



The Book Cave Design Report

Verklegt námskeið 2

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1. Introduction

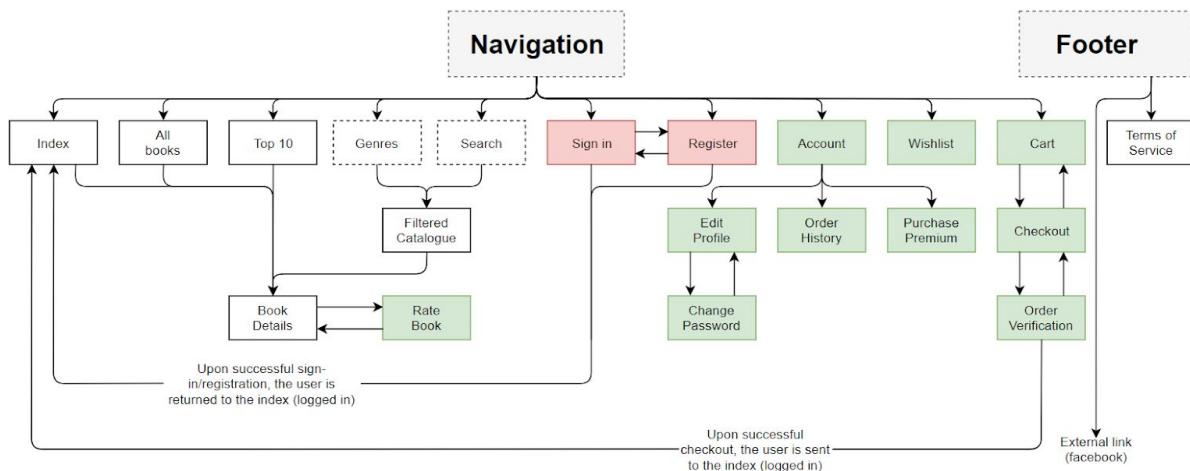
This report will explore the possible flow of the The Book Cave website as well as see how we can create the best possible experience for the user. We will create diagrams and prototypes as to best plan the overall look and flow of the website and interview potential users to gain essential feedback on these prototypes.

2. Navigation Diagram

The following diagrams are navigation diagrams from the perspective of a customer and an employee, respectively. Note that all elements with dotted borders are “pseudo-views”, meaning that they aren’t real views but instead redirect to other views. The Navigation element and Footer element are not views and their direct children are links located on the navigation bar and footer, respectively. Meaning that they are accessible from all views, despite there not being a direct arrow to them from the other views. Also, red-colored views represent views that are only accessible when the user is not logged in and green-colored views represent views that are only accessible when the user is logged in.

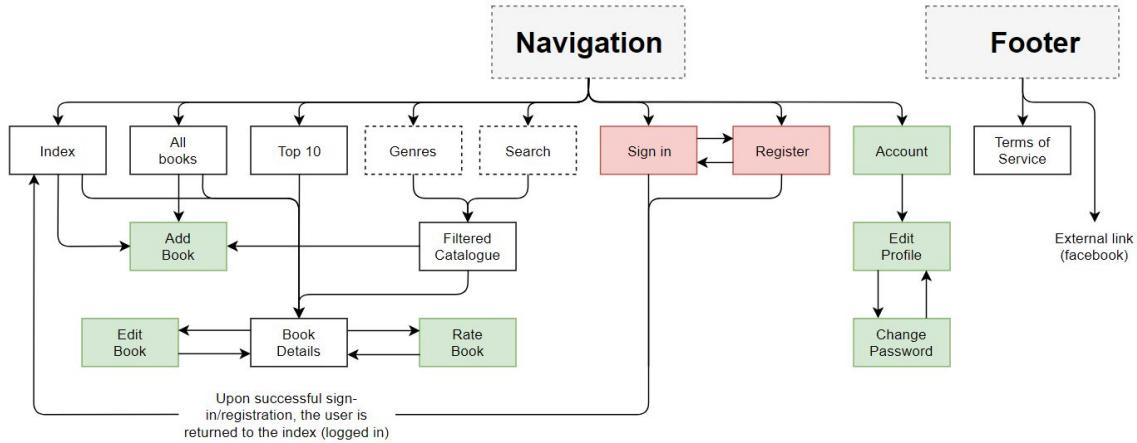
2.1 Customer Navigation Diagram

The following diagram is a navigation diagram from the perspective of the customer on the site. Note that there are 2 arrows that point to the Index view, despite earlier comment about how such arrows are unnecessary. The reason for this is that the redirection represented by the arrows is not a result of a Navigation link, but a result of the action captioned on the arrows.



2.2 Employee Navigation Diagram

The following diagram is a navigation diagram from the perspective of an employee on the site. The main difference between this diagram and the former one is that all of the views that deal with purchasing have been omitted and an additional Edit Book view and an Add Book view have been added.

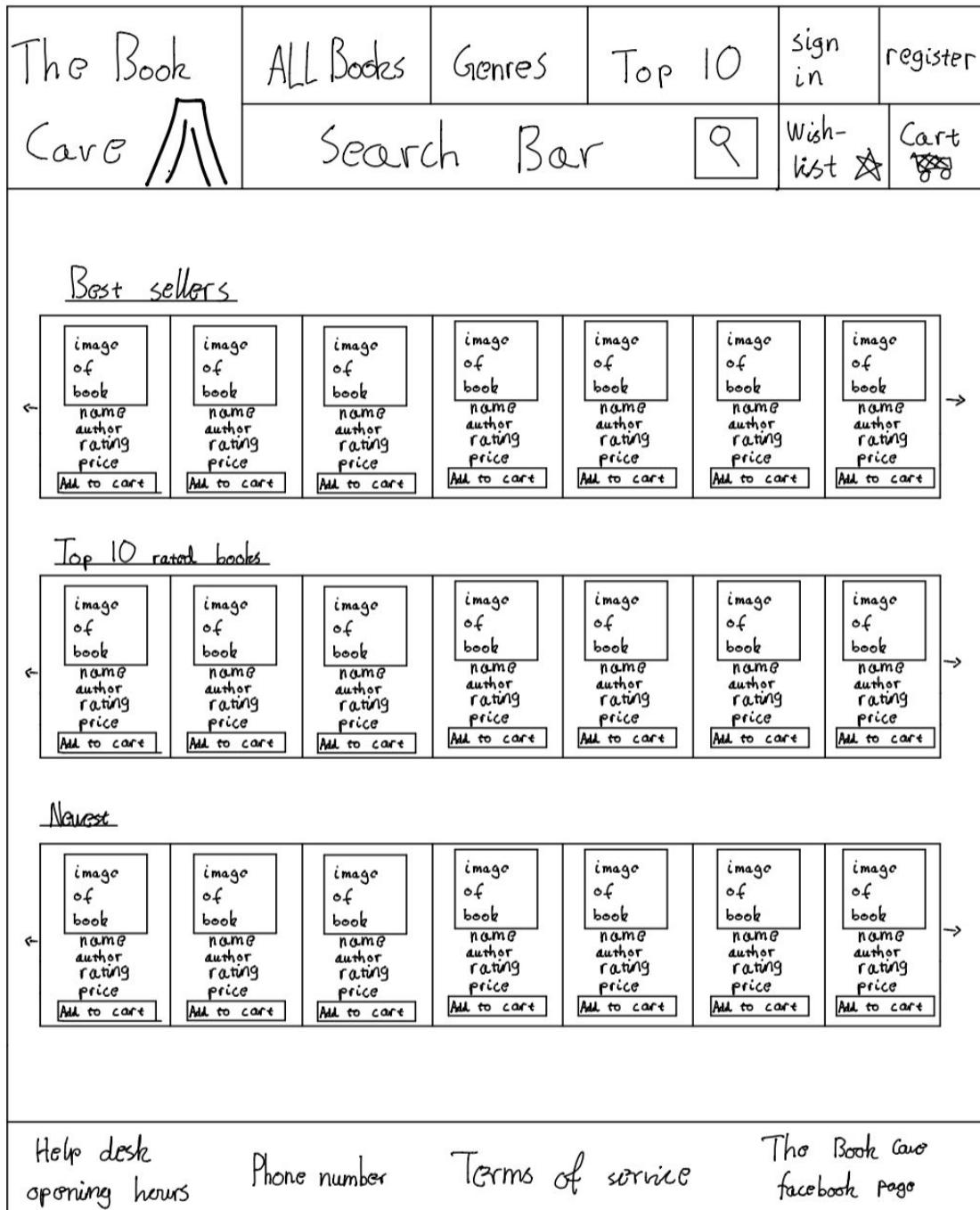


3. Page Prototypes

We made eight lo-fi prototypes depicting eight different use cases. These use cases show the primary use of the system. We used these prototypes to do early tests of our user interface with potential users in [chapter 4](#).

3.1 A user registers an account

(3.1 Figure 1)



The user clicks on the 'Register' button.



(3.1 Figure 2)



Email

First name

Last name

Password

confirm Password

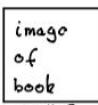
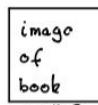
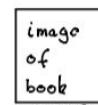
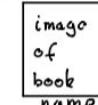
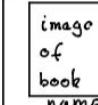
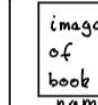
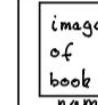
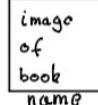
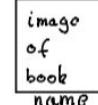
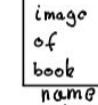
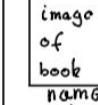
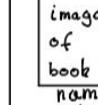
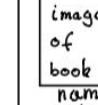
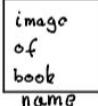
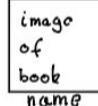
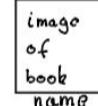
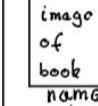
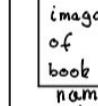
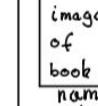
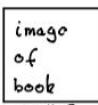
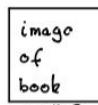
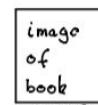
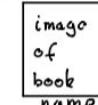
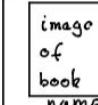
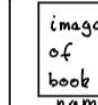
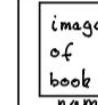
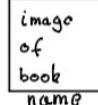
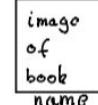
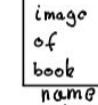
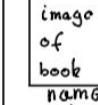
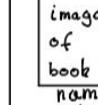
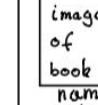
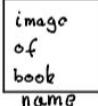
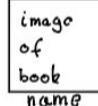
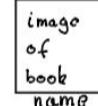
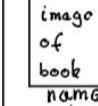
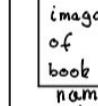
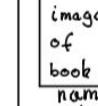
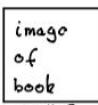
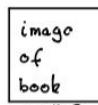
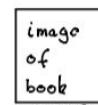
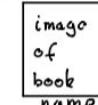
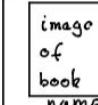
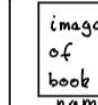
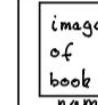
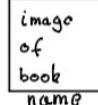
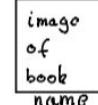
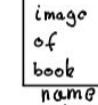
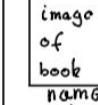
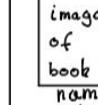
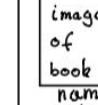
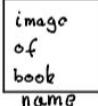
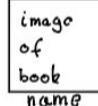
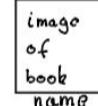
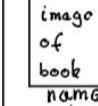
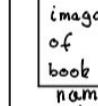
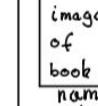
Already have an account?

Help desk opening hours	Phone number	Terms of service	The Book Cave facebook page
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User fills in the form and clicks the 'Register' button and is redirected to the front page. If the email is already registered the user is notified and stays on the same page. (See [figure 4](#) in the alternate flow)



(3.1 Figure 3)

The Book Care 	All Books	Genres	Top 10	[First name] 																					
	Search Bar 			Wish-list  Cart bag																					
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Help desk opening hours	Phone number	Terms of service	The Book Care facebook page																						

User is now logged in and their name is shown in the top right corner.

The alternate flow

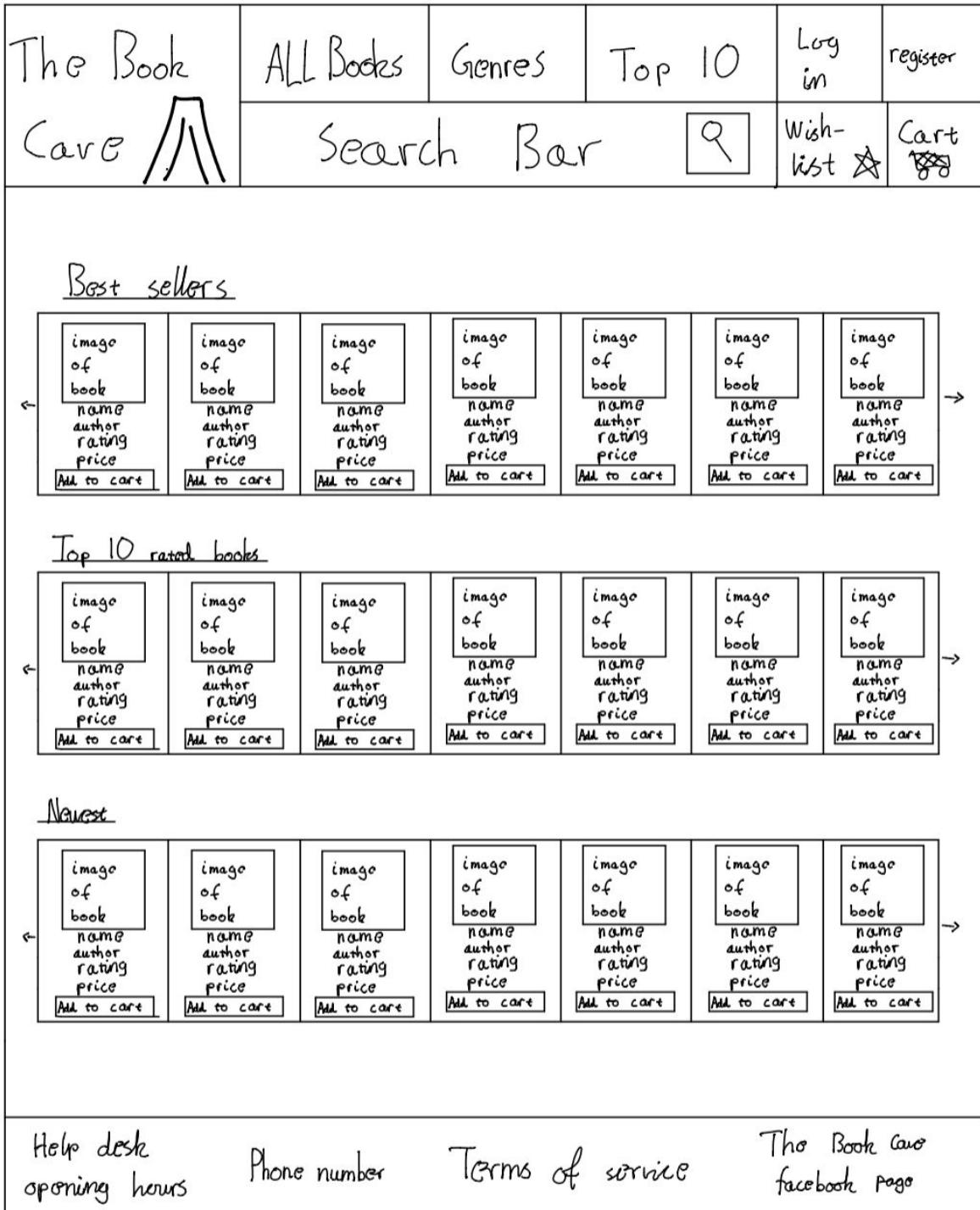
(3.1 figure 4)

The Book Care 	ALL Books	Genres	Top 10	Sign in	register
	Search Bar			<input type="text"/> 	Wish-list  Cart 
<div style="border: 1px solid black; padding: 10px;"> <div style="display: flex; justify-content: space-between;"> <div style="flex: 1;"> <p>Email <input type="text"/></p> <p>This email is unavailable</p> <p>First name <input type="text"/></p> <p>Last name <input type="text"/></p> <p>Password <input type="text"/></p> <p>confirm Password <input type="text"/></p> <p>Passwords don't match</p> <p><input type="button" value="Register"/></p> </div> <div style="flex: 1;"> <p>Already have an account?</p> <p><input type="button" value="Log in!"/></p> <p><input type="button" value="Log in"/></p> </div> </div> </div>					
Help desk opening hours	Phone number	Terms of service	The Book Care facebook page		

The user re-enters the information that was invalid and clicks the 'Register' button. If it is invalid the user stays on this page otherwise they are taken to [figure 3](#).

3.2 A user logs in

(3.2 figure 1)



The user clicks the 'Sign in' button



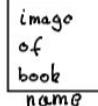
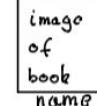
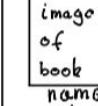
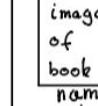
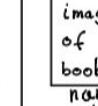
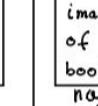
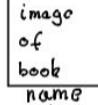
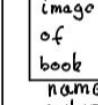
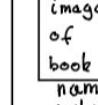
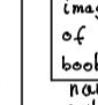
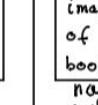
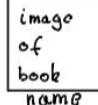
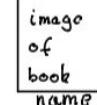
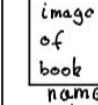
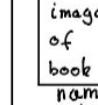
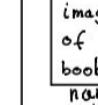
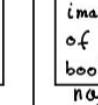
(3.2 figure 2)

The Book Care 	ALL Books	Genres	Top 10	Sign in	register
	Search Bar <input type="text"/> 			Wish-list 	Cart 
<div style="border: 1px solid black; padding: 10px;"> <p>Log in:</p> <p>Email <input type="text"/></p> <p>Password <input type="text"/></p> <p><input type="button" value="Log in"/></p> <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> Don't have an account? register! </div> </div>					
<p>Help desk opening hours</p> <p>Phone number</p> <p>Terms of service</p> <p>The Book care facebook page</p>					

The user inputs their email and password and clicks the 'Log in' button. If the email and password are valid the user returns to the front page and is signed in. If the email and/or password are invalid the user is taken to [figure 4](#) in the alternate flow.



(3.2 figure 3)

The Book Care 	ALL Books	Genres	Top 10	[First name] 		
	Search Bar		<input type="text"/> 	Wish-list 	Cart 	
<u>Best sellers</u>						
 name author rating price <input type="button" value="Add to cart"/>	 name author rating price <input type="button" value="Add to cart"/>	 name author rating price <input type="button" value="Add to cart"/>	 name author rating price <input type="button" value="Add to cart"/>	 name author rating price <input type="button" value="Add to cart"/>	 name author rating price <input type="button" value="Add to cart"/>	 name author rating price <input type="button" value="Add to cart"/>
<u>Top 10 rated books</u>						
 name author rating price <input type="button" value="Add to cart"/>	 name author rating price <input type="button" value="Add to cart"/>	 name author rating price <input type="button" value="Add to cart"/>	 name author rating price <input type="button" value="Add to cart"/>	 name author rating price <input type="button" value="Add to cart"/>	 name author rating price <input type="button" value="Add to cart"/>	 name author rating price <input type="button" value="Add to cart"/>
<u>Newest</u>						
 name author rating price <input type="button" value="Add to cart"/>	 name author rating price <input type="button" value="Add to cart"/>	 name author rating price <input type="button" value="Add to cart"/>	 name author rating price <input type="button" value="Add to cart"/>	 name author rating price <input type="button" value="Add to cart"/>	 name author rating price <input type="button" value="Add to cart"/>	 name author rating price <input type="button" value="Add to cart"/>
Help desk opening hours	Phone number	Terms of service			The Book Care facebook page	

Now the user is logged in and their name is shown in the top right corner

The Alternate flow

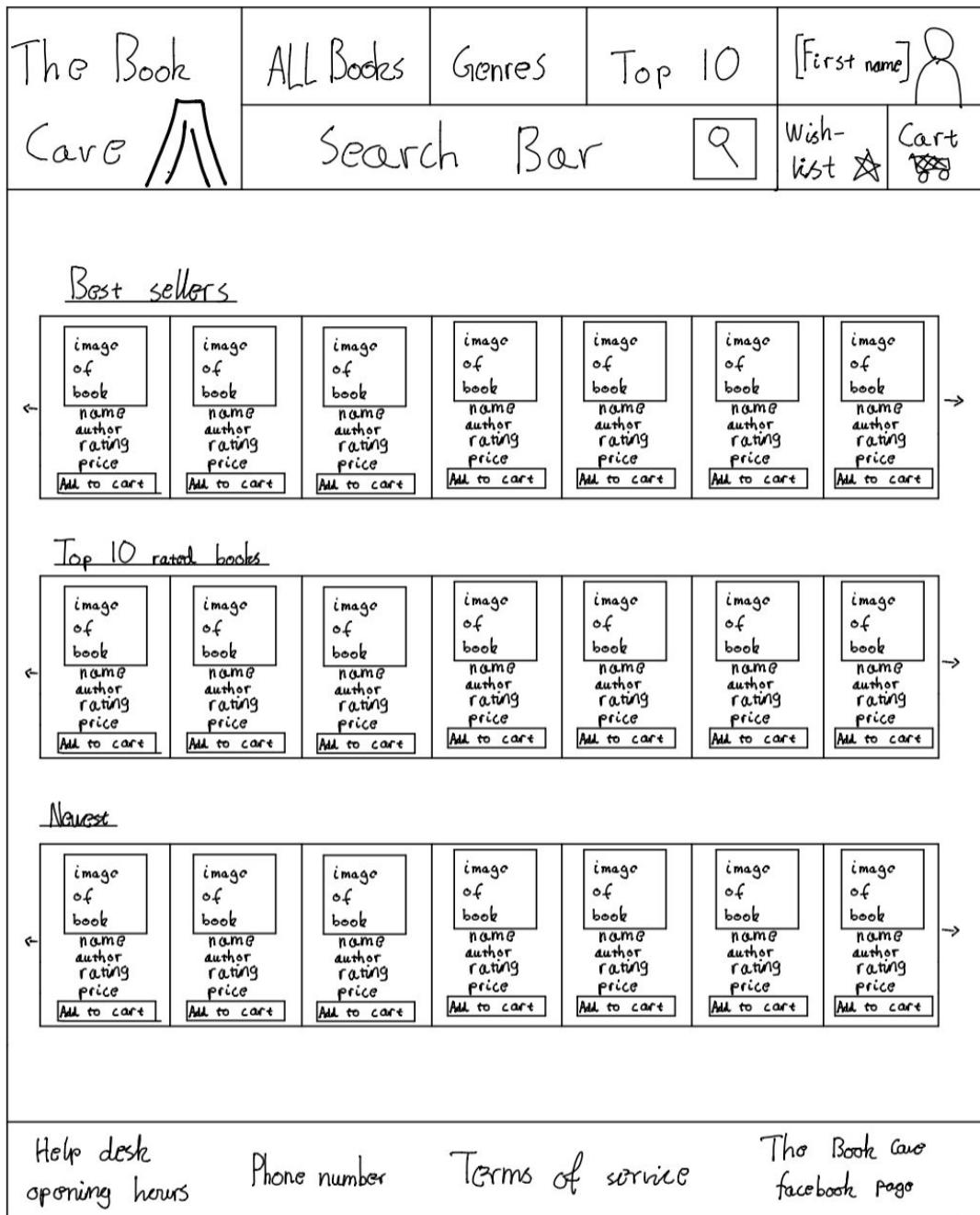
(3.2 figure 4)

The Book Care 	All Books	Genres	Top 10	Sign in	register
	Search Bar <input type="text"/> <input type="button" value="🔍"/>			Wish-list 	Cart 
<div style="border: 1px solid black; padding: 10px;"> <p>Log in:</p> <p>Email <input type="text"/></p> <p>Password <input type="password"/></p> <p>email or password is incorrect</p> <p><input type="button" value="Log in"/></p> <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> Don't have an account? register! </div> </div>					
Help desk opening hours	Phone number	Terms of service	The Book Care facebook page		

The user re-enters their password and email and clicks the 'Log in' button again and if the email and password are valid the user is taken to [figure 3](#). If they are invalid they remain on this page.

3.3 A signed in user searches for a specific book and adds it to their cart

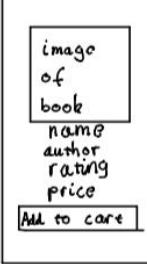
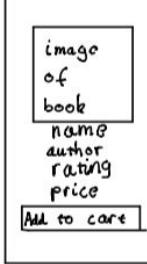
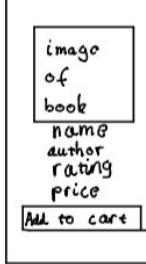
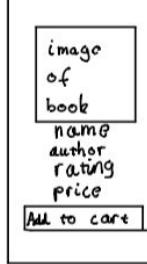
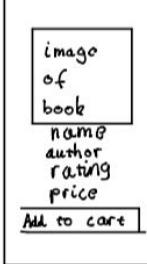
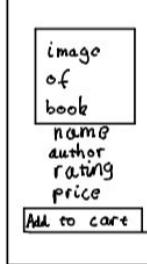
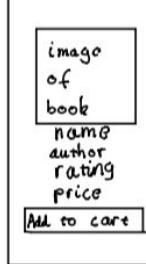
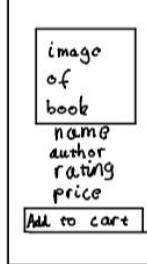
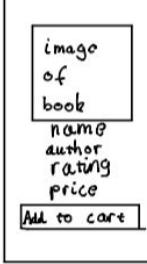
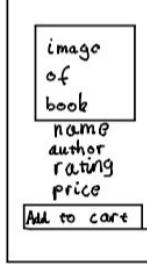
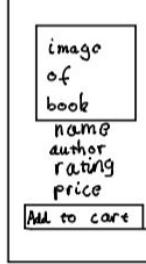
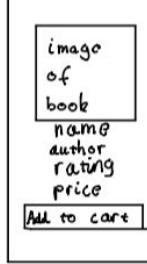
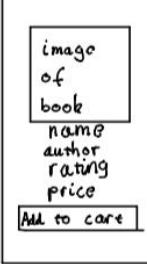
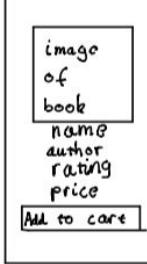
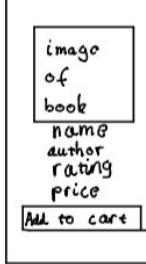
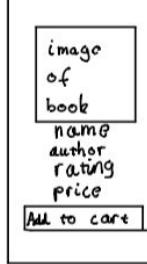
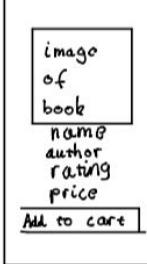
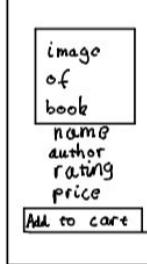
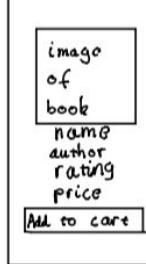
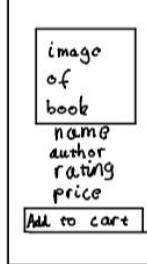
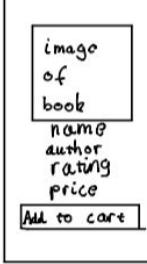
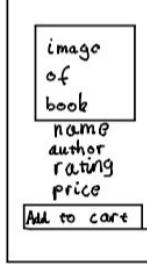
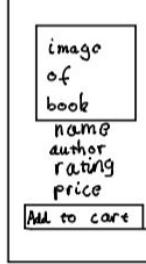
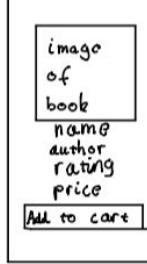
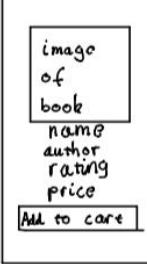
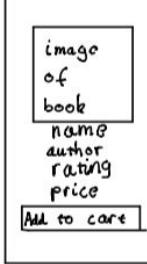
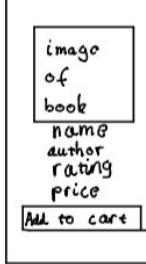
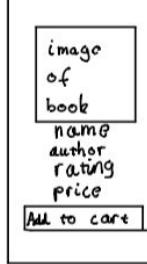
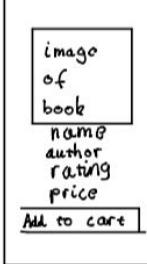
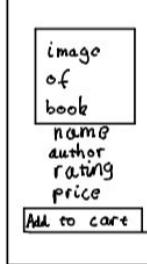
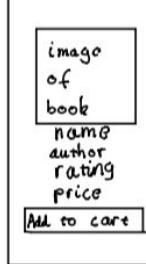
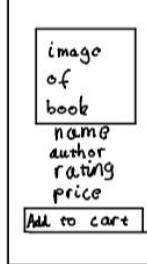
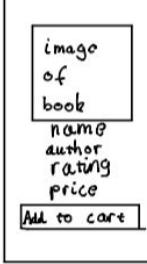
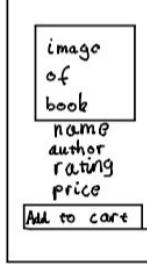
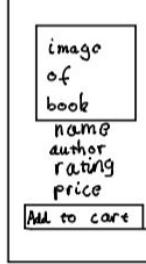
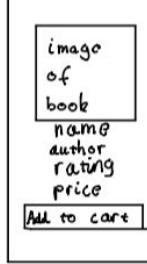
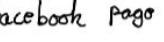
(3.3 figure 1)



The user fills the search box and clicks the search icon. They are sent to the book catalogue and the list is filtered depending what they entered in the search bar.



(3.3 figure 2)

The Book Cart 	ALL Books	Genres	Top 10	[First name] 																																							
		Search Bar		Wish-list  Cart 																																							
<div style="display: flex; justify-content: space-between;"> <div style="flex: 1;"> <p>Filter by</p> <p>Maximum price <input type="text"/> Dropdown box ↓</p> <p>Minimum price <input type="text"/> Dropdown box ↓</p> <p>Genre <input type="text"/> Dropdown box ↓</p> <p>Minimum rating <input type="text"/> Dropdown box ↓</p> <p><input style="border: 1px solid black; padding: 2px; margin-top: 10px;" type="button" value="Filter!"/></p> </div> <div style="flex: 4; text-align: right;"> <p>Order by <input type="text"/> Dropdown box ↓</p> </div> </div> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: center; padding: 5px;">image of book</th> <th style="text-align: center; padding: 5px;">name author rating price</th> <th style="text-align: center; padding: 5px;">Add to cart</th> </tr> </thead> <tbody> <tr><td></td><td>name author rating price</td><td><input type="button" value="Add to cart"/></td></tr> <tr><td></td><td>name author rating price</td><td><input type="button" value="Add to cart"/></td></tr> <tr><td></td><td>name author rating price</td><td><input type="button" value="Add to cart"/></td></tr> <tr><td></td><td>name author rating price</td><td><input type="button" value="Add to cart"/></td></tr> <tr><td></td><td>name author rating price</td><td><input type="button" value="Add to cart"/></td></tr> <tr><td></td><td>name author rating price</td><td><input type="button" value="Add to cart"/></td></tr> <tr><td></td><td>name author rating price</td><td><input type="button" value="Add to cart"/></td></tr> <tr><td></td><td>name author rating price</td><td><input type="button" value="Add to cart"/></td></tr> <tr><td></td><td>name author rating price</td><td><input type="button" value="Add to cart"/></td></tr> <tr><td></td><td>name author rating price</td><td><input type="button" value="Add to cart"/></td></tr> <tr><td></td><td>name author rating price</td><td><input type="button" value="Add to cart"/></td></tr> <tr><td></td><td>name author rating price</td><td><input type="button" value="Add to cart"/></td></tr> </tbody> </table> <p style="text-align: center;"><input style="border: 1px solid black; padding: 2px; margin-right: 20px;" type="button" value="← Prev Page"/> <input style="border: 1px solid black; padding: 2px;" type="button" value="Next Page →"/></p>					image of book	name author rating price	Add to cart		name author rating price	<input type="button" value="Add to cart"/>		name author rating price	<input type="button" value="Add to cart"/>		name author rating price	<input type="button" value="Add to cart"/>		name author rating price	<input type="button" value="Add to cart"/>		name author rating price	<input type="button" value="Add to cart"/>		name author rating price	<input type="button" value="Add to cart"/>		name author rating price	<input type="button" value="Add to cart"/>		name author rating price	<input type="button" value="Add to cart"/>		name author rating price	<input type="button" value="Add to cart"/>		name author rating price	<input type="button" value="Add to cart"/>		name author rating price	<input type="button" value="Add to cart"/>		name author rating price	<input type="button" value="Add to cart"/>
image of book	name author rating price	Add to cart																																									
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Help desk opening hours	Phone number	Terms of service	The Book  																																								

The user finds the book they are searching for and clicks on its image and is sent to the details page of that book



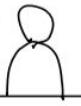
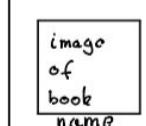
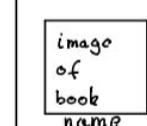
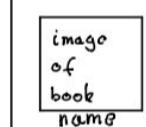
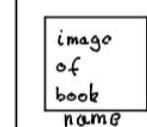
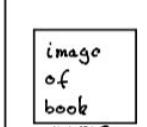
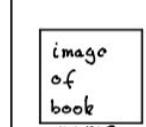
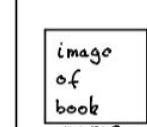
(3.3 figure 3)

The Book Cave 	ALL Books	Genres	Top 10	[First name] 
	Search Bar <input type="text"/> 			Wish-list  Cart 
<p>image of the book</p>	<p>Title of the book Author Description of the book</p> <hr/> <hr/> <hr/>			
<p>Publishing date Number of pages Rating of book Price of book</p>				
<input type="button" value="Add to cart"/>		<input type="button" value="Add to wishlist"/>		<input type="button" value="Rate Book"/>
Help desk opening hours	Phone number	Terms of service	The Book Cave facebook page	

The user is presented with the details of the book and they click on the 'Add to Cart' button



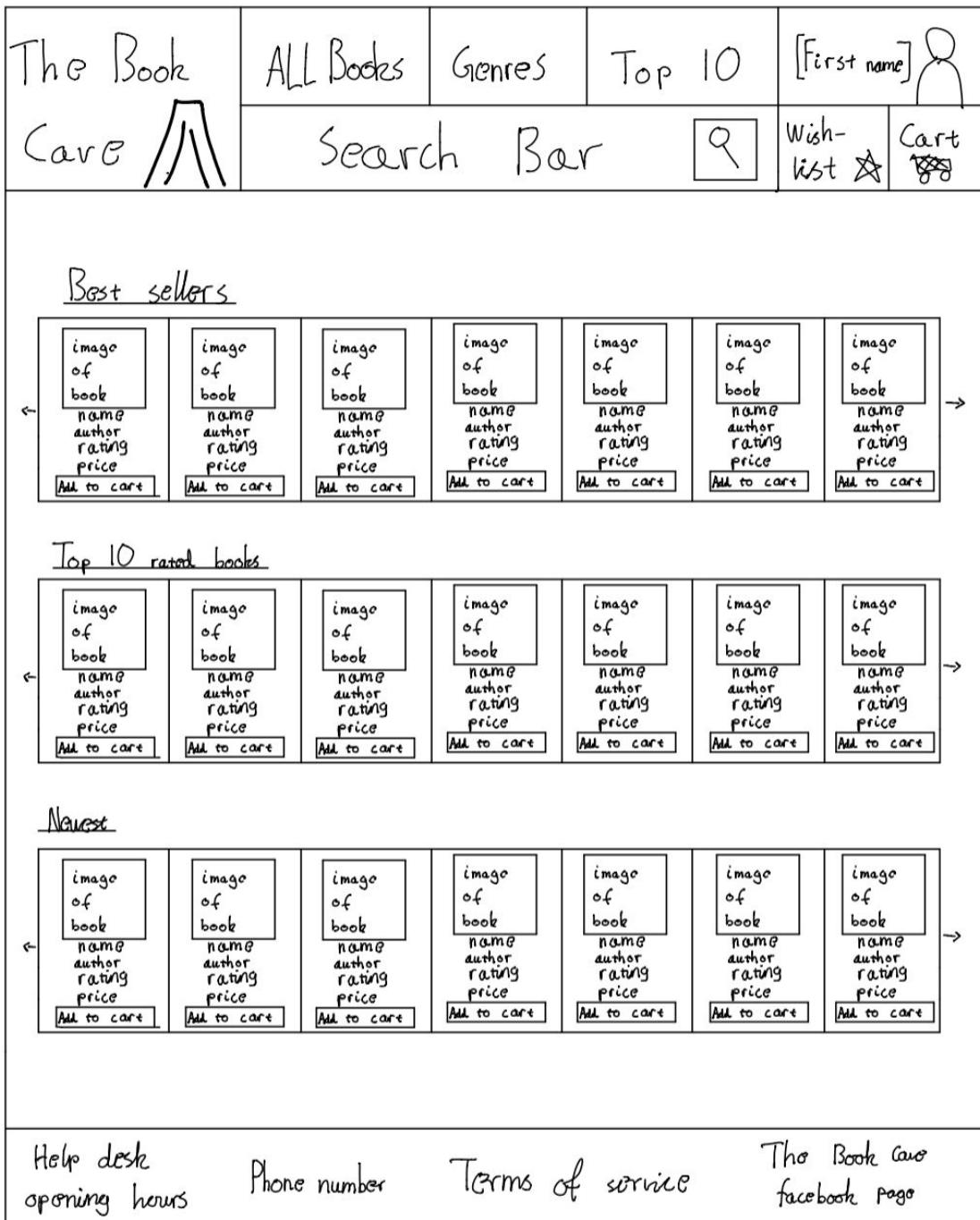
(3.3 figure 4)

The Book Cave 	ALL Books	Genres	Top 10	[First name] 				
	Search Bar 			Wish-list  Cart 				
① Item has been added to your cart								
<p>Filter by</p> <p>Maximum price <input type="button" value="Dropdown box ↓"/></p> <p>Minimum price <input type="button" value="Dropdown box ↓"/></p> <p>Genre <input type="button" value="Dropdown box ↓"/></p> <p>Minimum rating <input type="button" value="Dropdown box ↓"/></p> <p><input style="border: 1px solid black; padding: 2px; width: 100px; height: 25px; margin-top: 10px;" type="button" value="Filter!"/></p>	<p>Order by <input type="button" value="Dropdown box ↓"/></p>							
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Help desk Opening hours		Phone number		Terms of service		The Book Cave Facebook page		

The user is redirected to the book catalogue page and now they have added the book to their cart and they are notified via an information box. (The information box will be bigger and more noticeable in the final product)

3.4 A signed in user finds a book in the catalogue and adds it to their cart

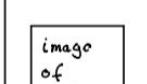
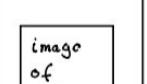
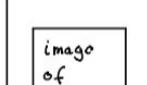
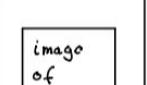
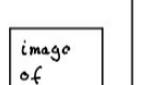
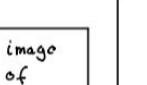
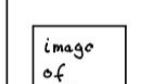
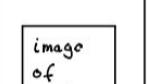
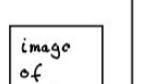
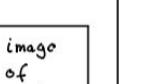
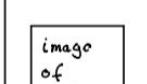
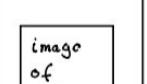
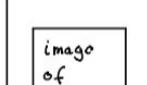
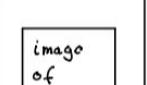
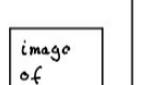
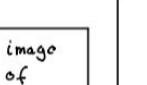
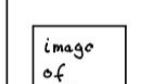
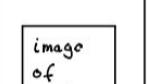
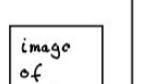
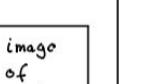
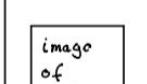
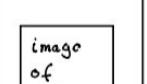
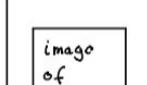
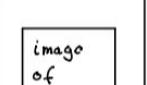
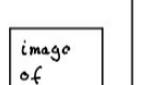
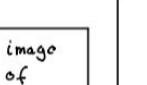
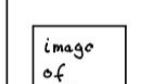
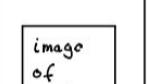
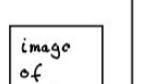
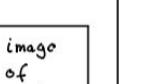
(3.4 figure 1)



The user clicks on the 'All Books' button



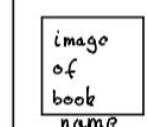
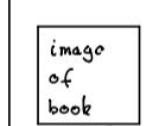
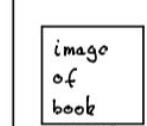
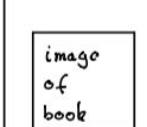
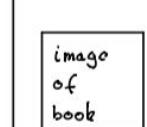
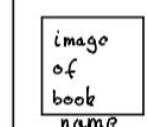
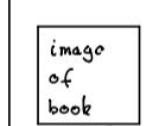
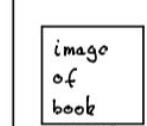
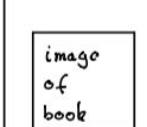
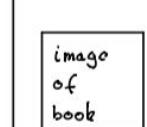
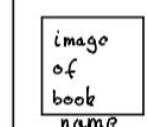
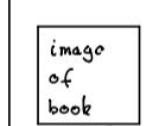
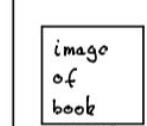
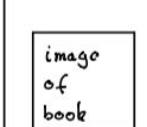
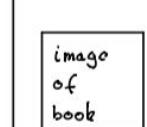
(3.4 figure 2)

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Help desk opening hours	Phone number	Terms of service	The Book Care	facebook page																					

Here the user can filter the list by setting maximum price, minimum price, a genre and a minimum rating. The user can also order the list in alphabetical order, reverse alphabetical order, highest price to lowest, lowest price to highest and most popular to least popular. They find a book they like and click the 'Add to Cart' button below.



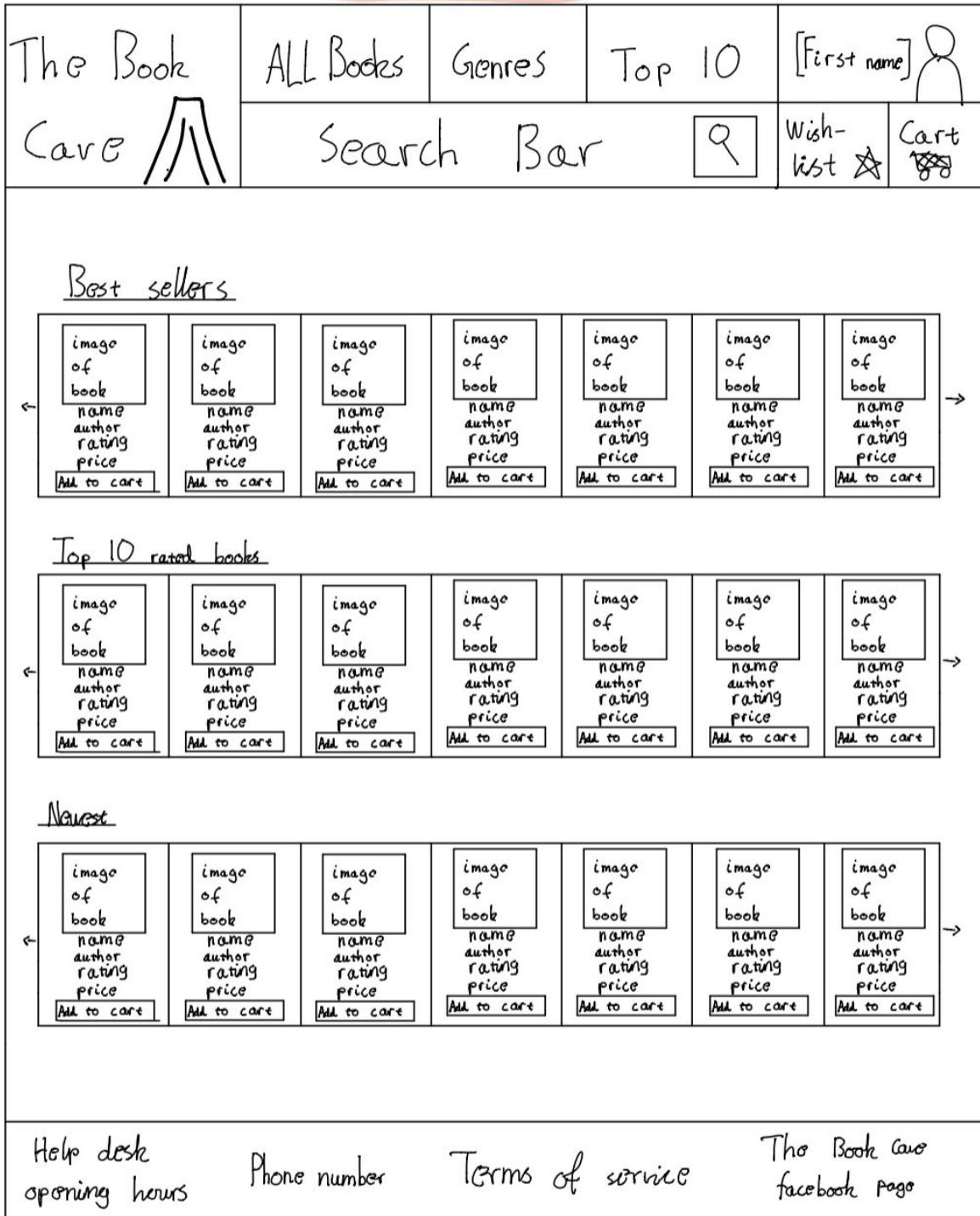
(3.4 figure 3)

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Help desk opening hours Phone number Terms of service The Book Cart facebook page																

Now the book has been added to the users cart and they are notified via an information box. (The information box will be bigger and more noticeable in the final product)

3.5 A signed in user finalizes an order

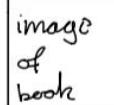
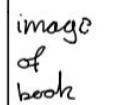
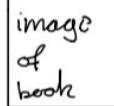
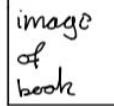
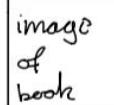
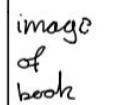
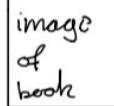
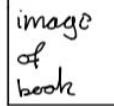
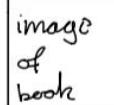
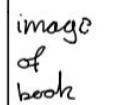
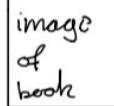
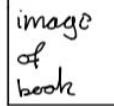
(3.5 figure 1)



User clicks on the 'Cart' button



(3.5 figure 2)

The Book Care 	ALL Books	Genres	Top 10	[First name] 																								
	Search Bar 			Wish-list  Cart 																								
<p>Your Cart (X number of books in cart)</p> <table border="1"> <thead> <tr> <th></th> <th>Title</th> <th>Price</th> <th>X <small>remove</small></th> </tr> </thead> <tbody> <tr><td></td><td>Title</td><td>Price</td><td>X <small>remove</small></td></tr> <tr><td></td><td>Title</td><td>Price</td><td>X <small>remove</small></td></tr> <tr><td></td><td>Title</td><td>Price</td><td>X <small>remove</small></td></tr> <tr><td></td><td>Title</td><td>Price</td><td>X <small>remove</small></td></tr> <tr><td></td><td>Title</td><td>Price</td><td>X <small>remove</small></td></tr> </tbody> </table> <p>Total Price: 1234 \$ Proceed to checkout</p>						Title	Price	X <small>remove</small>		Title	Price	X <small>remove</small>		Title	Price	X <small>remove</small>		Title	Price	X <small>remove</small>		Title	Price	X <small>remove</small>		Title	Price	X <small>remove</small>
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	Title	Price	X <small>remove</small>																									
Help desk opening hours	Phone number	Terms of service	The Book Care facebook page																									

The user reviews the cart and clicks the 'Proceed to Checkout' button



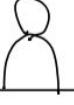
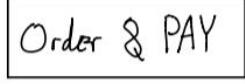
(3.5 figure 3)

The Book Cave 	All Books	Genres	Top 10	[First name] 																																																				
	Search Bar 			Wish-list  Cart 																																																				
<table border="1"> <thead> <tr> <th colspan="2">Billing information</th> <th colspan="2">Shipping information</th> </tr> </thead> <tbody> <tr> <td colspan="2">Payment option</td> <td colspan="2">Full name</td> </tr> <tr> <td><input checked="" type="radio"/> Credit</td> <td><input type="radio"/> Debit</td> <td colspan="2"><input type="text"/></td> </tr> <tr> <td colspan="2">Cardholders name</td> <td colspan="2">Address</td> </tr> <tr> <td colspan="2"><input type="text"/></td> <td colspan="2"><input type="text"/></td> </tr> <tr> <td colspan="2">Card number</td> <td colspan="2">City</td> </tr> <tr> <td colspan="2"><input type="text"/></td> <td colspan="2"><input type="text"/></td> </tr> <tr> <td colspan="2">Expiration date month  Year </td> <td colspan="2">Country</td> </tr> <tr> <td colspan="2"><input type="text"/></td> <td colspan="2"><input type="text"/></td> </tr> <tr> <td colspan="2">CVC</td> <td colspan="2">ZIP</td> </tr> <tr> <td colspan="2"><input type="text"/></td> <td colspan="2"><input type="text"/></td> </tr> <tr> <td colspan="2"></td> <td colspan="2">Phone number</td> </tr> <tr> <td colspan="2"><input type="text"/></td> <td colspan="2"><input type="text"/></td> </tr> </tbody> </table>					Billing information		Shipping information		Payment option		Full name		<input checked="" type="radio"/> Credit	<input type="radio"/> Debit	<input type="text"/>		Cardholders name		Address		<input type="text"/>		<input type="text"/>		Card number		City		<input type="text"/>		<input type="text"/>		Expiration date month  Year 		Country		<input type="text"/>		<input type="text"/>		CVC		ZIP		<input type="text"/>		<input type="text"/>				Phone number		<input type="text"/>		<input type="text"/>	
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<input type="button" value="Back"/>	<input type="button" value="Checkout"/>																																																							
Help desk opening hours	Phone number	Terms of service	The Book Cave facebook page																																																					

User fills in all the fields and clicks the 'Checkout' button. If the information is valid they are sent to an order review page. If the information is not valid the user will stay on this page and is asked to try again. (Shown in [figure 6](#) in the alternate flow)



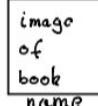
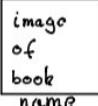
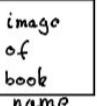
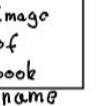
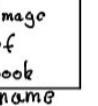
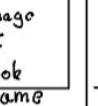
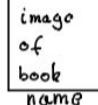
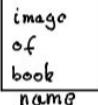
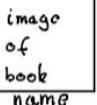
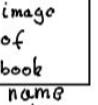
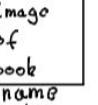
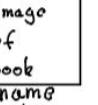
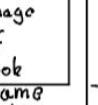
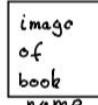
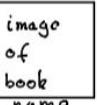
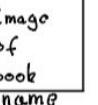
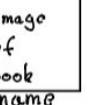
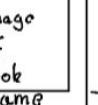
(3.5 figure 4)

The Book Cart 	ALL Books	Genres	Top 10	[First name] 																																										
	Search Bar 			Wish-list  Cart 																																										
Payment information		Your order																																												
Cardholders name: ~~~		<table border="1"> <thead> <tr> <th>Title</th> <th>Quantity</th> <th>Price</th> </tr> </thead> <tbody> <tr><td> </td><td> </td><td> </td></tr> </tbody> </table>			Title	Quantity	Price																																							
Title	Quantity	Price																																												
Card number: 1234 **** * * * *																																														
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Help desk opening hours	Phone number	Terms of service	The Book Cart facebook page																																											
																																														

A user reviews the order and clicks the 'Order & Pay' button and the order is finalized. The user is then taken to the homepage.



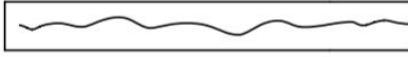
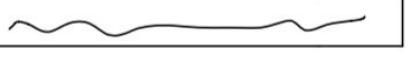
(3.5 figure 5)

The Book Cart		All Books	Genres	Top 10	[First name] 		
		Search Bar			Wish-list  Cart 		
Best sellers							
① Order successful!							
 name author rating price <input type="button" value="Add to cart"/>	 name author rating price <input type="button" value="Add to cart"/>	 name author rating price <input type="button" value="Add to cart"/>	 name author rating price <input type="button" value="Add to cart"/>	 name author rating price <input type="button" value="Add to cart"/>	 name author rating price <input type="button" value="Add to cart"/>	 name author rating price <input type="button" value="Add to cart"/>	
Top 10 rated books							
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Help desk opening hours	Phone number	Terms of service		The Book Cart facebook page			

Now the order has been finalized and the user is notified via an information box. (The information box will be bigger and more noticeable in the final product)

The Alternate flow

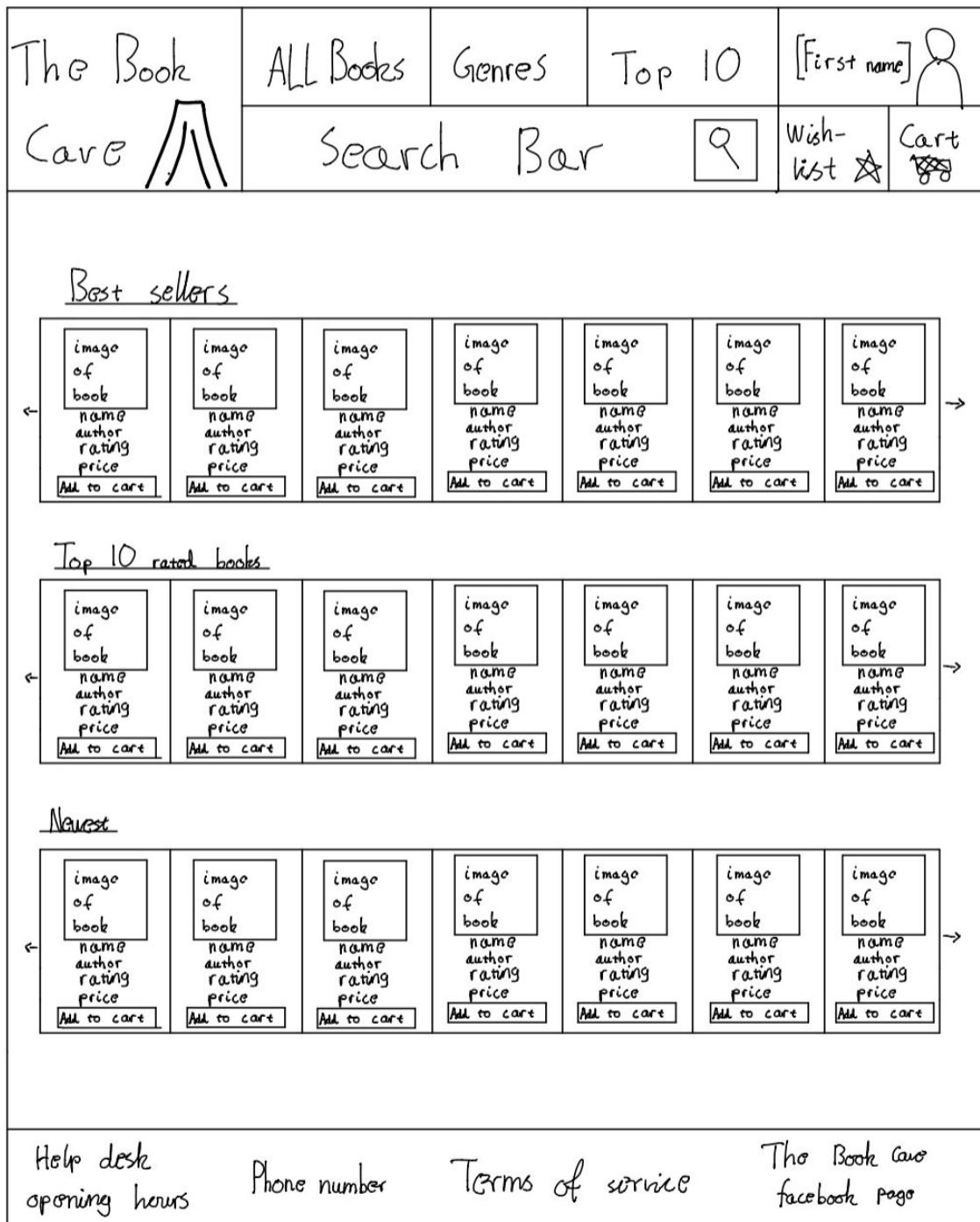
(3.5 figure 6)

The Book Care 	ALL Books	Genres	Top 10	[First name] 
	Search Bar 			Wish-list  Cart 
<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p>Billing information</p> <p>Payment option <input checked="" type="radio"/> Credit <input type="radio"/> Debit</p> <p>Cardholders name </p> <p>Card number  Invalid card number</p> <p>Expiration date month  Year </p> <p>CVC  Invalid CVC</p> </div> <div style="width: 45%;"> <p>Shipping information</p> <p>Full name </p> <p>Address </p> <p>City </p> <p>Country </p> <p>ZIP </p> <p>Phone number </p> </div> </div>				
				
Help desk opening hours	Phone number	Terms of service	The Book Care facebook page	

The user re-enters the information that was invalid and clicks the 'Checkout' button. If it is invalid again the user stays on this page otherwise they are taken to [figure 4](#).

3.6 A signed in user views their order history

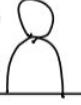
(3.6 figure 1)



The user clicks on the button with their name in the top right corner



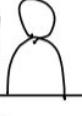
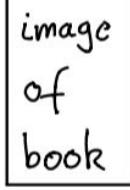
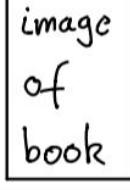
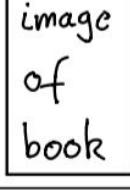
(3.6 figure 2)

The Book Care 	All Books	Genres	Top 10	[First name] 
	Search Bar 			Wish-list  Cart 
Your information				
Email: 	View order history			
Name: 	Edit profile			
Help desk opening hours	Phone number	Terms of service	The Book Care facebook page	

The user clicks on the 'View Order History' button.



(3.6 figure 3)

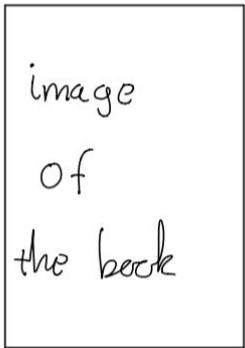
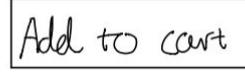
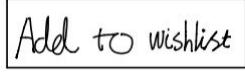
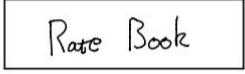
The Book Care 	ALL Books	Genres	Top 10	<input type="text"/> [First name] 
	Search Bar			Wish-list  Cart 
<h2>Order history</h2>				
	Title	Date ordered	Price	
	Title	Date ordered	Price	
	Title	Date ordered	Price	
	Title	Date ordered	Price	
Back				
Help desk opening hours	Phone number	Terms of service	The Book Care facebook page	

Now the user is presented with their order history.

3.7 A signed in user rates a book and leaves a comment

The user has already found a book to rate and is now in the book details page

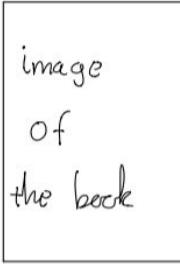
(3.7 figure 1)

The Book Caro 		ALL Books	Genres	Top 10	[First name] 										
		Search Bar			Wish-list  Cart 										
 image of the book		<p>Title of the book Author Description of the book</p> <p>Publishing date Number of pages Rating of book Price of book</p> <p>User ratings</p> <table border="1"><tr><td>Name of user</td><td>rating</td></tr><tr><td>comment:</td><td></td></tr><tr><td></td><td></td></tr><tr><td></td><td></td></tr><tr><td>Name of user</td><td>rating</td></tr></table>				Name of user	rating	comment:						Name of user	rating
Name of user	rating														
comment:															
Name of user	rating														
															
Help desk opening hours		Phone number	Terms of service	The Book Caro facebook page											

User clicks on the 'Rate Book' button



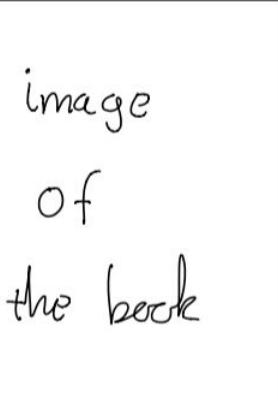
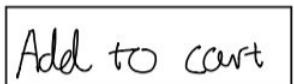
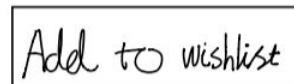
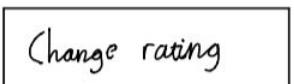
(3.7 figure 2)

The Book Care 	All Books	Genres	Top 10	[First name] 												
	Search Bar			Wish-list  Cart 												
	Title of the book Author															
	<u>User comments</u> <table border="1"> <tr> <td>Name of user</td> <td>rating</td> </tr> <tr> <td>comment:</td> <td><hr/><hr/><hr/></td> </tr> <tr> <td>Name of user</td> <td>rating</td> </tr> <tr> <td>comment:</td> <td><hr/><hr/><hr/></td> </tr> <tr> <td>Name of user</td> <td>rating</td> </tr> <tr> <td>comment:</td> <td><hr/><hr/><hr/></td> </tr> </table>		Name of user	rating	comment:	<hr/> <hr/> <hr/>	Name of user	rating	comment:	<hr/> <hr/> <hr/>	Name of user	rating	comment:	<hr/> <hr/> <hr/>	Rate Book: 0 1 0 2 0 3 0 4 0 5 Leave a comment (optional): <div style="border: 1px solid black; height: 150px; width: 100%;"></div> <div style="text-align: right;">Rate!</div>	
	Name of user	rating														
	comment:	<hr/> <hr/> <hr/>														
Name of user	rating															
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Name of user	rating															
comment:	<hr/> <hr/> <hr/>															
Help desk opening hours	Phone number	Terms of service	The Book Care facebook page													

The user gives the book a rating and leaves a comment if they wish. Finally they click the 'Rate' button and are taken to the book details page.



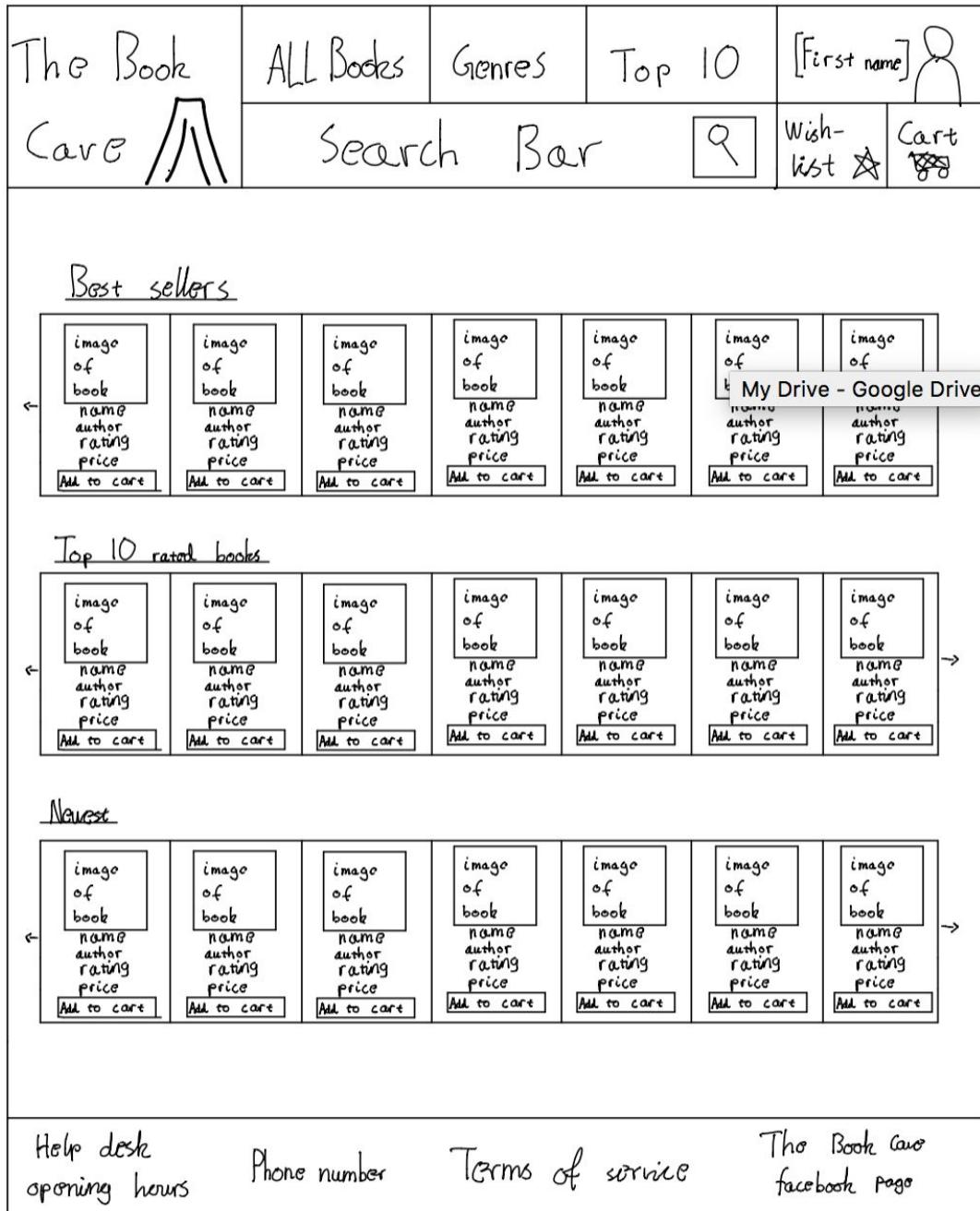
(3.7 figure 3)

The Book Care 	ALL Books	Genres	Top 10	[First name] 						
	Search Bar 			Wish-list  Cart 						
	<p>Title of the book Author Description of the book</p> <hr/> <hr/> <hr/>									
Publishing date Number of pages Rating of book Price of book	<p>User Ratings</p> <table border="1"> <thead> <tr> <th>Name of user</th> <th>rating</th> </tr> </thead> <tbody> <tr> <td>comment:</td> <td><hr/><hr/><hr/></td> </tr> <tr> <td>Name of user</td> <td>rating</td> </tr> </tbody> </table>				Name of user	rating	comment:	<hr/> <hr/> <hr/>	Name of user	rating
Name of user	rating									
comment:	<hr/> <hr/> <hr/>									
Name of user	rating									
										
Help desk opening hours	Phone number	Terms of service	The Book Care facebook page							

Now the user has rated the book and the 'Rate Book' button has changed to 'Change Rating' button.

3.8 A signed in user updates their profile information and changes their password

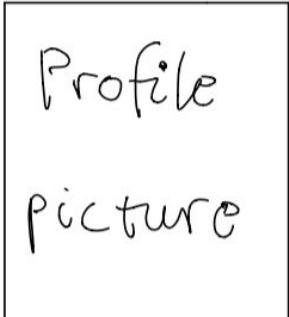
(3.8 figure 1)



The user clicks on the button with their name in the top right corner



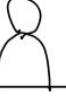
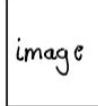
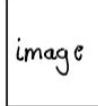
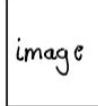
(3.8 figure 2)

The Book Cave 	All Books	Genres	Top 10	[First name] 
	Search Bar 			Wish-list  Cart 
Your information				
	Email: ~~~~~			
	Name: ~~~~~			
	Phone number: ~~~~~			
	Address: ~~~~~			
	City: ~~~~~			
	Country: ~~~~~			
	Zip: ~~~~~			
Upgrade to Premium	View order history	Edit profile		
Help desk opening hours	Phone number	Terms of service	The Book Cave facebook page	

The user clicks on the 'Edit Profile' button



(3.8 figure 3)

The Book Cave 	ALL Books	Genres	Top 10	[First name] 																					
	Search Bar 			Wish-list  Cart 																					
<h2>Edit your profile</h2> <table> <tr> <td>First name:</td> <td><input type="text" value="~~~~~"/></td> <td><input type="button" value="Edit"/></td> </tr> <tr> <td>Last name:</td> <td><input type="text" value="~~~~~"/></td> <td><input type="button" value="Edit"/></td> </tr> <tr> <td>email:</td> <td><input type="text" value="~~~~~"/></td> <td><input type="button" value="Edit"/></td> </tr> <tr> <td>Password</td> <td colspan="2"><input type="button" value="Change password"/></td> </tr> <tr> <td>Picture:</td> <td></td> <td><input type="button" value="Change"/></td> </tr> <tr> <td>Address:</td> <td>Street name, city, ZIP</td> <td><input type="button" value="Change"/></td> </tr> <tr> <td><input type="button" value="Back"/></td> <td colspan="2"><input type="button" value="Save"/></td> </tr> </table>					First name:	<input type="text" value="~~~~~"/>	<input type="button" value="Edit"/>	Last name:	<input type="text" value="~~~~~"/>	<input type="button" value="Edit"/>	email:	<input type="text" value="~~~~~"/>	<input type="button" value="Edit"/>	Password	<input type="button" value="Change password"/>		Picture:		<input type="button" value="Change"/>	Address:	Street name, city, ZIP	<input type="button" value="Change"/>	<input type="button" value="Back"/>	<input type="button" value="Save"/>	
First name:	<input type="text" value="~~~~~"/>	<input type="button" value="Edit"/>																							
Last name:	<input type="text" value="~~~~~"/>	<input type="button" value="Edit"/>																							
email:	<input type="text" value="~~~~~"/>	<input type="button" value="Edit"/>																							
Password	<input type="button" value="Change password"/>																								
Picture:		<input type="button" value="Change"/>																							
Address:	Street name, city, ZIP	<input type="button" value="Change"/>																							
<input type="button" value="Back"/>	<input type="button" value="Save"/>																								
Help desk opening hours	Phone number	Terms of service	The Book Cave facebook page																						

The user clicks the 'Edit' button next to the fields they want to change and then enter the new information. The user can change their password by clicking the 'Change Password' button and are taken to the change password state.



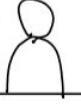
(3.8 figure 4)

The Book Care 	All Books	Genres	Top 10	[First name] 
Search Bar <input type="text"/> 				Wish-list  Cart 
<p>Change your password</p> <p>current password: <input type="text"/></p> <p>new password: <input type="text"/></p> <p>reenter password: <input type="text"/></p> <p><input type="button" value="Back"/> <input type="button" value="Change Password"/></p>				
Help desk opening hours	Phone number	Terms of service	The Book Care facebook page	

The user enters their old password and chooses another one and types it in the 'New Password' field and the 'Re-enter Password' field and clicks the 'Change Password' button. If the password is valid they are sent to back to the 'edit your profile' state. If the information is not valid they are sent to [figure 6](#) in the alternate flow.



(3.8 figure 5)

The Book Care 	All Books	Genres	Top 10	[First name] 																		
	Search Bar 			Wish-list  Cart 																		
<h2>Edit your profile</h2> <table> <tr> <td>First name:</td> <td><input type="text" value="~~~~~"/></td> <td><input type="button" value="Edit"/></td> </tr> <tr> <td>Last name:</td> <td><input type="text" value="~~~~~"/></td> <td><input type="button" value="Edit"/></td> </tr> <tr> <td>email:</td> <td><input type="text" value="~~~~~"/></td> <td><input type="button" value="Edit"/></td> </tr> <tr> <td>Password</td> <td colspan="2"><input type="button" value="Change password"/></td> </tr> <tr> <td>Picture:</td> <td></td> <td><input type="button" value="Change"/></td> </tr> <tr> <td>Address:</td> <td>Street name, city, ZIP</td> <td><input type="button" value="Change"/></td> </tr> </table> <div style="background-color: #ffffcc; padding: 10px; margin-top: 20px;"> (i) Your password has been changed </div>					First name:	<input type="text" value="~~~~~"/>	<input type="button" value="Edit"/>	Last name:	<input type="text" value="~~~~~"/>	<input type="button" value="Edit"/>	email:	<input type="text" value="~~~~~"/>	<input type="button" value="Edit"/>	Password	<input type="button" value="Change password"/>		Picture:		<input type="button" value="Change"/>	Address:	Street name, city, ZIP	<input type="button" value="Change"/>
First name:	<input type="text" value="~~~~~"/>	<input type="button" value="Edit"/>																				
Last name:	<input type="text" value="~~~~~"/>	<input type="button" value="Edit"/>																				
email:	<input type="text" value="~~~~~"/>	<input type="button" value="Edit"/>																				
Password	<input type="button" value="Change password"/>																					
Picture:		<input type="button" value="Change"/>																				
Address:	Street name, city, ZIP	<input type="button" value="Change"/>																				
Help desk opening hours	Phone number	Terms of service	The Book Care facebook page																			

Now the user is back in the 'Edit Profile' state and their password has been changed. They are notified via notification box.

The Alternate flow

(3.8 figure 6)

The Book Cart 	ALL Books	Genres	Top 10	[First name] 
	Search Bar <input type="text"/> 			Wish-list  Cart 
<p>Change your password</p> <p>current password: <input type="text"/></p> <p>new password: <input type="text"/></p> <p>reenter password: <input type="text"/></p> <p>Current password is wrong or passwords don't match.</p> <p><input type="button" value="Back"/> <input type="button" value="Change Password"/></p>				
Help desk opening hours	Phone number	Terms of service	The Book Cart facebook page	

The user is presented with a message that tells them that their input was wrong. They input their password again and and their new password just as they did in [figure 4](#). If the information is invalid again, They stay on this page and are presented with the same message. If the information is valid they are sent to [figure 5](#).

4. Data Gathering

In this chapter we gather data about the usability of our system for new user by measuring effectiveness, efficiency and satisfaction. We built a lo-fi prototype in [chapter 3](#) that depicts eight use cases and we designed our tests around these use cases. The use cases can be seen in the list below.

1. A user registers an account
2. A user logs in
3. A signed in user searches for a specific book and adds it to their cart
4. A user finds a book in the catalogue and adds it to their cart
5. A signed in user finalizes an order
6. A signed in user views their order history
7. A signed in user rates a book and leaves a comment
8. A signed in user updates their profile information and changes their password

4.1 Measurable Goals

Here we have a table of measurable goals for the use cases stated above that we will be using in the think aloud interviews in [section 4.2](#) to test the usability of our system.

#	Description	Use case	User groups	Usability factor	Data	The goal
1	95% of users can register an account.	A user registers an account (#1)	Customer	Effectiveness	Completed task	$\geq 95\%$
2	Users are less than or equal to 60 seconds to register an account.	A user registers an account (#1)	Customer	Efficiency	Time	$\leq 60 \text{ sec.}$
3	95% of users can log in.	A user logs in (#2)	Customer	Effectiveness	Completed task	$\geq 95\%$
4	Users are on average less than or equal to 40 seconds to log in.	A user logs in (#2)	Customer	Efficiency	Time	$\leq 40 \text{ sec.}$
5	90% of users can search for a book and add it to their cart.	A signed in user searches for a specific book and adds it to their cart (#3)	Customer	Effectiveness	Completed task	$\geq 90\%$
6	User are on average less than or equal to 70 seconds to search for a book and add it to their cart.	A signed in user searches for a specific book and adds it to their cart (#3)	Customer	Efficiency	Time	$\leq 70 \text{ sec.}$
7	95% of users can find a book in the catalogue and add it to their cart.	A user finds a book in the catalogue and adds it to their cart (#4)	Customer	Effectiveness	Completed task	$\geq 95\%$
8	Users are on average less than or equal to 75 seconds to search for a book and add it to their cart.	A user finds a book in the catalogue and adds it to their cart (#4)	Customer	Efficiency	Time	$\leq 75 \text{ sec.}$
9	90% of users can finalize a order.	A signed in user finalizes an order (#5)	Customer	Effectiveness	Completed task	$\geq 90\%$

10	Users are on average less than or equal to 180 seconds (3 minutes) to finalize their order.	A signed in user finalizes an order (#5)	Customer	Efficiency	Time	<= 180 sec.
11	95% of users can view their order history.	A signed in user views their order history (#6)	Customer	Effectiveness	Completed task	>= 95 %
12	Users are on average less than or equal to 50 seconds to view their order history.	A signed in user views their order history (#6)	Customer	Efficiency	Time	<= 50 sec.
13	90% of users can rate a book and leave a comment.	A signed in user rates a book and leaves a comment (#7)	Customer	Effectiveness	Completed task	>= 90 %
14	Users are on average less than or equal to 90 seconds to rate a book and leave a comment.	A signed in user rates a book and leaves a comment (#7)	Customer	Efficiency	Time	<= 90 sec.
15	85% of users can update their profile information and change their password.	A signed in user updates their profile information and changes their password (#8)	Customer	Effectiveness	Completed task	>= 85%
16	Users are on average less than or equal to 180 seconds (3 minutes) to update their profile information and change their password	A signed in user updates their profile information and changes their password (#8)	Customer	Efficiency	Time	<= 180 sec.
17	Users rate our website on average above 8 out of 10.	All the use cases	Customer	Satisfaction rating	Rating(0 - 10)	> 8 on average

4.2 Think Aloud Interviews

We conducted 16 short think aloud interviews with 16 different interviewees with varied computer knowledge. Each of the interviewees was tasked to complete a single use case from [chapter 4](#), so every use case was tested twice. We decided on this number of interviewees so we could test every use case with a new user to prevent the users from becoming too familiar with our system, which would give us inaccurate results. We wrote down notable comments from users and the feedback was very useful to improve the structure of our system.

4.2.1 A user registers an account

Name of Conductor: Nökkvi Karlsson.
Name of Note-Taker: Egill Aron Þórisson.
Place of Testing: Classroom M106.
Background of user: Country: Iceland Age: 23 Gender: Female Computer usage (place): School, Home Computer usage (hours daily): 5-6 Computer knowledge: Medium
Data gathered: Task completed: Yes Time: 54 seconds Satisfaction: 8.5 Notable comments from the user during the test: No notable comments from the user.

Name of Conductor: Egill Aron Þórisson.
Name of Note-Taker: Nökkvi Karlsson.
Place of Testing: Classroom M106.
Background of user: Country: Iceland Age: 47 Gender: Male Computer usage (place): Work, Home Computer usage (hours daily): 8-9 Computer knowledge: Experienced
Data gathered: Task completed: Yes Time: 50 seconds Satisfaction: 7.5 Notable comments from the user during the test: He said that the front page was too cluttered.

4.2.2 A user logs in.

Name of Conductor: Nökkvi Karlsson.
Name of Note-Taker: Egill Aron Pórísson.
Place of Testing: Classroom M106.
Background of user: Country: Iceland Age: 20 Gender: Male Computer usage (place): School, home Computer usage (hours daily): 3-5 Computer knowledge: Medium
Data gathered: Task completed: Yes Time: 33 seconds Satisfaction: 9 Notable comments from the user during the test: He liked how books were displayed on the front page for example in the ‘best sellers’, ‘top 10’ and the ‘newest’ lists.

Name of Conductor: Egill Aron Pórísson.
Name of Note-Taker: Nökkvi Karlsson.
Place of Testing: Classroom M106.
Background of user: Country: Iceland Age: 21 Gender: Male Computer usage (place): School, Home Computer usage (hours daily): 5-8 Computer knowledge: Medium
Data gathered: Task completed: Yes Time: 45 seconds Satisfaction: 8 Notable comments from the user during the test: No notable comments from the user.

4.2.3 A signed in user searches for a specific book and adds it to their cart.

Name of Conductor: Nökkvi Karlsson.
Name of Note-Taker: Egill Aron Pórísson.
Place of Testing: Classroom M106.
Background of user: Country: Iceland Age: 24 Gender: Female Computer usage (place): School, Home Computer usage (hours daily): 2-4 Computer knowledge: Poor
Data gathered: Task completed: Yes Time: 84 seconds Satisfaction: 8 Notable comments from the user during the test: She told us that the search icon button was not visible enough and it took time for her to find it.

Name of Conductor: Egill Aron Pórísson.
Name of Note-Taker: Nökkvi Karlsson.
Place of Testing: Classroom M106.
Background of user: Country: Austria Age: 23 Gender: Male Computer usage (place): School, Home Computer usage (hours daily): 5-6 Computer knowledge: Experienced
Data gathered: Task completed: Yes Time: 64 seconds Satisfaction: 7.5 Notable comments from the user during the test: He stated that he found the navigation bar to be too cluttered with too many buttons especially because the prototype is black and white.

4.2.4 A user finds a book in the catalogue and adds it to their cart.

Name of Conductor: Nökkvi Karlsson.
Name of Note-Taker: Egill Aron Pórísson.
Place of Testing: Classroom M106.
Background of user: Country: Iceland Age: 32 Gender: Female Computer usage (place): Home Computer usage (hours daily): 1-2 Computer knowledge: Poor
Data gathered: Task completed: Yes Time: 83 seconds Satisfaction: 8.5 Notable comments from the user during the test: She stated that it was not obvious to her that she had to click the 'all books' button to go to the book catalogue.

Name of Conductor: Egill Aron Pórísson.
Name of Note-Taker: Nökkvi Karlsson.
Place of Testing: Classroom M106.
Background of user: Country: Iceland Age: 26 Gender: Male Computer usage (place): School, Work, Home Computer usage (hours daily): 8-9 Computer knowledge: Experienced
Data gathered: Task completed: Yes Time: 55 seconds Satisfaction: 8.5 Notable comments from the user during the test: He stated that he liked the overall look of the book catalogue.

4.2.5 A signed in user finalizes an order.

Name of Conductor: Nökkvi Karlsson.
Name of Note-Taker: Egill Aron Þórisson.
Place of Testing: Classroom M106.
Background of user: Country: Iceland Age: 19 Gender: Male Computer usage (place): School, Home Computer usage (hours daily): 5-7 Computer knowledge: Medium
Data gathered: Task completed: Yes Time: 150 seconds Satisfaction: 9 Notable comments from the user during the test: No notable comments from the user.

Name of Conductor: Egill Aron Þórisson.
Name of Note-Taker: Nökkvi Karlsson.
Place of Testing: Classroom M106.
Background of user: Country: Iceland Age: 26 Gender: Male Computer usage (place): Work, Home Computer usage (hours daily): 2-4 Computer knowledge: Medium
Data gathered: Task completed: Yes Time: 174 seconds Satisfaction: 8 Notable comments from the user during the test: He stated that it was not clear to him from the start that he needed to go to their cart to finalize their order.

4.2.6 A signed in user views their order history.

Name of Conductor: Nökkvi Karlsson.
Name of Note-Taker: Egill Aron Þórisson.
Place of Testing: Classroom M106.
Background of user: Country: Iceland Age: 49 Gender: Female Computer usage (place): Home Computer usage (hours daily): 1 Computer knowledge: Poor
Data gathered: Task completed: Yes Time: 70 seconds Satisfaction: 9 Notable comments from the user during the test: No notable comments from the user.

Name of Conductor: Egill Aron Þórisson.
Name of Note-Taker: Nökkvi Karlsson.
Place of Testing: Classroom M106.
Background of user: Country: Iceland Age: 21 Gender: Male Computer usage (place): School, Home Computer usage (hours daily): 8-9 Computer knowledge: Experienced
Data gathered: Task completed: Yes Time: 35 seconds Satisfaction: 7.5 Notable comments from the user during the test: He stated that it took some time to figure out that the button in the top right corner is the button that takes you to your account.

4.2.7 A signed in user rates a book and leaves a comment.

Name of Conductor: Nökkvi Karlsson.
Name of Note-Taker: Egill Aron Þórisson.
Place of Testing: Classroom M106.
Background of user: Country: Iceland Age: 23 Gender: Male Computer usage (place): School, Home Computer usage (hours daily): 3-5 Computer knowledge: Medium
Data gathered: Task completed: Yes Time: 75 Satisfaction: 8 Notable comments from the user during the test: No notable comments from the user

Name of Conductor: Egill Aron Þórisson.
Name of Note-Taker: Nökkvi Karlsson.
Place of Testing: Classroom M106.
Background of user: Country: Iceland Age: 20 Gender: Female Computer usage (place): School, Home Computer usage (hours daily): 7-9 Computer knowledge: Experienced
Data gathered: Task completed: Yes Time: 81 Satisfaction: 8.5 Notable comments from the user during the test: She stated that she found the overall process of rating a book and leaving a comment to be intuitive.

4.2.8 A signed in user updates their profile information and changes their password.

Name of Conductor: Nökkvi Karlsson.
Name of Note-Taker: Egill Aron Pórísson.
Place of Testing: Classroom M106.
Background of user: Country: Iceland Age: 22 Gender: Female Computer usage (place): School, Home Computer usage (hours daily): 4-6 Computer knowledge: Experienced
Data gathered: Task completed: Yes Time: 180 seconds Satisfaction: 7.5 Notable comments from the user during the test: She stated that it took some time to figure out that the button in the top right corner is the button that takes you to your account.

Name of Conductor: Egill Aron Pórísson.
Name of Note-Taker: Nökkvi Karlsson.
Place of Testing: Classroom M106.
Background of user: Country: Iceland Age: 29 Gender: Male Computer usage (place): Work, Home Computer usage (hours daily): 4-6 Computer knowledge: Medium
Data gathered: Task completed: Yes Time: 195 seconds Satisfaction: 7 Notable comments from the user during the test: No notable comments from the user.

4.3 Results From Interviews

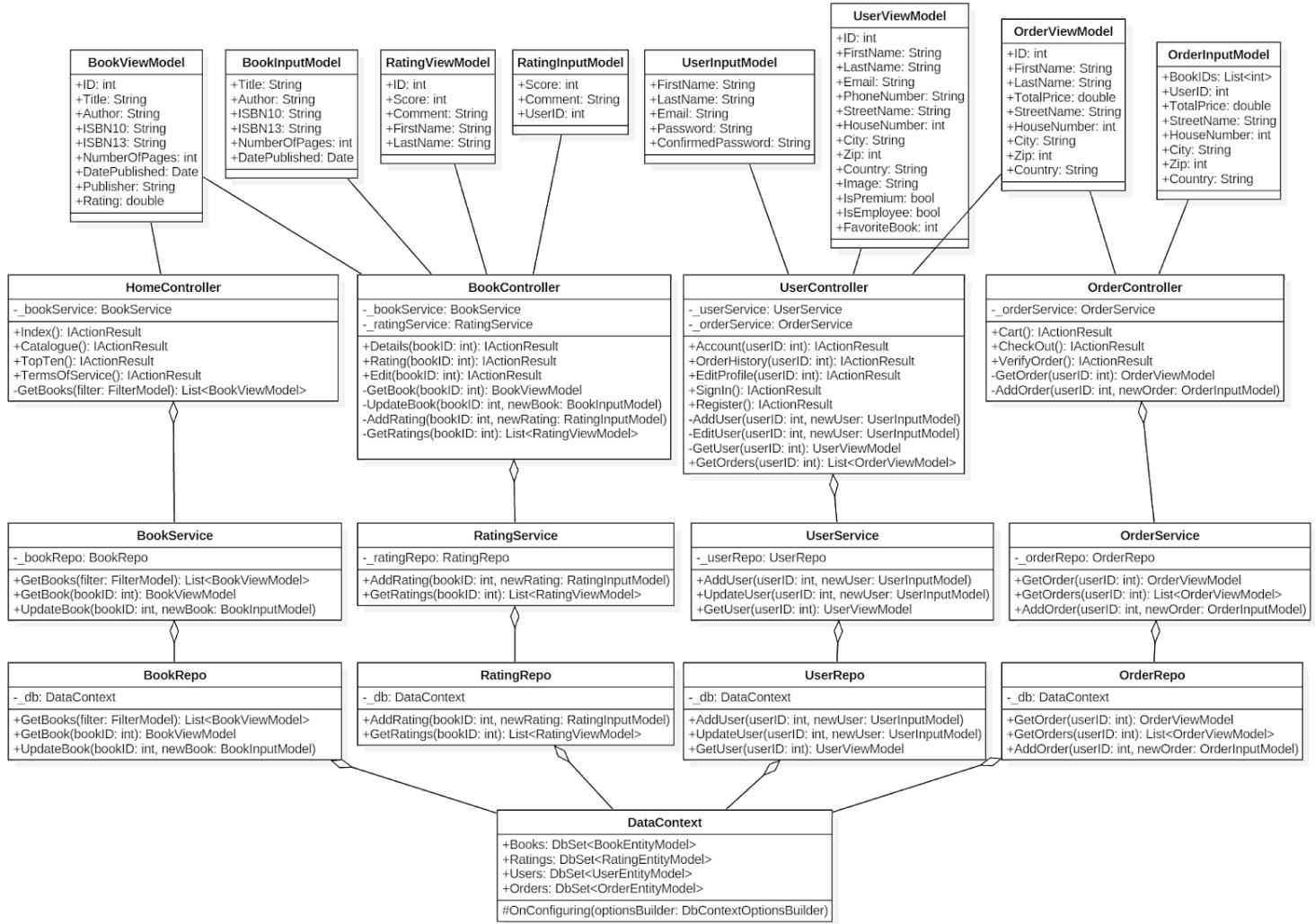
Now we have gathered the data from the think aloud evaluations and we can see how it compares to the measurable goals we set in [section 4.1](#). We gathered the data and compared it to our measurable goals and put it in a table which can be found in the [appendix](#). All of our measured usability goals were achieved except for number 12 and 16.

Goal 12 tests use case number 6 in the list at the beginning of [chapter 4](#). The goal was “Users are on average less than or equal to 50 seconds to view their order history.” but the average time that our interviewees took to complete the task was 52.5 seconds.

Goal 16 tests use case number 8 in the list at the beginning of [chapter 4](#). The goal was “Users are on average less than or equal to 180 seconds (3 minutes) to update their profile information and change their password” but the average time that our interviewees took to complete the task was 187.5 seconds.

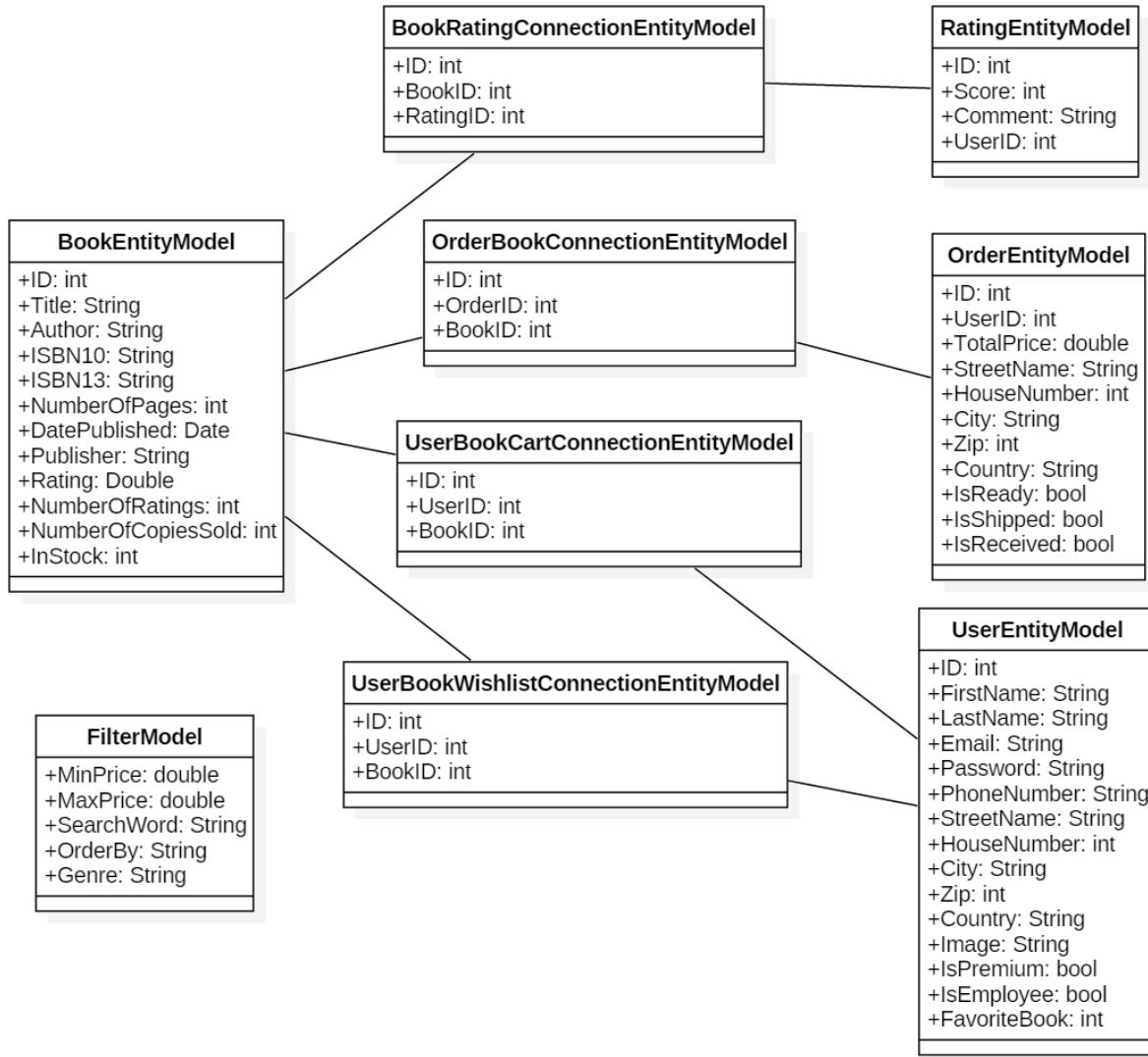
Both of these goals rely on the user to find the button that takes them to their account so they can complete their task. The feedback gathered from the interviews that tested these goals shows that the users spent too much time looking for the ‘account button’ and that added to the time they took to complete the task and also lowered their satisfaction rating of the system. In our final product we will put more emphasis on making the ‘account button’ more visible to new users of our system.

5. Class Diagram



Here above is the Class Diagram for the entire project. It is split into 3 layers: Controller, Service, and Repository, and each layer has a different role. The top row consists of Input and View Models which is what the user will be interacting with. The Controller's job is to send these to the user and to receive them when the user sends in a form. The Controller then talks to the Service layer to write and read data. The controller requests access to data and sends data, and it is the Service layer's job to handle this data by sending the request forward to the Repository classes or to throw exceptions. The repository layer handles Linq queries and reads and writes to the Database. The database is an SQL server which we connect to through the DataContext class.

6. Table Diagram



Here above is the Table Diagram for the project. All of the Entity classes shown here will be mapped to our database. We hold on to information about Users, Books, Ratings, and Orders. The classes are also connected; every user has a cart and wishlist of books. Every book has multiple ratings, and every order has a list of books. These connections are written down in the ConnectionEntityModel classes. Additionally there is a class called FilterModel which is not written down in the database, but merely exists as a encapsulation of multiple data which is required for when users try to filter books.

7. Programming Rules

This chapter covers styling rules and naming conventions for the programming of the system. The following list contains general rules, followed by separate lists for individual programming/markup languages.

1. All variable and function names must be descriptive.
2. All boolean variable and function names must start with is- (example: bool isAvailable).
3. All code inside the scope of an element/class/function must be indented by 1 additional tab.
4. Comments must be on their own separate line.
5. Comments must start with a capital letter, and end with a period.

7.1 HTML Rules

1. All attribute values (ID names, class names, etc.) consist of lower case words separated by hyphens (-) (example: class="my-class").
2. All attribute initializations must not contain any spaces (example: id="my-id").
3. All self-closing tags must include the forward-slash (example:
)
4. All tags that do not contain other tags and do not contain more than one line close in the same line (example: <p> Example Text </p>)
5. All tags that contain other tags are on their own line.
6. Tabs are 2 spaces.

7.2 CSS Rules

1. All curly brackets open in the same line as selectors, separated by a space.
2. All curly brackets close in a separate line.
3. All color values are initialized in hexadecimal values (example: color: #123456)
4. Tabs are 2 spaces.

7.3 JavaScript Rules

1. All curly brackets open in the same line as the parent block, separated by a space.
2. All curly brackets close in their own separate line.
3. All variables are camelCased (example: int myVariable).
4. Tabs are 4 spaces.

7.4 C# Rules

1. All curly brackets open and close in their own separate line.
2. Public properties are PascalCased (example: int MyVariable).
3. Private variables are camelCased, started with an underscore (example: _myPrivateVariable).
4. All variable names that are acronyms are uppercased (example: int ID).
5. Temporary variables are camel-cased.
6. Tabs are 4 spaces.

8. Conclusion

We have created a navigation diagram as well as page prototypes, class diagrams and a table diagram. The navigation and page prototypes really helped us solidify our idea of how the users can and should interact with the website.

We gathered data about the usability factors of our system which was also quite helpful to gain insight on how our potential users would interact with our website as well as getting useful criticism on the overall design. The table diagram, class diagrams as well as the programming rules will be very helpful in the future stages of this project when looking at the programming stage.

9. Appendix

9.1 Results from interviews

#	Description	Use Case	User Groups	Usability Factor	Data	The Goal	The Value Now	Achieved?
1	95% of users can register an account.	A user registers an account (#1)	Customer	Effectiveness	Completed task	$\geq 95\%$	100%	Yes
2	Users are less than or equal to 60 seconds to register an account.	A user registers an account (#1)	Customer	Efficiency	Time	$\leq 60 \text{ sec.}$	52 sec.	Yes
3	95% of users can log in.	A user logs in (#2)	Customer	Effectiveness	Completed task	$\geq 95 \%$	100%	Yes
4	Users are on average less than or equal to 40 seconds to log in.	A user logs in (#2)	Customer	Efficiency	Time	$\leq 40 \text{ sec.}$	39 sec.	Yes
5	90% of users can search for a book and add it to their cart.	A signed in user searches for a specific book and adds it to their cart (#3)	Customer	Effectiveness	Completed task	$\geq 90\%$	100%	Yes
6	User are on average less than or equal to 70 seconds to search for a book and add it to their cart.	A signed in user searches for a specific book and adds it to their cart (#3)	Customer	Efficiency	Time	$\leq 90 \text{ sec.}$	74 sec.	Yes
7	95% of users can find a book in the catalogue and add it to their cart.	A user finds a book in the catalogue and adds it to their cart (#4)	Customer	Effectiveness	Completed task	$\geq 95\%$	100%	Yes
8	Users are on average less than or equal to 75 seconds to search for a book and add it to their cart.	A user finds a book in the catalogue and adds it to their cart (#4)	Customer	Efficiency	Time	$\leq 75 \text{ sec.}$	69 sec.	Yes

9	90% of users can finalize a order.	A signed in user finalizes an order (#5)	Customer	Effectiveness	Completed task	$\geq 90\%$	100%	Yes
10	Users are on average less than or equal to 180 seconds (3 minutes) to finalize their order.	A signed in user finalizes an order (#5)	Customer	Efficiency	Time	$\leq 180 \text{ sec.}$	162 sec.	Yes
11	95% of users can view their order history.	A signed in user views their order history (#6)	Customer	Effectiveness	Completed task	$\geq 95 \%$	100%	Yes
12	Users are on average less than or equal to 50 seconds to view their order history.	A signed in user views their order history (#6)	Customer	Efficiency	Time	$\leq 50 \text{ sec.}$	52,5 sec.	No
13	90% of users can rate a book and leave a comment.	A signed in user rates a book and leaves a comment (#7)	Customer	Effectiveness	Completed task	$\geq 90 \%$	100%	Yes
14	Users are on average less than or equal to 90 seconds to rate a book and leave a comment.	A signed in user rates a book and leaves a comment (#7)	Customer	Efficiency	Time	$\leq 90 \text{ sec.}$	78 sec.	Yes
15	85% of users can update their profile information and change their password.	A signed in user updates their profile information and changes their password (#8)	Customer	Effectiveness	Completed task	$\geq 85\%$	100%	Yes
16	Users are on average less than or equal to 180 seconds (3 minutes) to update their profile information and change their password	A signed in user updates their profile information and changes their password (#8)	Customer	Efficiency	Time	$\leq 180 \text{ sec.}$	187,5 sec.	No
17	Users rate our website on average above 8 out of 10.	All the use cases	Customer	Satisfaction rating	Rating(0 - 10)	$\geq 8 \text{ on average}$	8,125	Yes