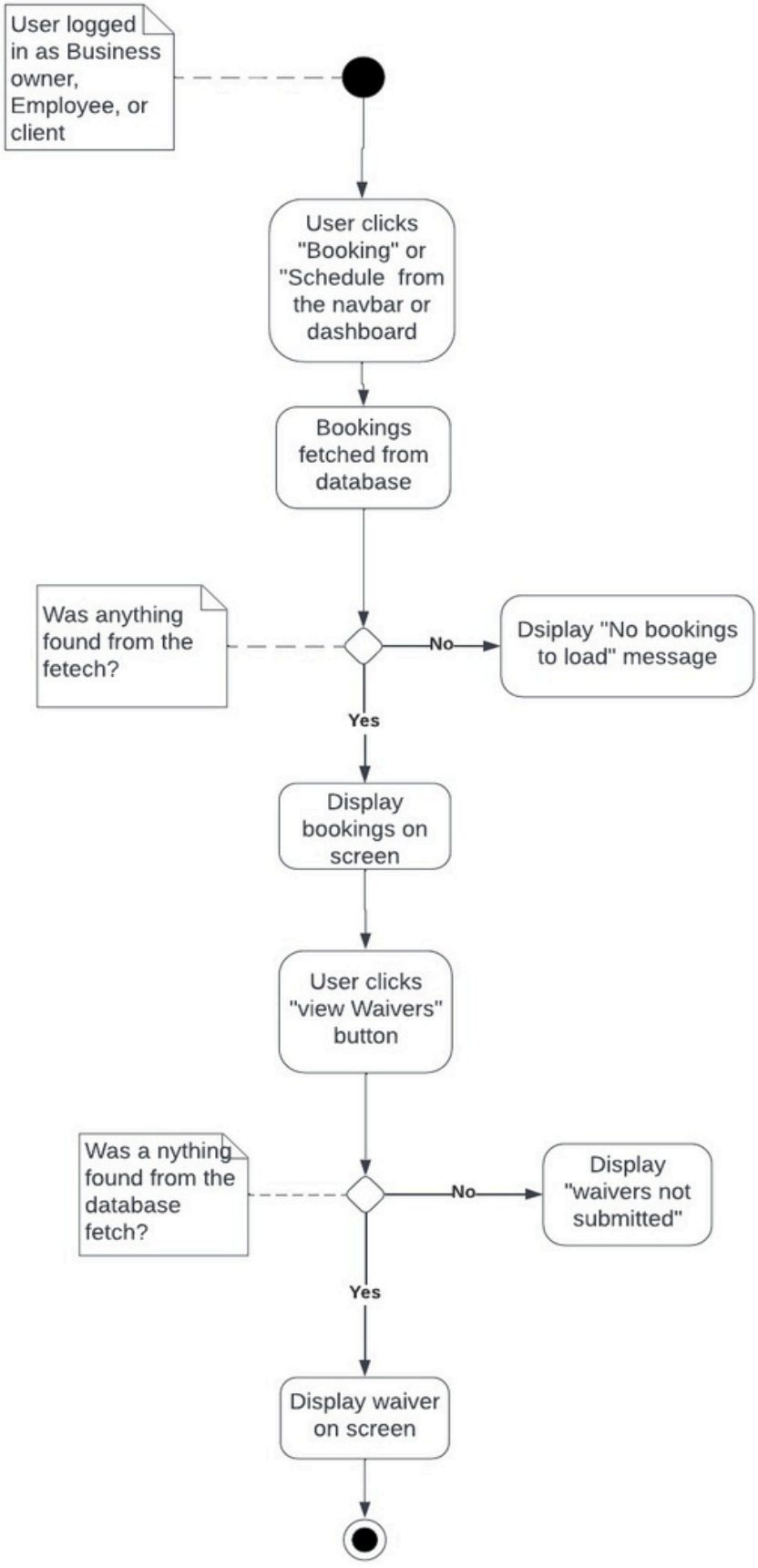


Figure A.15 Activity Diagram for “View Waivers”.

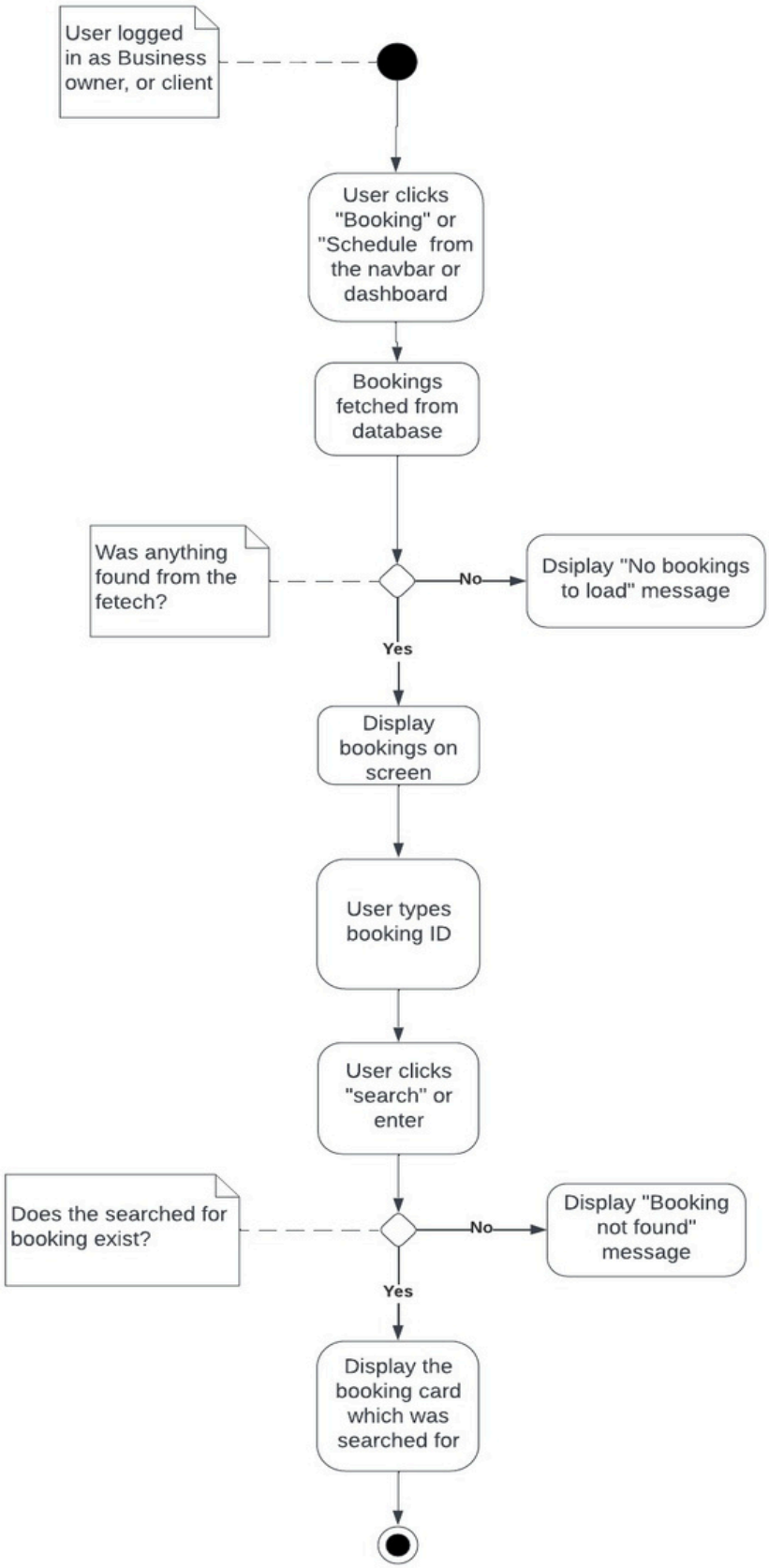


Figure A.16 Activity Diagram for "Search Booking by ID".

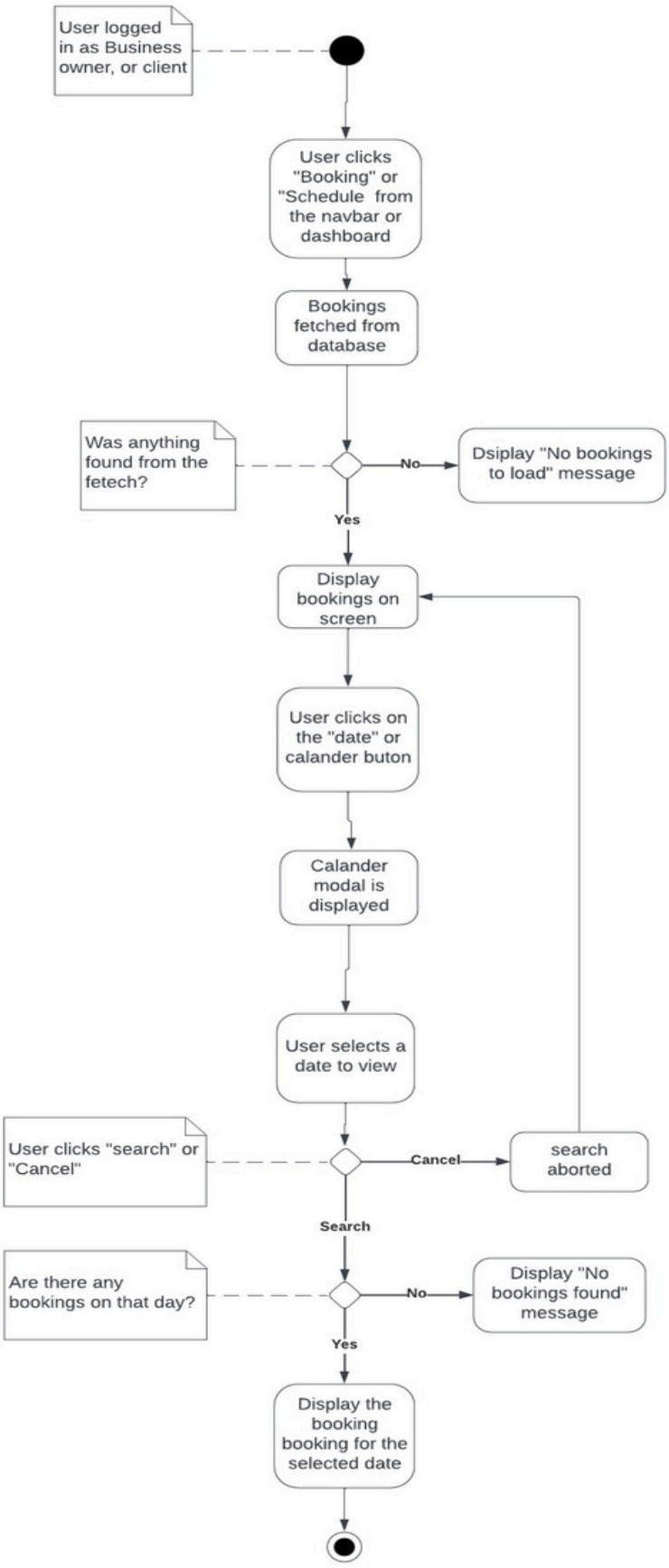


Figure A.17 Activity Diagram for "Search Booking by Date".

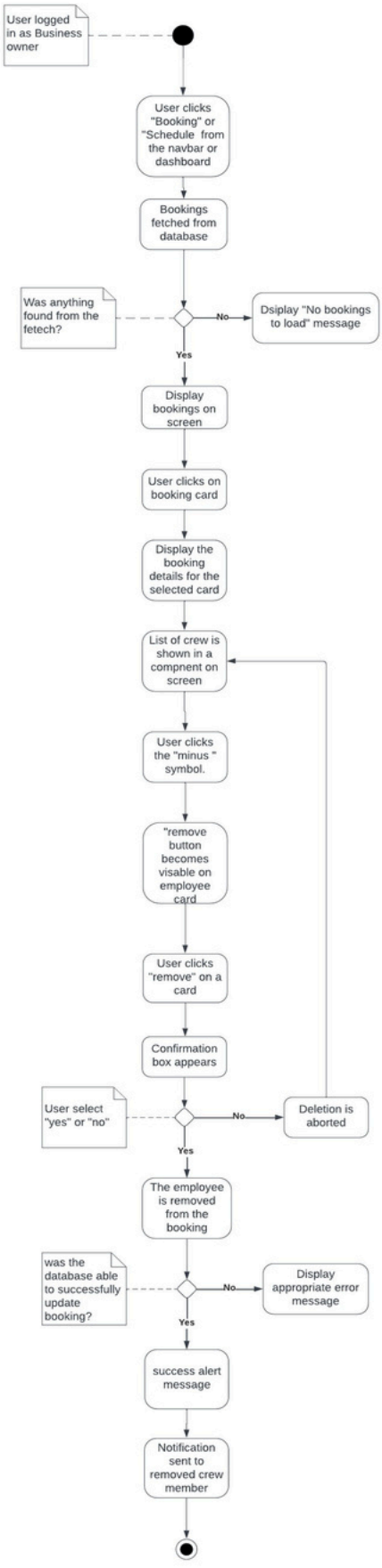


Figure A.18 Activity Diagram for "Remove Crew Member from Booking".

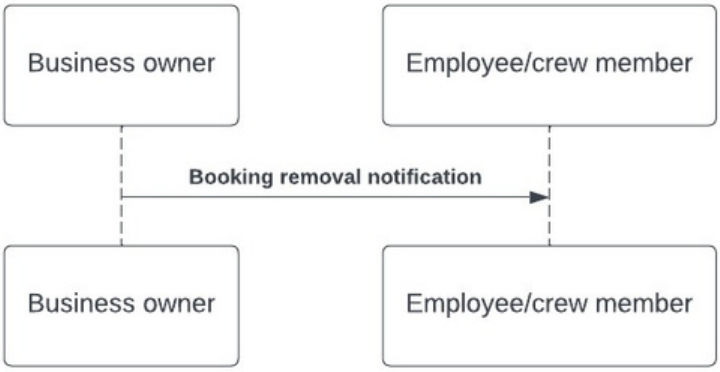


Figure A.19 Sequence Diagram for "Remove crew member from booking".

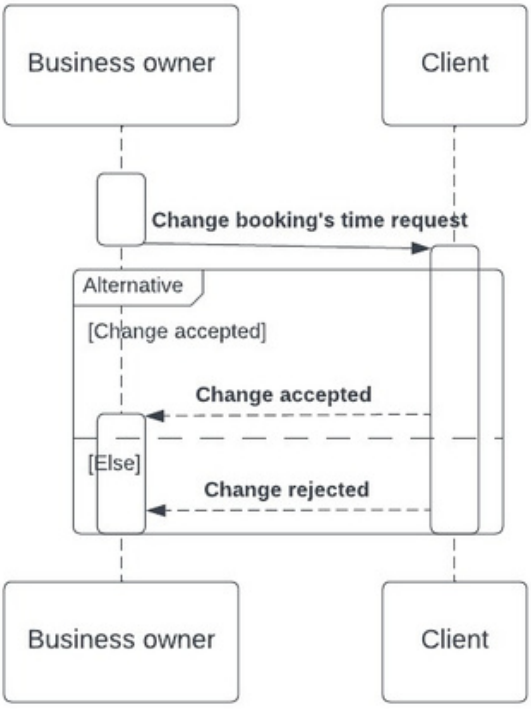


Figure A.20 Sequence Diagram for "Request Change booking time (Owner)".

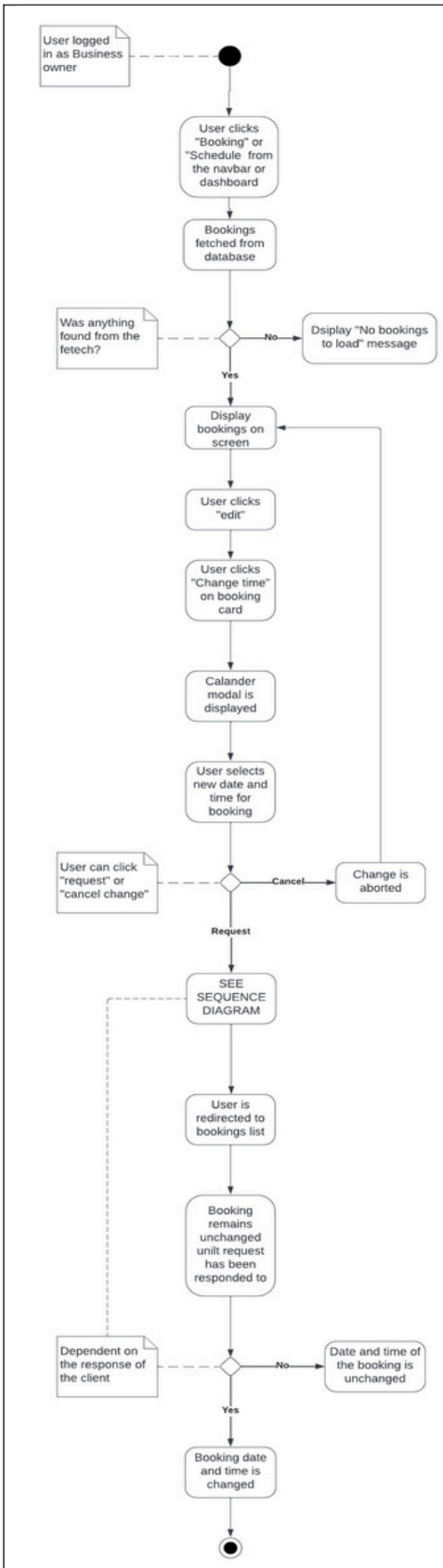


Figure A.21 Activity Diagram for "Request Change Booking Time(Owner)".

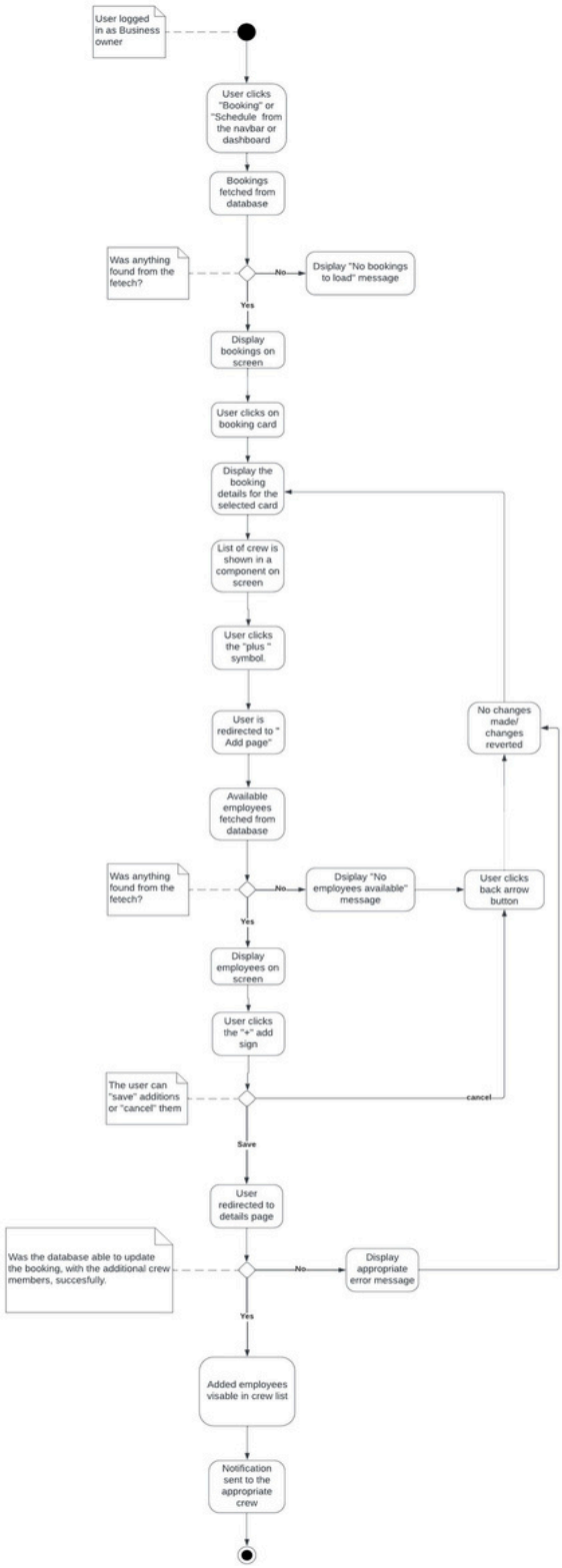


Figure A.22 Activity Diagram for "Adding Crew to a booking".

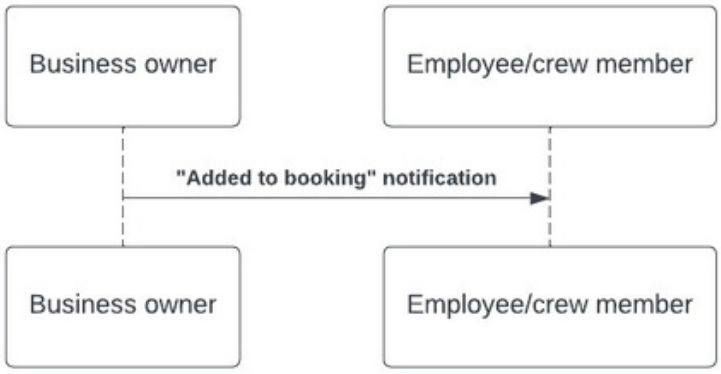


Figure A.23 Sequence Diagram for "Adding Crew to a Booking".

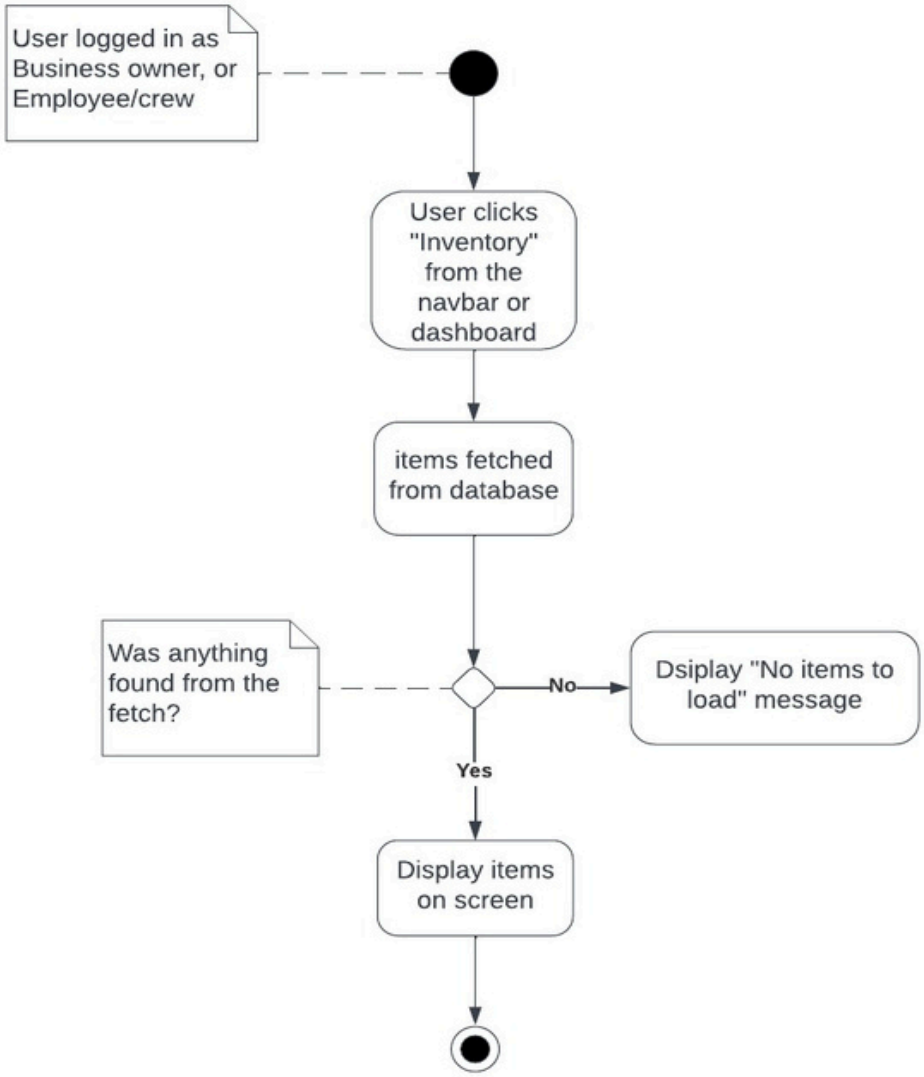


Figure A.24 Activity Diagram for "View Inventory".

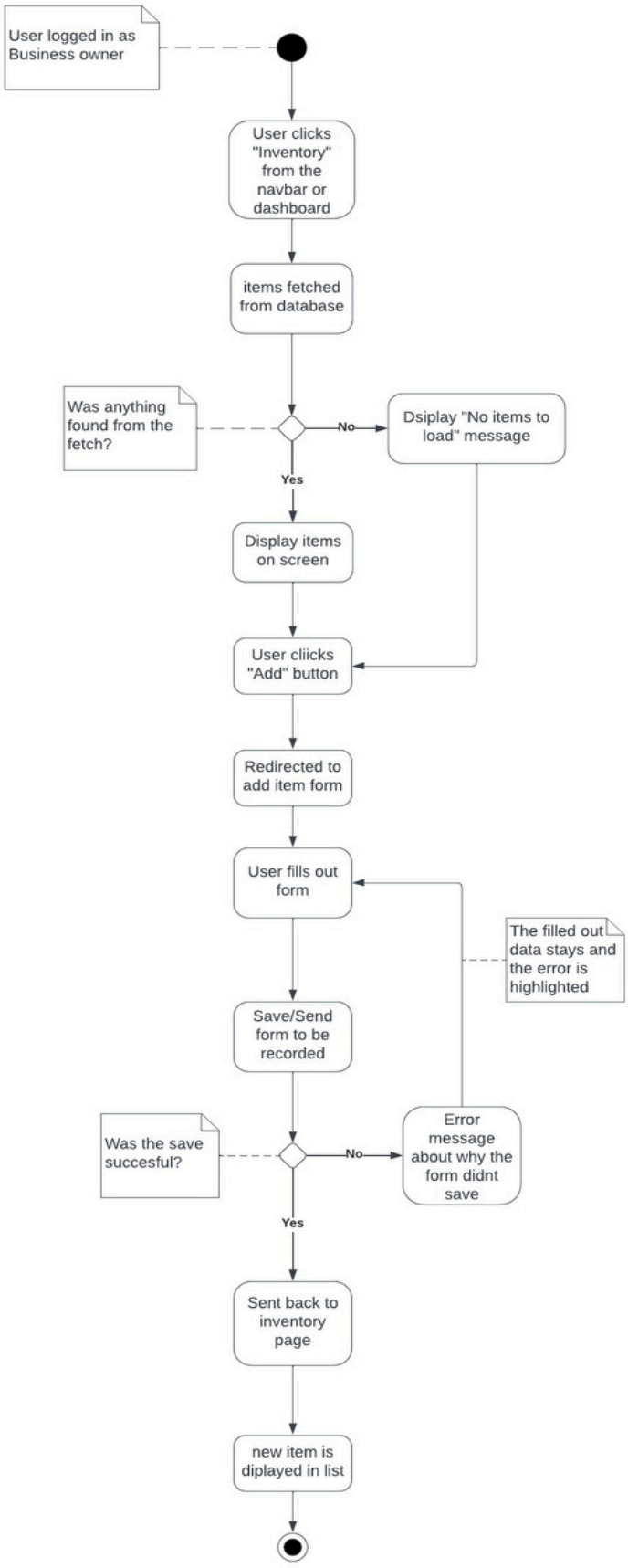


Figure A.25 Activity Diagram for "Add Item to Inventory".

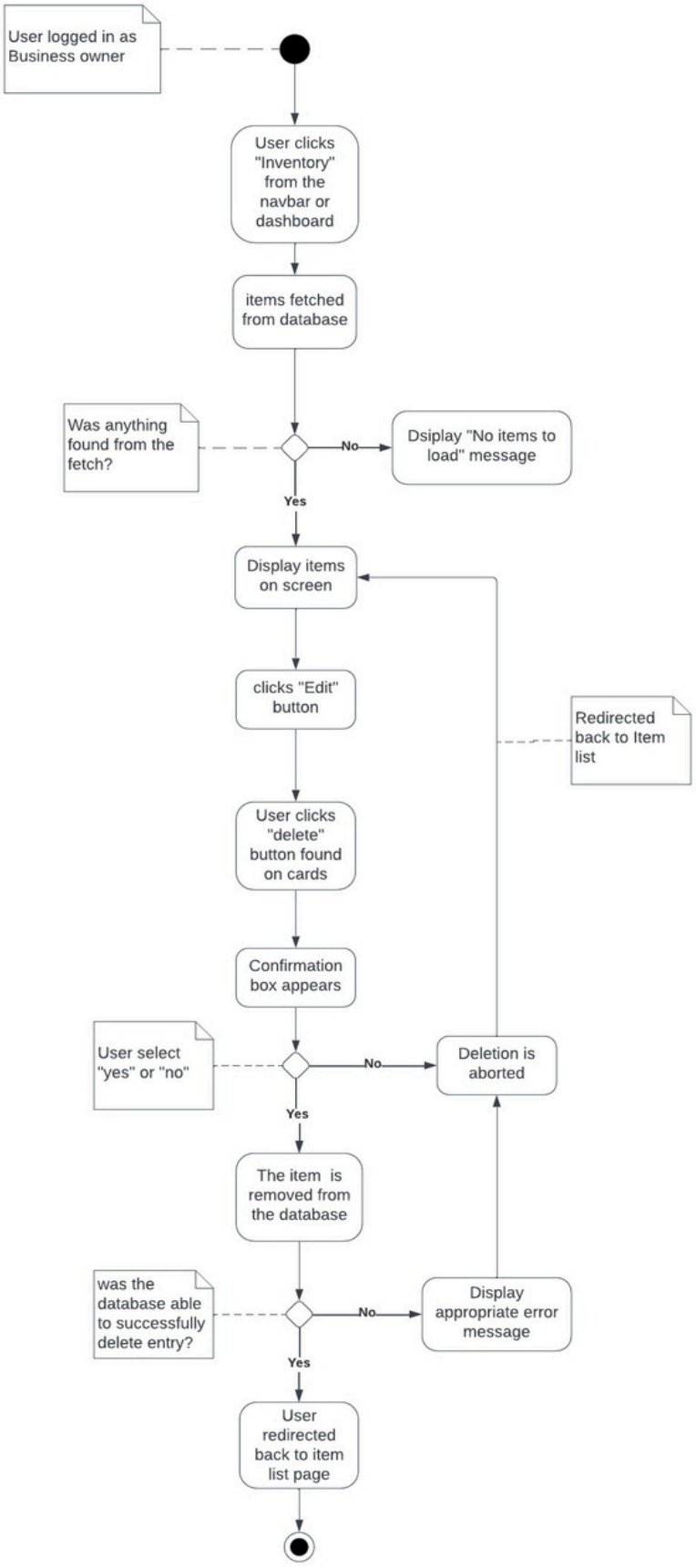


Figure A.26 Activity Diagram for "Remove Item from Inventory".

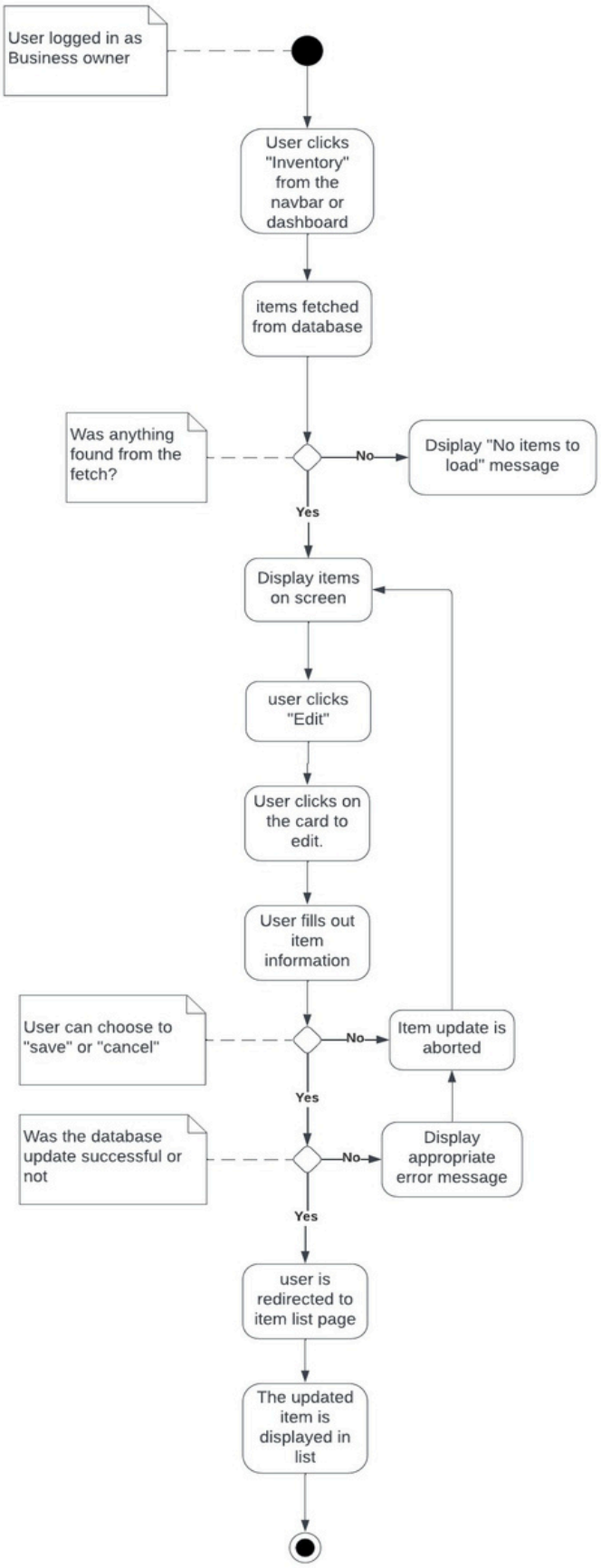


Figure A.27 Activity Diagram for "Edit Item".

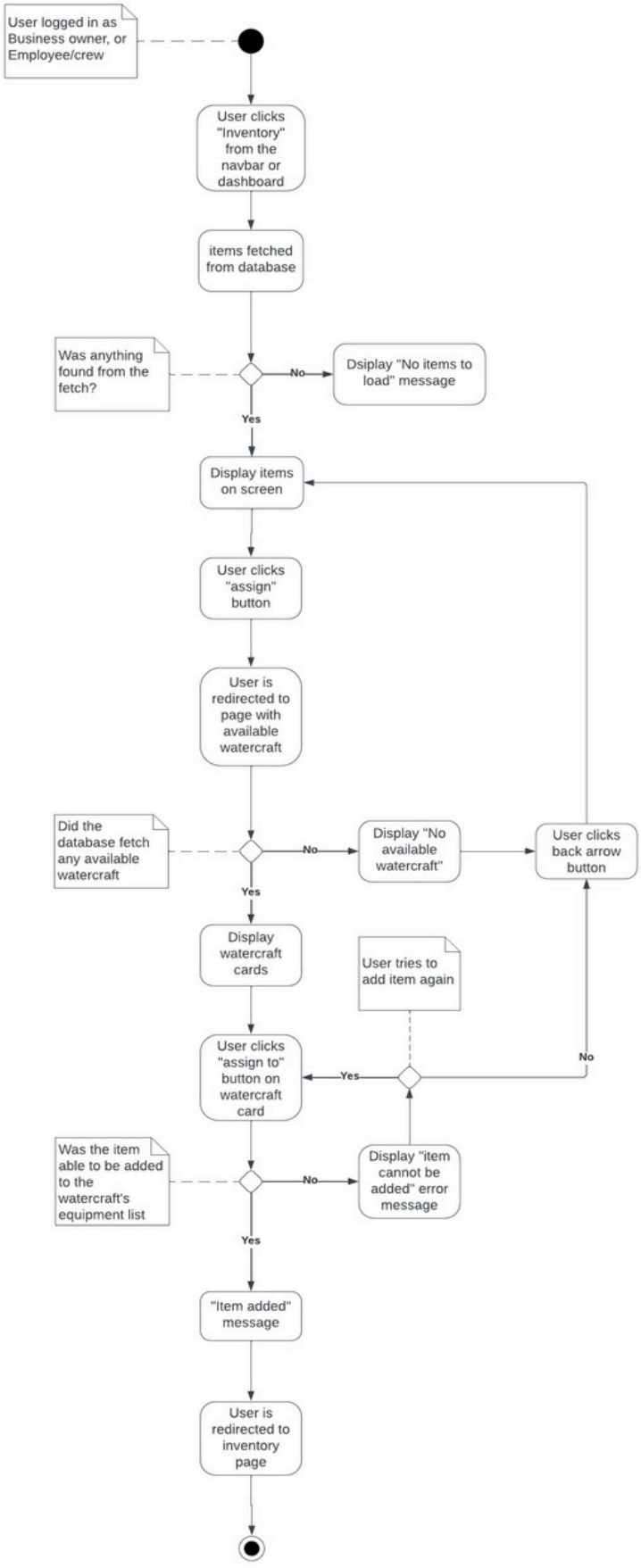


Figure A.28 Activity Diagram for "Assign Item to Watercraft".

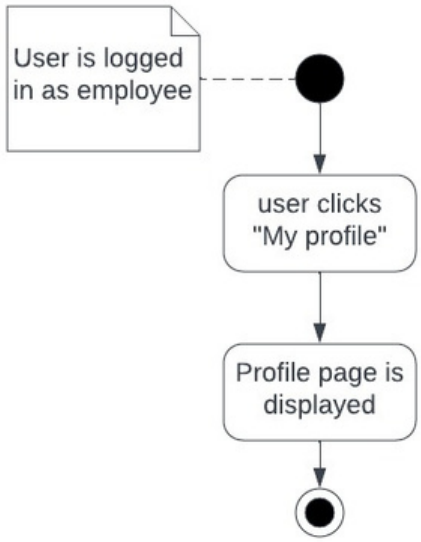


Figure A.29 Activity Diagram for "View Account Profile".

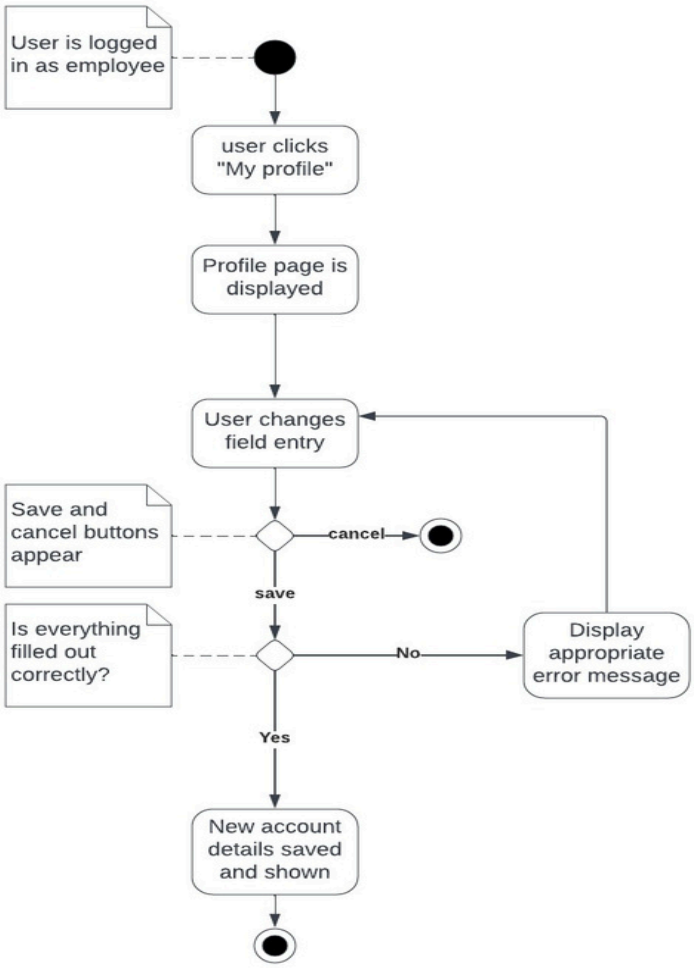


Figure A.30 Activity Diagram for "Edit Account Profile".

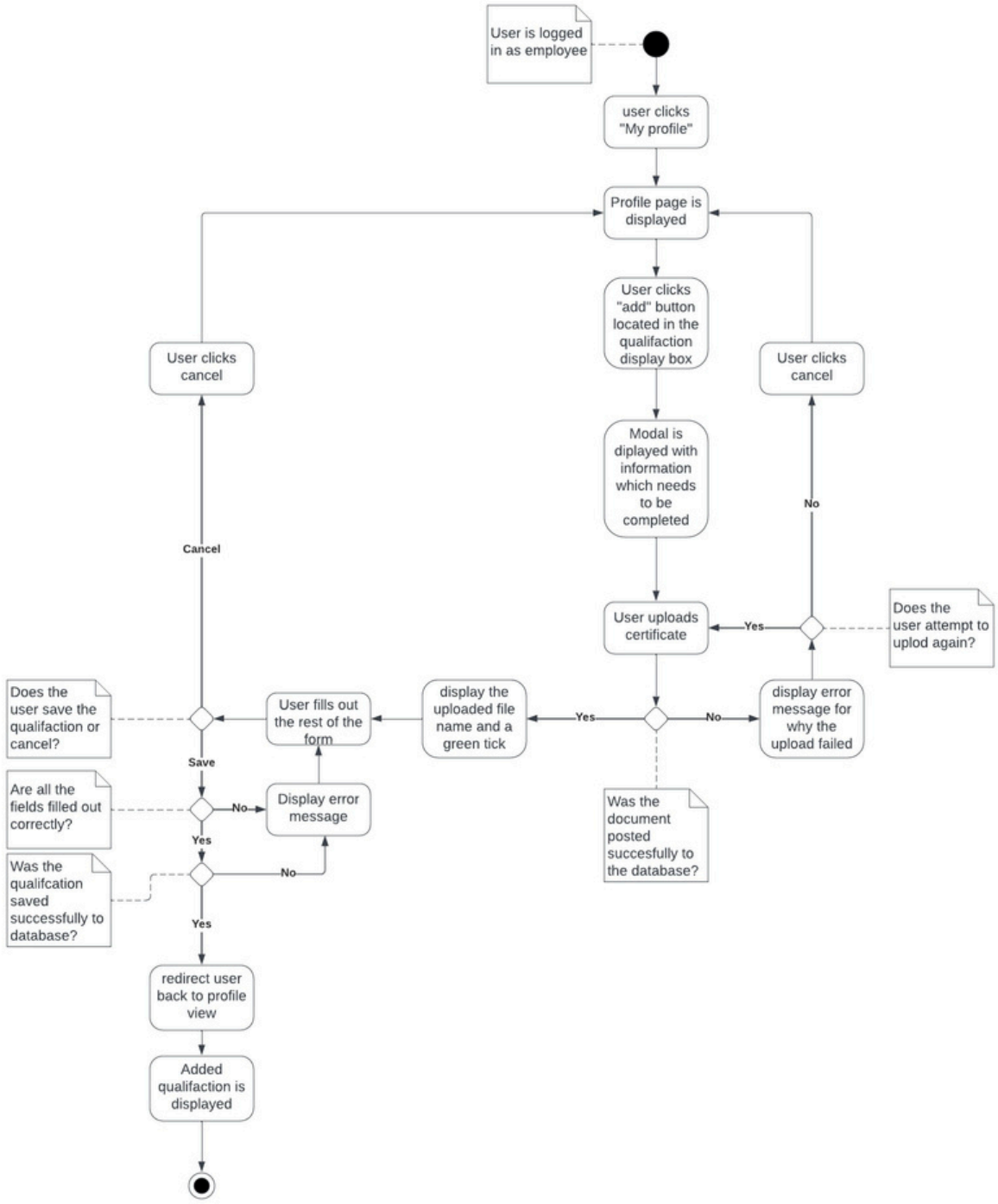


Figure A.31 Activity Diagram for "Add Qualification to Profile".

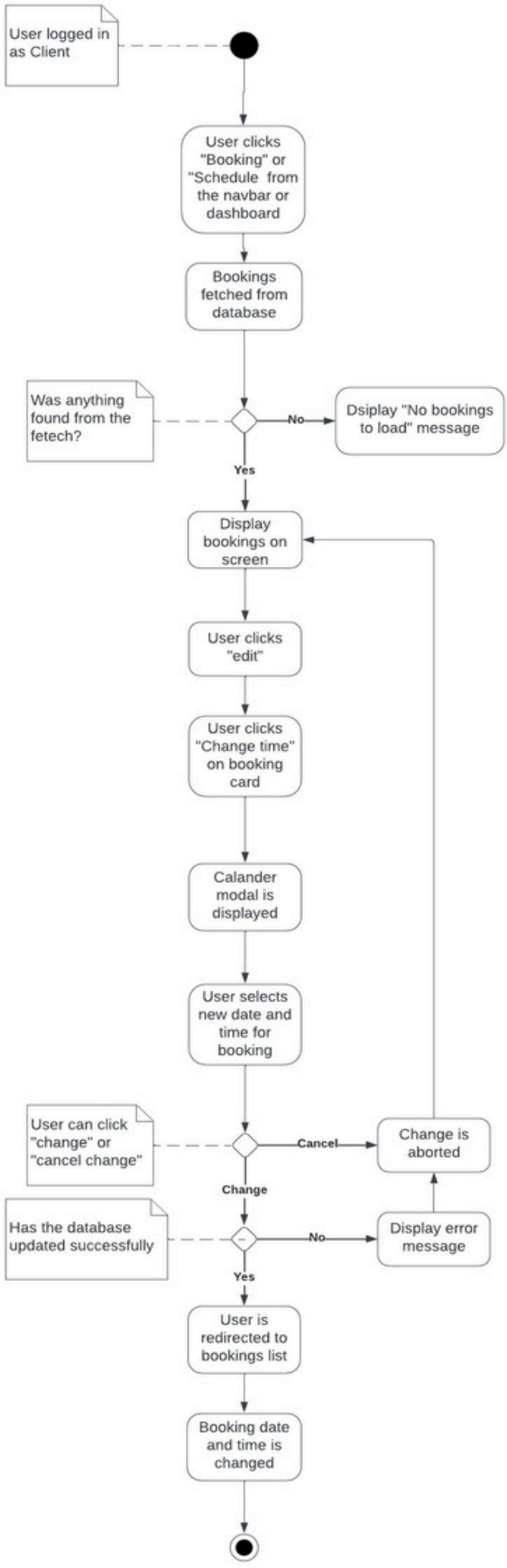


Figure A.32 Activity Diagram for "Change Booking Date and Time (Client)".

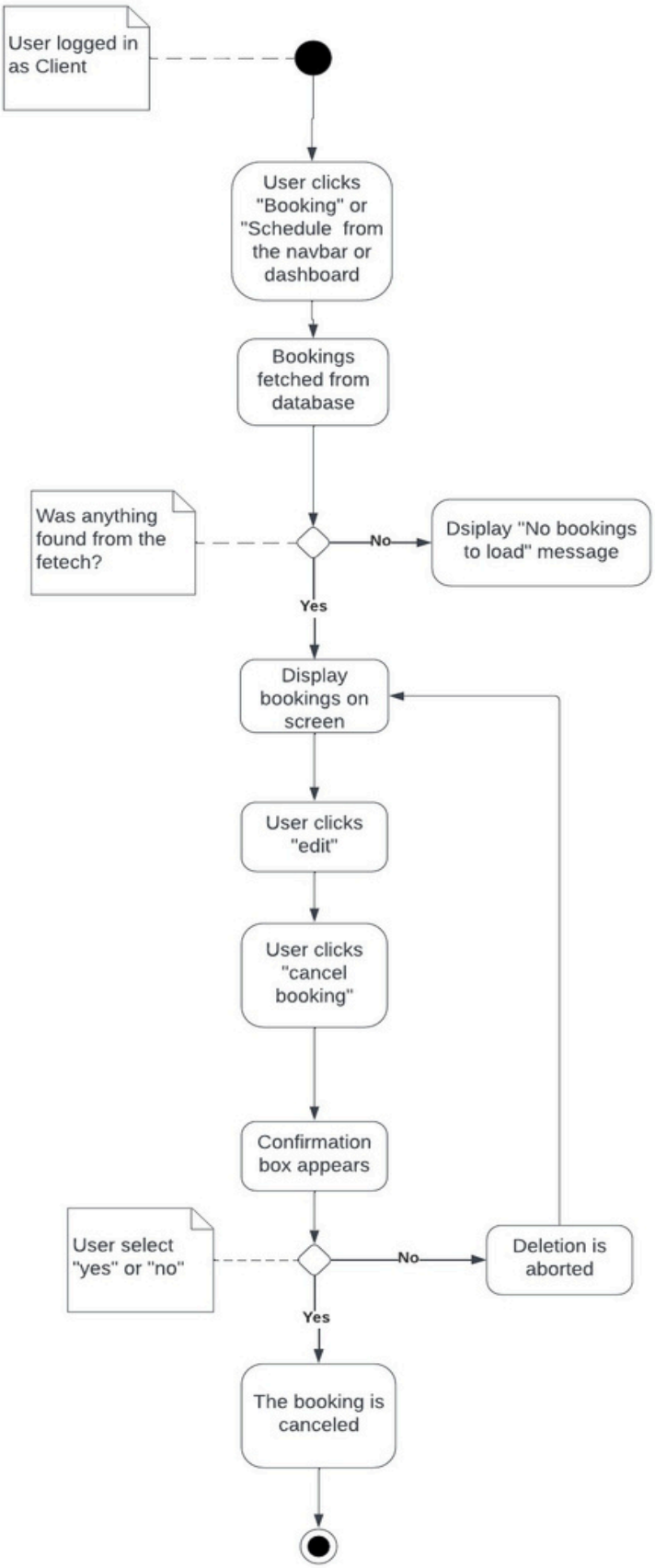


Figure A.33 Activity Diagram for “Cancel Booking (Client)”.

Appendix B - Initial Sketches

1.Business Owner/Manager

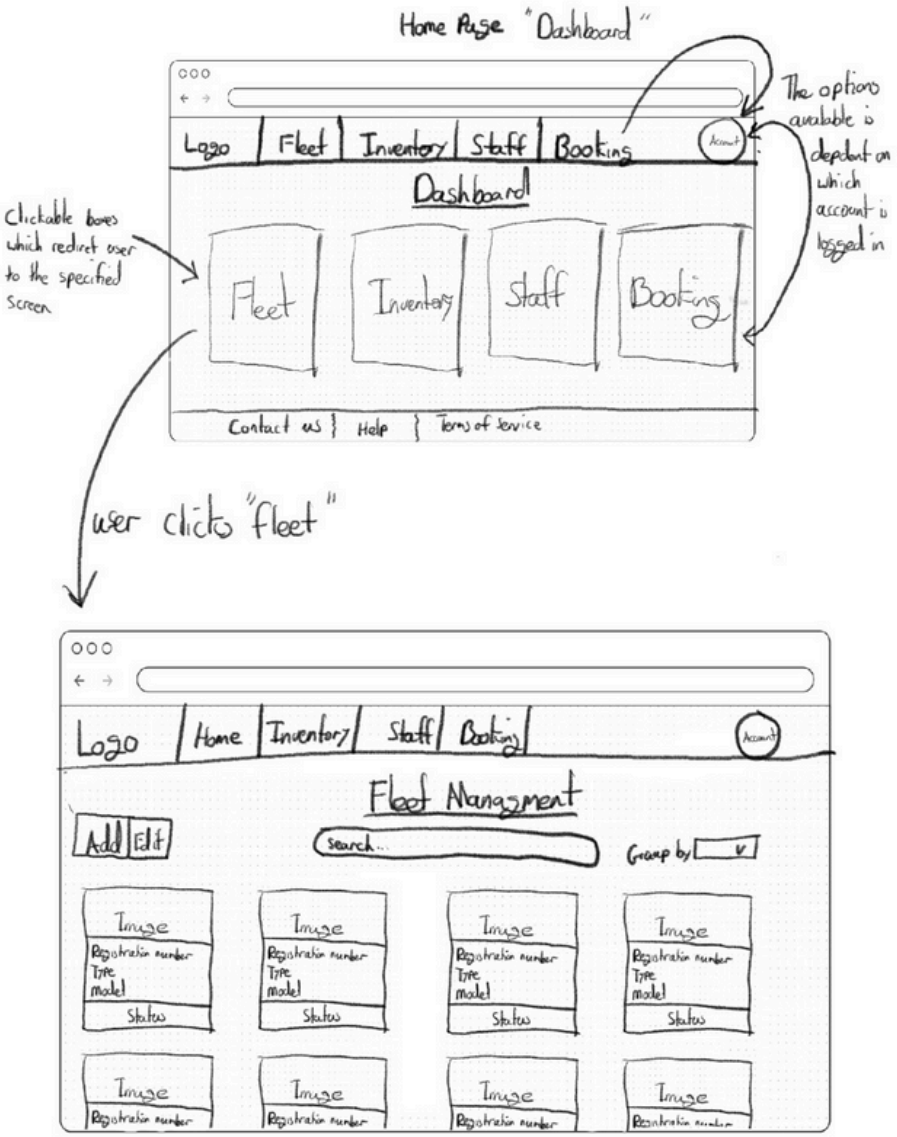


Figure B.1.1 Low-Fidelity Sketch for "View Fleet" (Business Owner User Type).

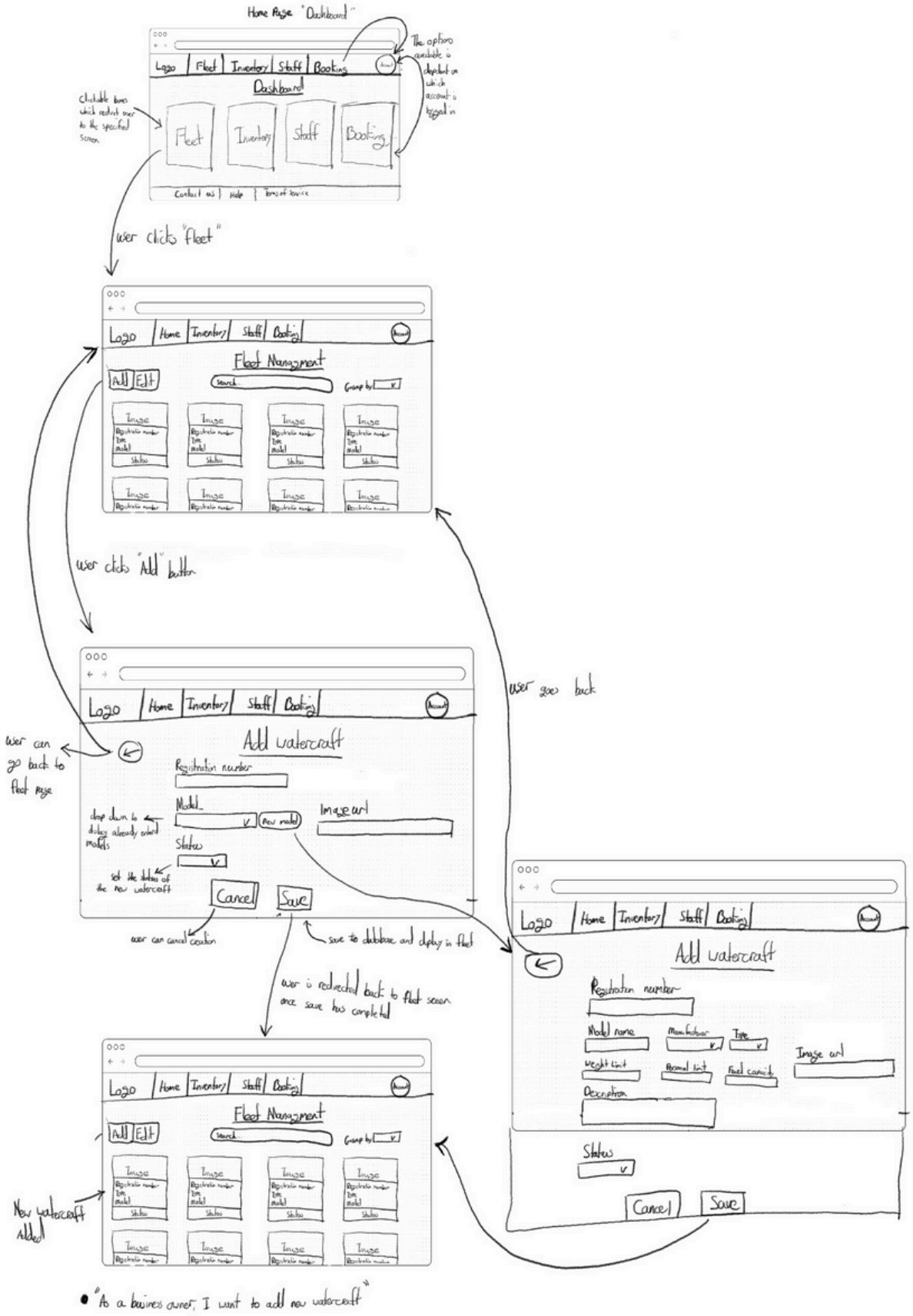


Figure B.1.2 Low Fidelity Sketch for "Add Watercraft" (Business Owner User Ty

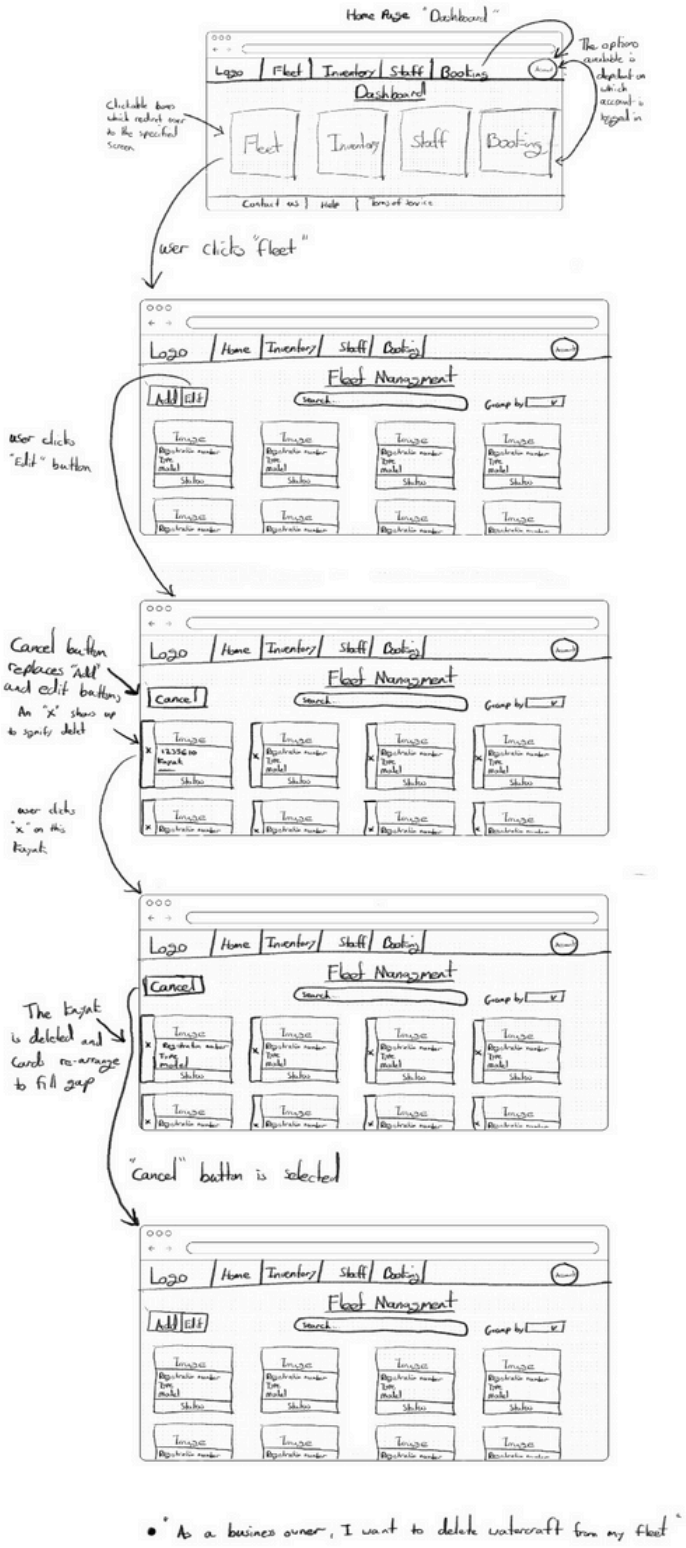
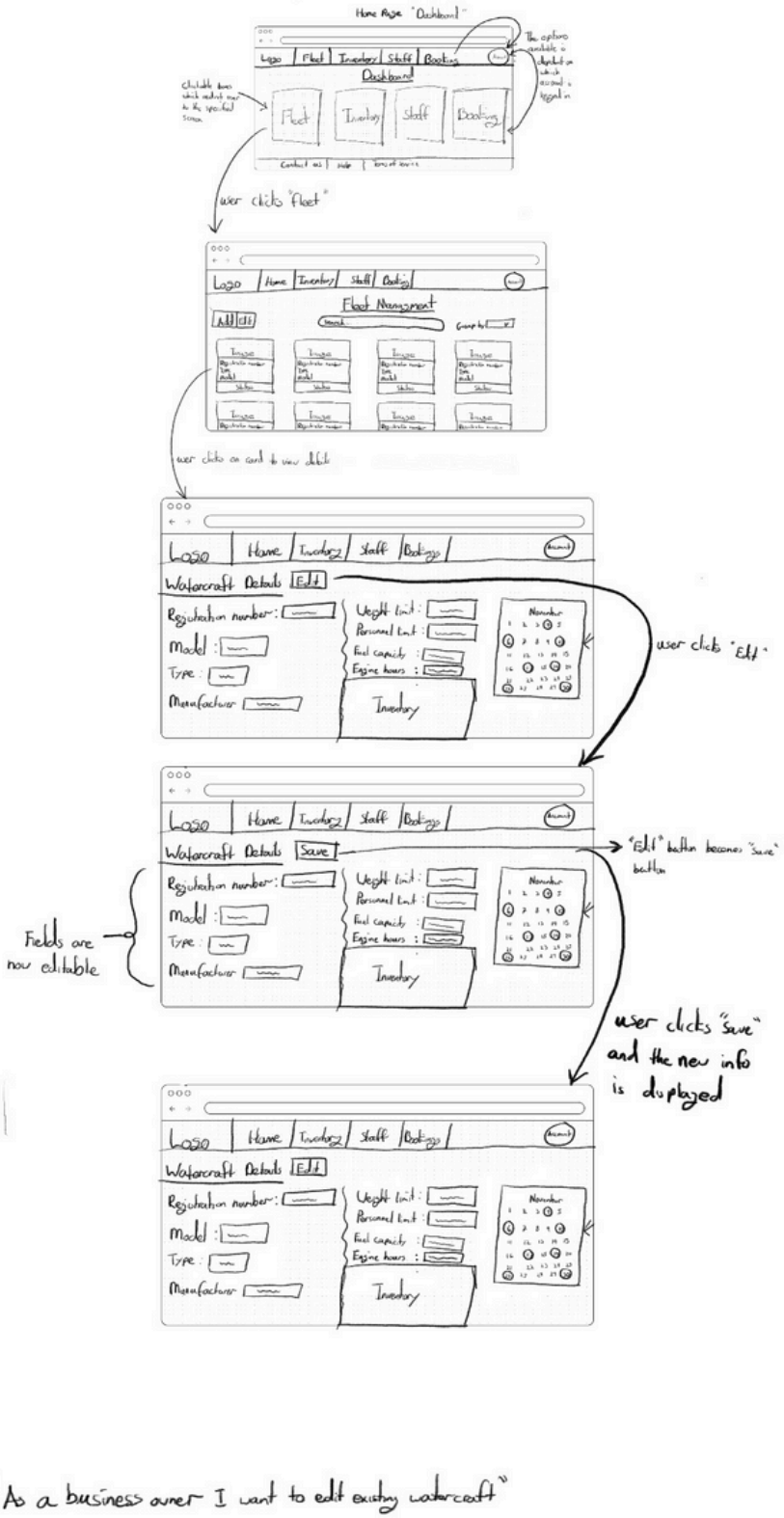
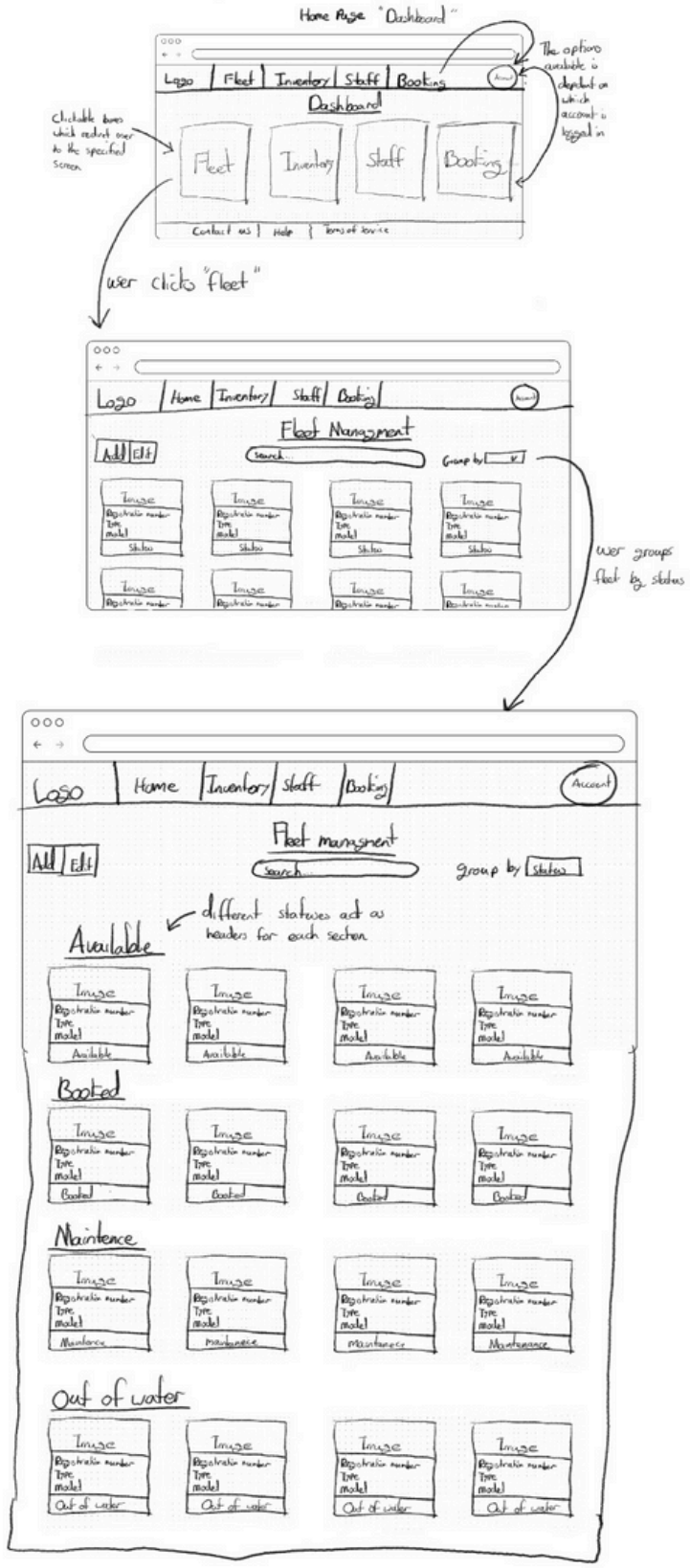


Figure B.1.3 Low Fidelity Sketch for “Delete Watercraft” (Business Owner User Type).



"As a business owner I want to edit existing watercraft"

Figure B.1.4 Low-Fidelity Sketch for "Edit Watercraft" (Business Owner User Type).



- "As a business owner I want to group watercraft by status"

Figure B.1.5 Low-Fidelity Sketch for "Group Watercraft by Status" (Business Owner User Type).

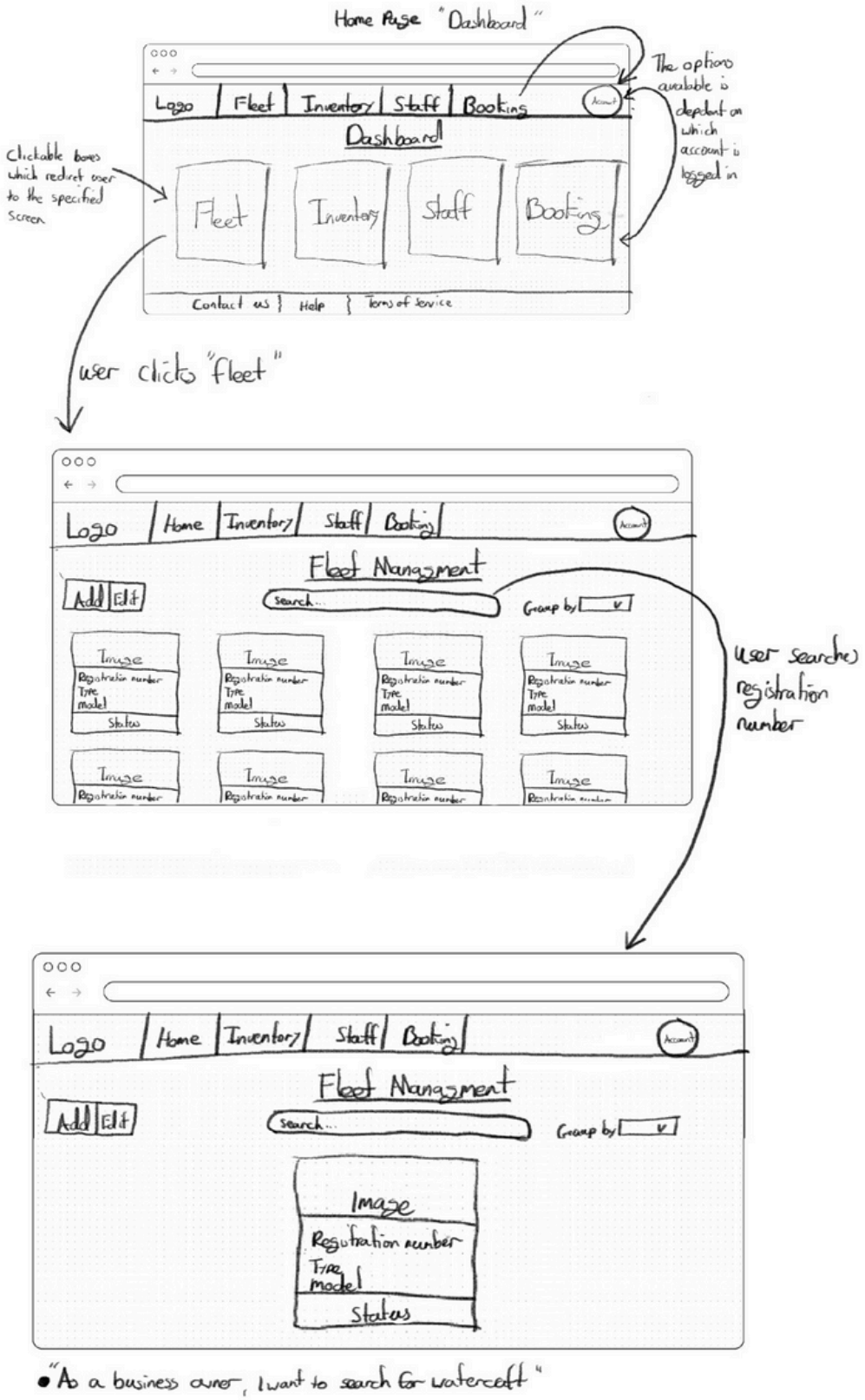


Figure B.1.6 Low-Fidelity Sketch for "Searching for Watercraft" (Business Owne
User Type).

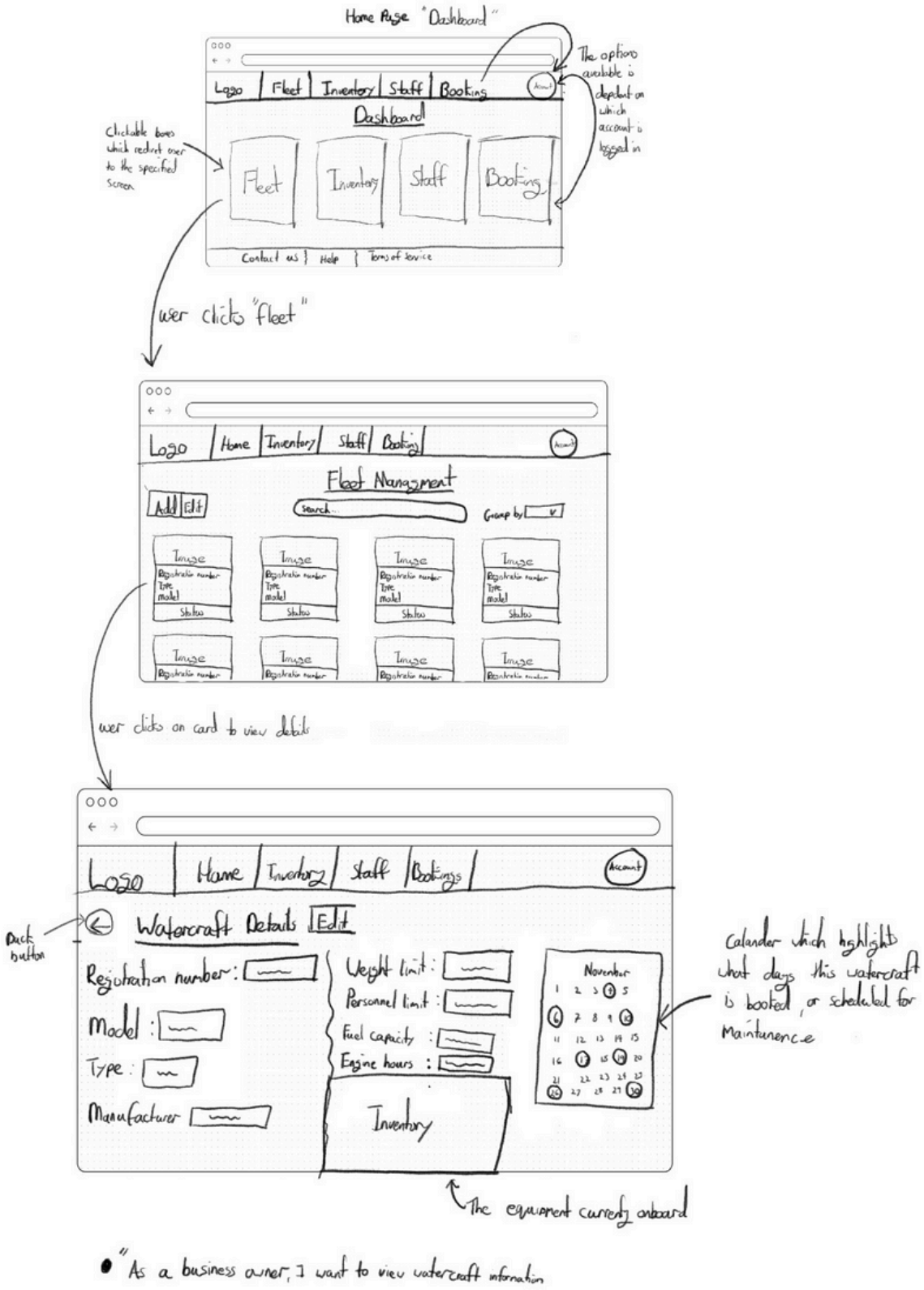


Figure B.1.7 Low-Fidelity Sketch for “Viewing Watercraft Details” (Business Ow
User Type).

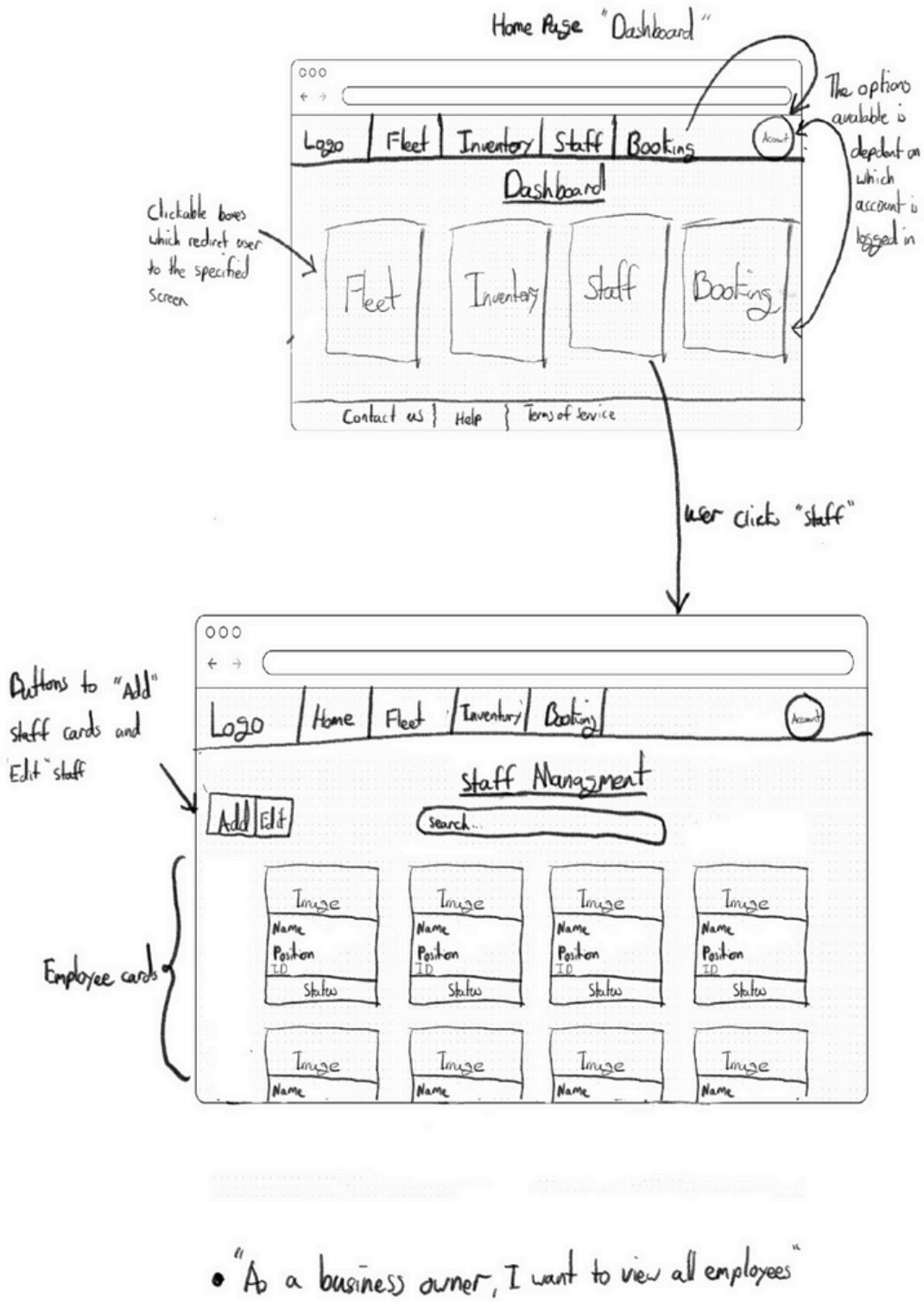


Figure B.1.8 Low-Fidelity Sketch for “View all Employees” (Business Owner Use
Type).

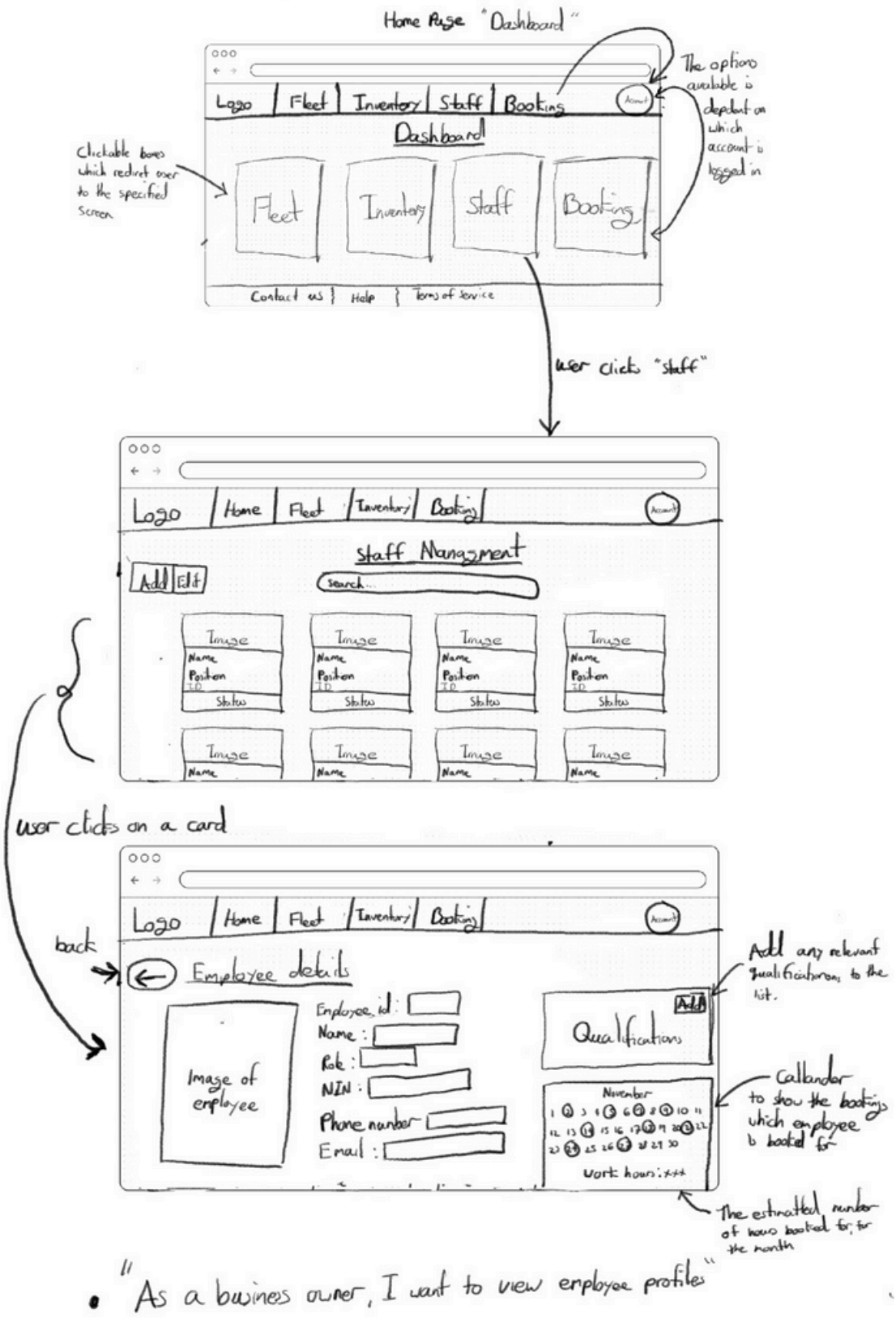


Figure B.1.9 Low-Fidelity Sketch for "Viewing Employee Profiles" (Business Owner User Type).

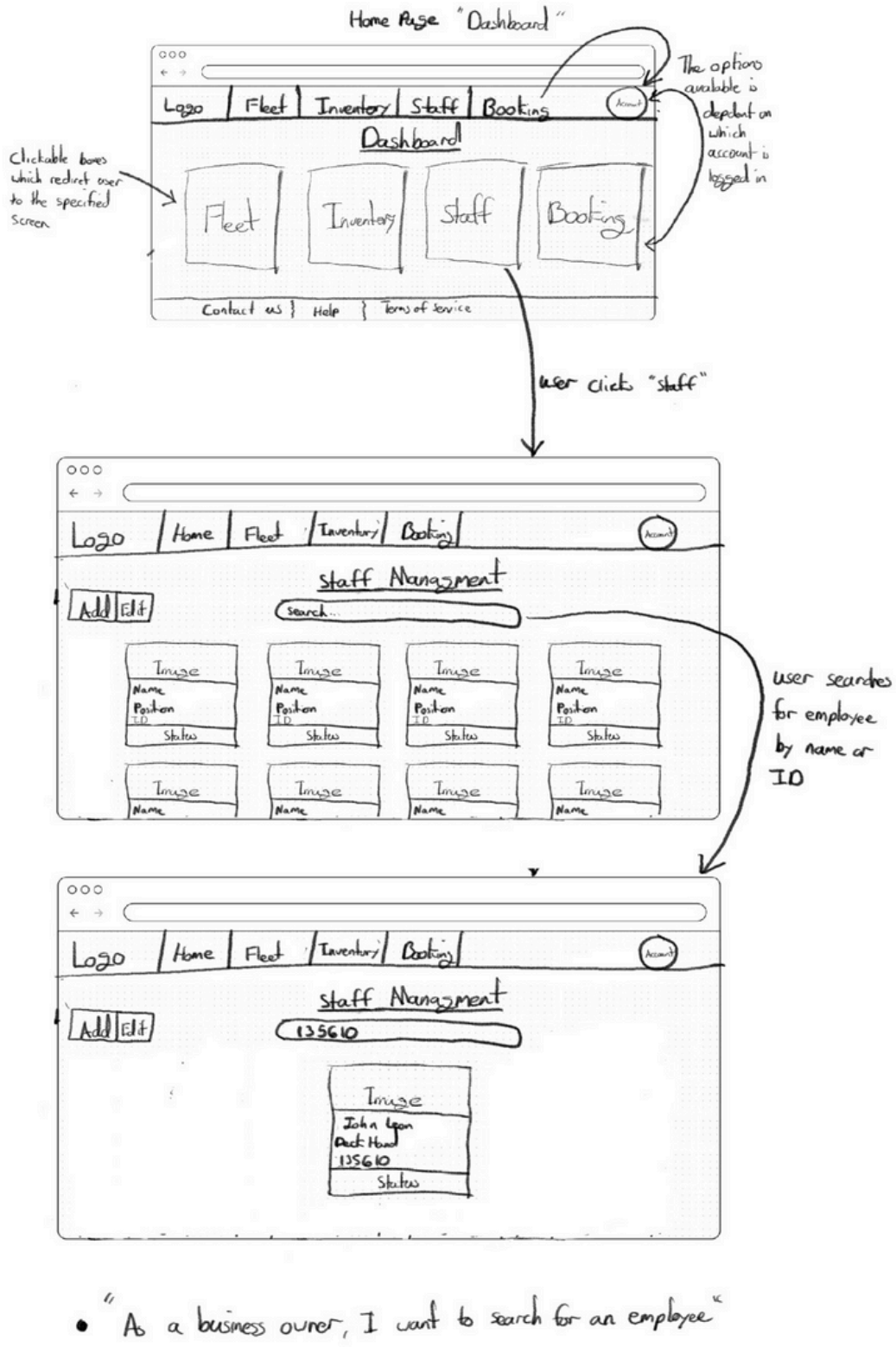


Figure B.1.10 Low-Fidelity Sketch for "Searching for an Employee" (Business Owner User Type).

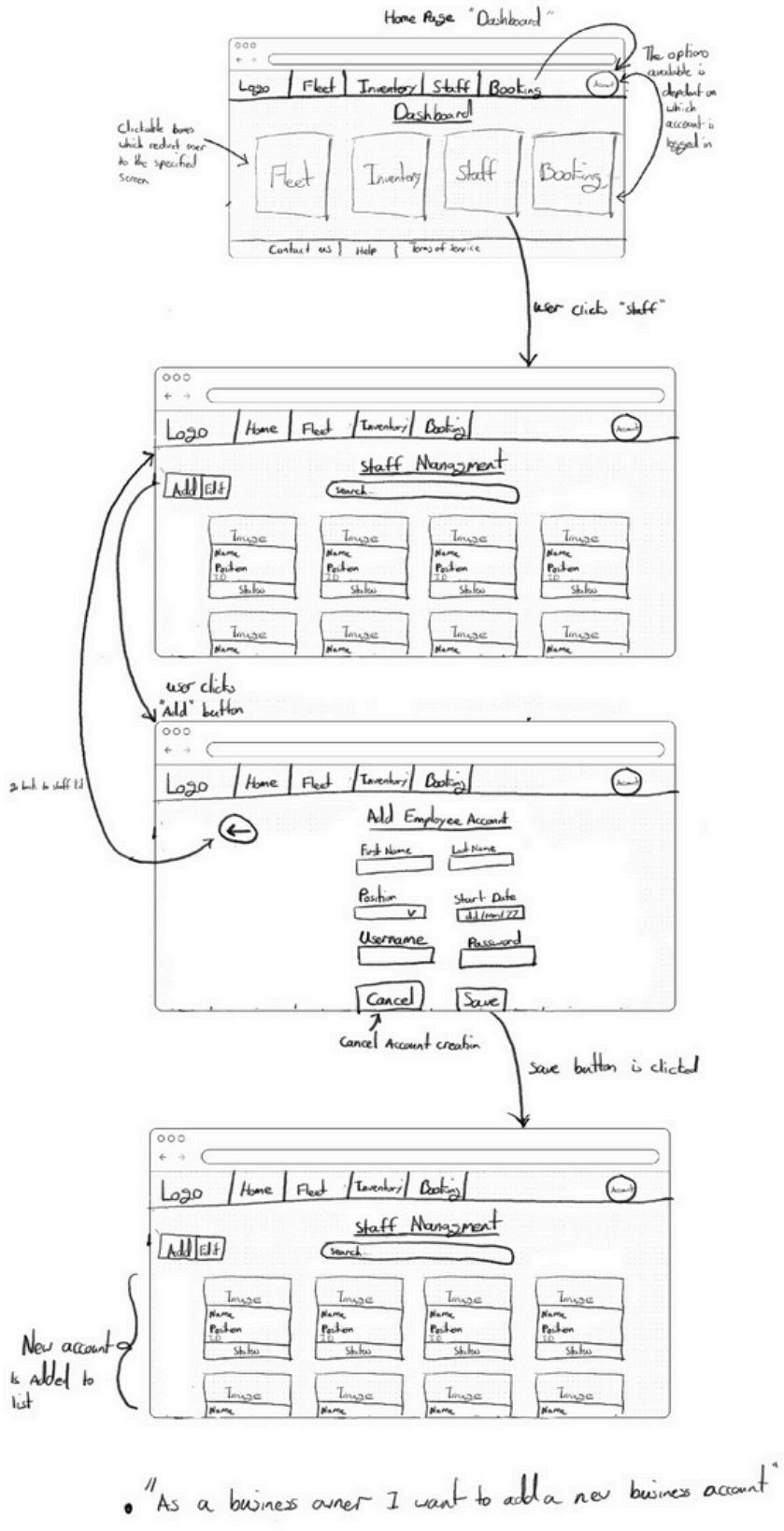
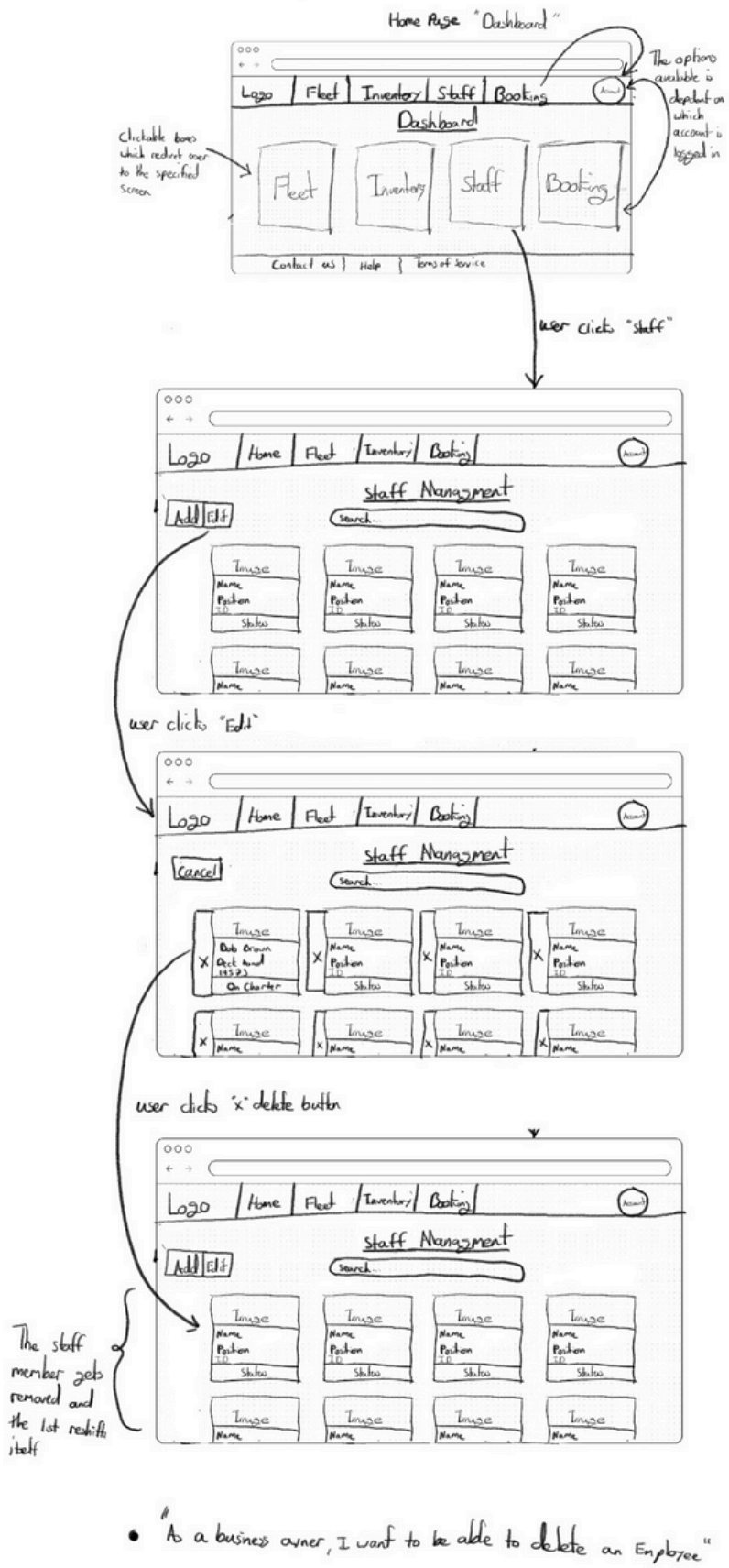


Figure B.1.11 Low-Fidelity Sketch for "Adding New Employee Account" (Busines Owner User Type).



- "As a business owner, I want to be able to delete an Enployee"

Figure B.1.12 Low-Fidelity Sketch for "Deleting an Employee" (Business Owner User Type).

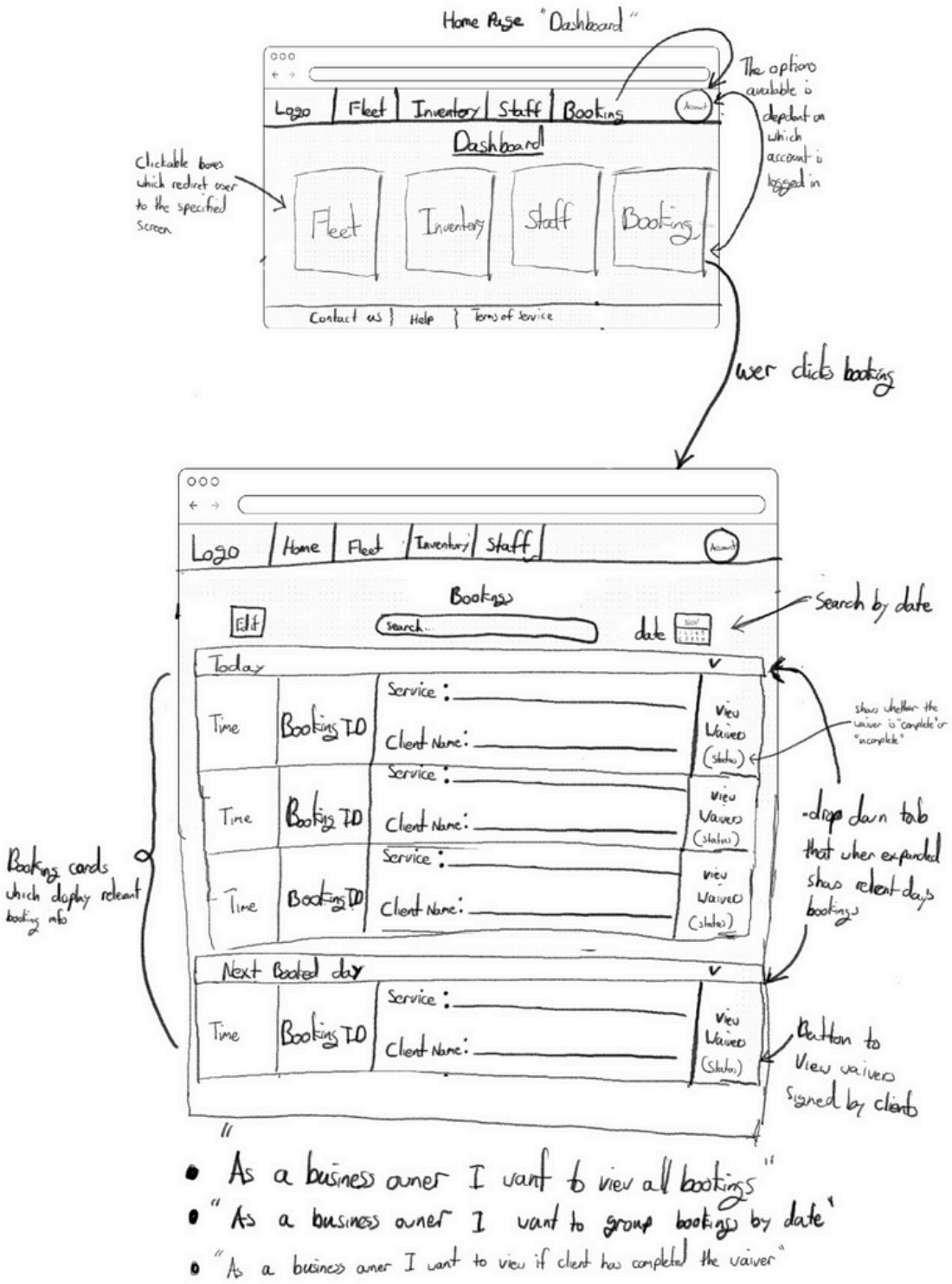
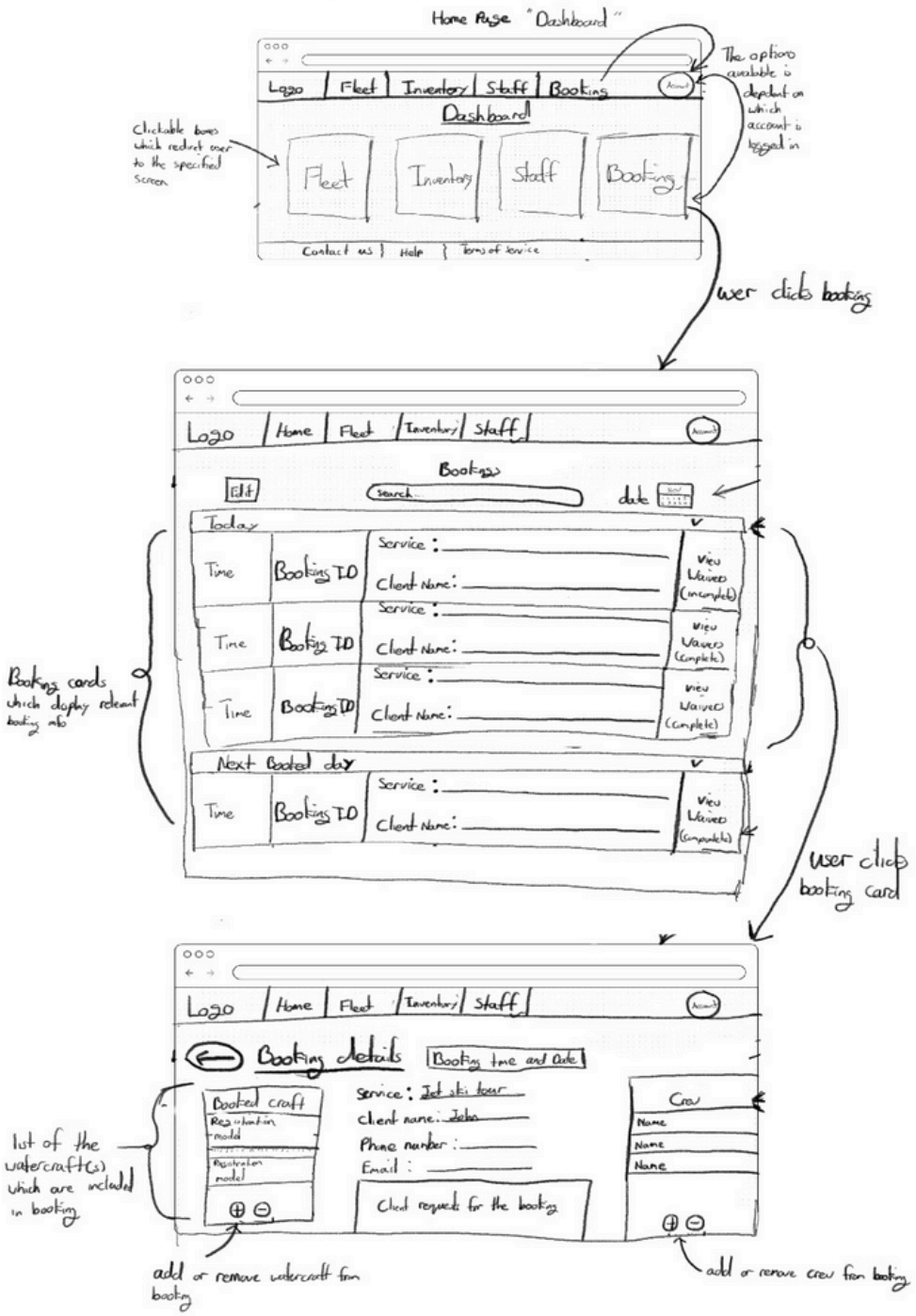


Figure B.1.13 Low-Fidelity Sketch for "View all Bookings" (Business Owner User Type).



- "As a business owner I want to view booking details"
- "As a business owner I want to view client information"
- "As a business owner I want to view which staff members are working on a selected charter
- "As a business owner I want to view which watercraft(s) are used for a particular charter"

Figure B.1.14 Low-Fidelity Sketch for “View Booking Details” (Business Owner User Type).

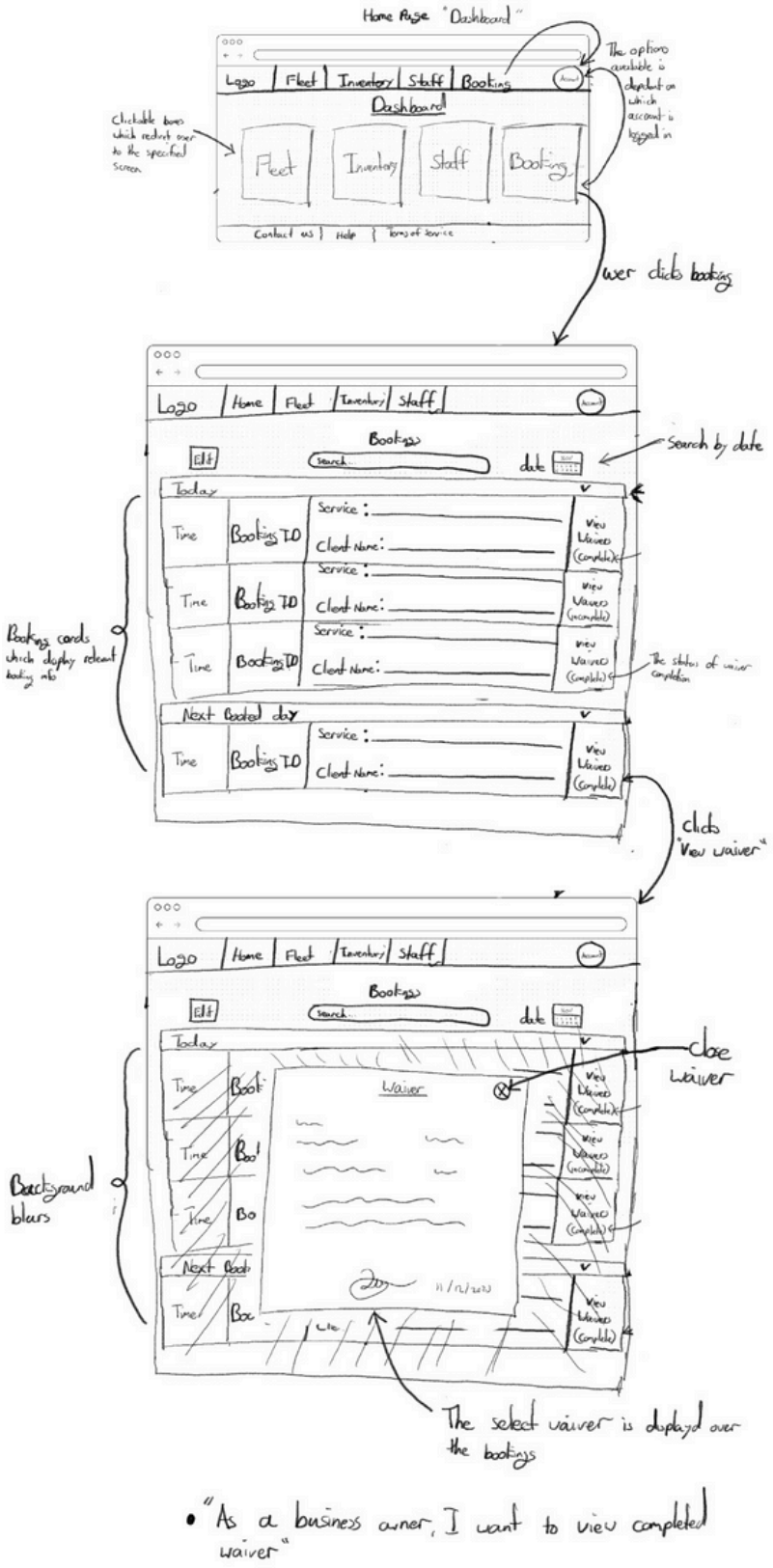


Figure B.1.15 Low-Fidelity Sketch for “View Waiver” (Business Owner User Type

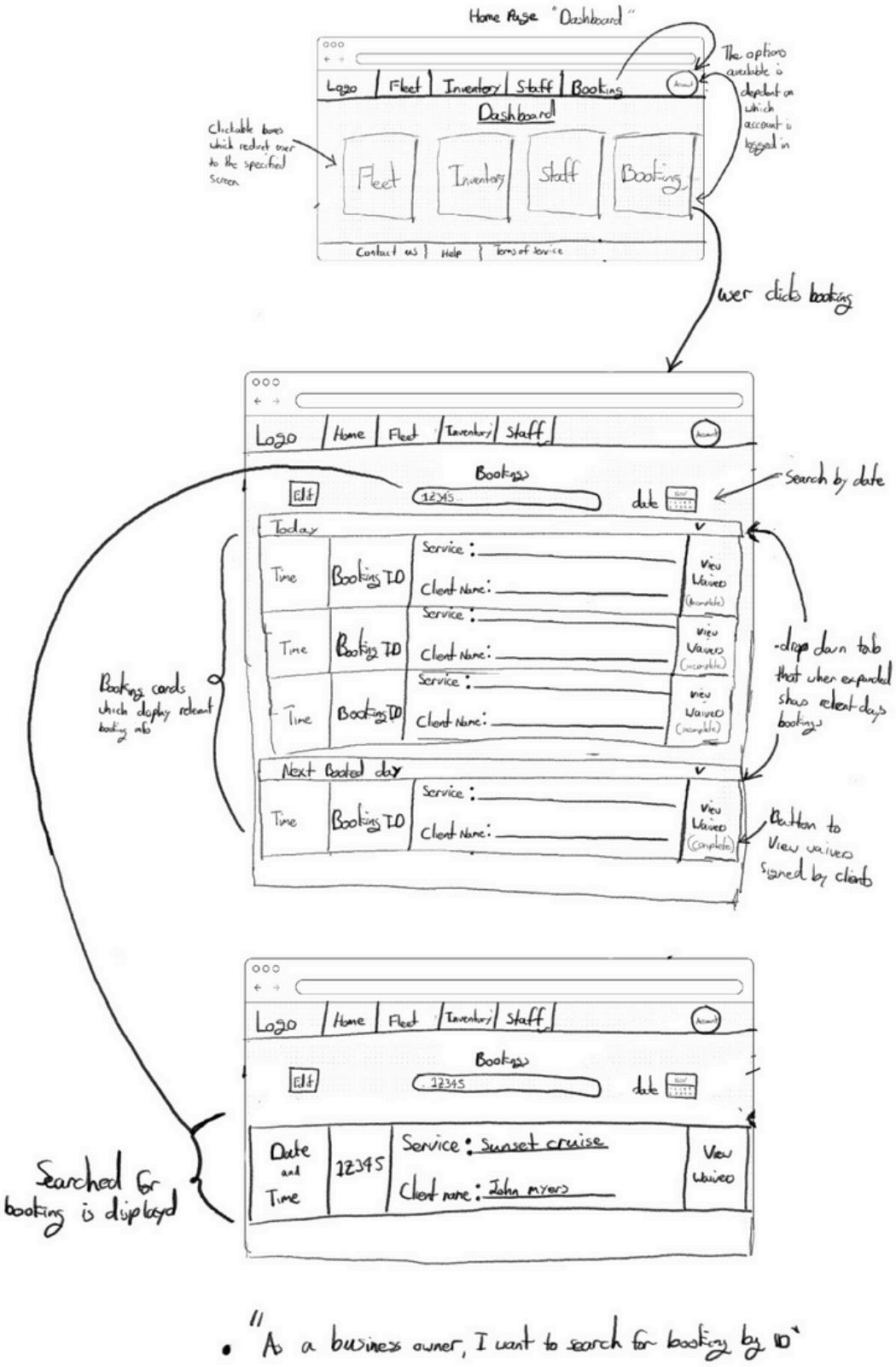
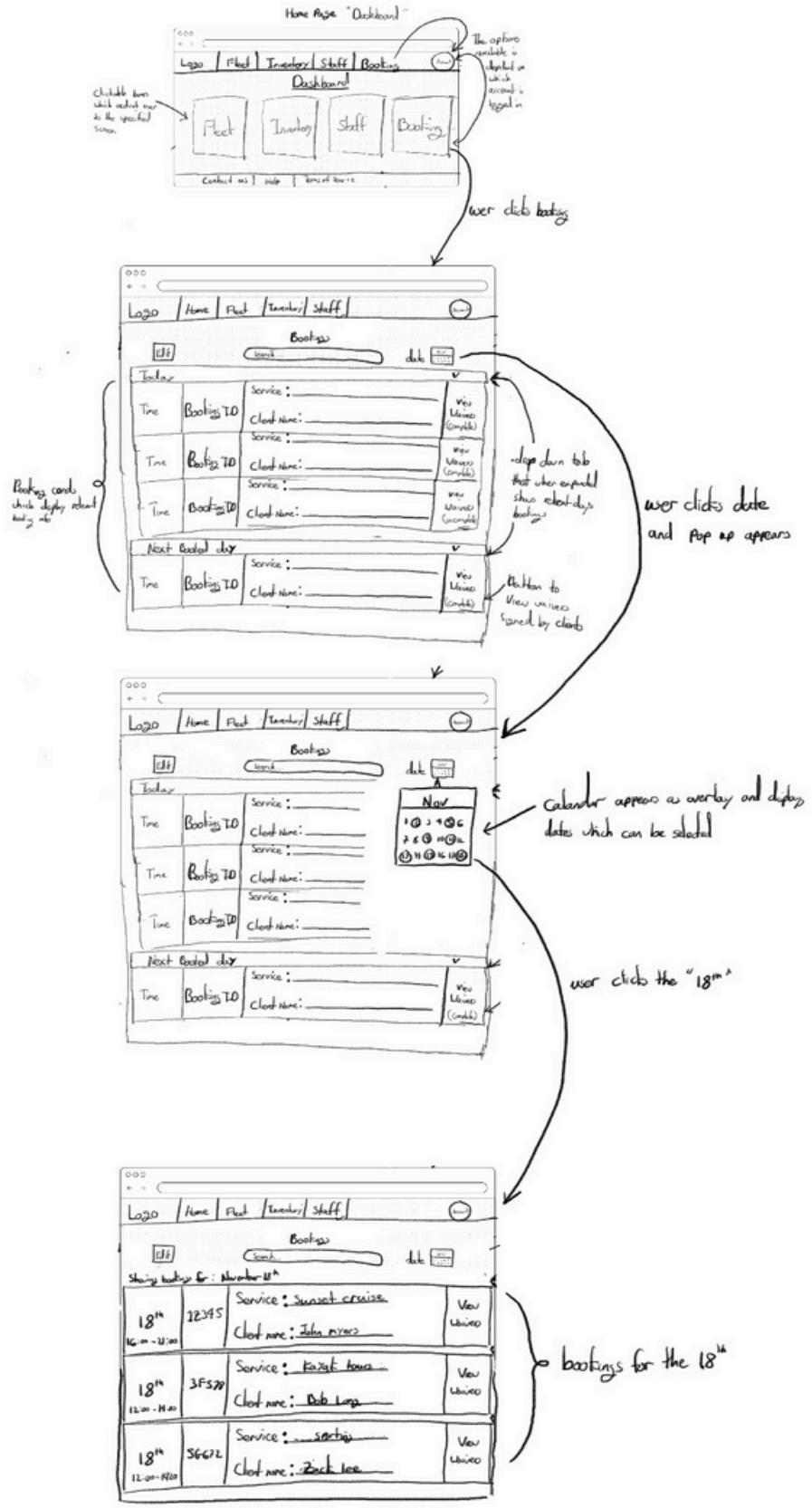
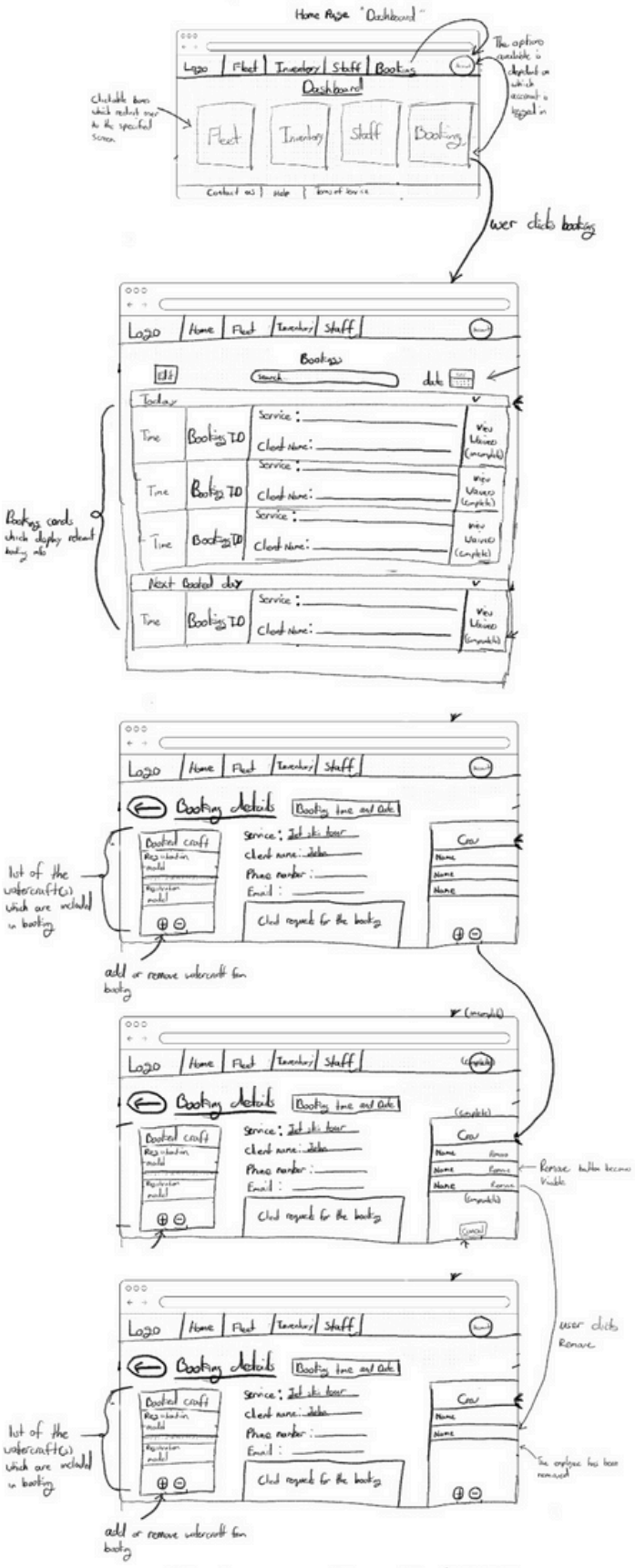


Figure B.1.16 Low-Fidelity Sketch for "Search for Booking by ID" (Business Own
User Type).



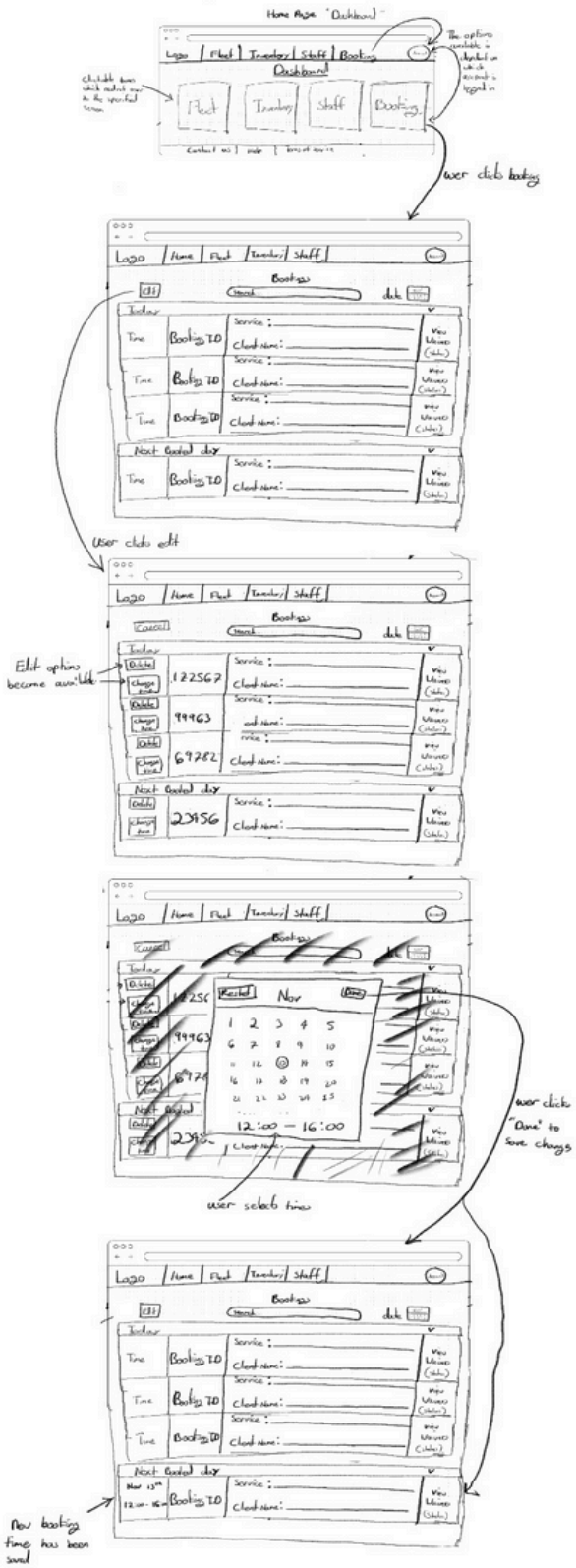
- "As a business owner, I want to search for booking by date"

Figure B.1.17 Low-Fidelity Sketch for “Search for Booking by Date” (Business Owner User Type).



- "As a business owner I want to remove staff member for crew"

Figure B.1.18 Low-Fidelity Sketch for “Removing Employee from booking” (Business Owner User Type).



- "As a business I want to change booking times"

Figure B.1.19 Low-Fidelity Sketch for “Change Booking Time” (Business Owner User Type).

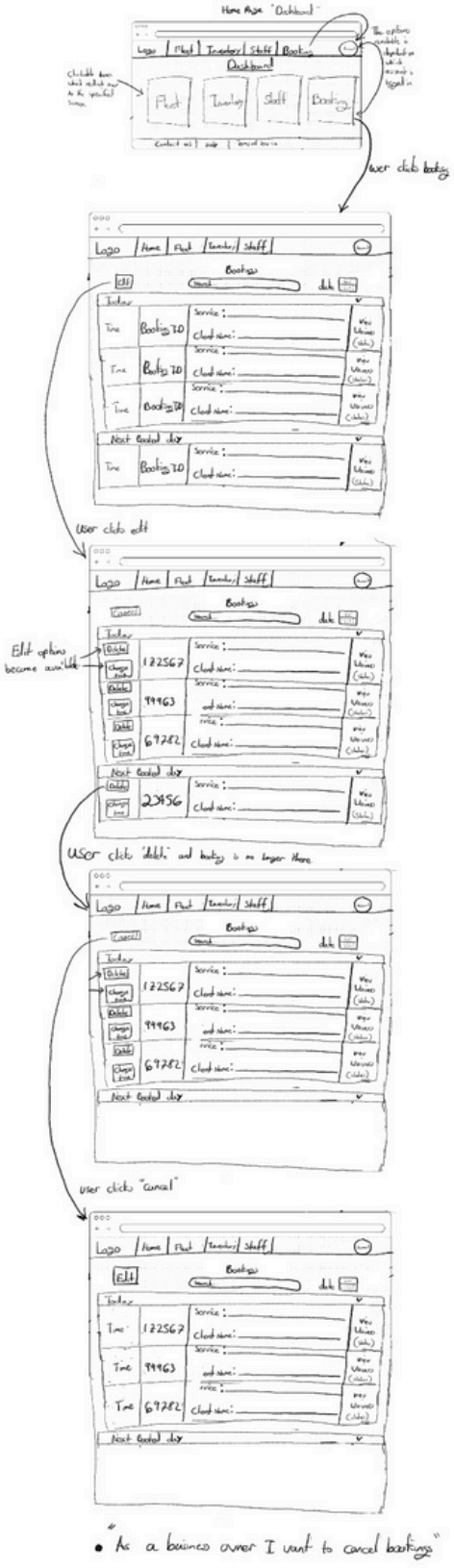


Figure B.1.20 Low-Fidelity Sketch for “Cancelling Booking” (Business Owner Use Type).

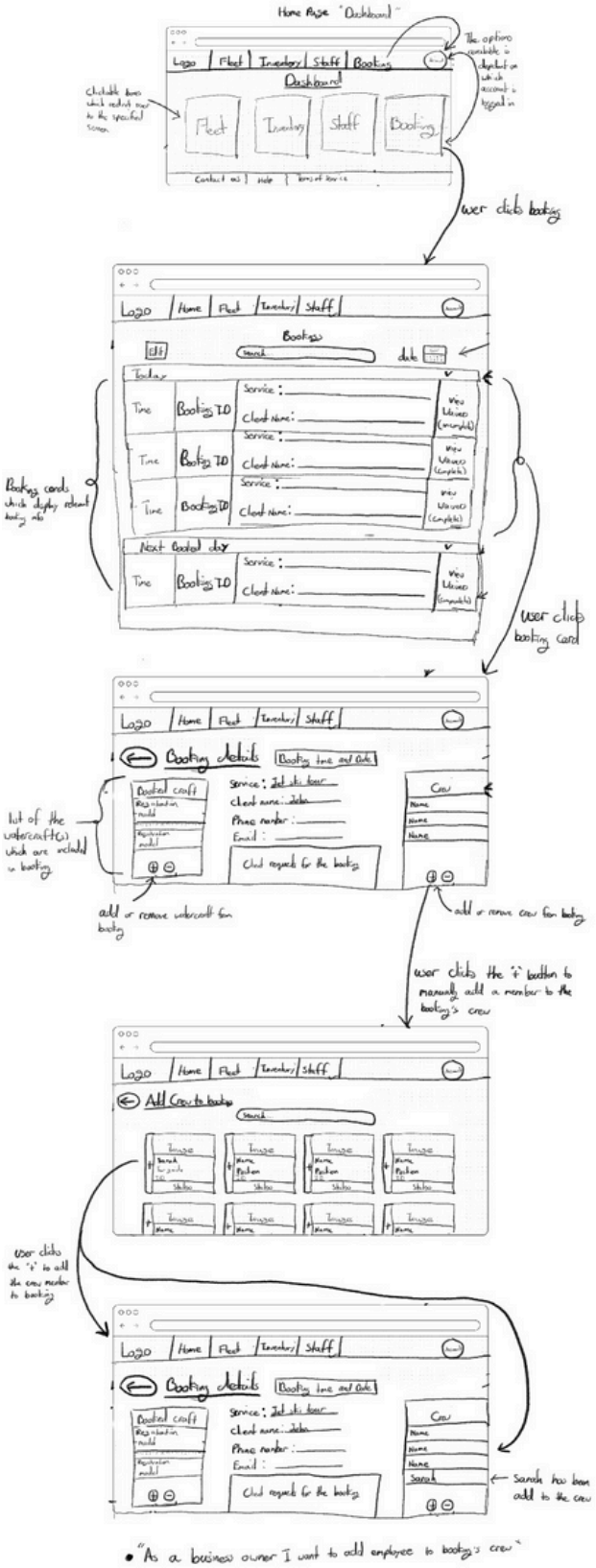


Figure B.1.21 Low-Fidelity Sketch for “Add Employee to a Booking’s Crew” (Business Owner User Type).

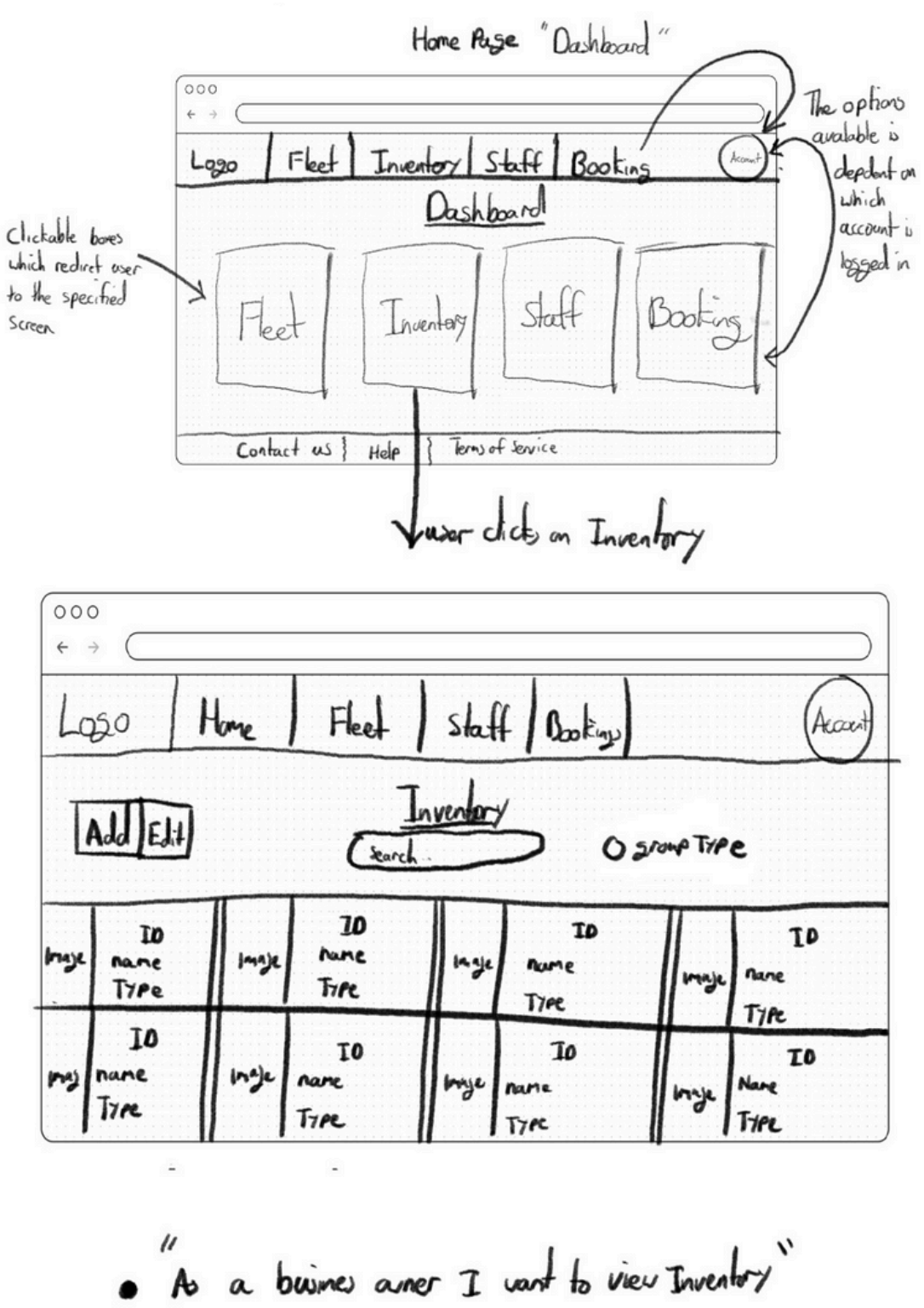
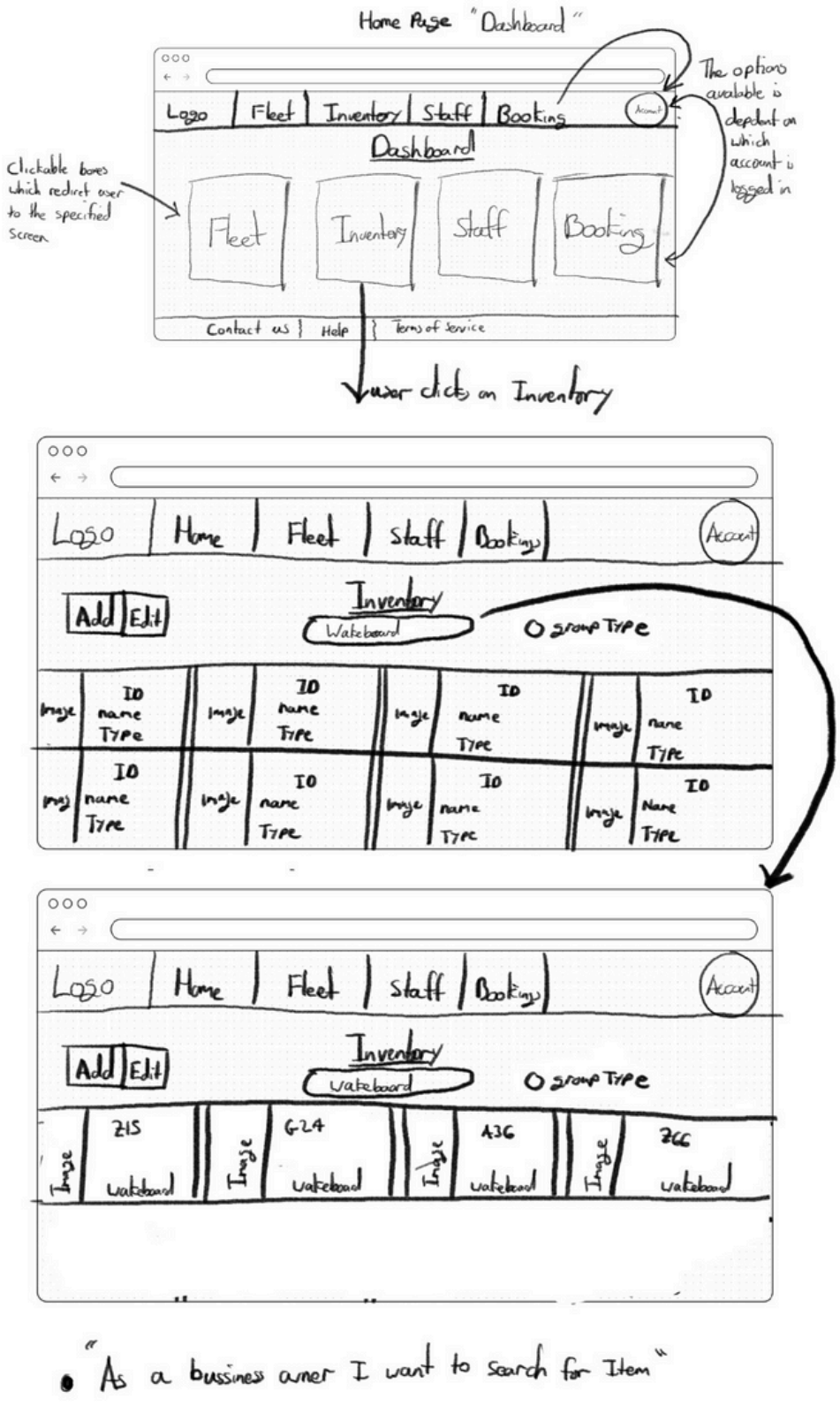


Figure B.1.22 Low Fidelity Sketch for “View Item(s) in Inventory” (Business Own User Type).



- "As a bussiness owner I want to search for Item"

Figure B.1.23 Low-Fidelity Sketch for "Search for an Item" (Business Owner Use Type).

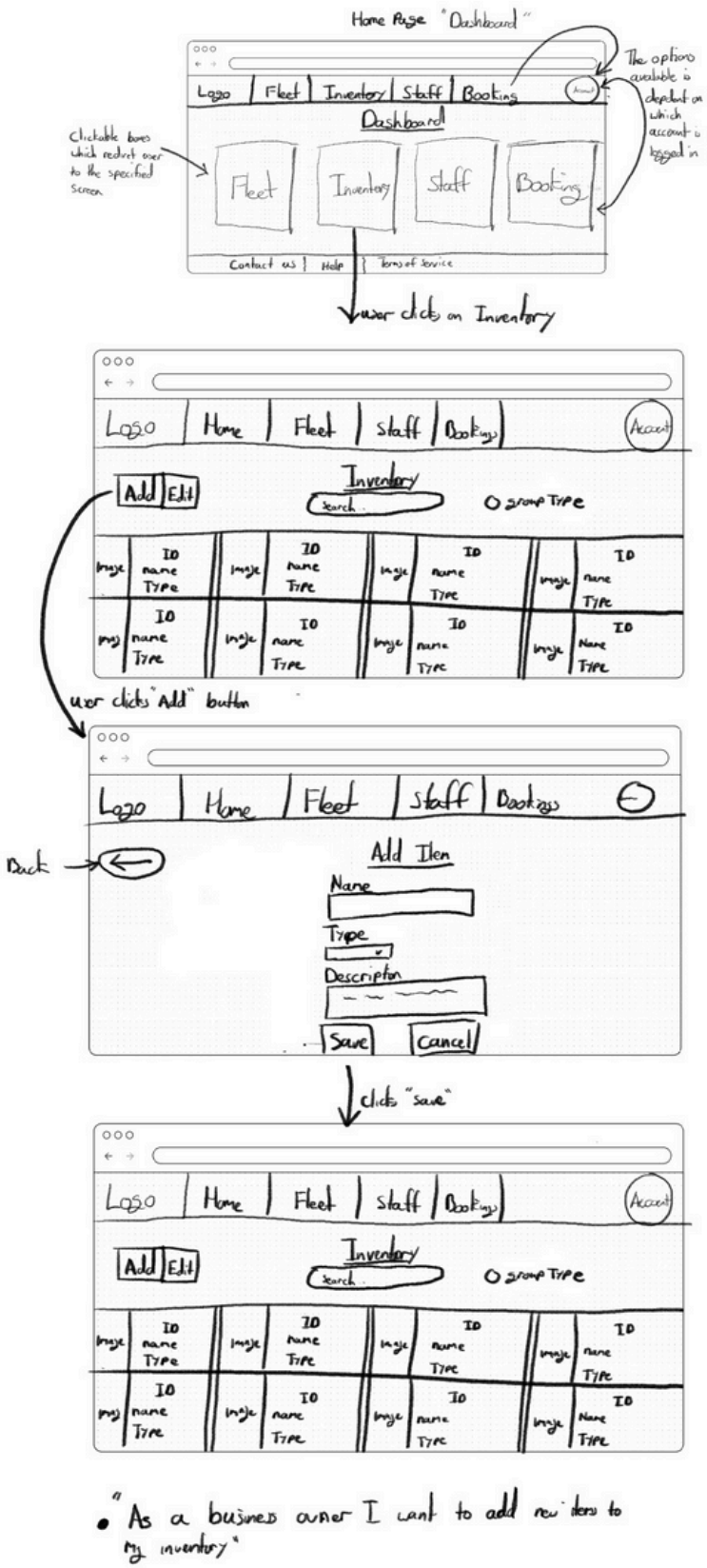
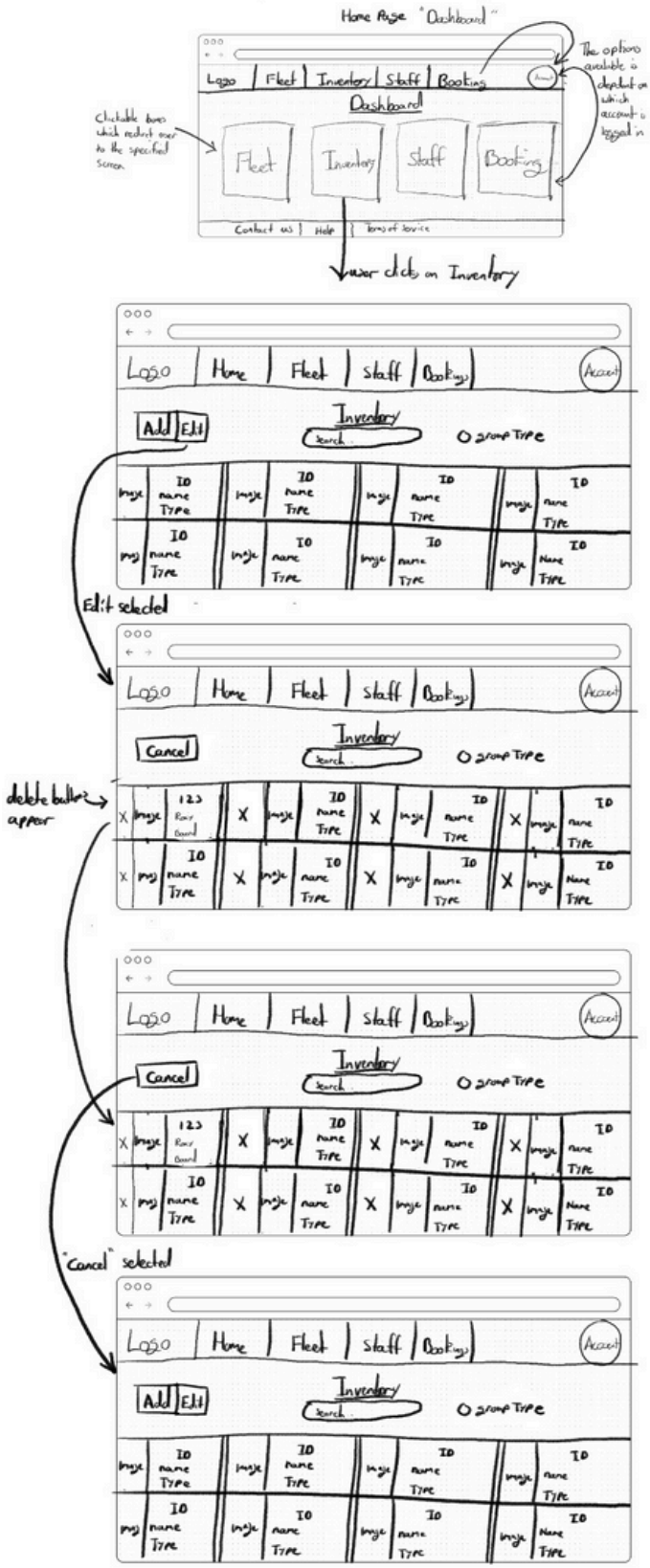


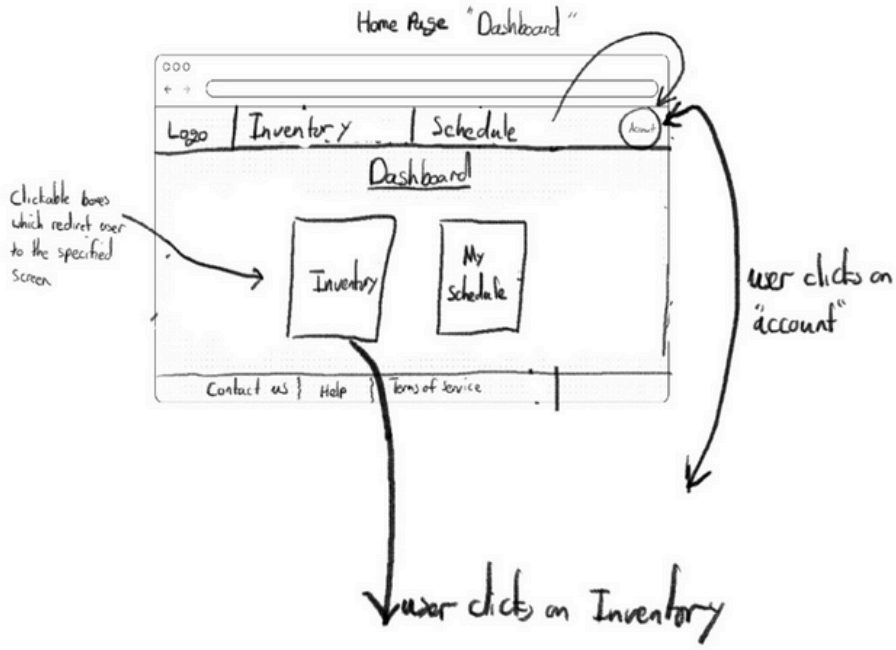
Figure B.1.24 Low-Fidelity Sketch for “Add New Items to Inventory” (Business Owner User Type).

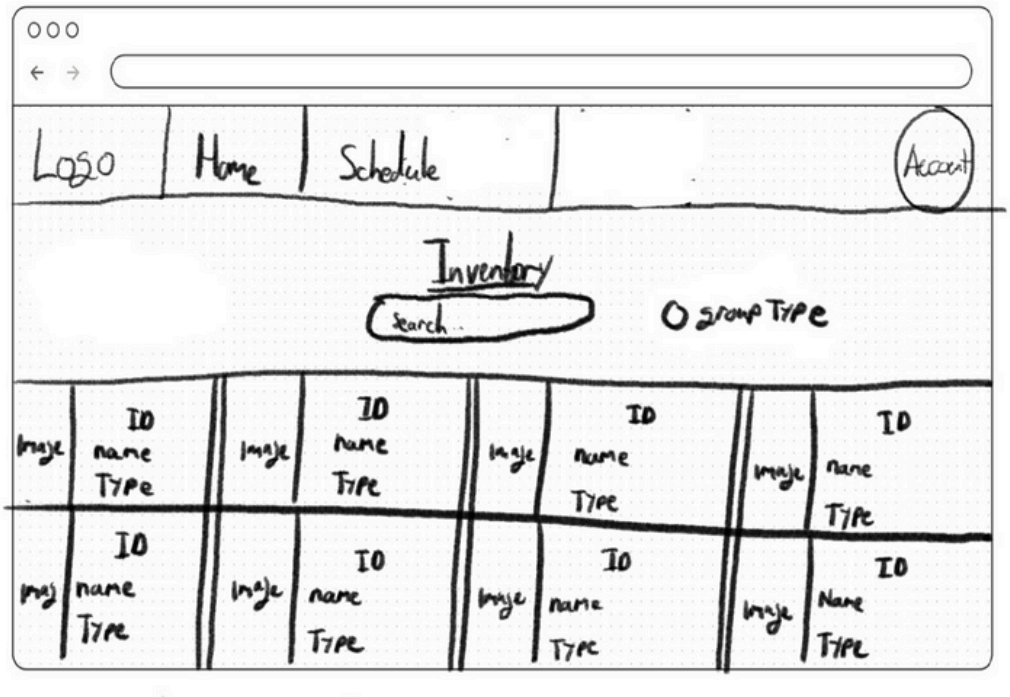


- "As a business owner I want to remove Items"

Figure B.1.25 Low-Fidelity Sketch for “Remove Item from Inventory” (Business Owner User Type).

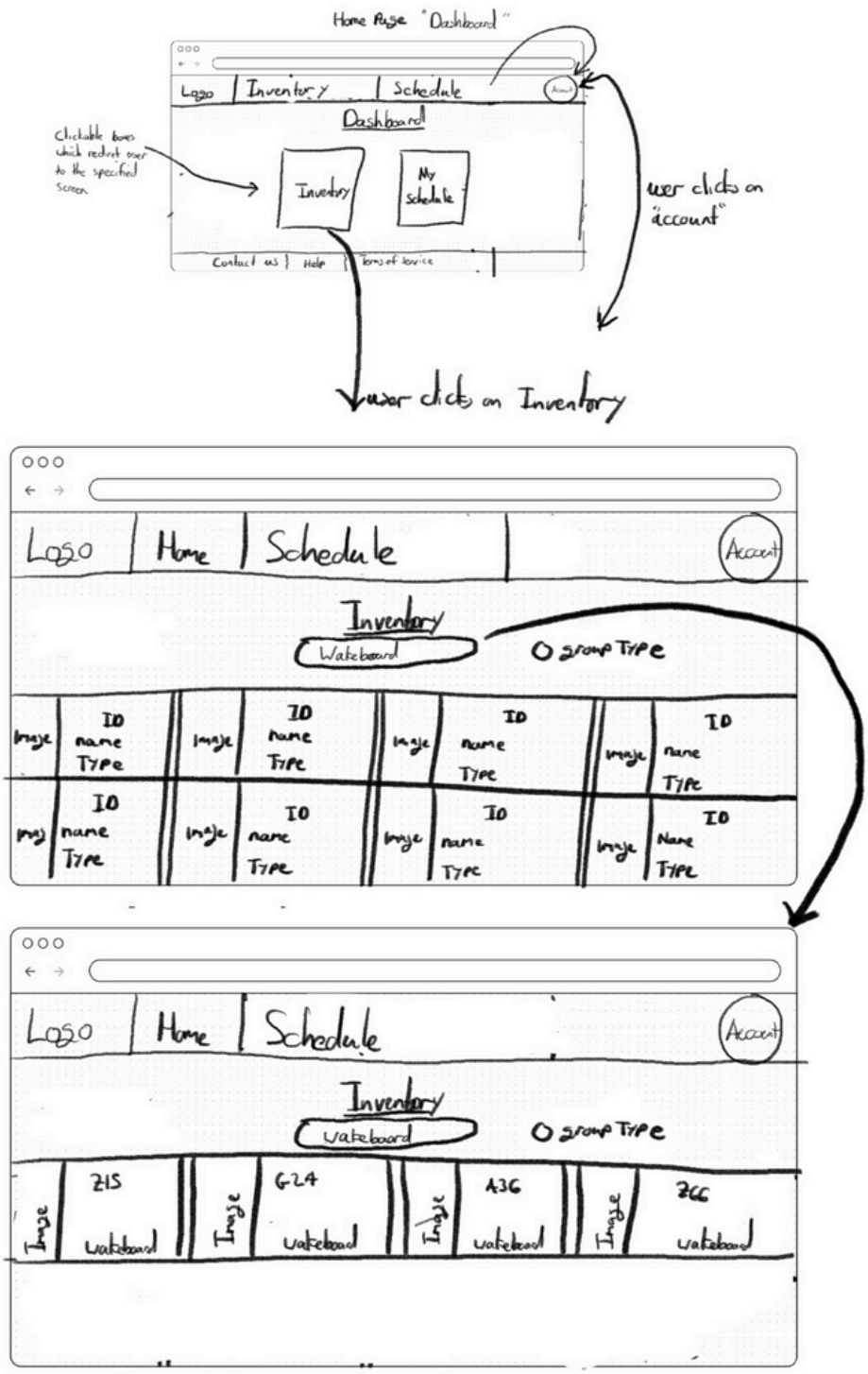
2.Employee/crew member





- "As an employee I want to view Inventory"

Figure B.2.1 Low Fidelity Sketch for "View Inventory" (Employee/ Crew member User Type).



- "As an employee I want to search for an Item"

Figure B.2.2 Low Fidelity Sketch for “Search for Item” (Employee/ Crew member User Type).

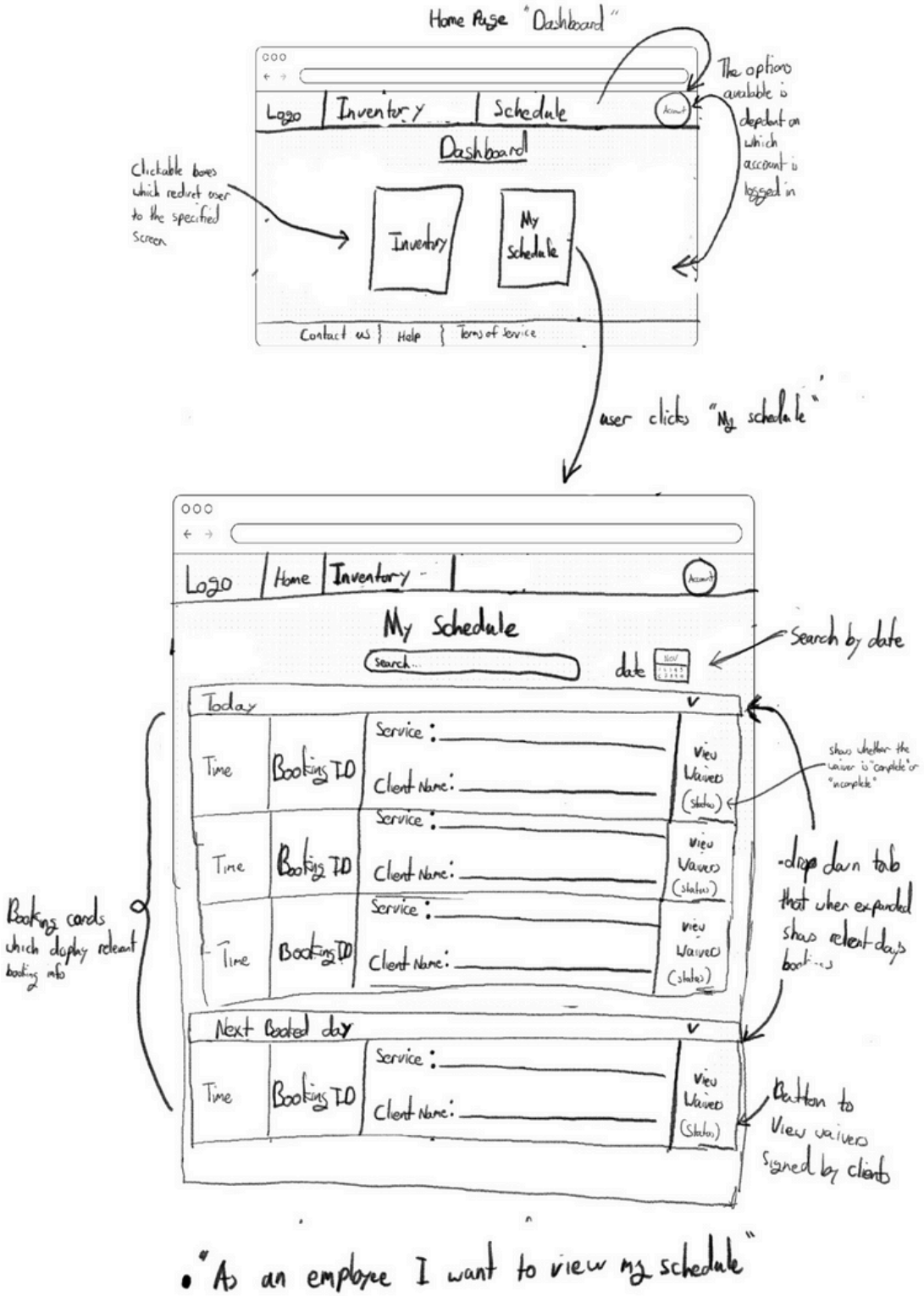
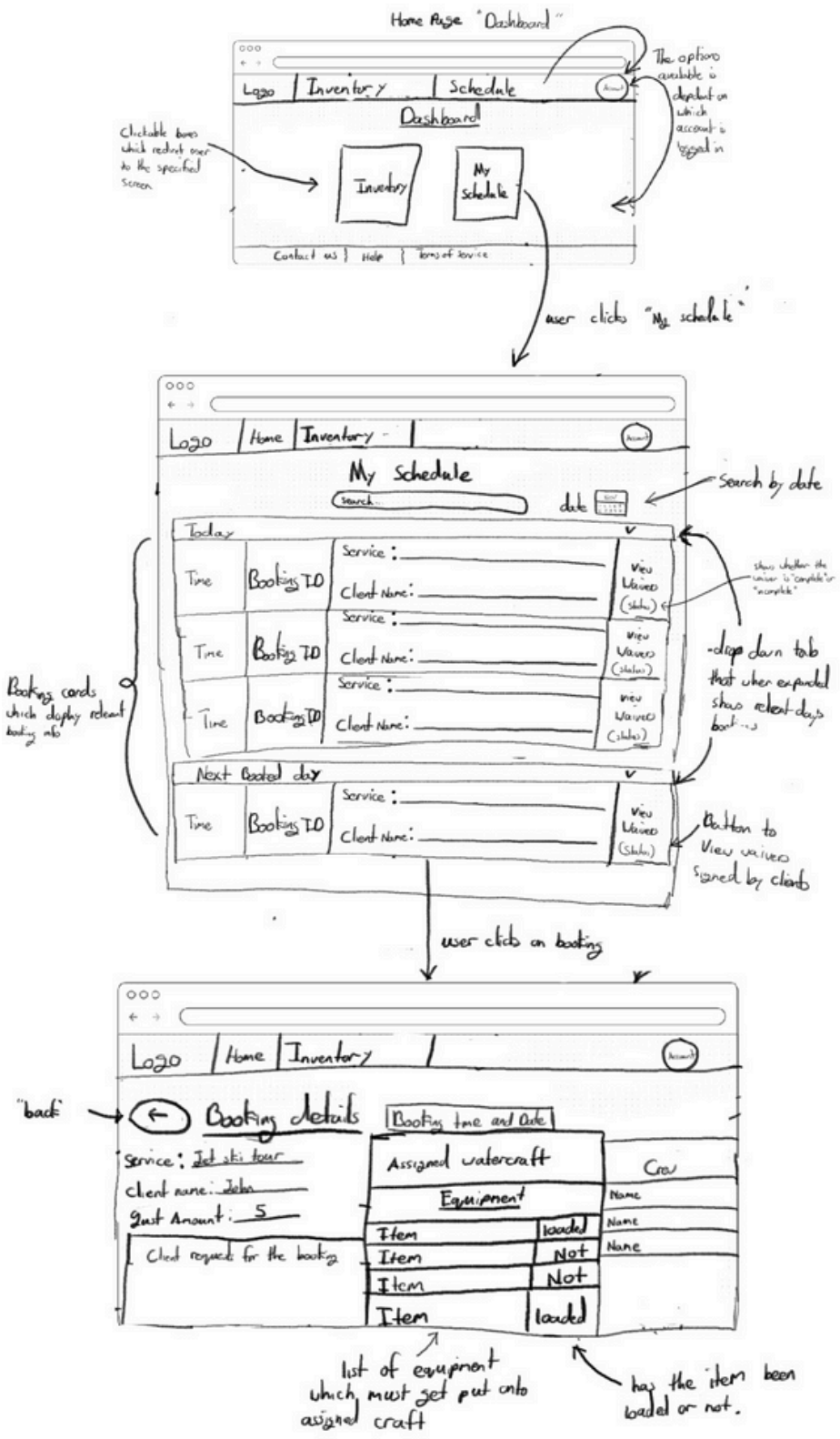


Figure B.2.3 Low Fidelity Sketch for “View Schedule” (Employee/ Crew member User Type).



- "As an employee I want to view booking details"
- "As an employee I want to view what equipment needs to be loaded"
- "As an employee I want to view how many guest will be on the charter"

Figure B.2.4 Low Fidelity Sketch for "View Booking Details" (Employee/ Crew member User Type).

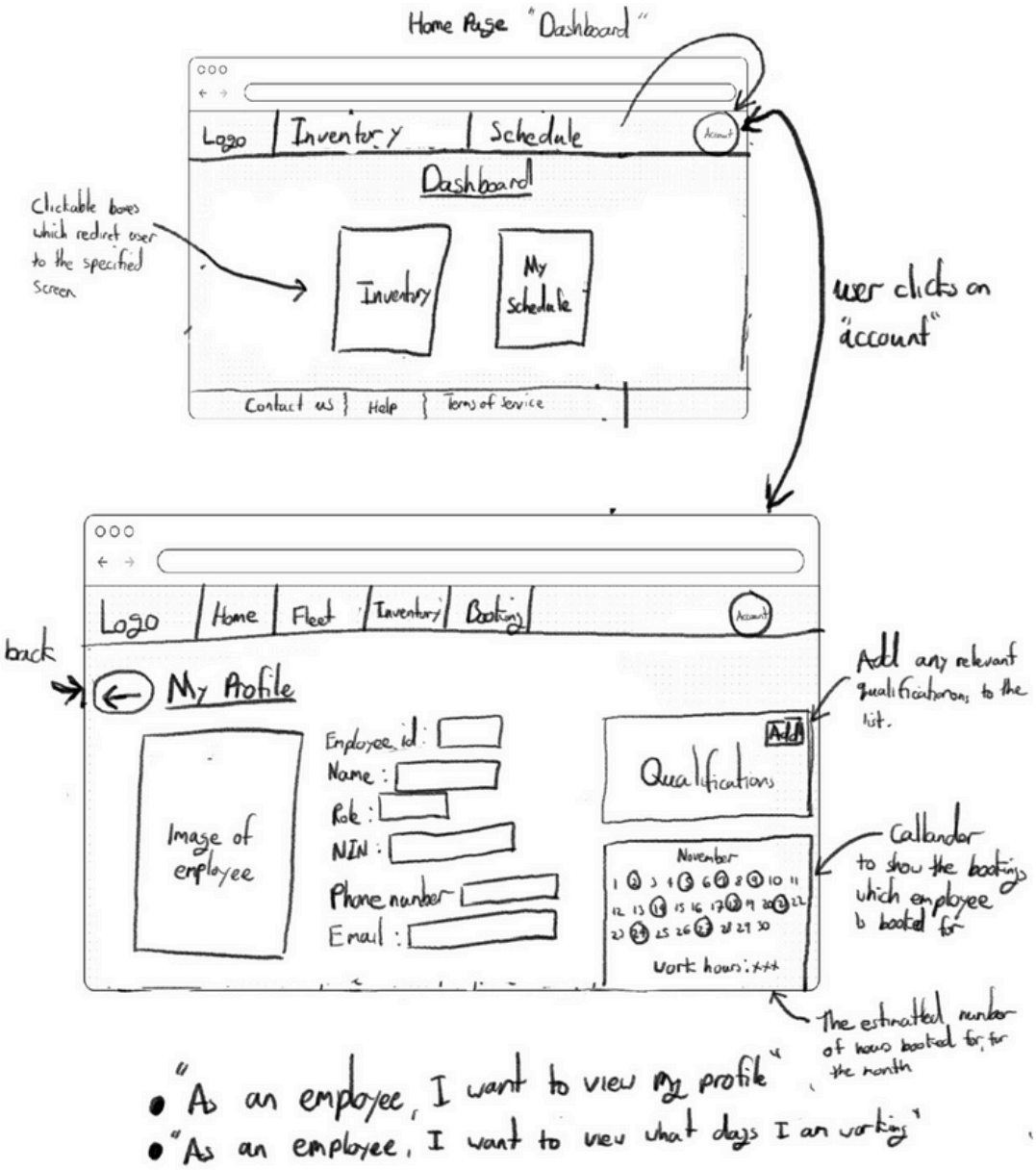
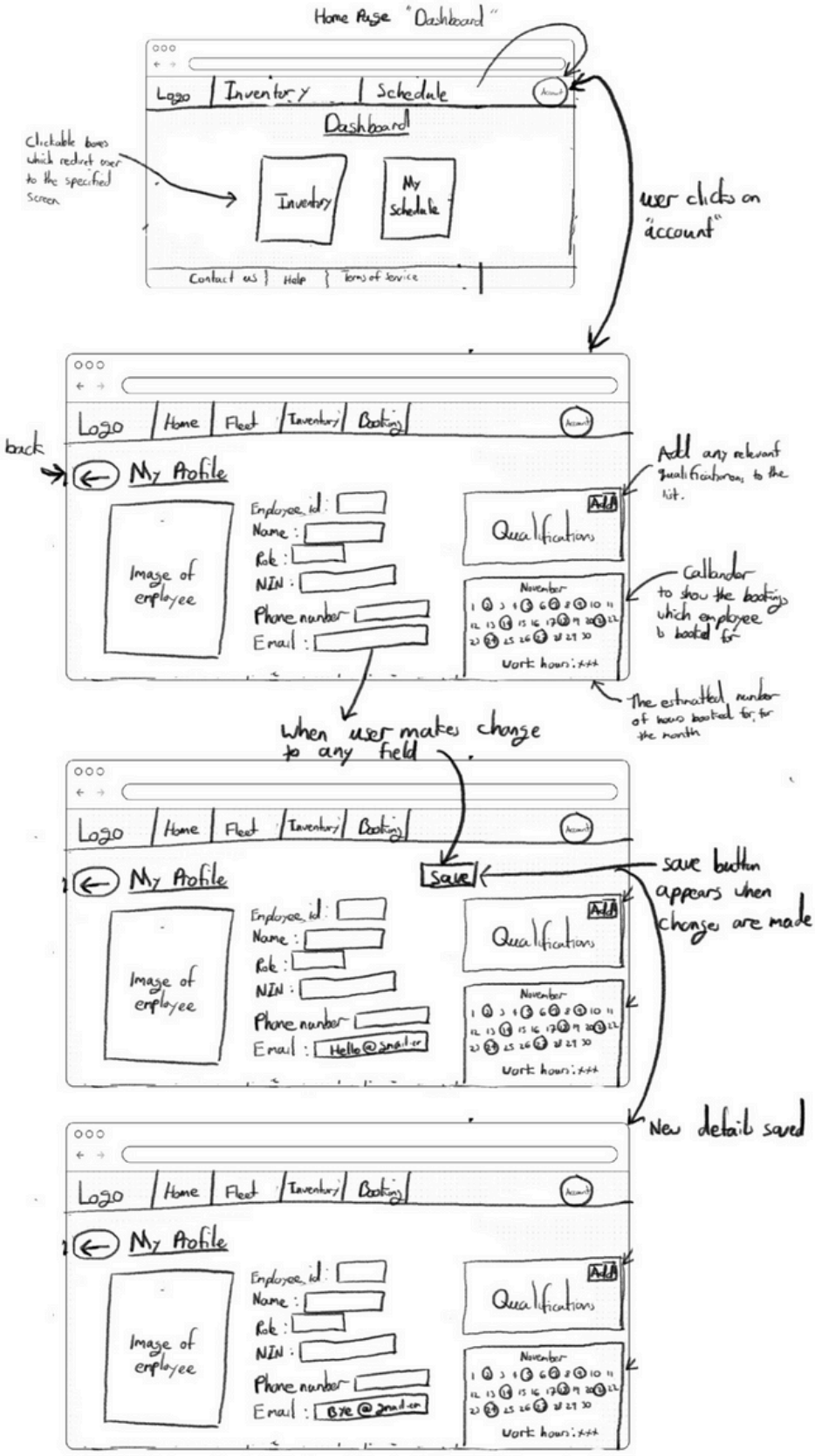


Figure B.2.5 Low Fidelity Sketch for "View Profile" (Employee/ Crew member User Type).



- "As an employee I want to edit my profile"

Figure B.2.6 Low Fidelity Sketch for “Edit Profile” (Employee/ Crew member Use
Type).

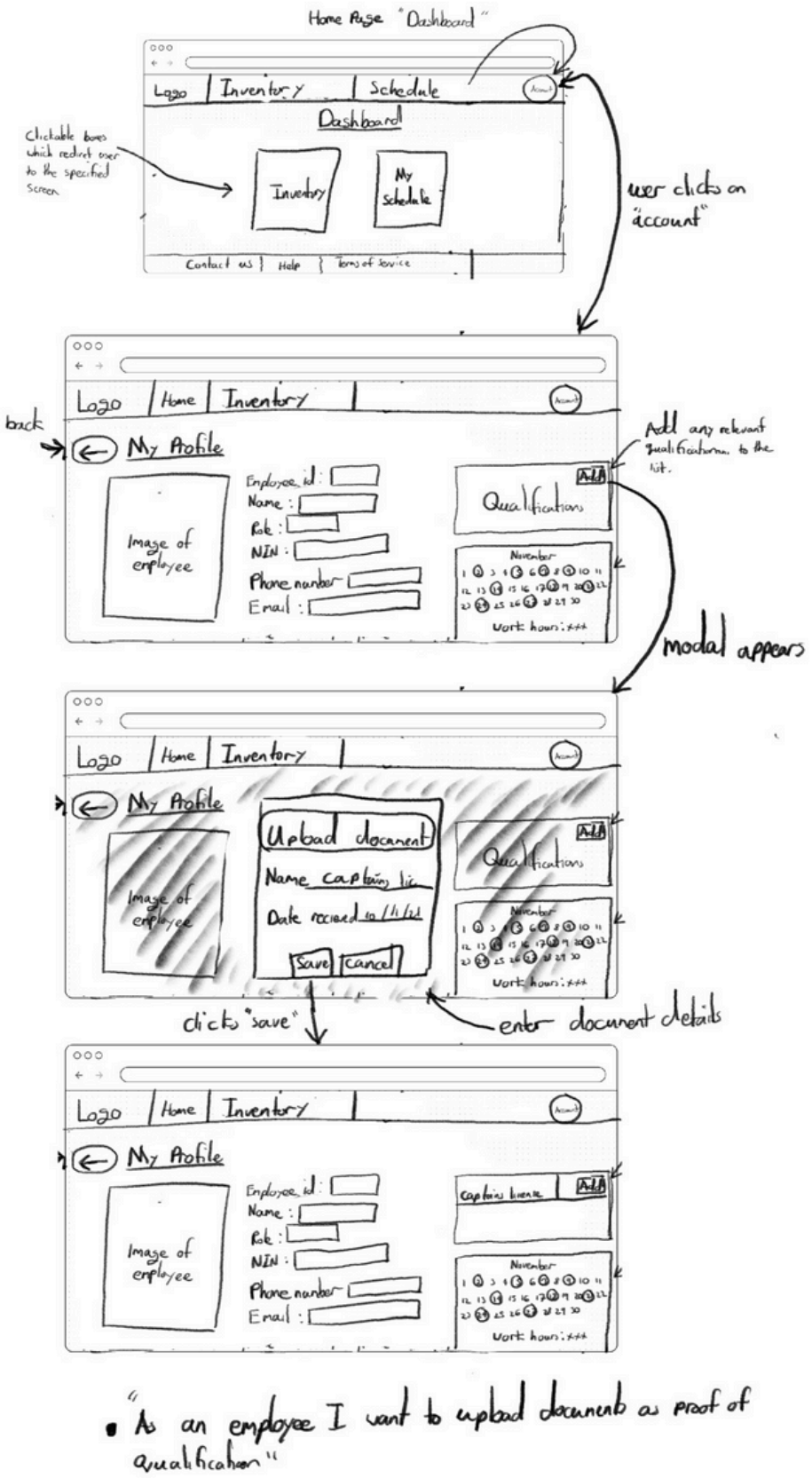


Figure B.2.7 Low Fidelity Sketch for "Add Qualification" (Employee/ Crew memb
User Type).

3. Client

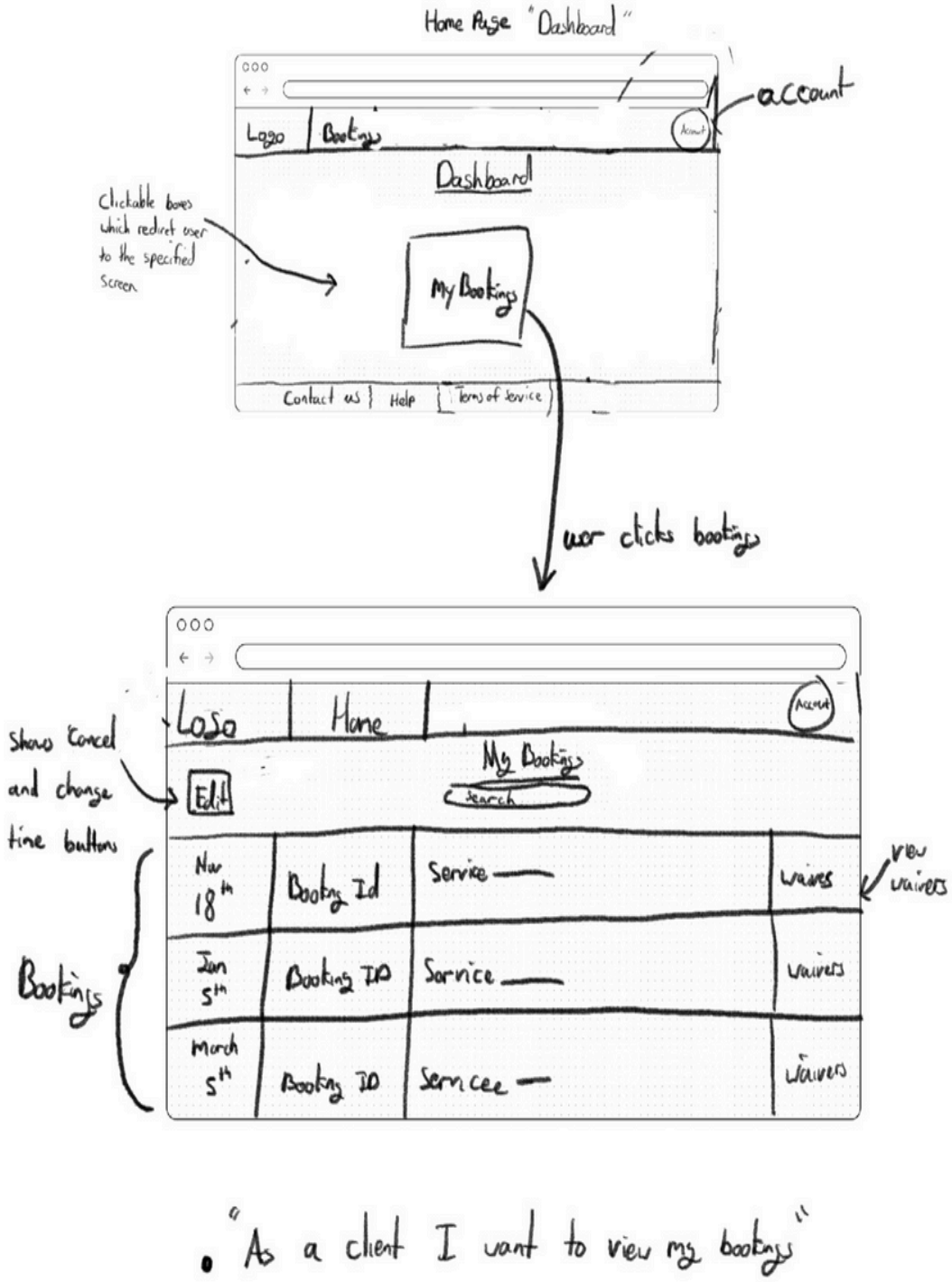


Figure B.3.1 Low Fidelity Sketch for "View Booking(s)" (Client User Type).

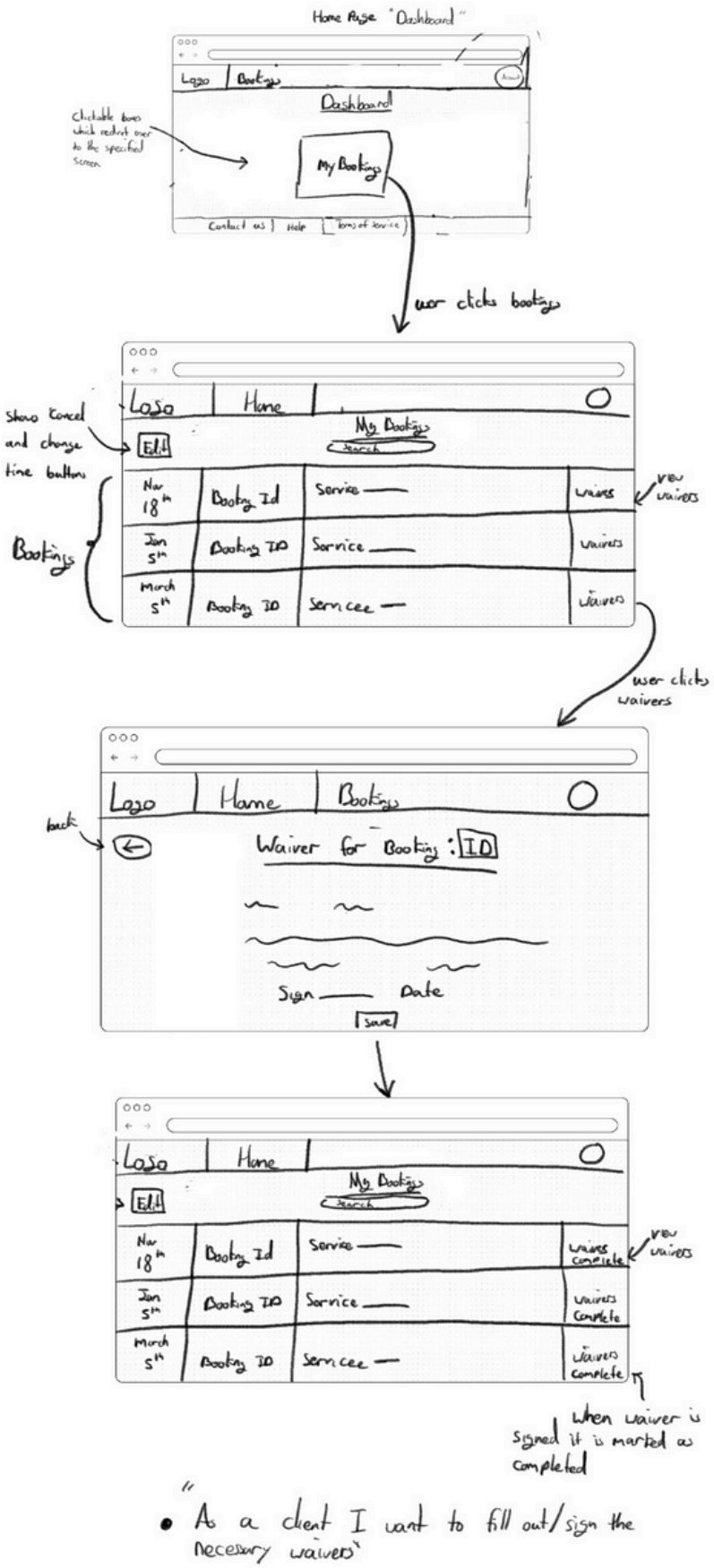
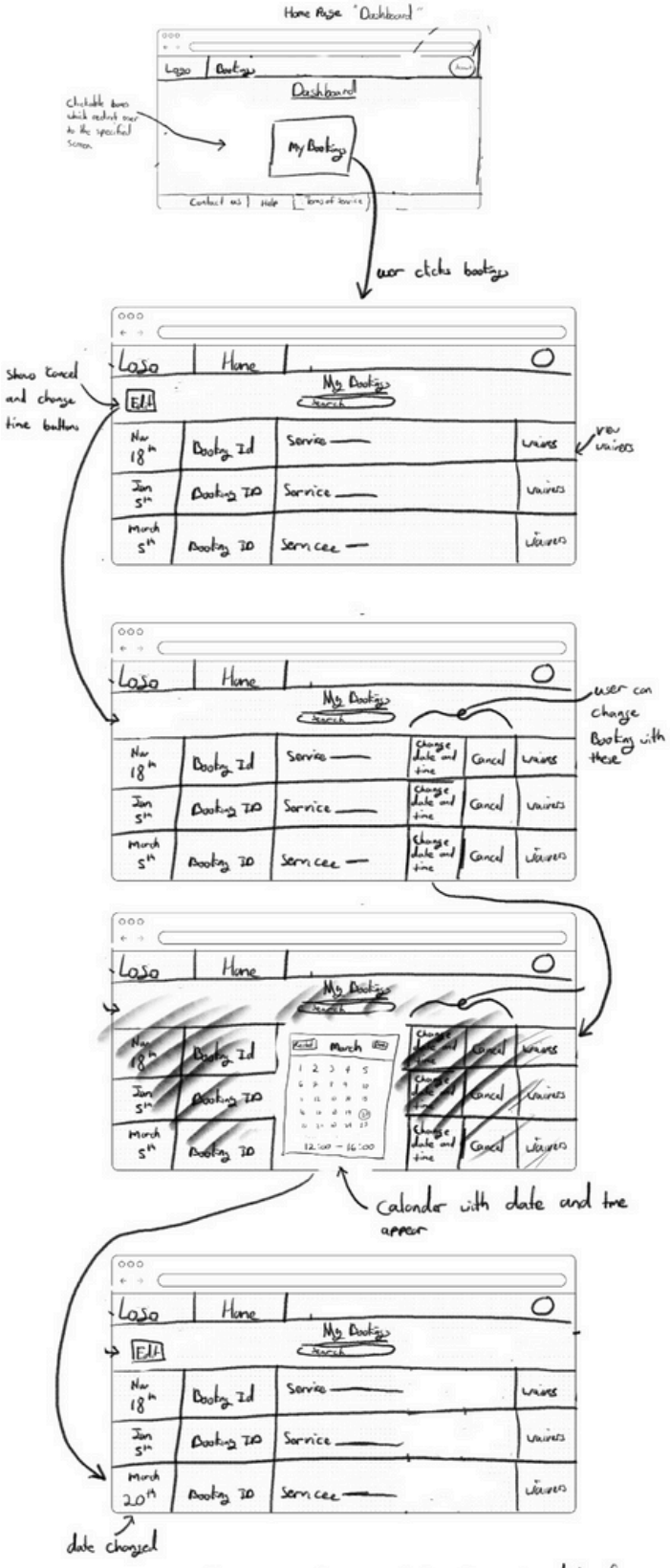


Figure B.3.2 Low-Fidelity Sketch for "Signing Waivers" (Client User Type).



- "As a client I want to change the date of my booking"

Figure B.3.3 Low-Fidelity Sketch for “Change Booking Date and Time” (Client User Type).

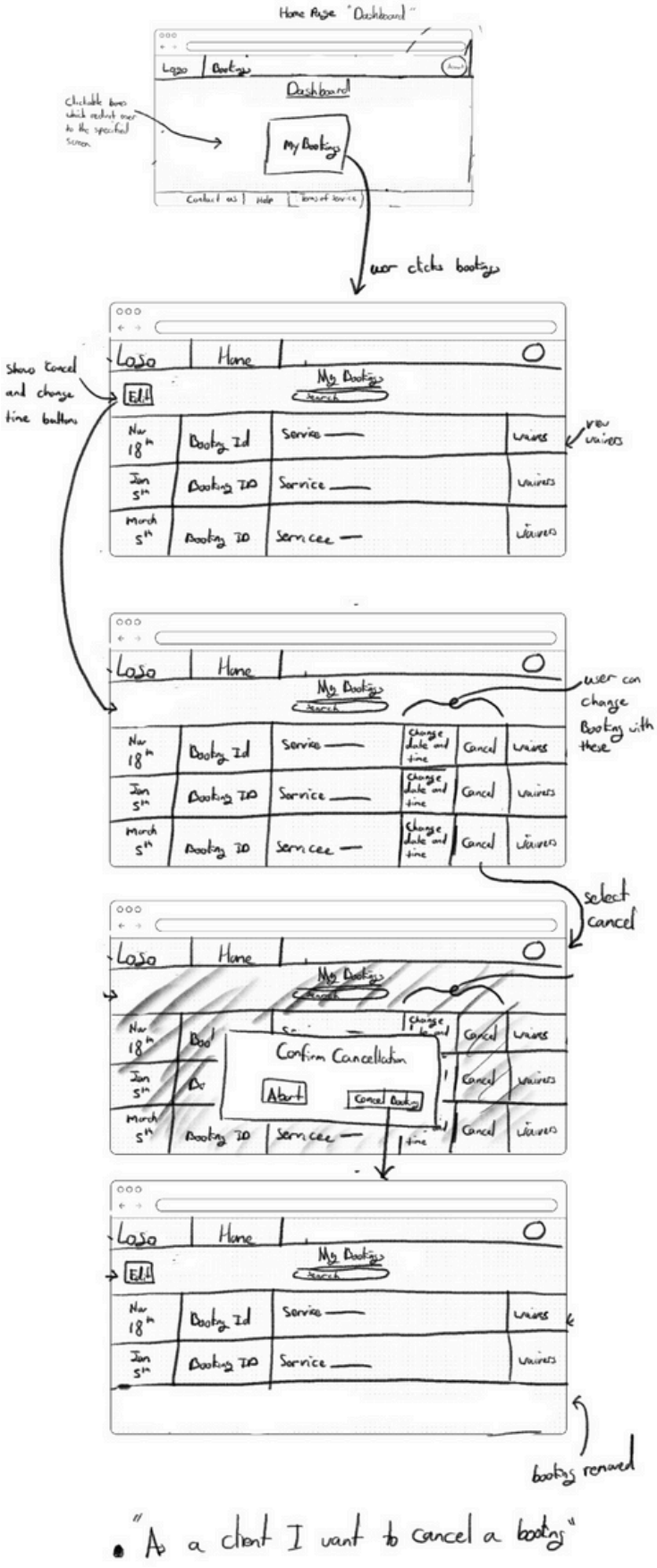


Figure B.3.4 Low-Fidelity Sketch for "Cancelling a Booking" (Client User Type).

Appendix C - Reusable Components

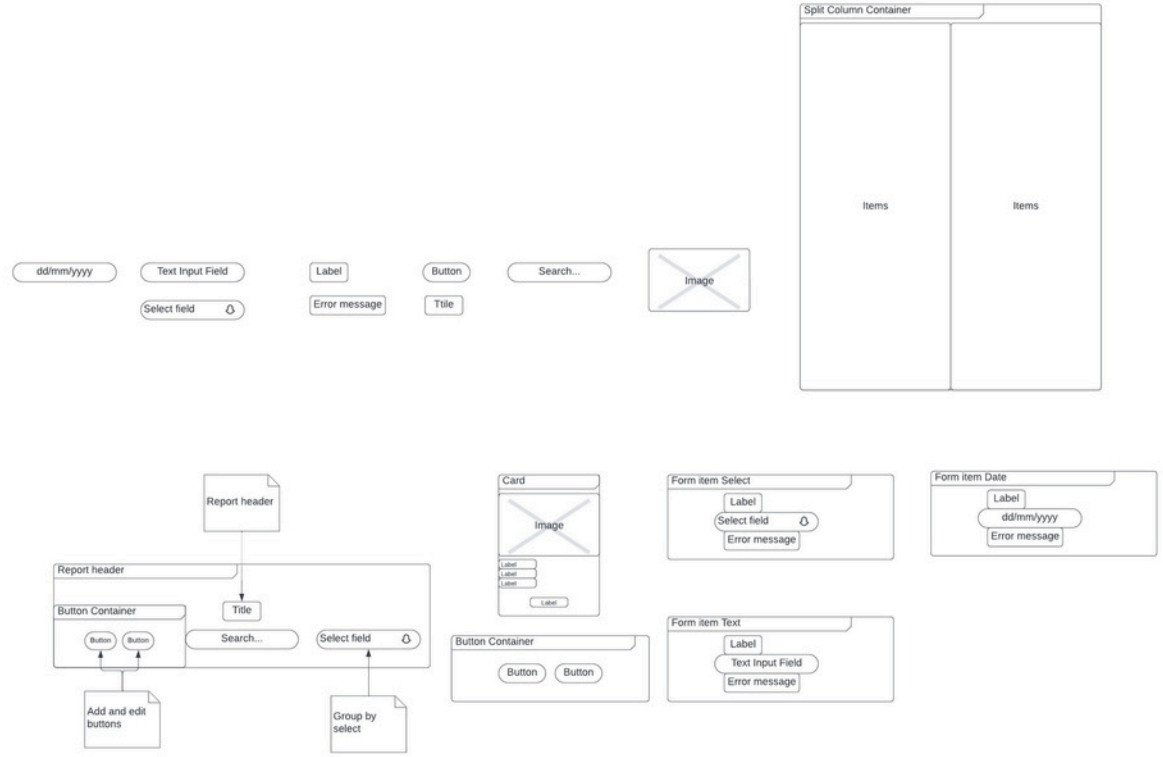


Figure C.1 Diagram Showing Reusable Components.

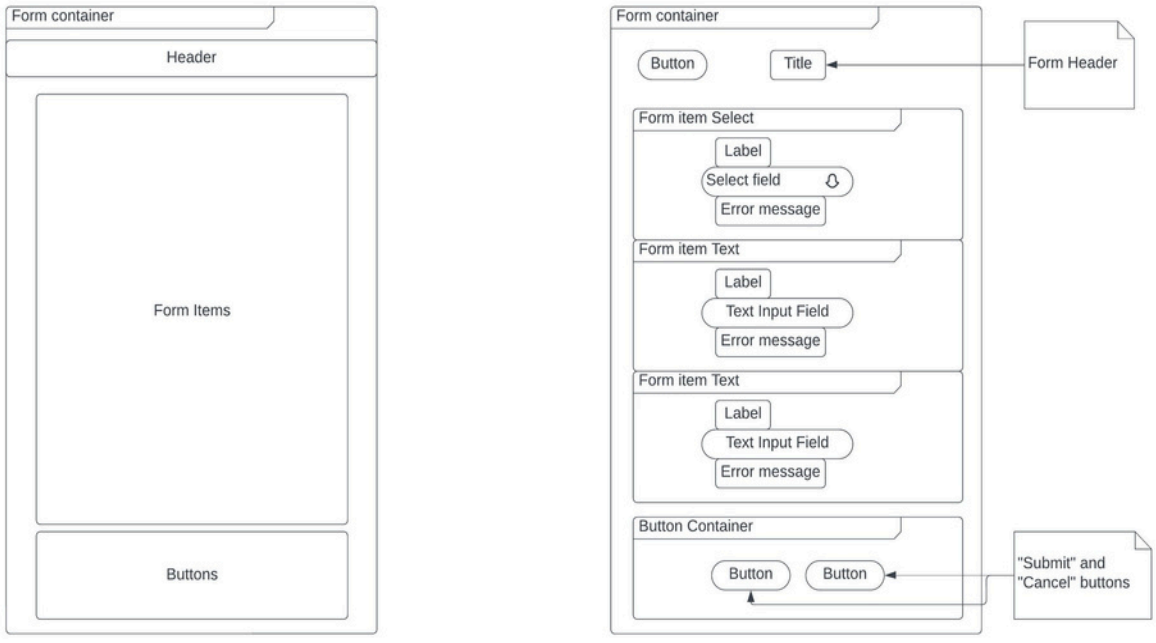


Figure C.2 Diagram Showing Form Reusable Components.

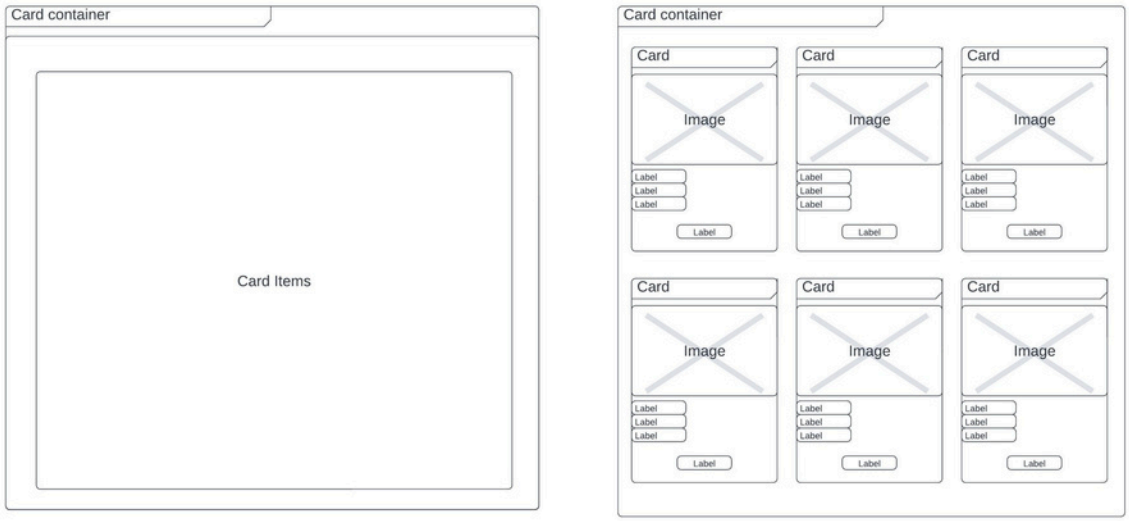


Figure C.3 Diagram Showing Card Reusable Components.

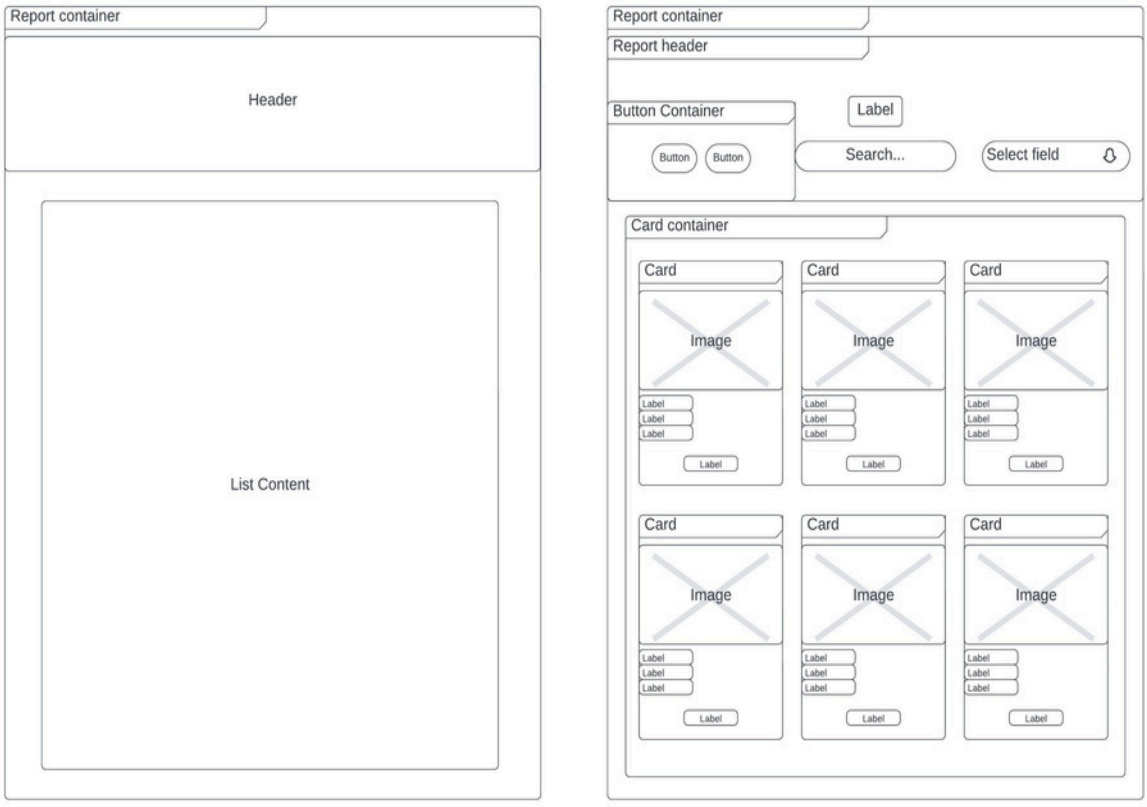


Figure C.4 Diagram Showing Report View Reusable Components.

Appendix D - Wireframes

Dashboards

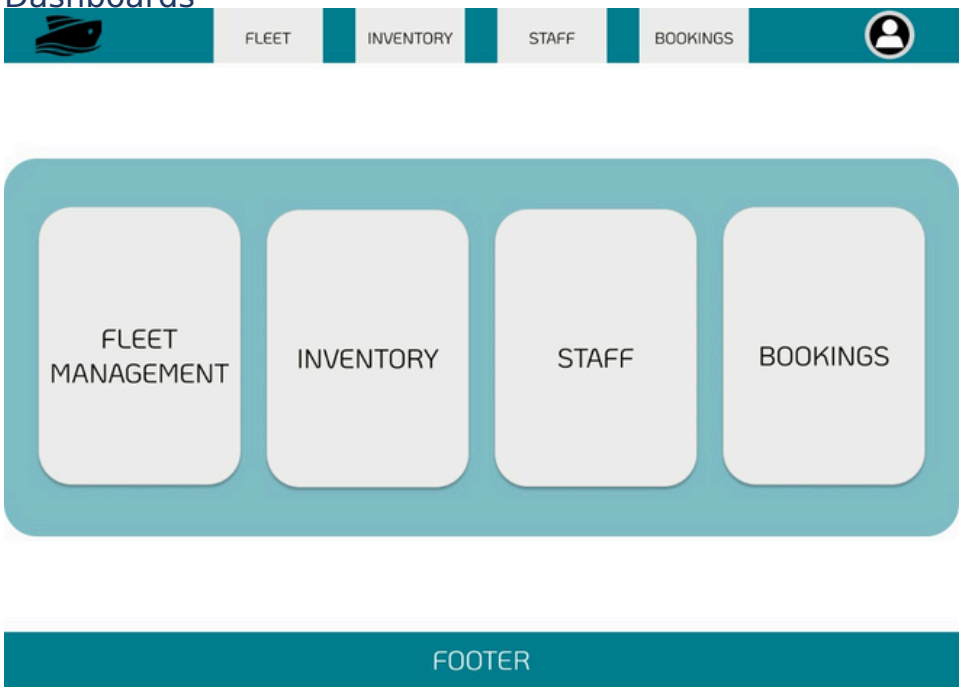


Figure D.1 Medium Fidelity Wireframe for Owner Dashboard

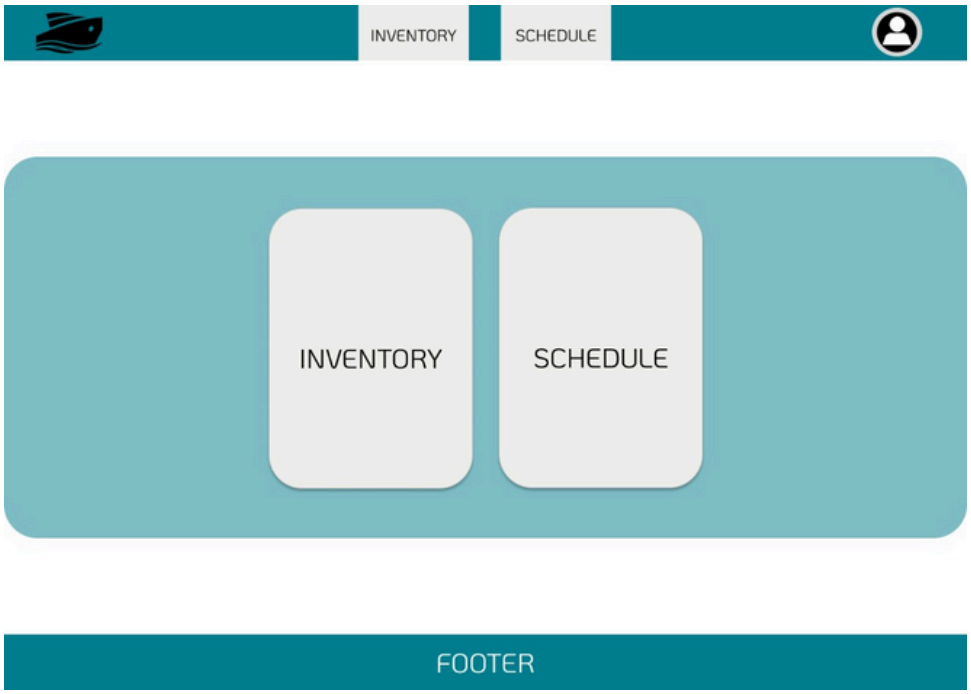


Figure D.2 Medium Fidelity Wireframe for Employee Dashboard

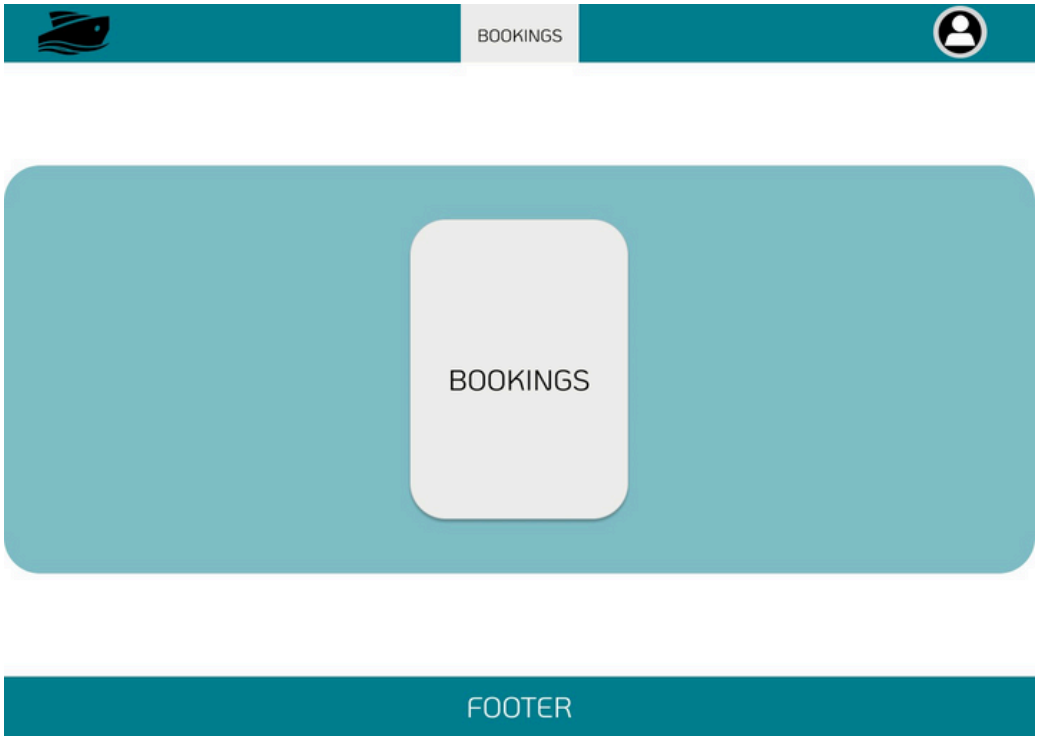


Figure D.3 Medium Fidelity Wireframe for Client Dashboard

Display Cards

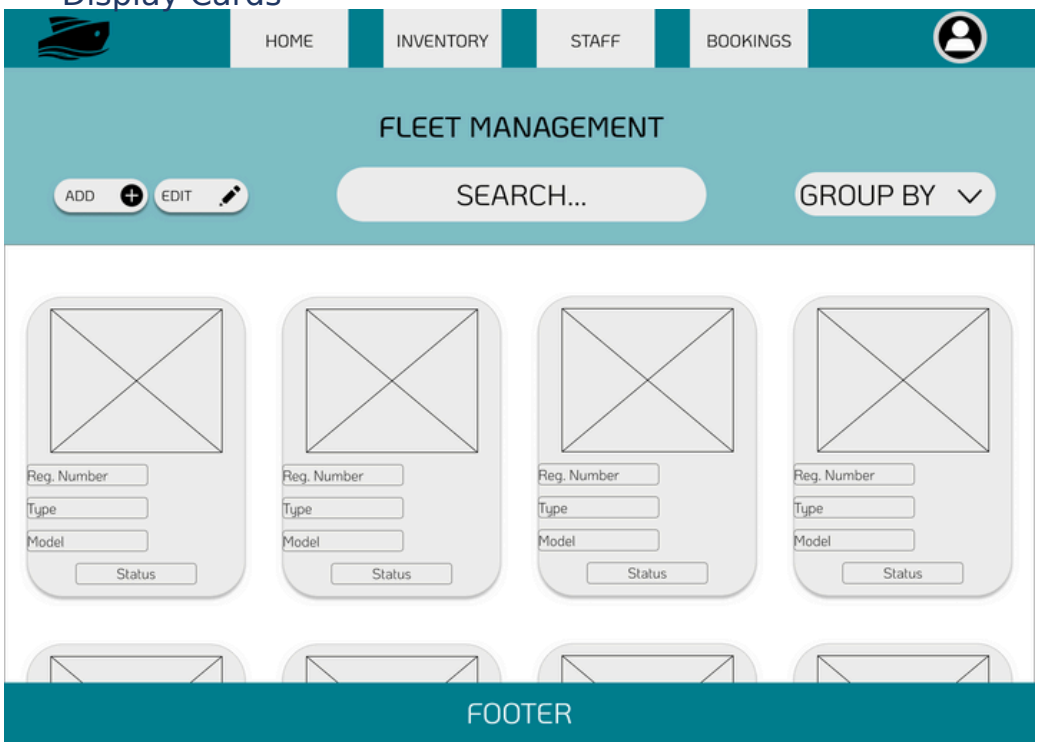


Figure D.4 Medium Fidelity Wireframe for "View Fleet"

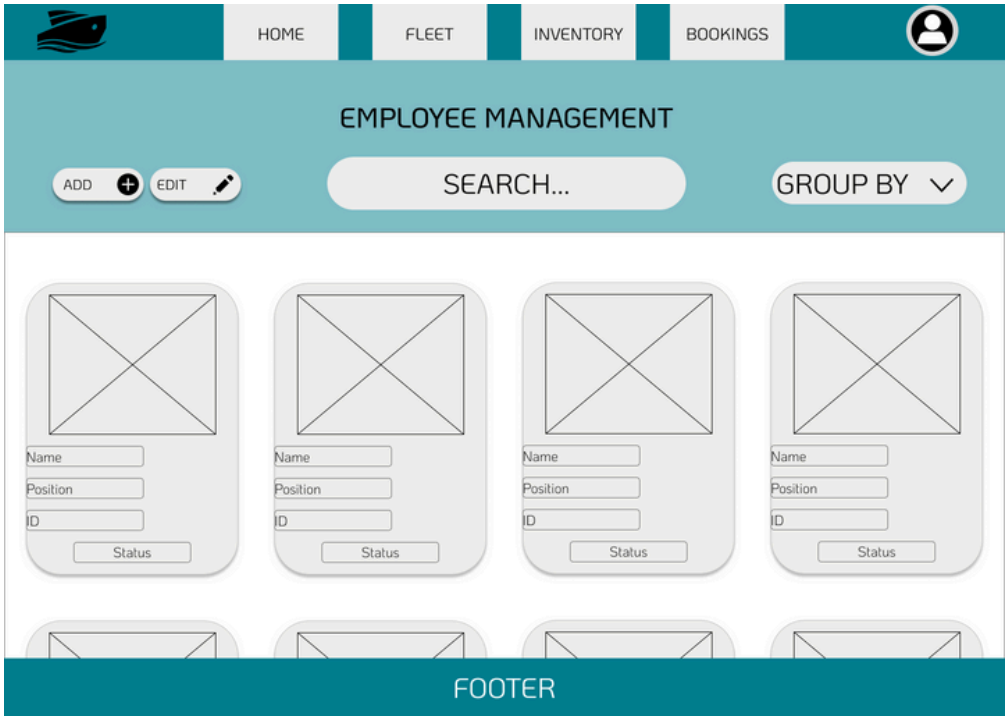


Figure D.5 Medium Fidelity Wireframe for "View All Employees"

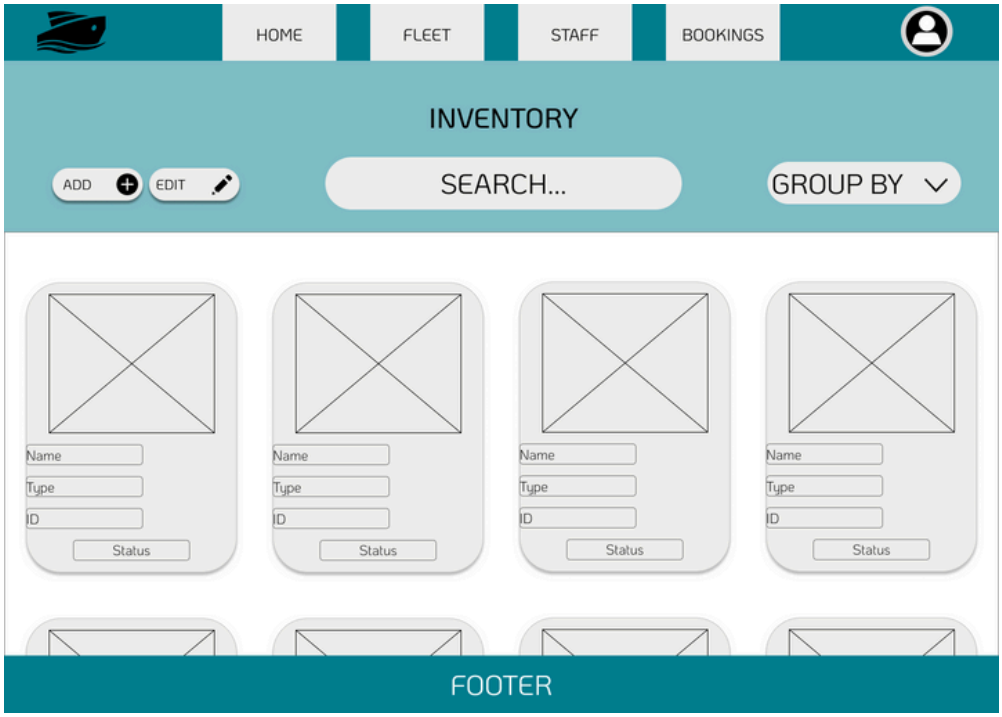


Figure D.6 Medium Fidelity Wireframe for Owner "View Inventory"

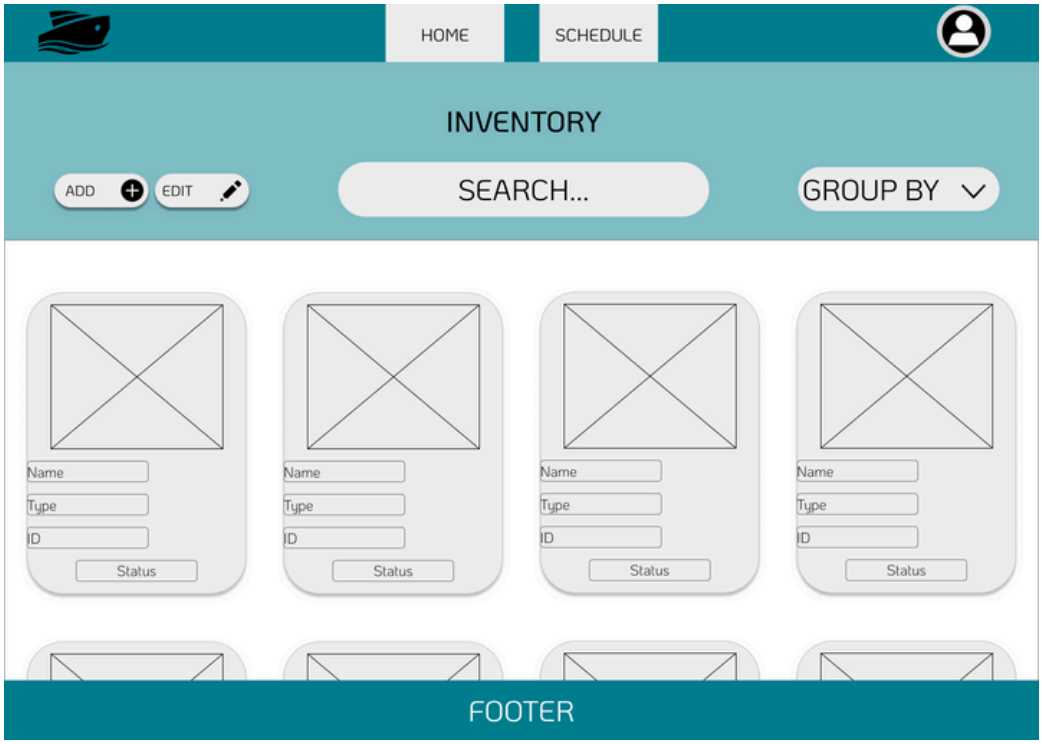


Figure D.7 Medium Fidelity Wireframe for Employee "View Inventory"

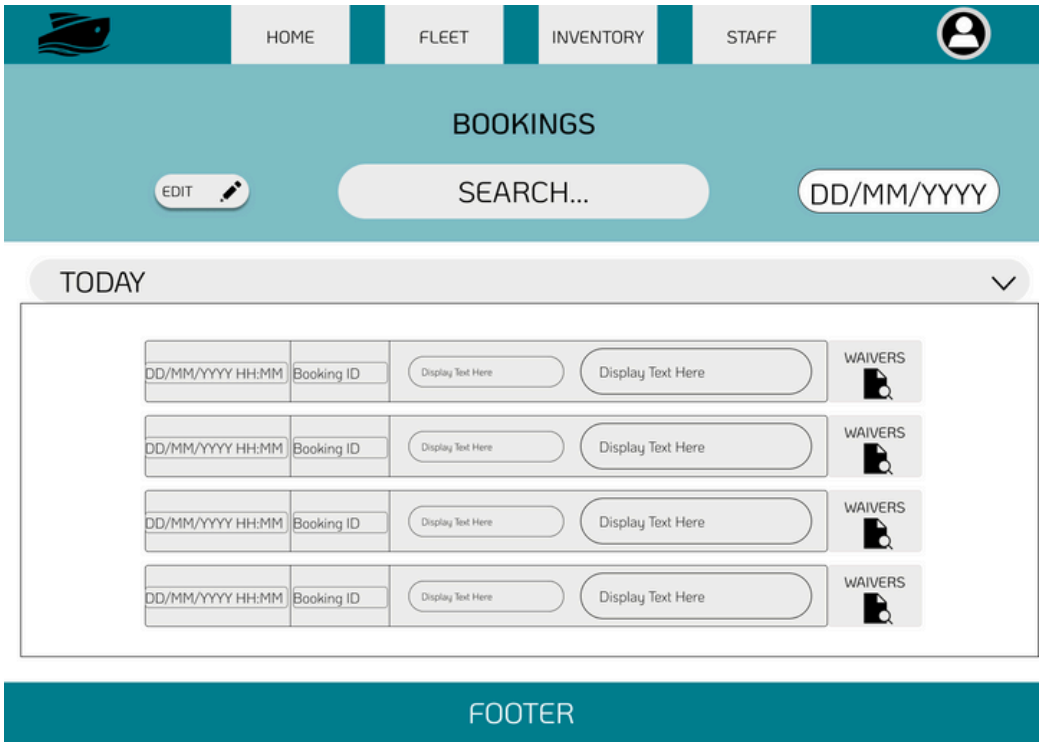


Figure D.8 Medium Fidelity Wireframe for Owner "View All Bookings"

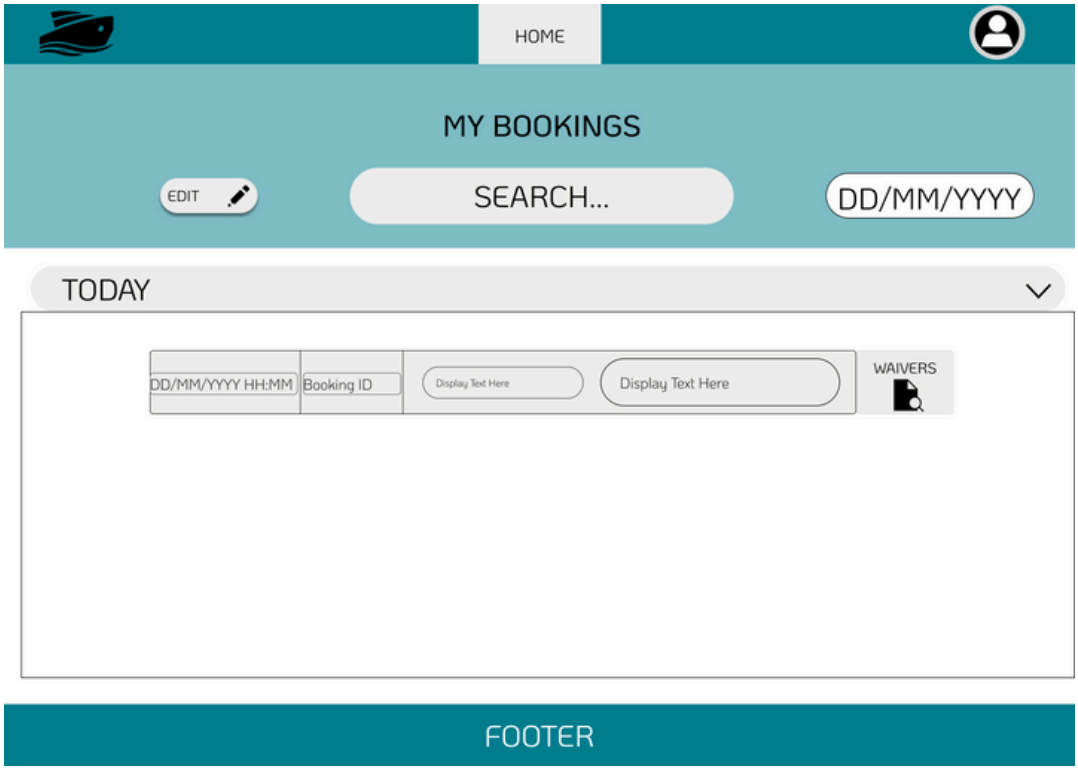


Figure D.9 Medium Fidelity Wireframe for Client "View All Bookings"

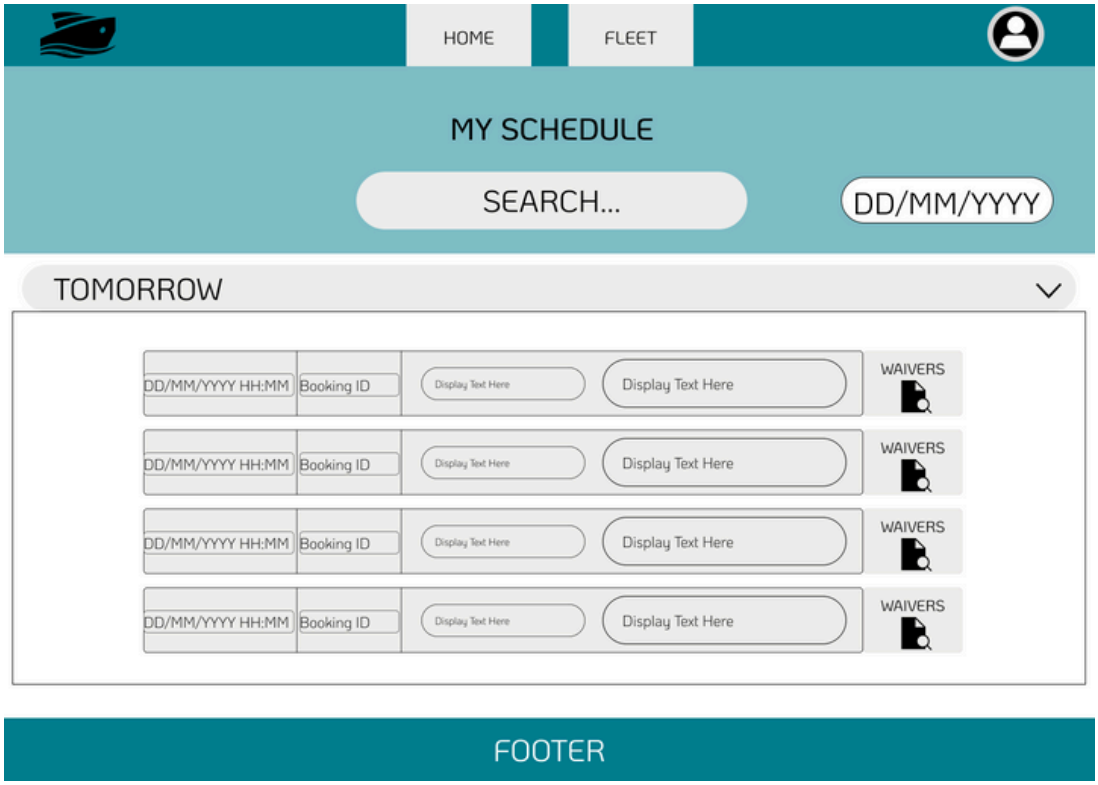


Figure D.10 Medium Fidelity Wireframe for Employee "View Schedule"

Display Cards (Edit Mode)

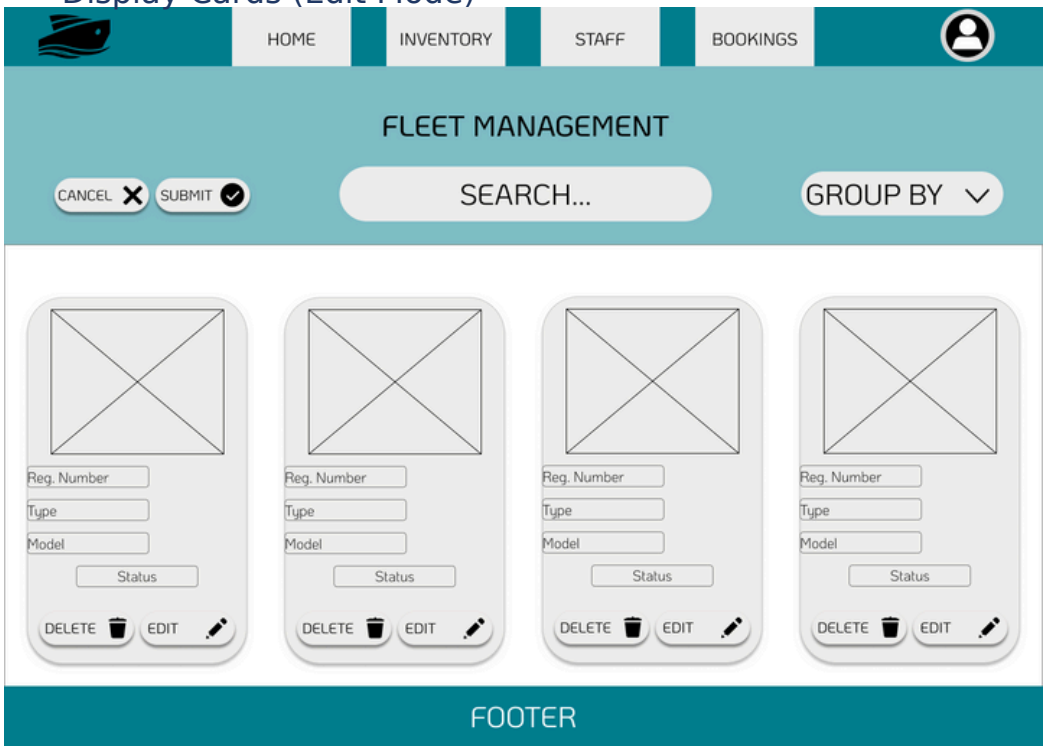


Figure D.11 Medium Fidelity Wireframe for "Edit Fleet"

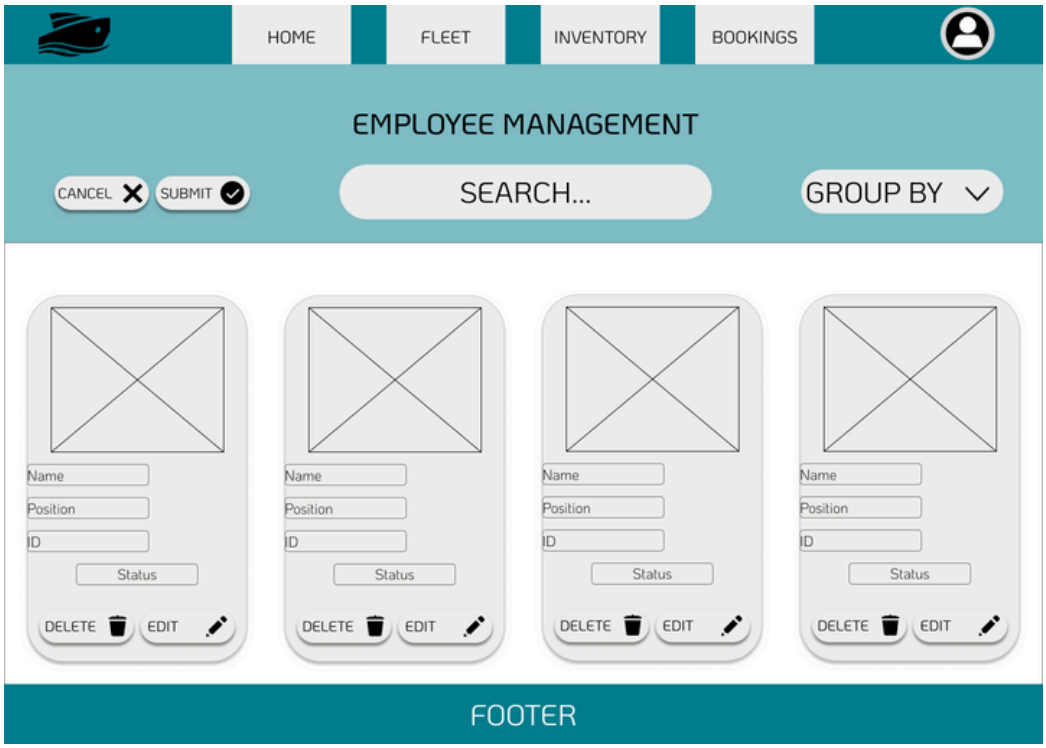


Figure D.12 Medium Fidelity Wireframe for "Edit Employees"

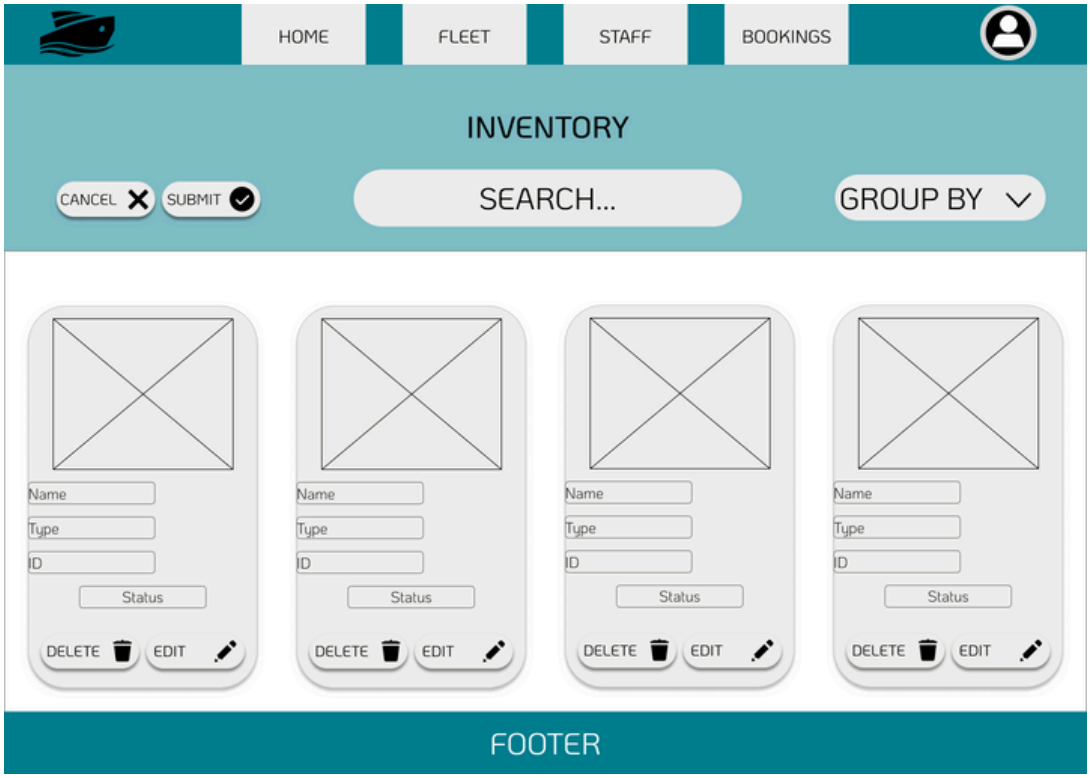


Figure D.13 Medium Fidelity Wireframe for Owner "Edit Inventory"

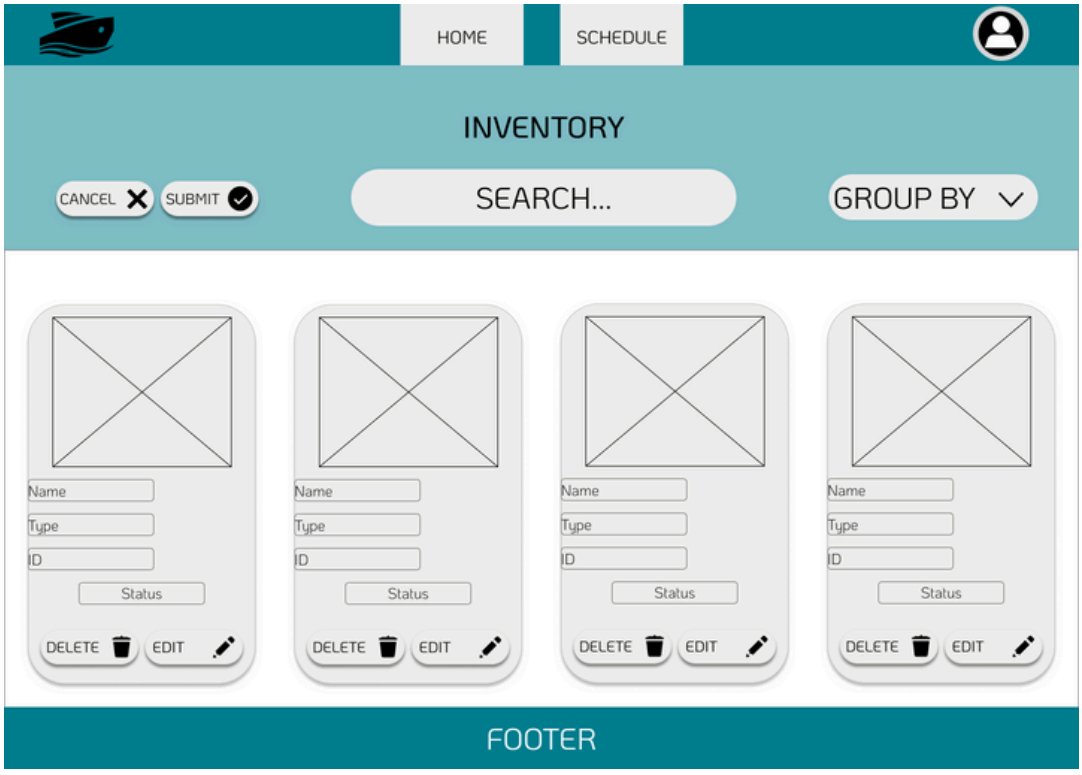


Figure D.14 Medium Fidelity Wireframe for Employee "Edit Inventory"

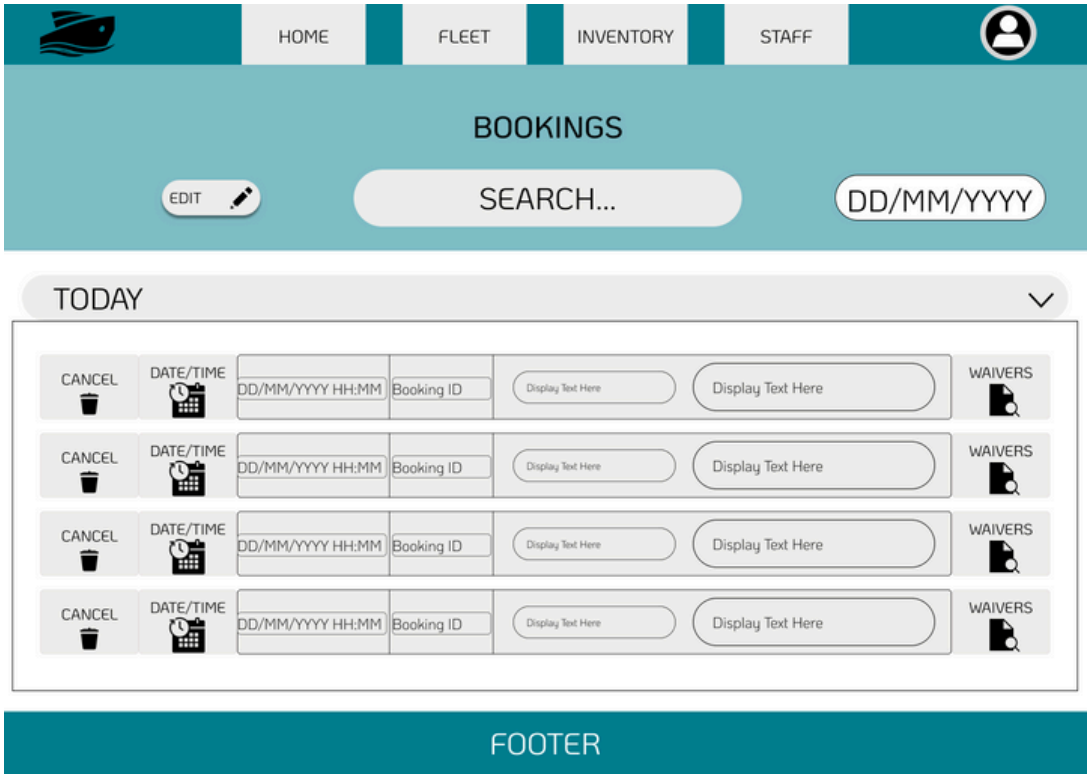


Figure D.15 Medium Fidelity Wireframe for Owner "Edit Bookings"

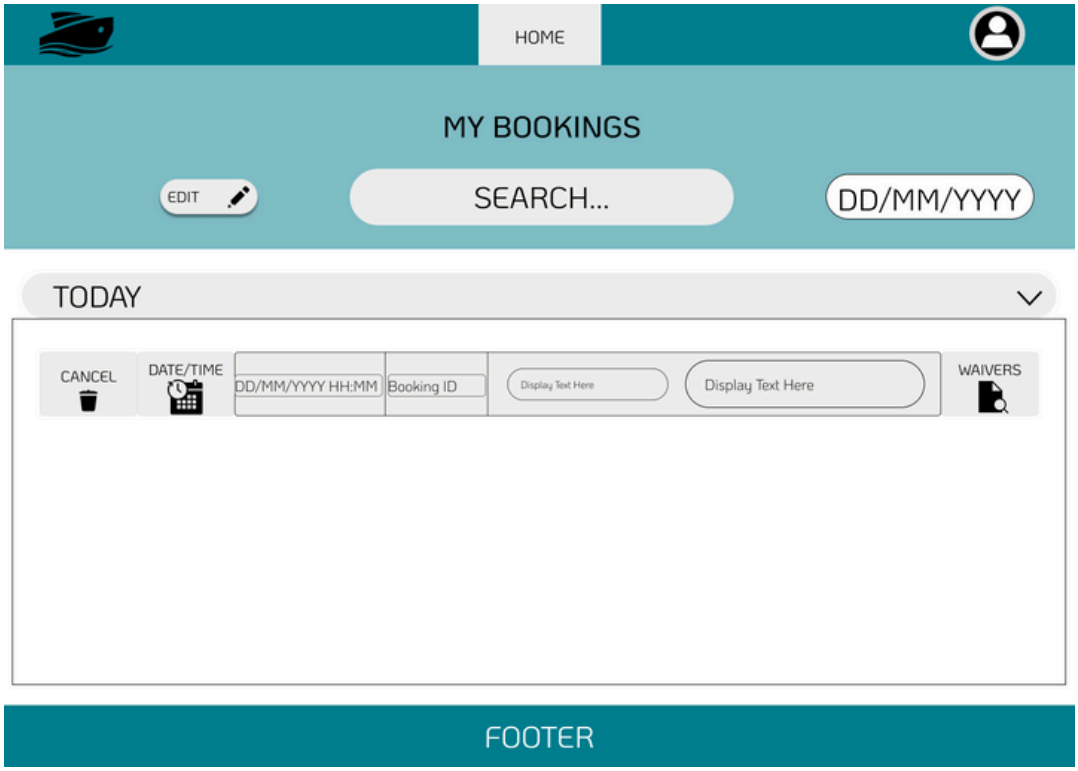


Figure D.16 Medium Fidelity Wireframe for Client "Edit Bookings"

Forms (Add and Edit forms are identical in structure)

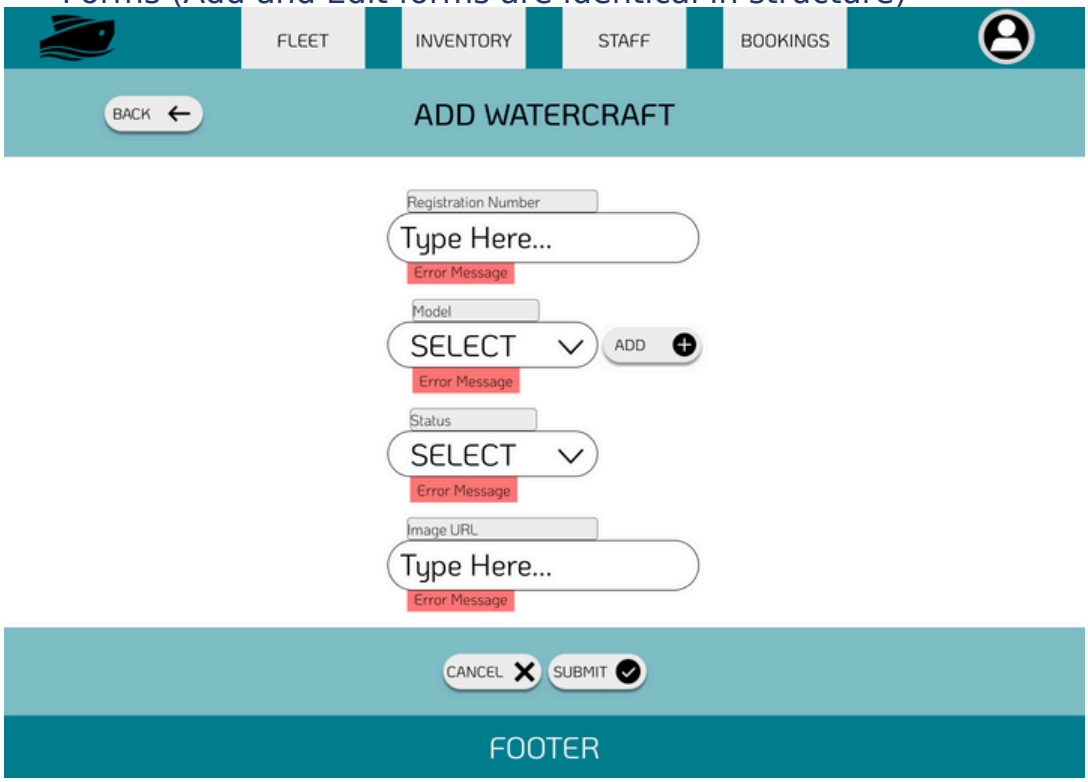


Figure D.17 Medium Fidelity Wireframe for "Add/Edit Watercraft"

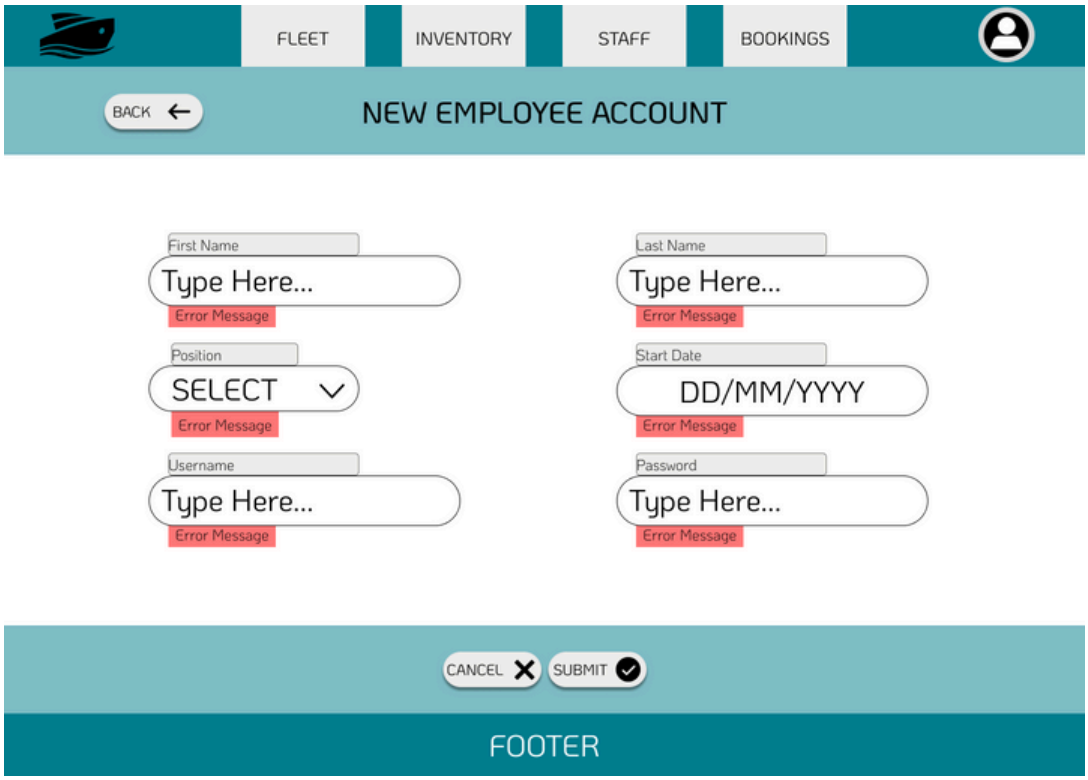


Figure D.18 Medium Fidelity Wireframe for "Add/Edit Employee Account"

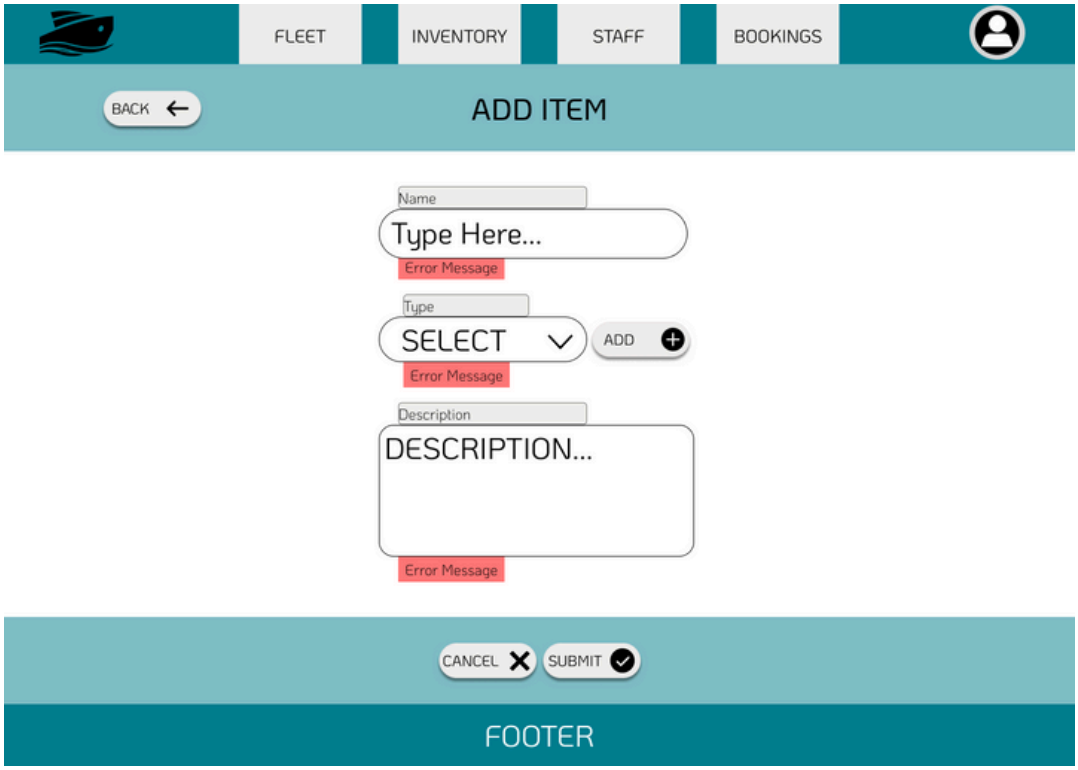


Figure D.19 Medium Fidelity Wireframe for Owner "Add/Edit Item"

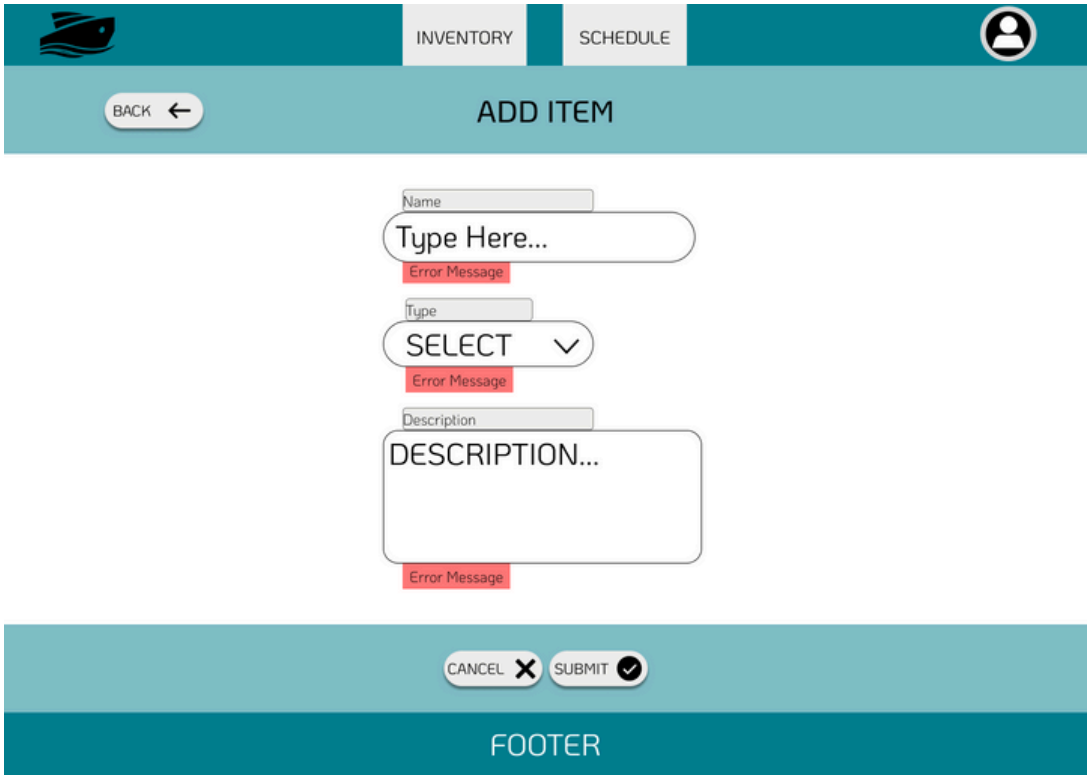


Figure D.20 Medium Fidelity Wireframe for Employee "Add/Edit Item"

Figure D.21 Medium Fidelity Wireframe for "Add Qualification"

Display Info pages

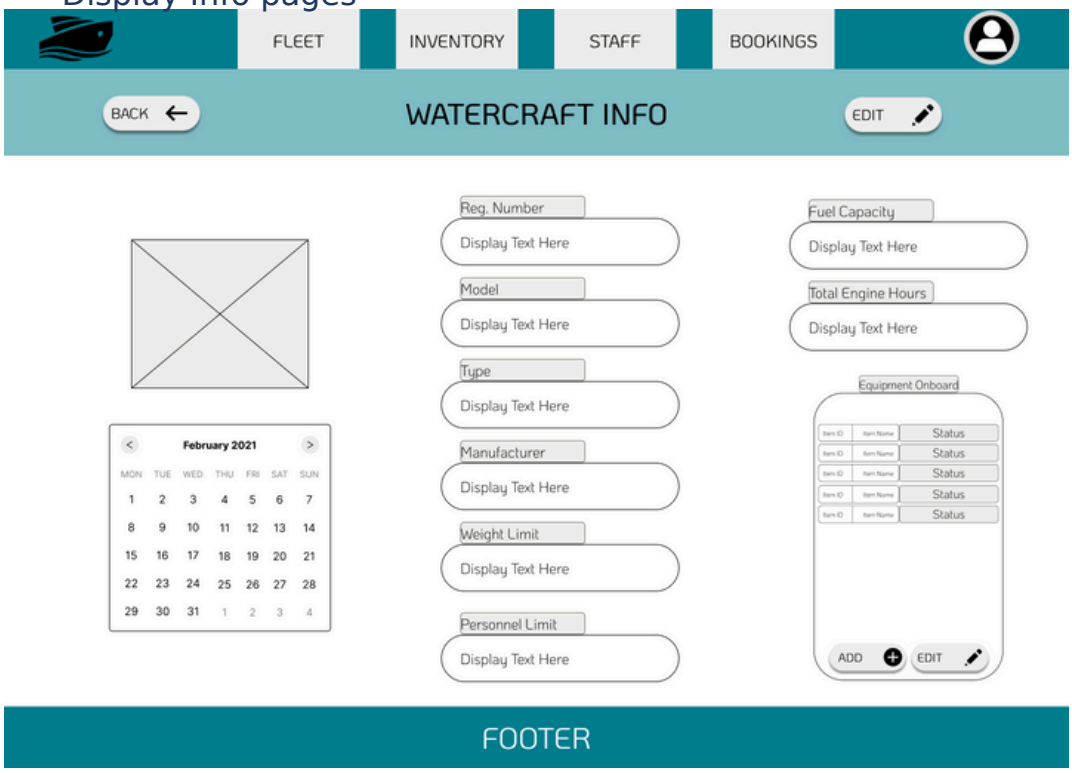


Figure D.22 Medium Fidelity Wireframe for "View Watercraft Details"

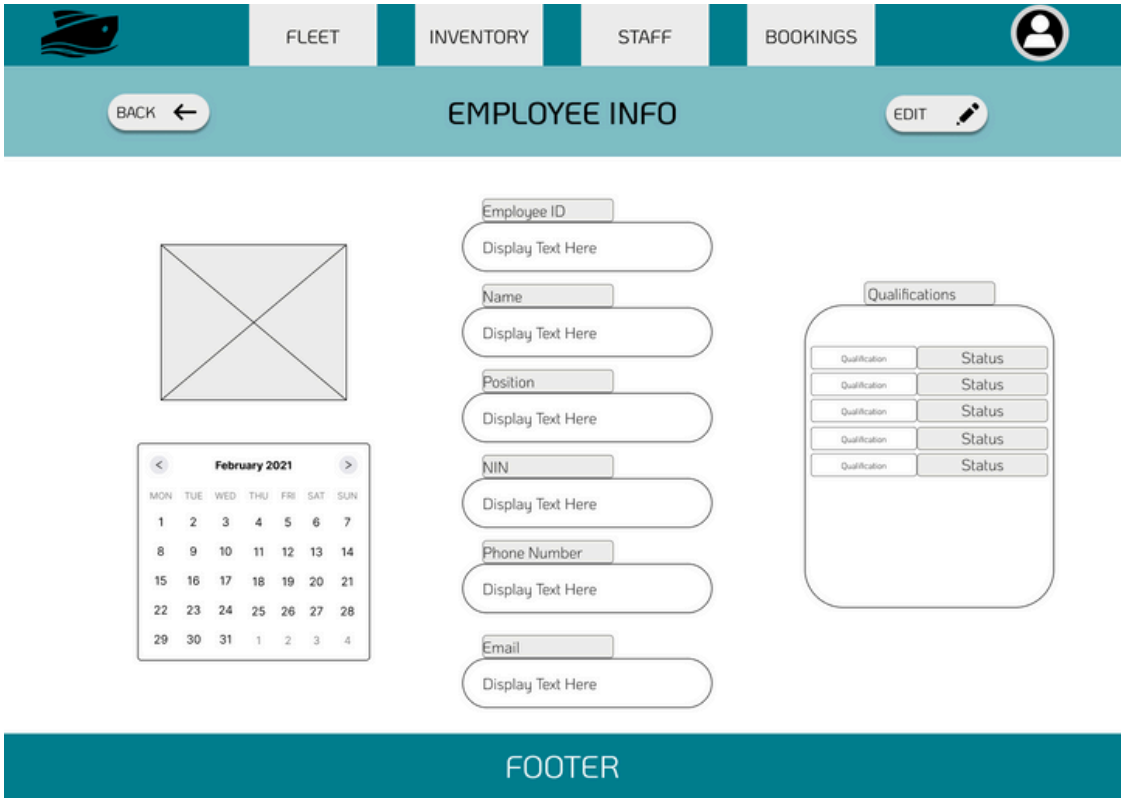


Figure D.23 Medium Fidelity Wireframe for "View Employee Details"

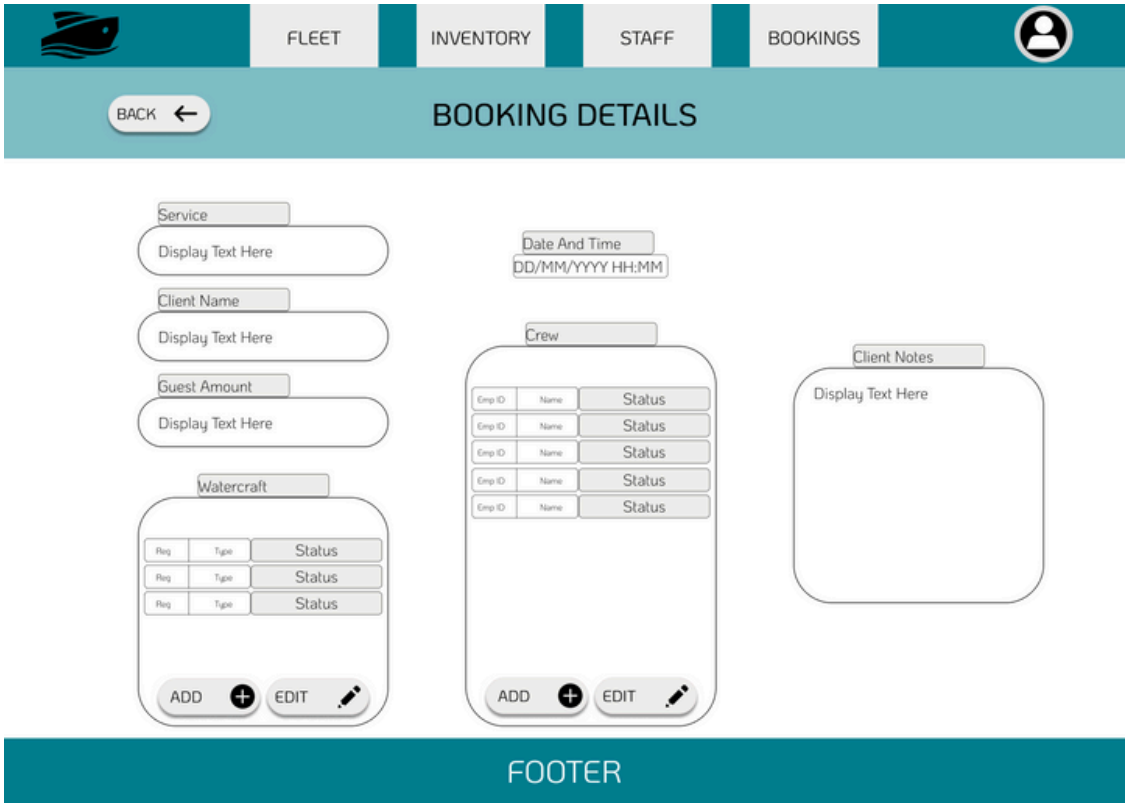


Figure D.24 Medium Fidelity Wireframe for Owner "View Booking Details"

Figure D.25 Medium Fidelity Wireframe for Employee "View Booking Details"

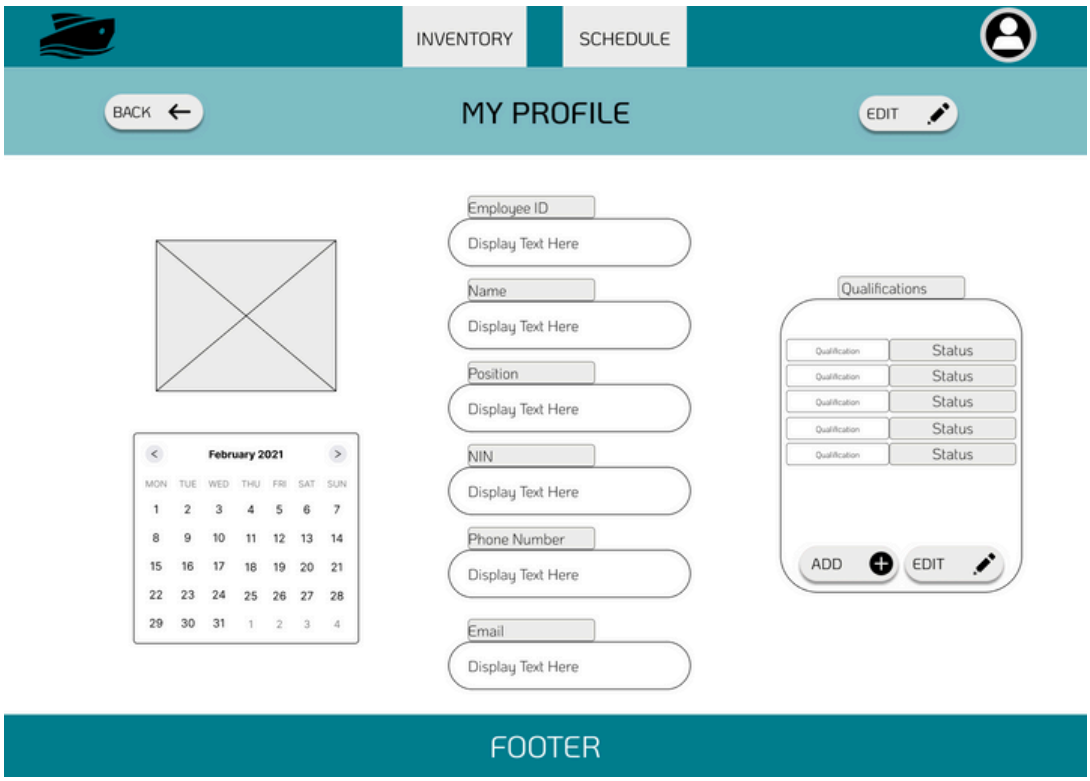


Figure D.26 Medium Fidelity Wireframe for "View My Profile"

Modals

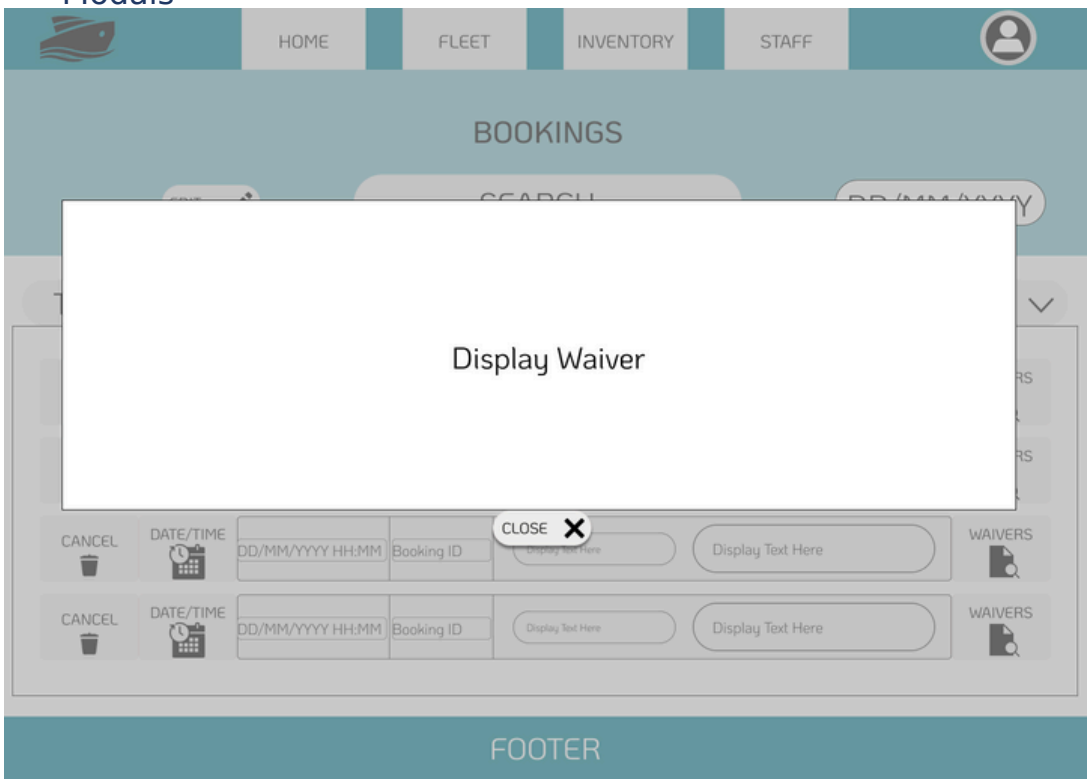


Figure D.27 Medium Fidelity Wireframe for "View Waiver"

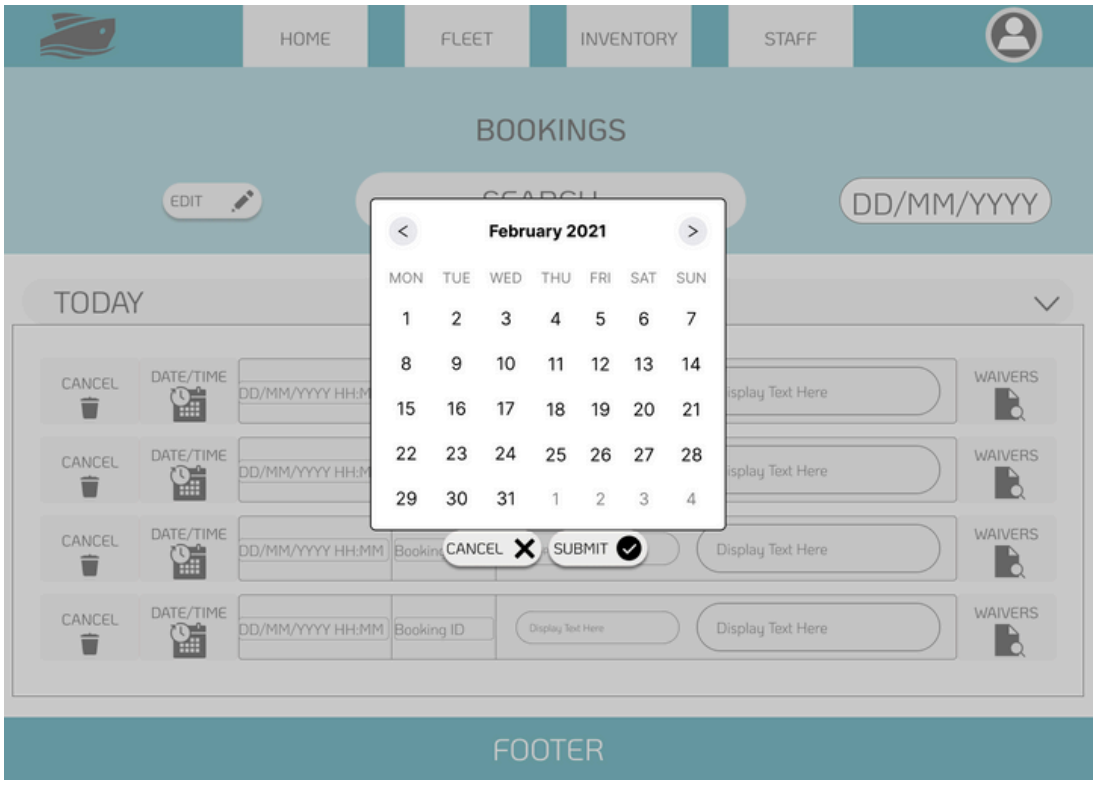


Figure D.28 Medium Fidelity Wireframe for "Booking Date Change" Modal

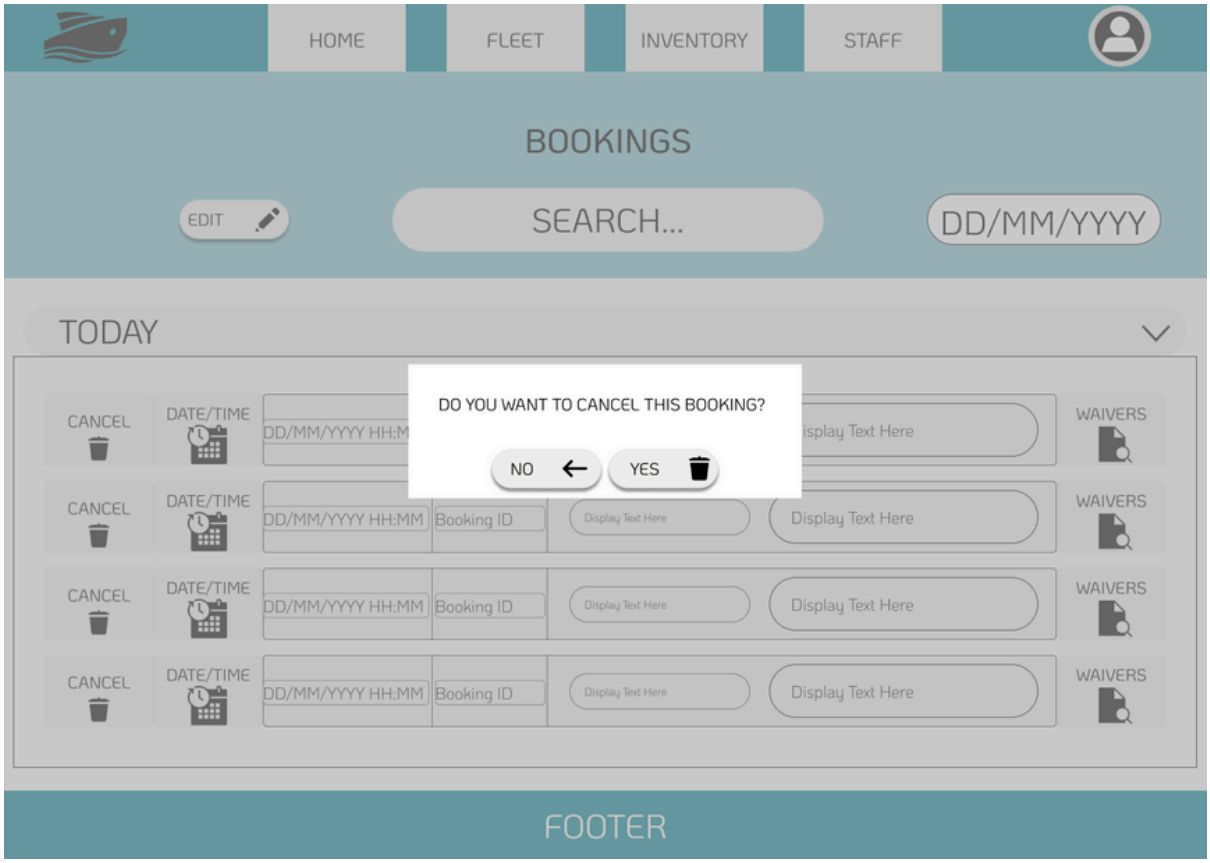


Figure D.29 Medium Fidelity Wireframe for Confirmation Modal

Appendix E - Navigation

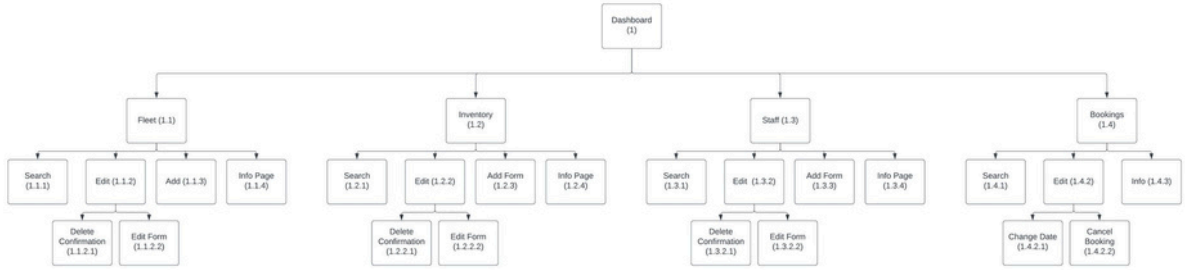


Figure E.1 Navigation Diagram