

**POLITECNICO
MILANO 1863**

HYPERMEDIA APPLICATION:
WEB AND MULTIMEDIA
BOOKSTORE PROJECT

Design Document

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1 Introduction

1.1 Revision History

Version	Date	Authors	Summary
0.1	-	Davide Avanzi, Francesca Bernechich, Fabrizio Carsenzuola	Living document

1.2 Abstract

This document describes the details of the proposed implementation of our bookstore website (hypermedia application: web and multimedia project). Here we document and explain design and implementation choices, first in overview and then in detail. The target audience of this document are the future developers of the system, as well as the project owner, prof. Garzotto.

1.3 Reference documents

- “HYP_2018_19_PROJECT_SPECIFICATIONS.pdf”: Project assignments
- “PROJECT THEME HYP2018-19 - FRONT END TECH - Till July 2019.pdf”: Front-end document specifications
- “project-manual.pdf”: Back-end document specifications

2 Graphical representations

2.1 C-IDM schema

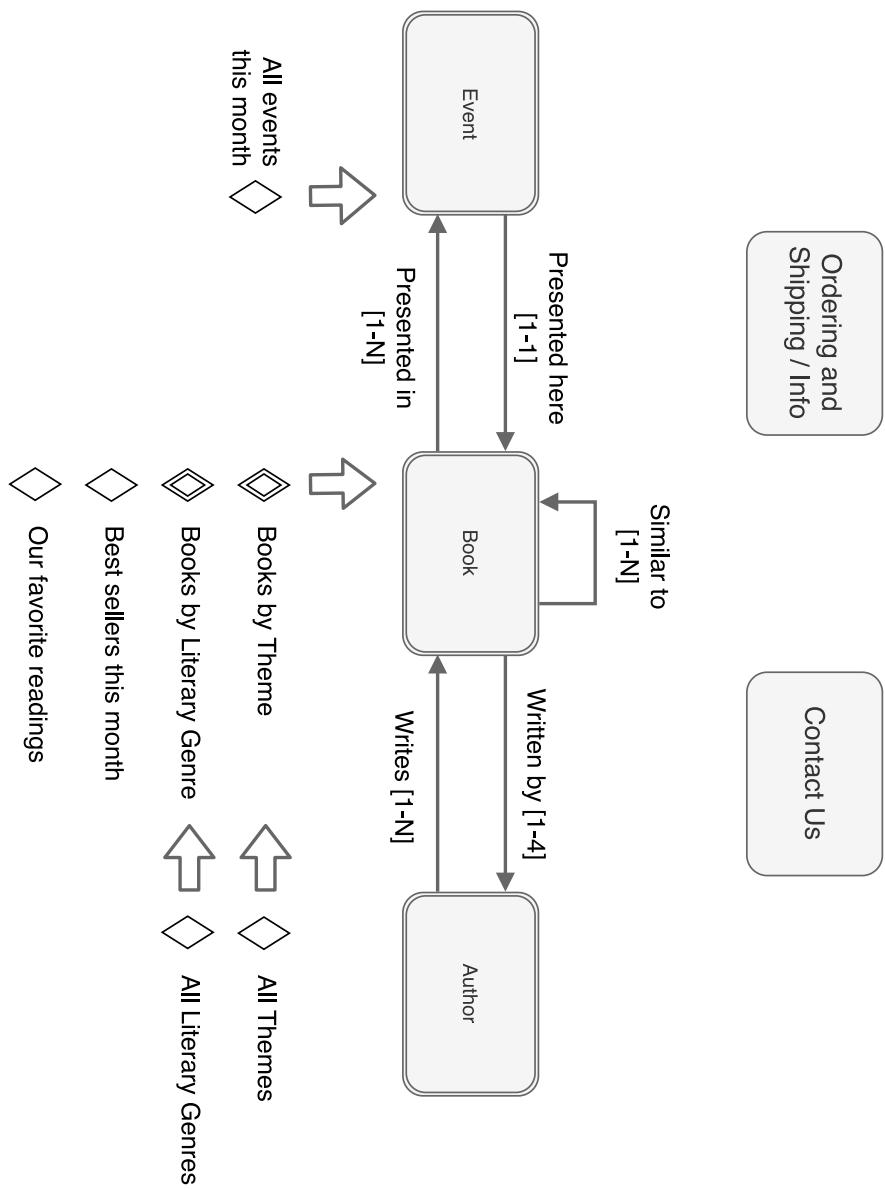


Figure 1: C-IDM

2.2 L-IDM schema

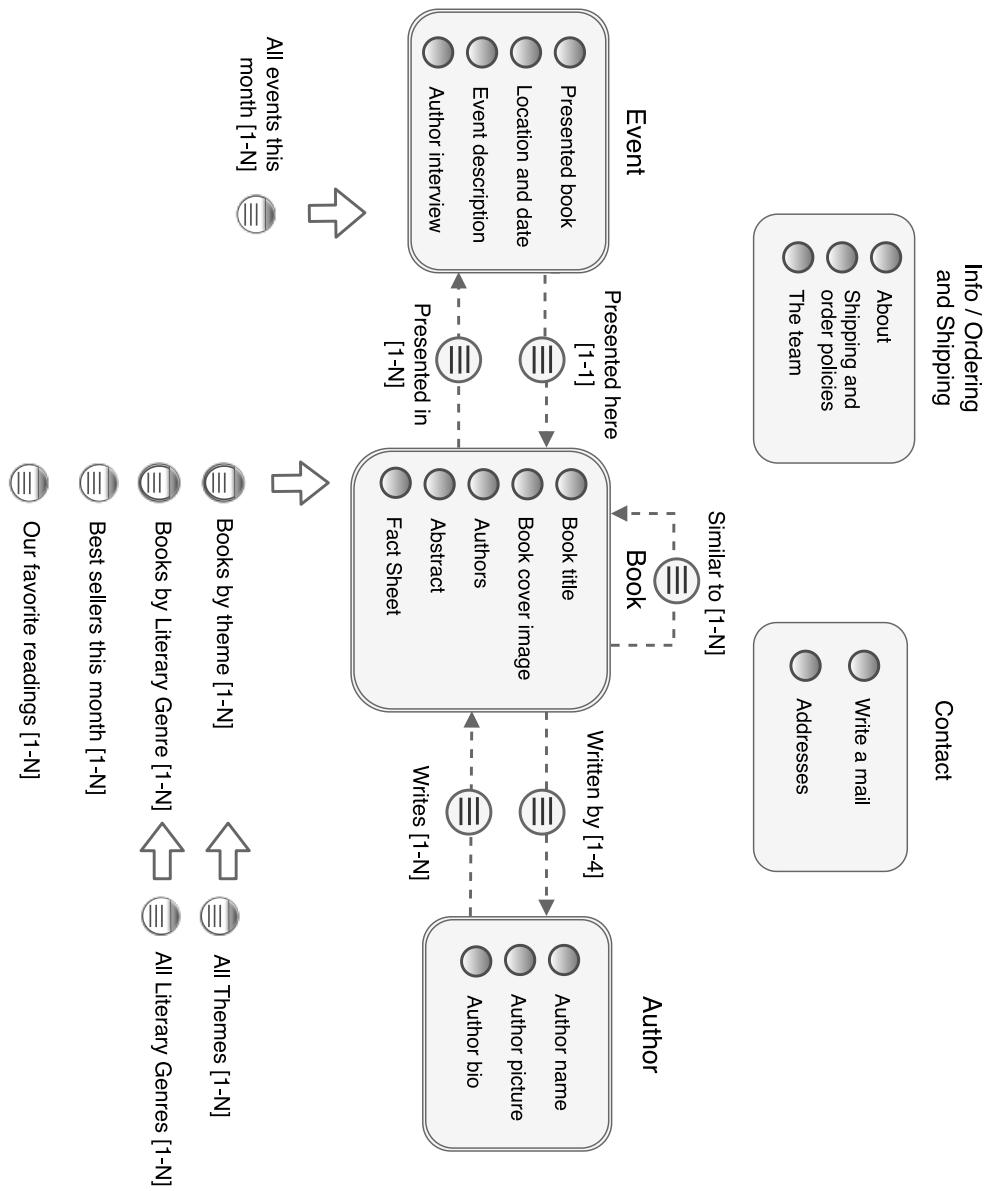


Figure 2: C-IDM

3 Scenarios

In this section we decided to provide these scenarios for three of the most important feature of our website: user registration, user login and user cart management. All these feature have to deal with user authentication: for this reason we decided to analyze these scenarios.

3.1 User registration

Actors	Guest
Preconditions	The guest has a working Internet connection and he has not registered an account yet.
Events	<ol style="list-style-type: none">1. The guest reaches the registration page2. The system requires the guest to enter all his/her personal information3. The guest types the requested information and presses the 'Next' button4. The system verifies the uniqueness of the email5. The system reports the registration and redirects the user to the login page
Postconditions	The user has signed up.
Exceptions	<p>The email the guest typed has been already used. One of the mandatory fields (email and password) is empty. In these cases the system notifies the error and cannot complete the registration.</p>

3.1.1 User registration sequence diagram

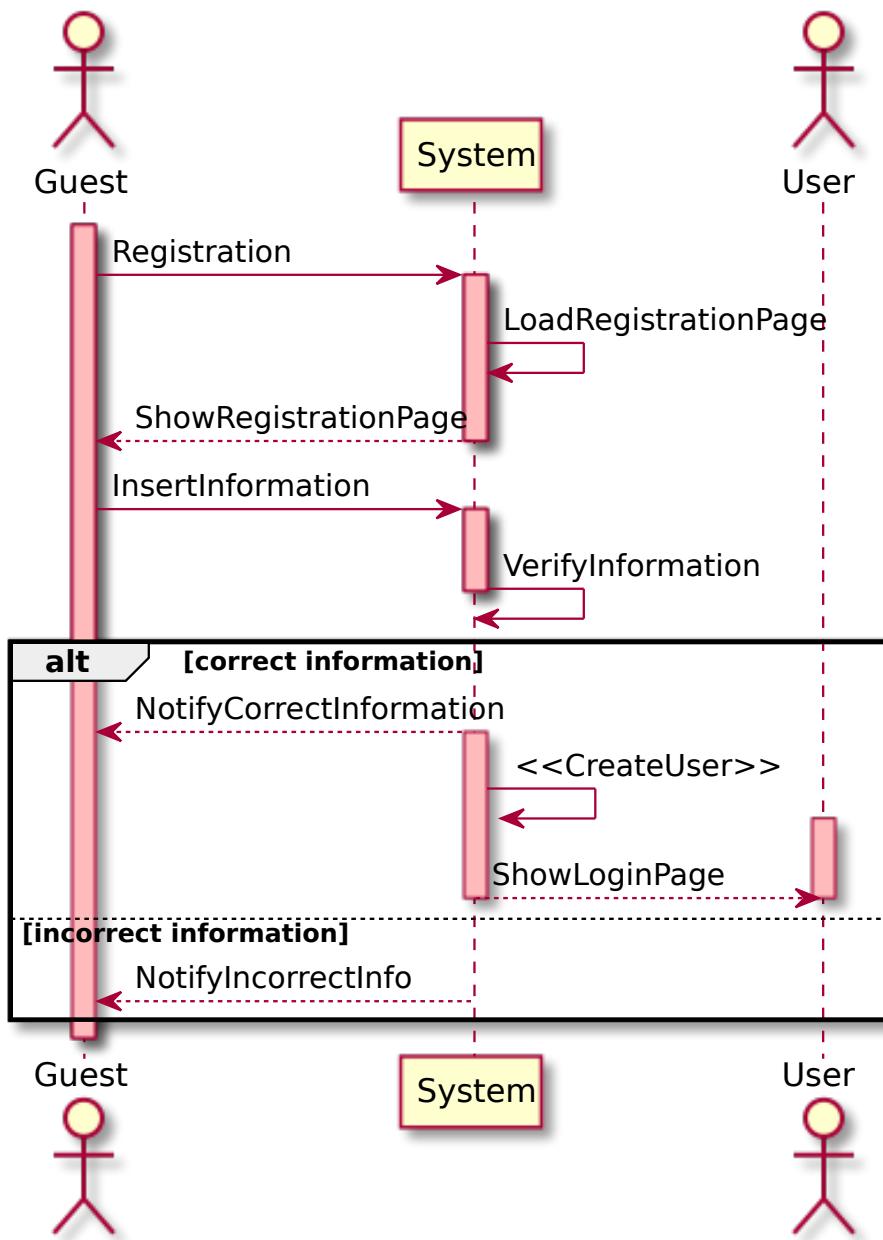


Figure 3: User registration sequence diagram

3.1.2 User registration screenshots

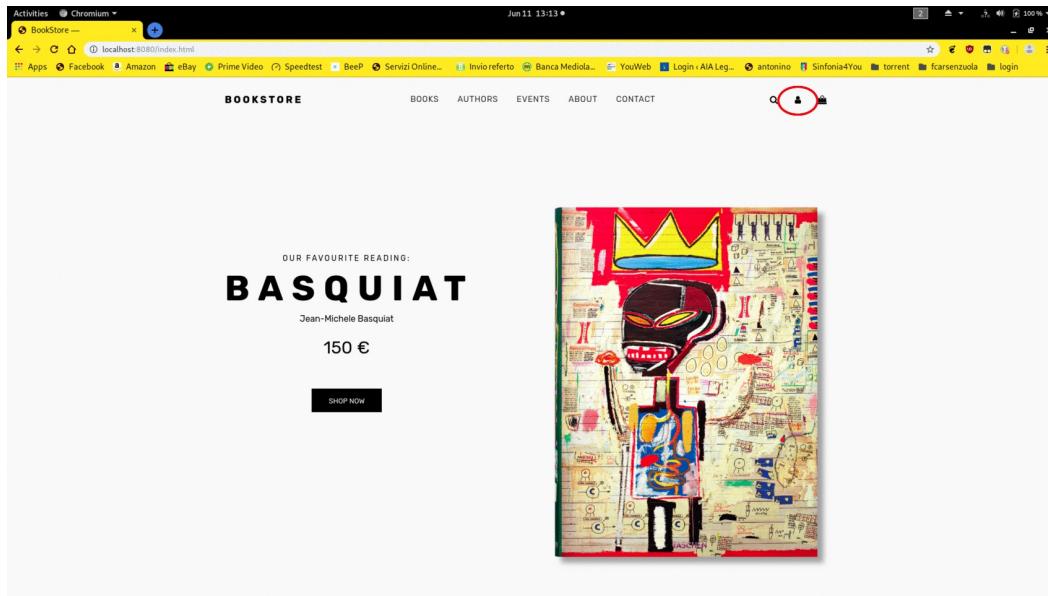


Figure 4: Select user page

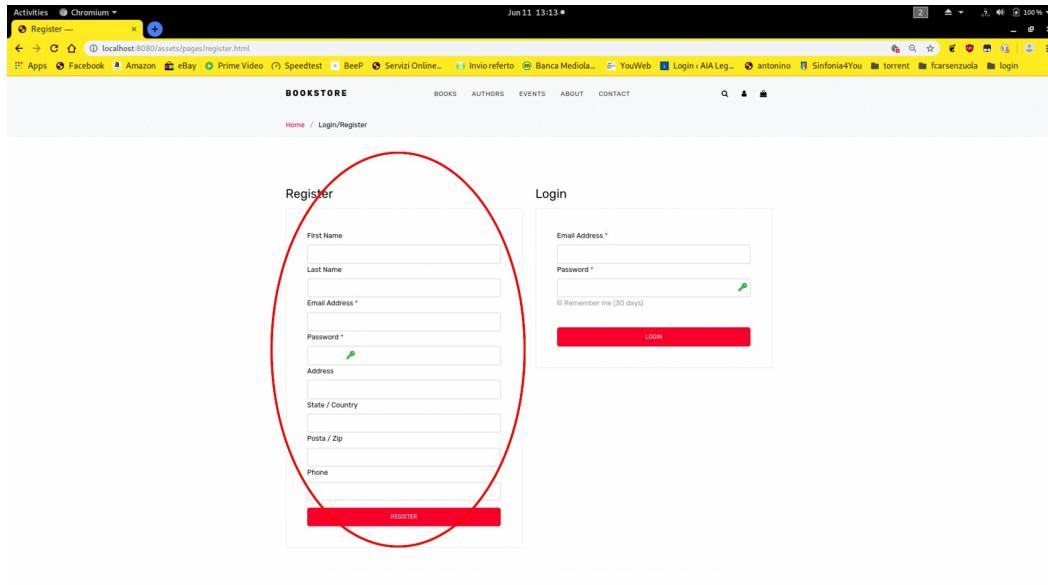


Figure 5: Insert register informations

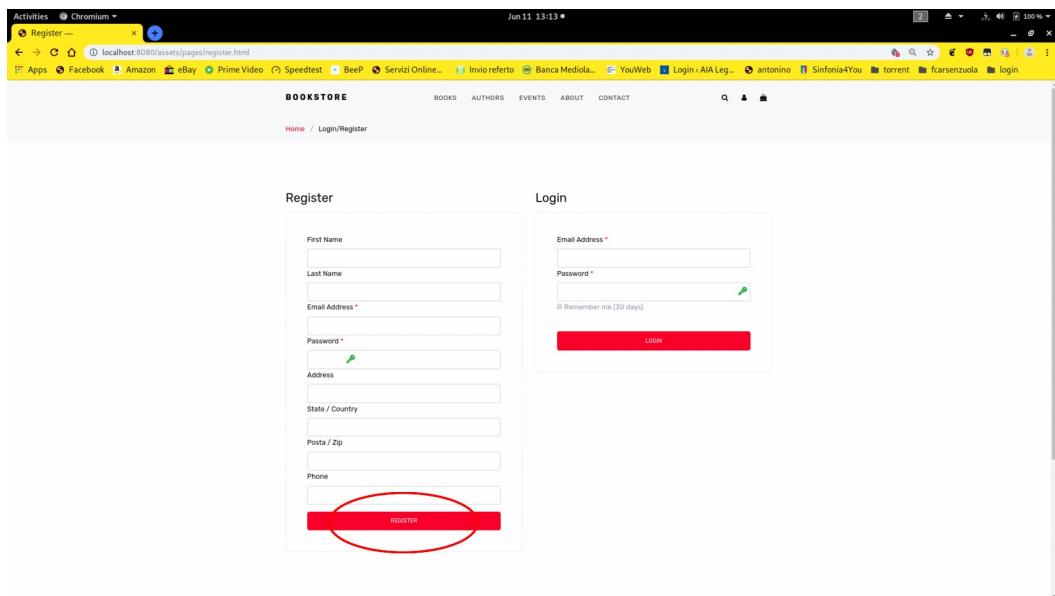


Figure 6: Click on register button

3.2 User login

Actors	User
Preconditions	The actor has a working Internet connection and is already registered.
Events	<ol style="list-style-type: none">1. The actor reaches the log in page2. The system requires the actor to enter his email and password3. The actor types the requested information and press the 'Log in' button4. The system verifies the correctness of the email and password5. The system redirects the actor to the main page
Postconditions	The actor is logged in.
Exceptions	<p>The email or the password the actor typed are not correct. One of the fields is empty.</p> <p>In these cases the actor can't complete the log in. The system notifies the error and cannot complete the login.</p>

3.2.1 User login sequence diagram

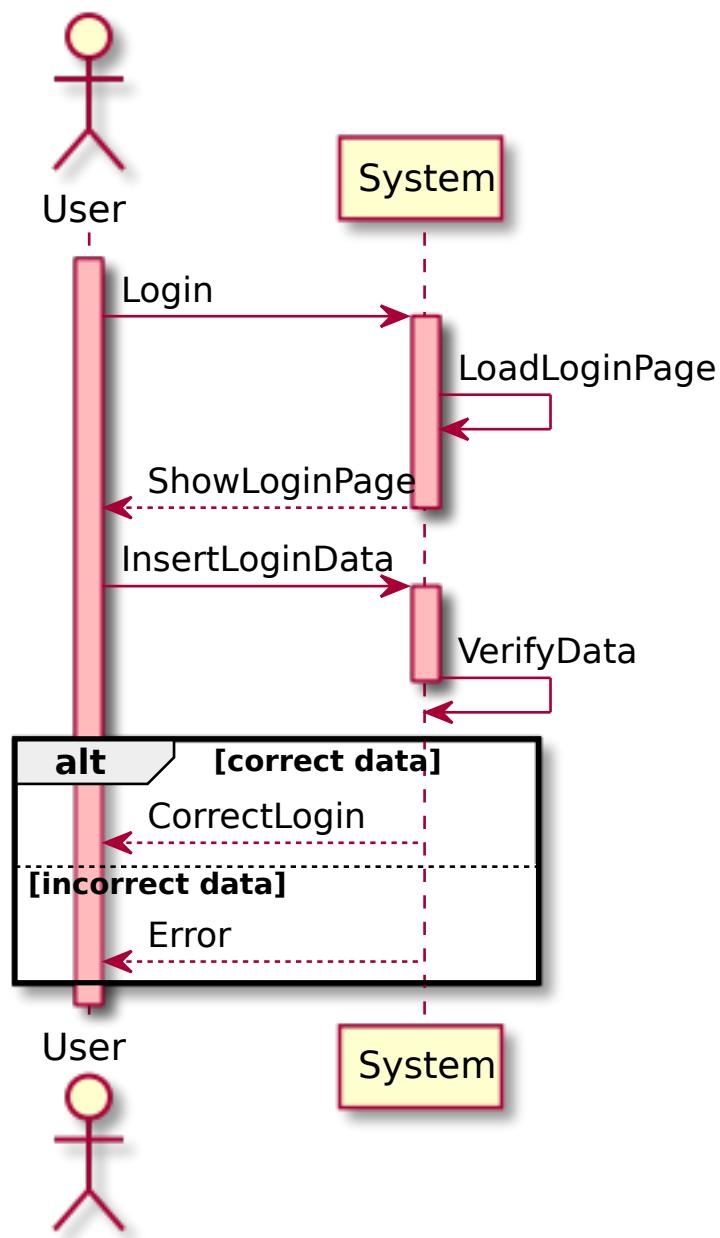


Figure 7: User login sequence diagram

3.2.2 User login screenshots

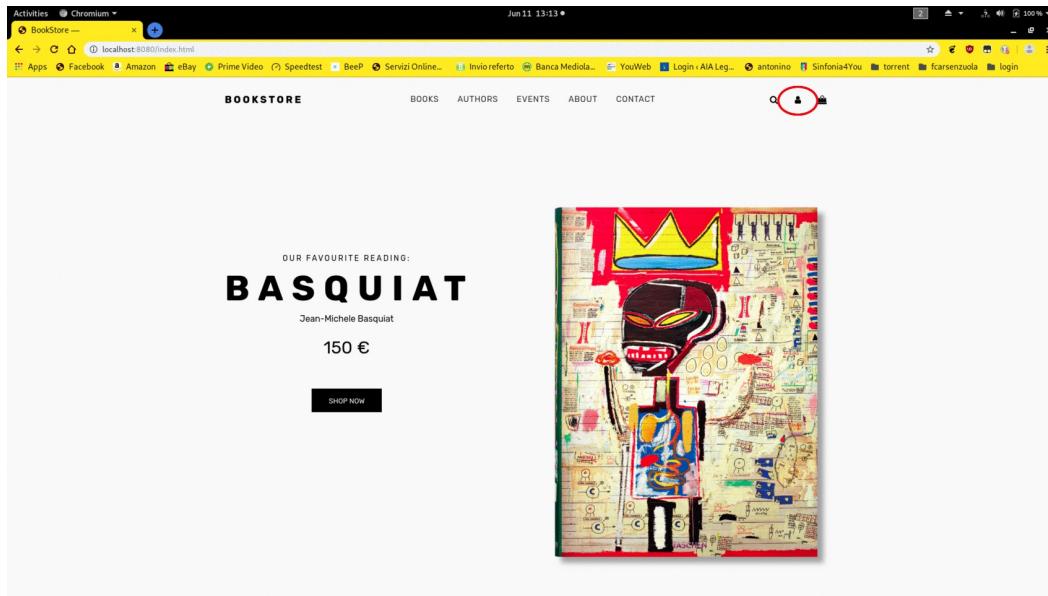


Figure 8: Select user page

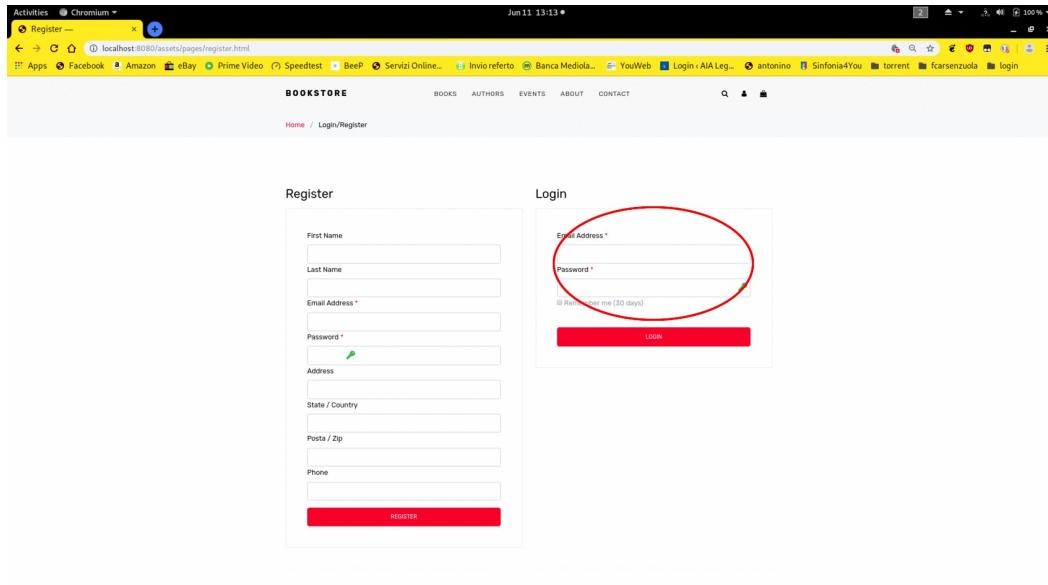


Figure 9: Insert login informations

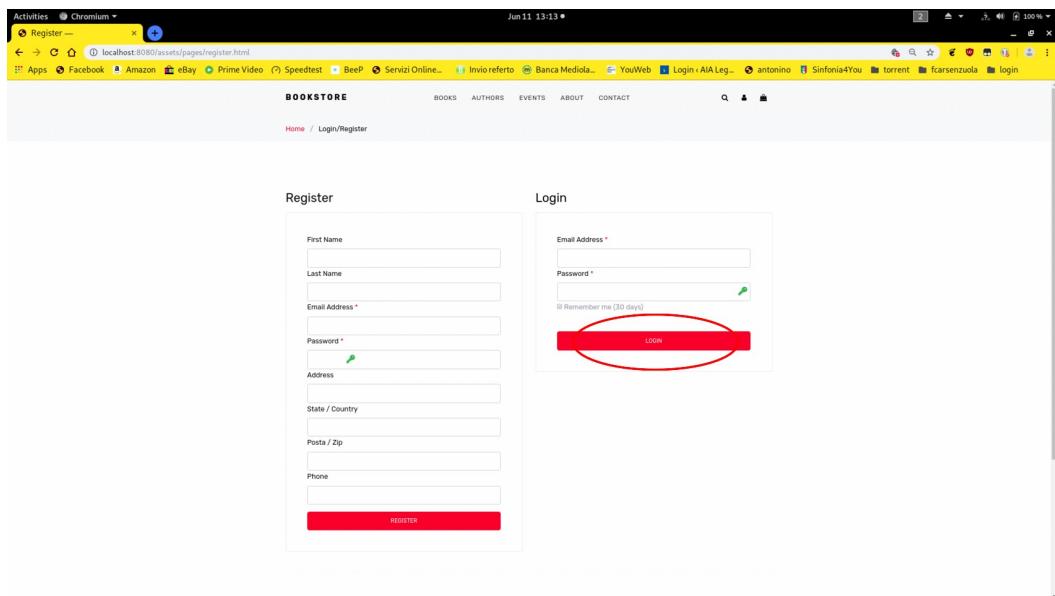


Figure 10: Click on login button

3.3 Add book to cart

Actors	User
Preconditions	The actor has a working Internet connection and is already login.
Events	<ol style="list-style-type: none">1. The actor reaches the book page2. The actor choose the amount of book that he/she want to put in him/her cart3. The actor click on the add button4. The system verifies the availability of the books (amount)5. The system gives the user a notification that the operation has been successfully completed
Postconditions	The actor has in his/her cart the chosen amount of the book.
Exceptions	<p>The chosen amount of the book isn't available. In this case the system put in the actor's cart the maximum amount available.</p>

3.3.1 Add book to cart sequence diagram

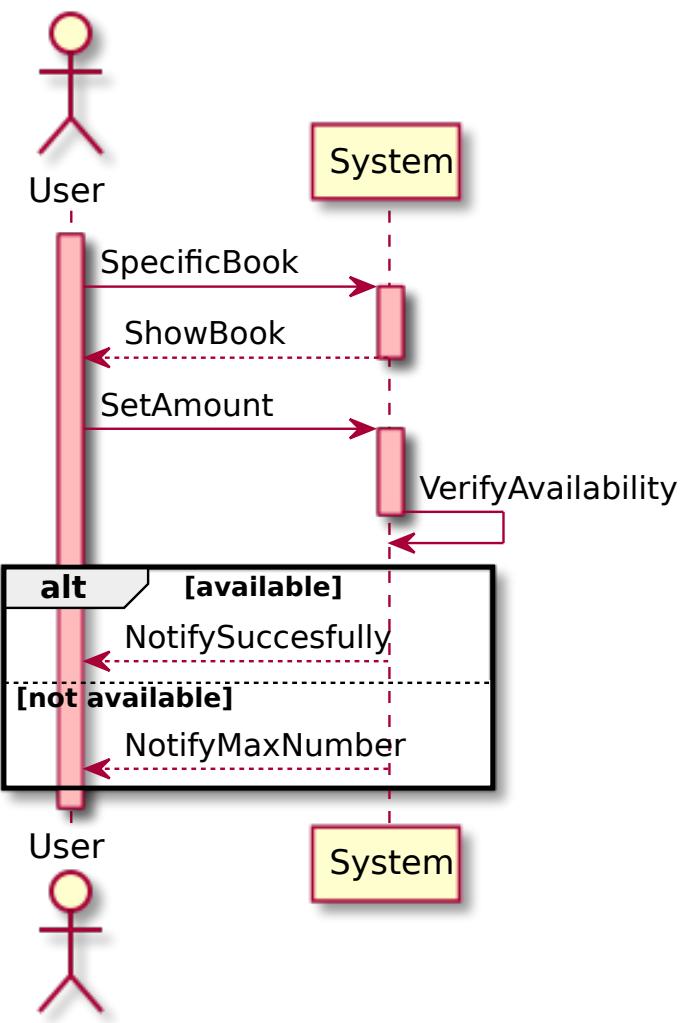


Figure 11: Login Sequence Diagram

3.3.2 Add book to cart screenshots

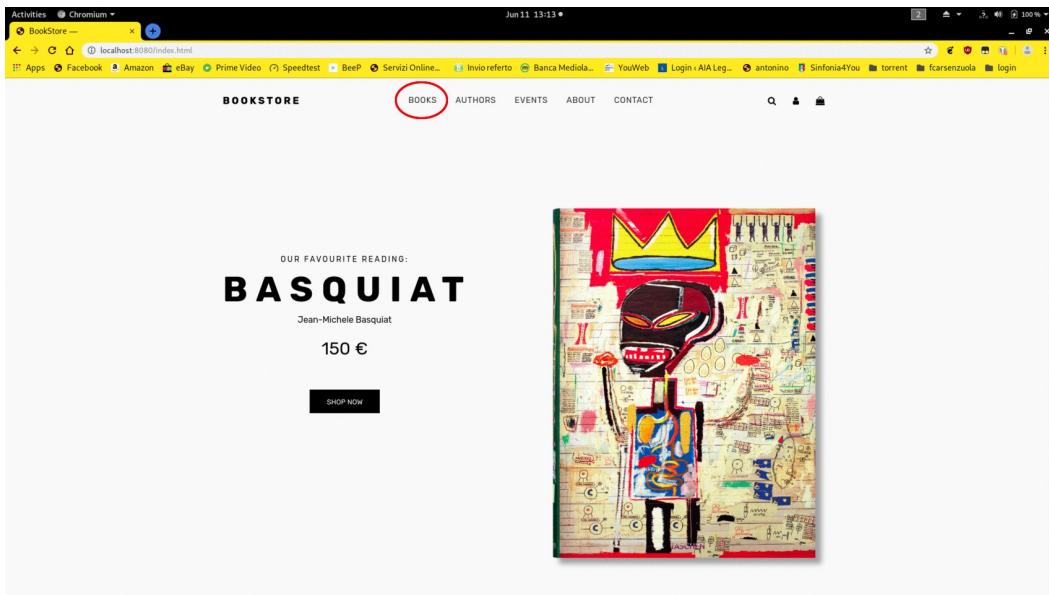


Figure 12: Select books page

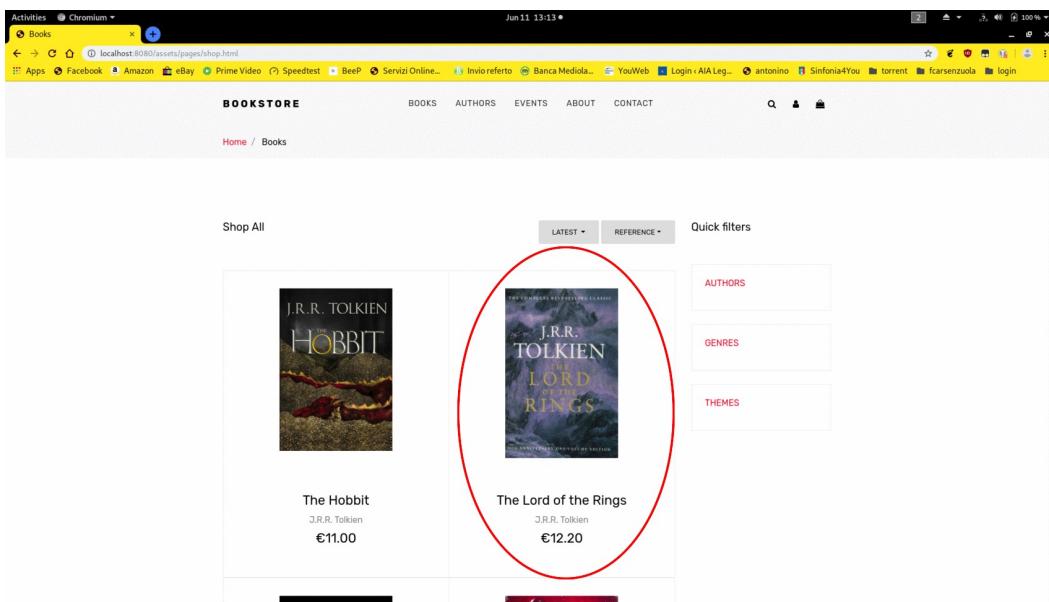


Figure 13: Select one book

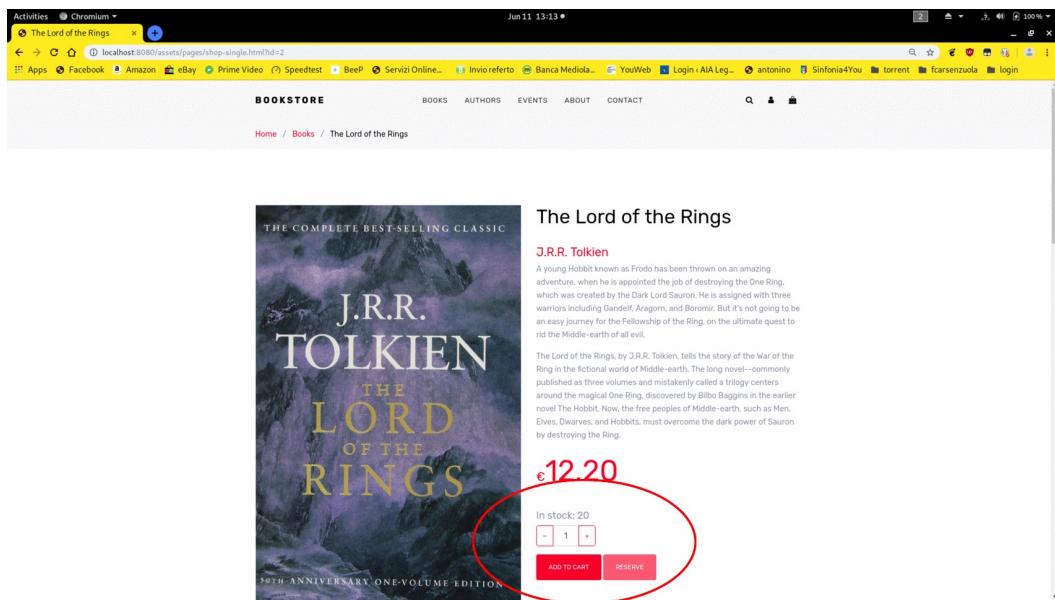


Figure 14: Select the desired amount and press add to cart button

4 Design-in-the small

4.1 Sketches

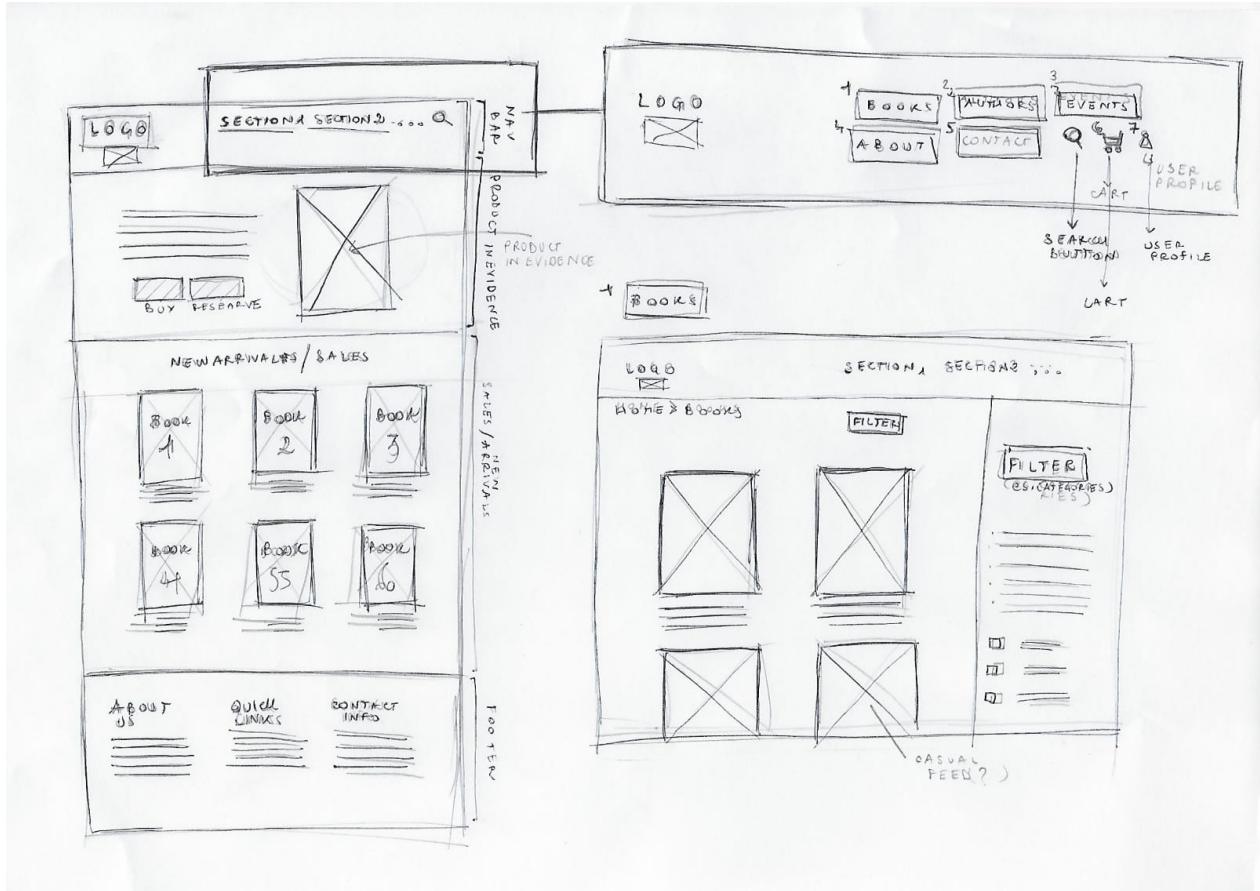


Figure 15: Home/Books Pages

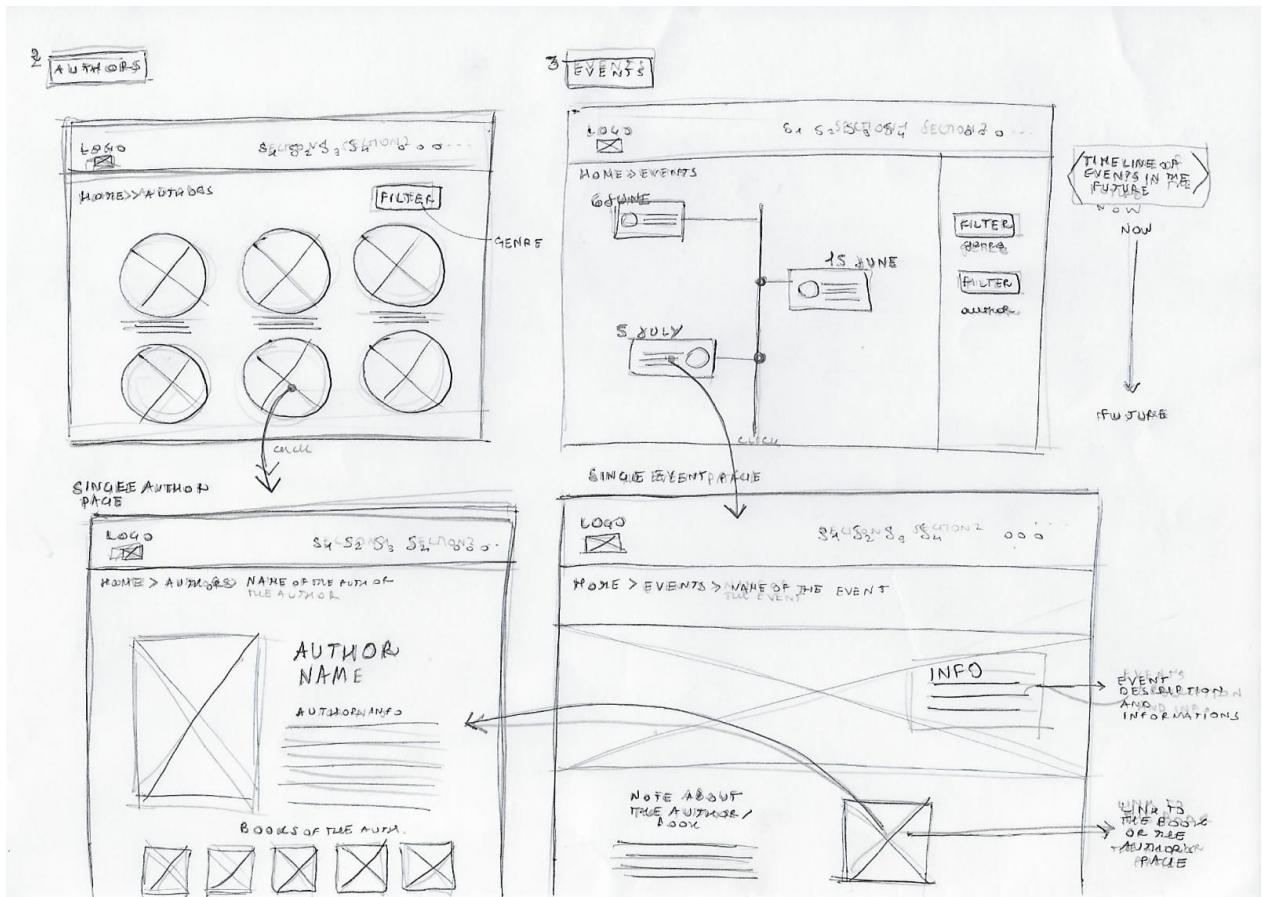


Figure 16: Authors/Events Pages

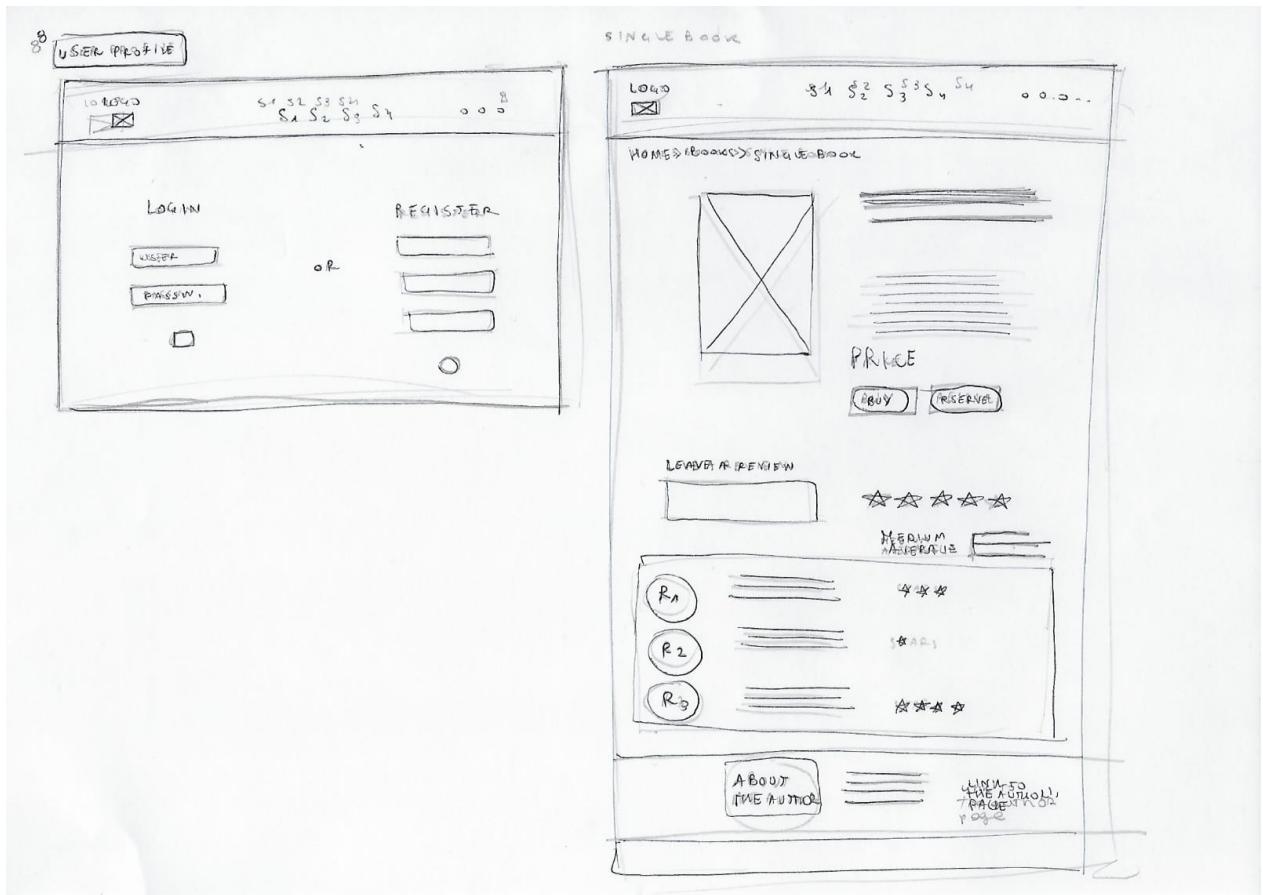


Figure 17: Single Book/User Pages

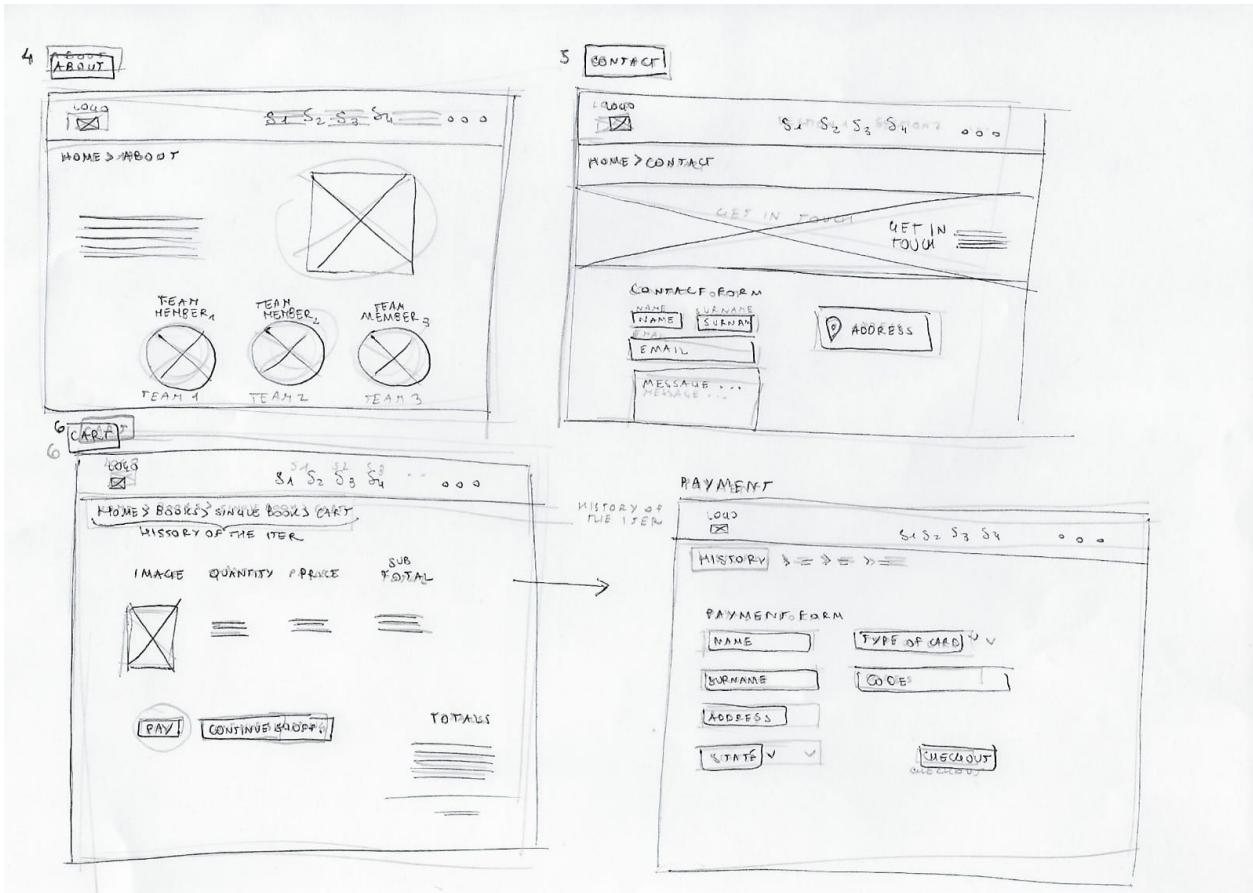


Figure 18: About/Contact/Cart/Payment Pages

4.2 Wireframes

4.2.1 All-in-one

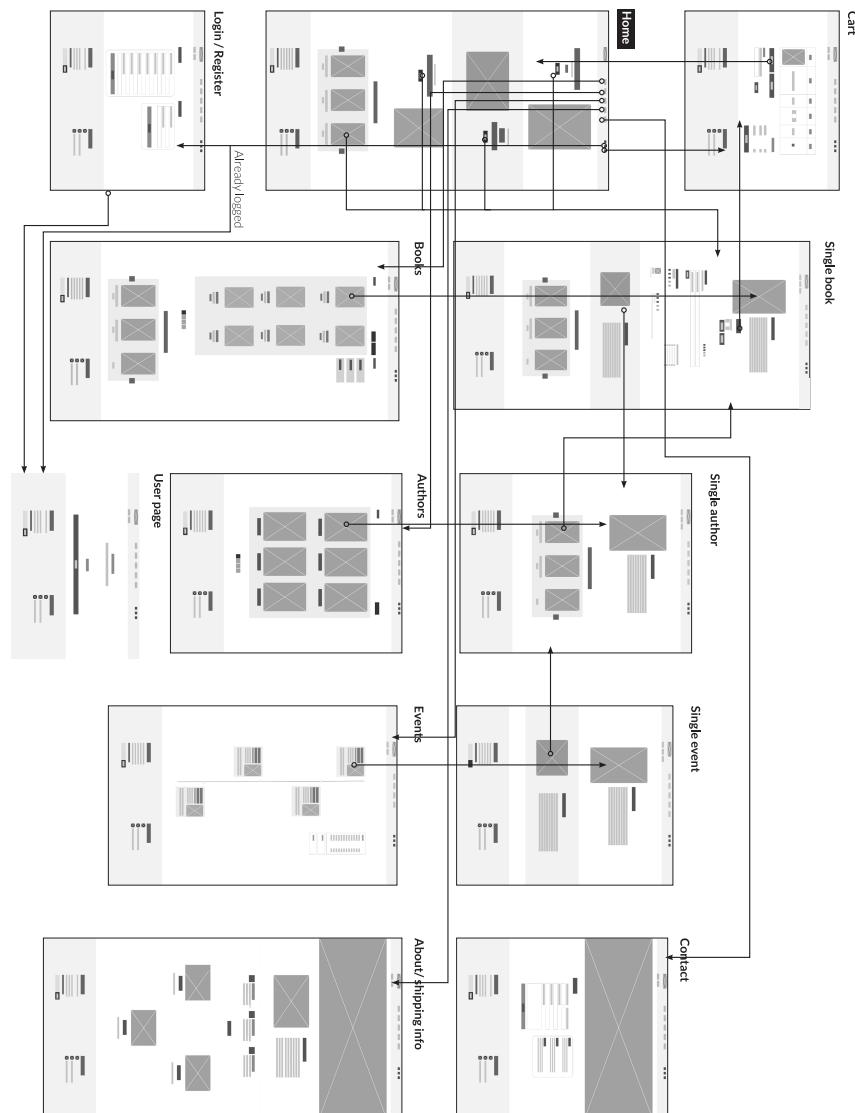


Figure 19: Wireframe whole website

4.2.2 Page by page

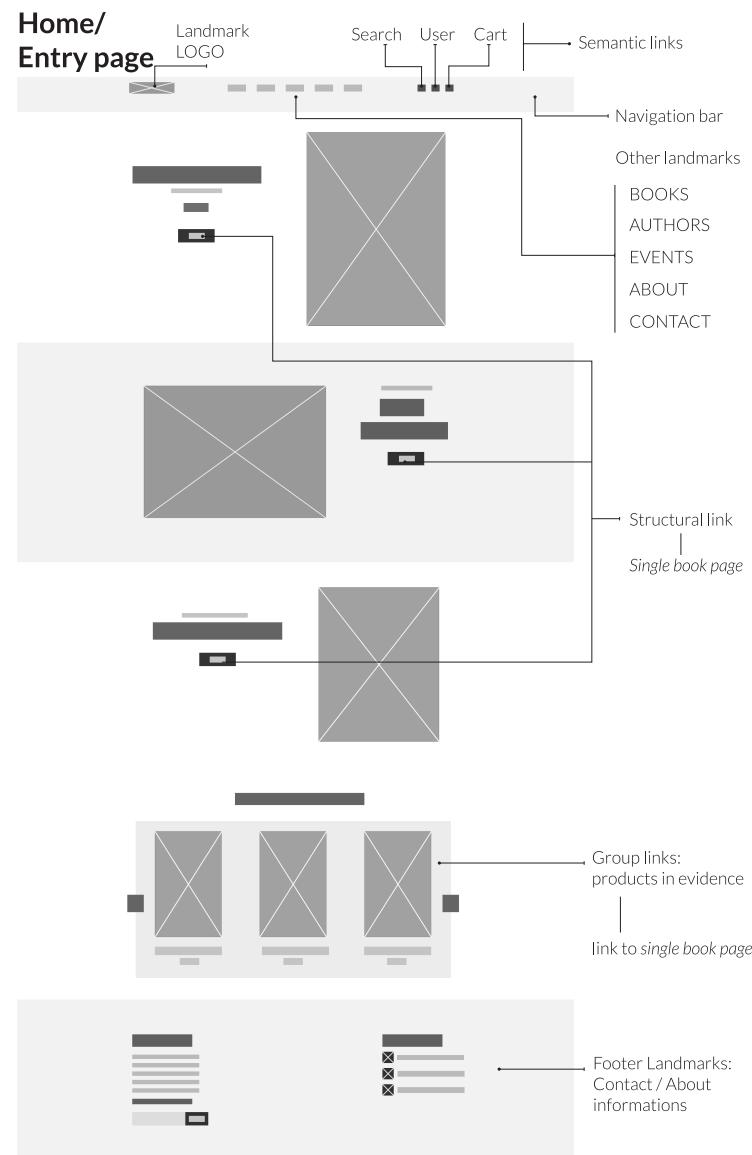


Figure 20: Wireframe whole website

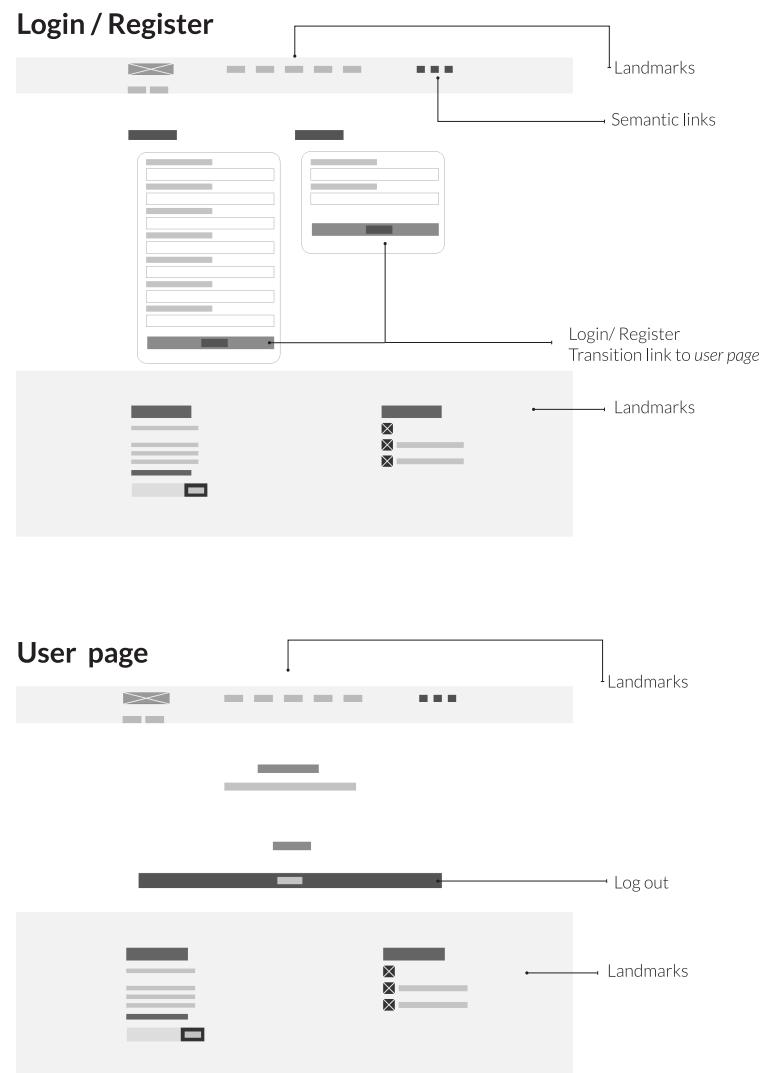


Figure 21: Login/Register - User page wireframe

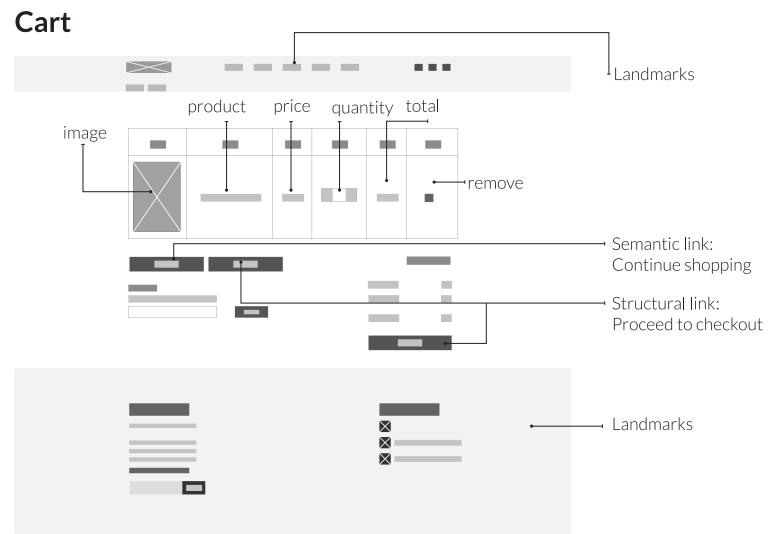


Figure 22: Cart wireframe

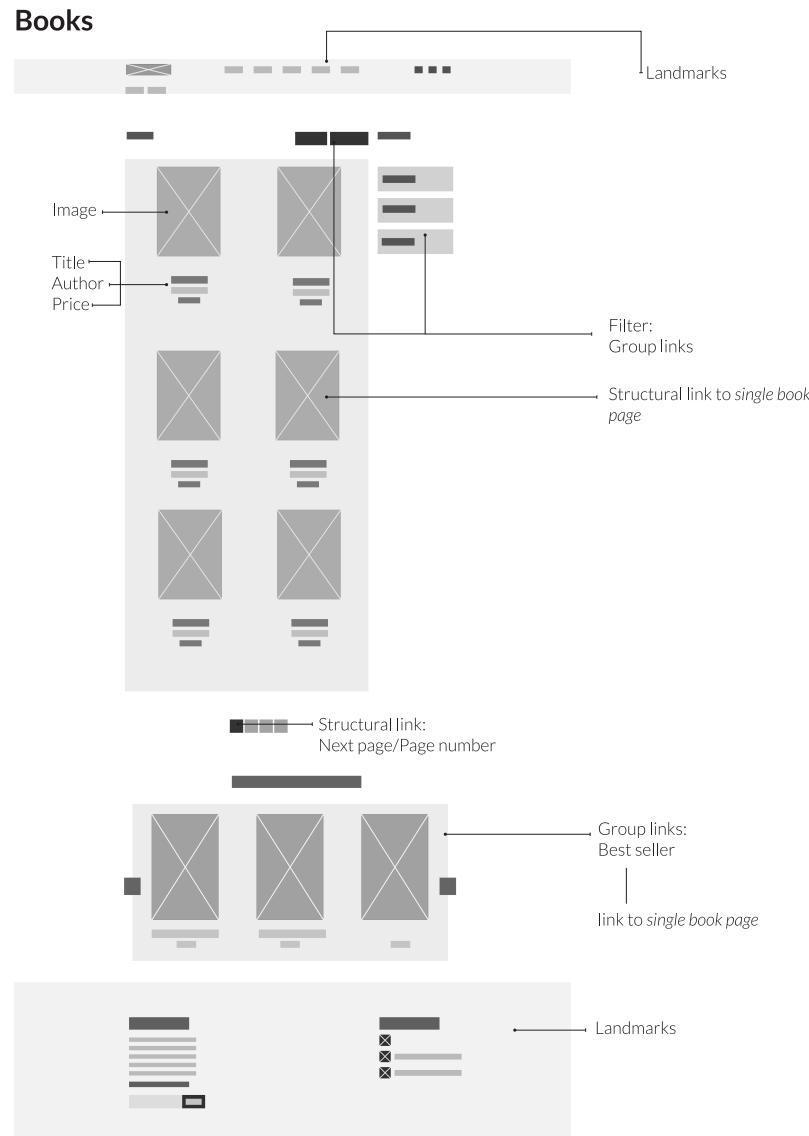


Figure 23: Books wireframe

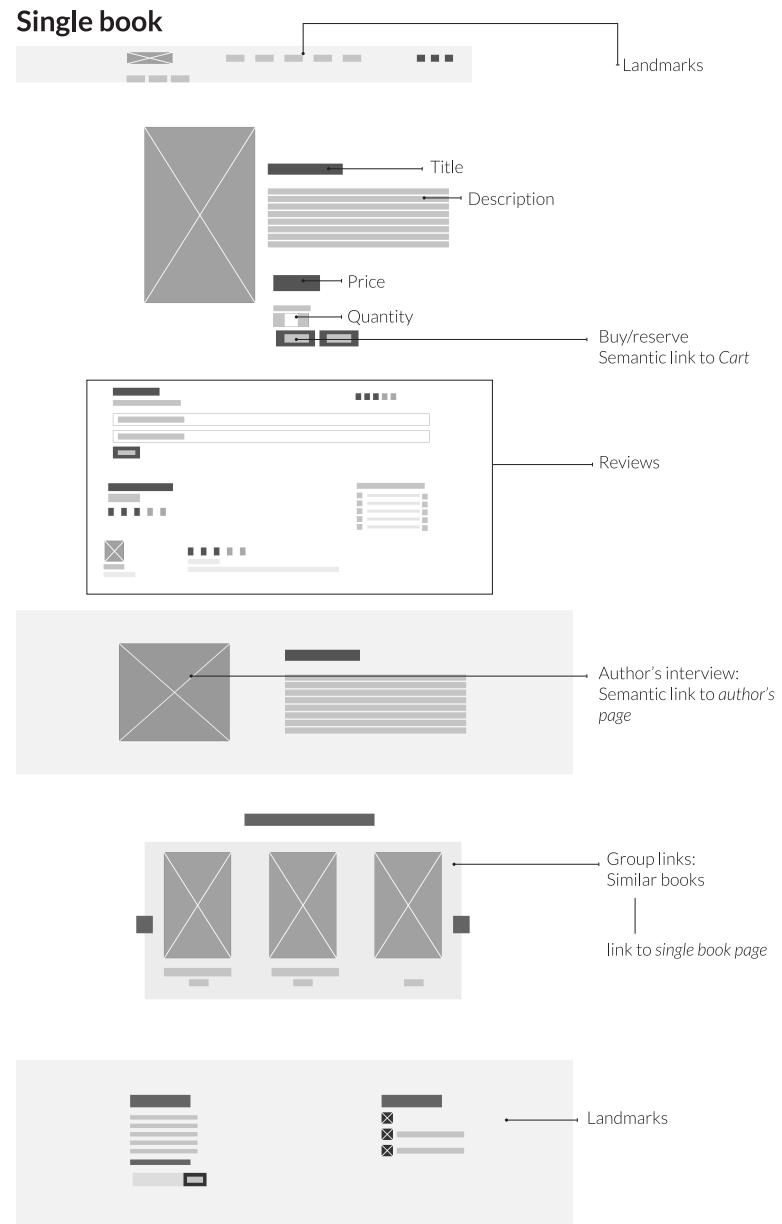


Figure 24: Shop single wireframe

Authors

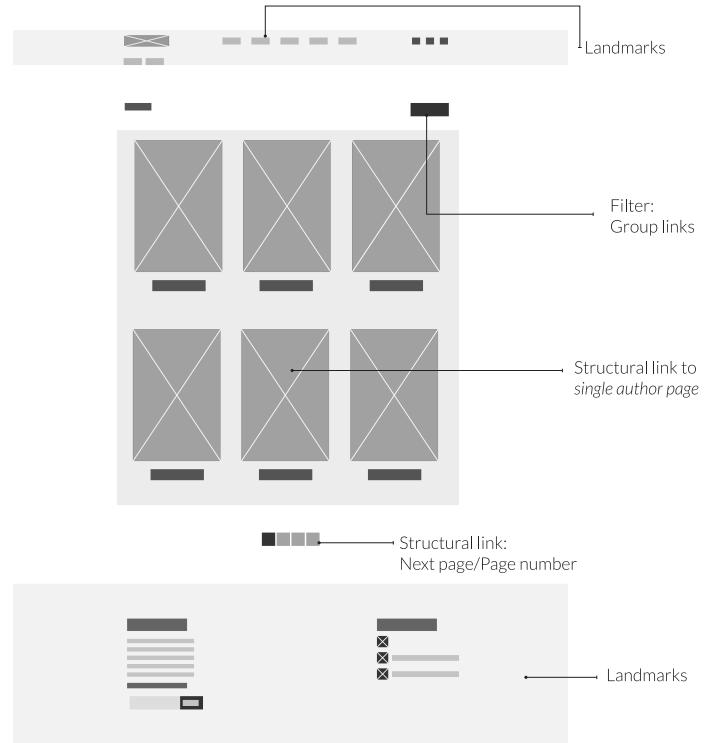


Figure 25: Authors wireframe

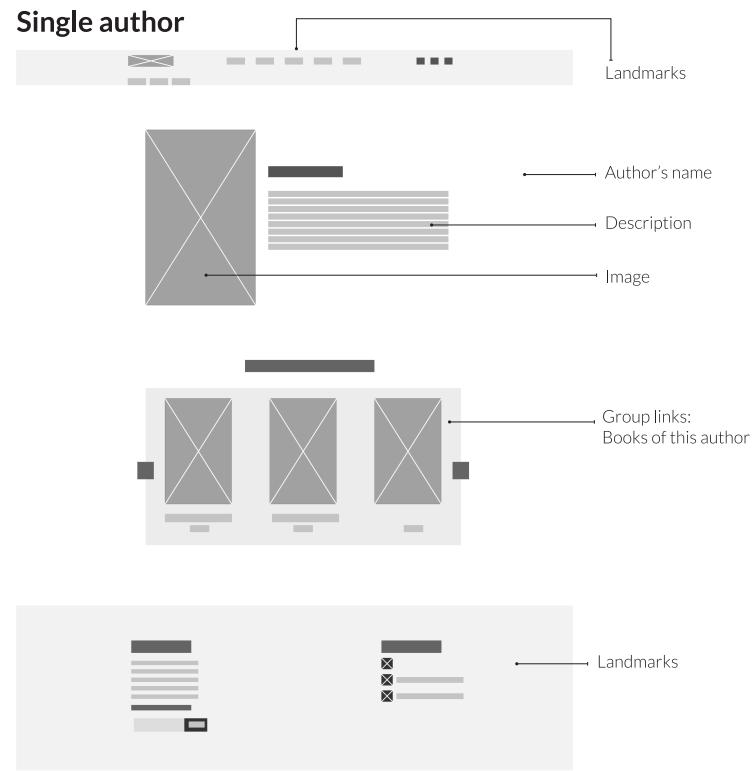


Figure 26: Single authro wireframe

Events

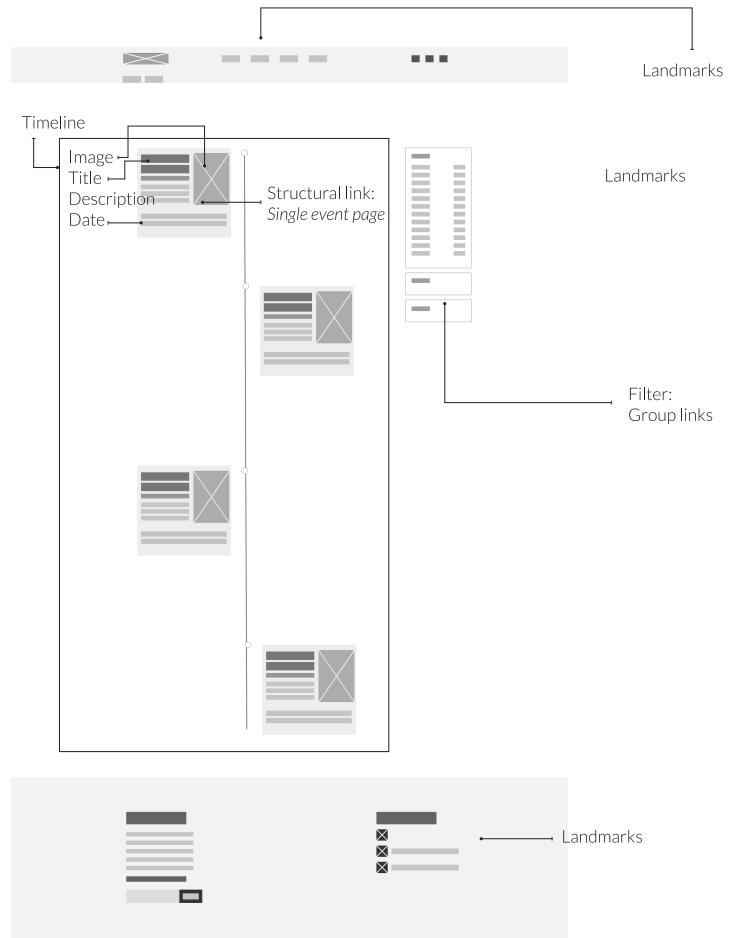


Figure 27: Events wireframe

Single event

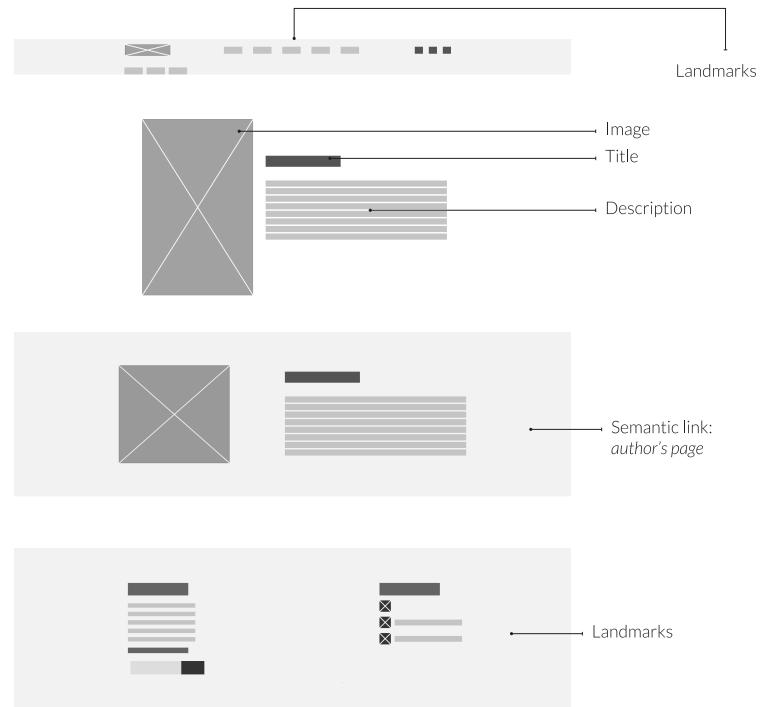


Figure 28: Single event wireframe

Contact

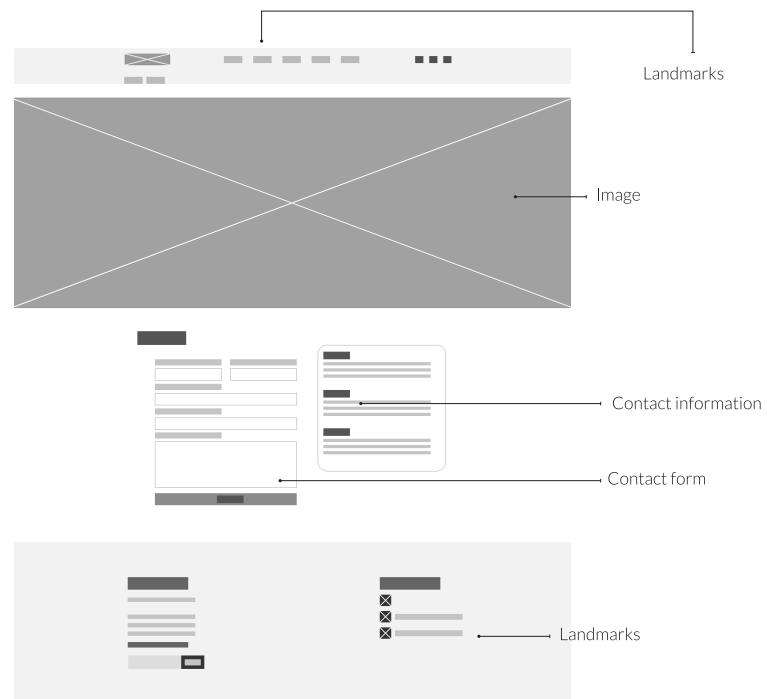


Figure 29: Contact wireframe

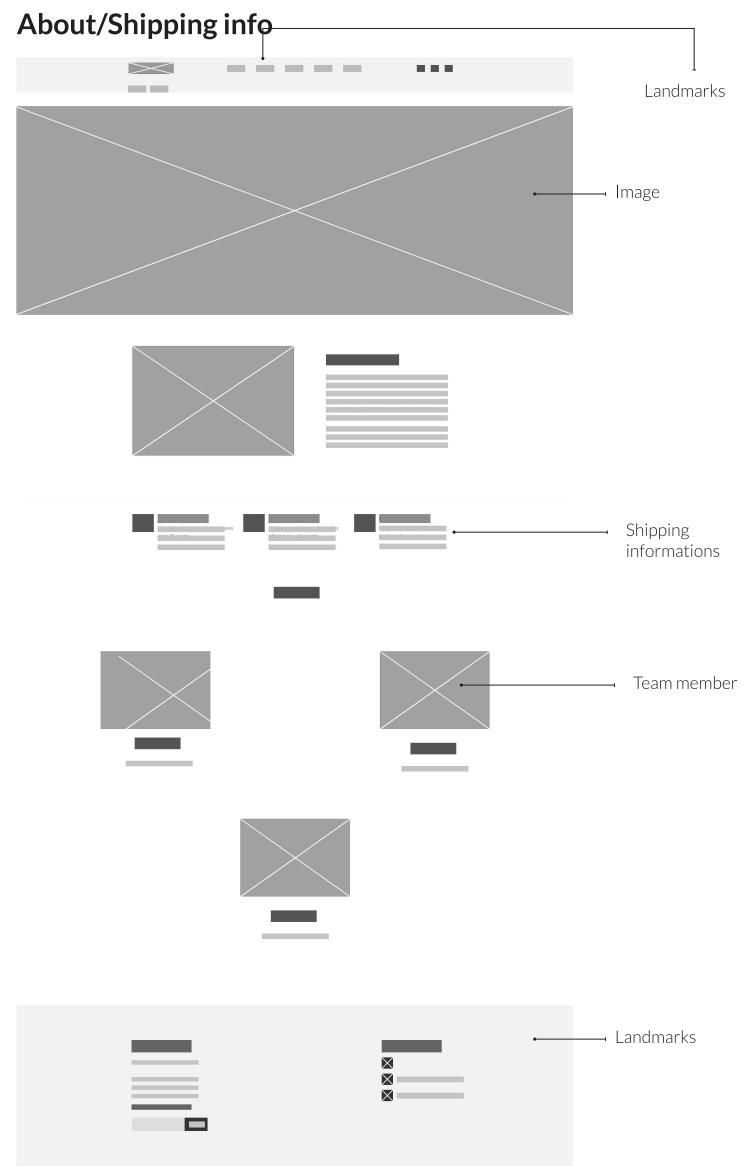


Figure 30: About/Shipping info wireframe

4.3 Navigation map

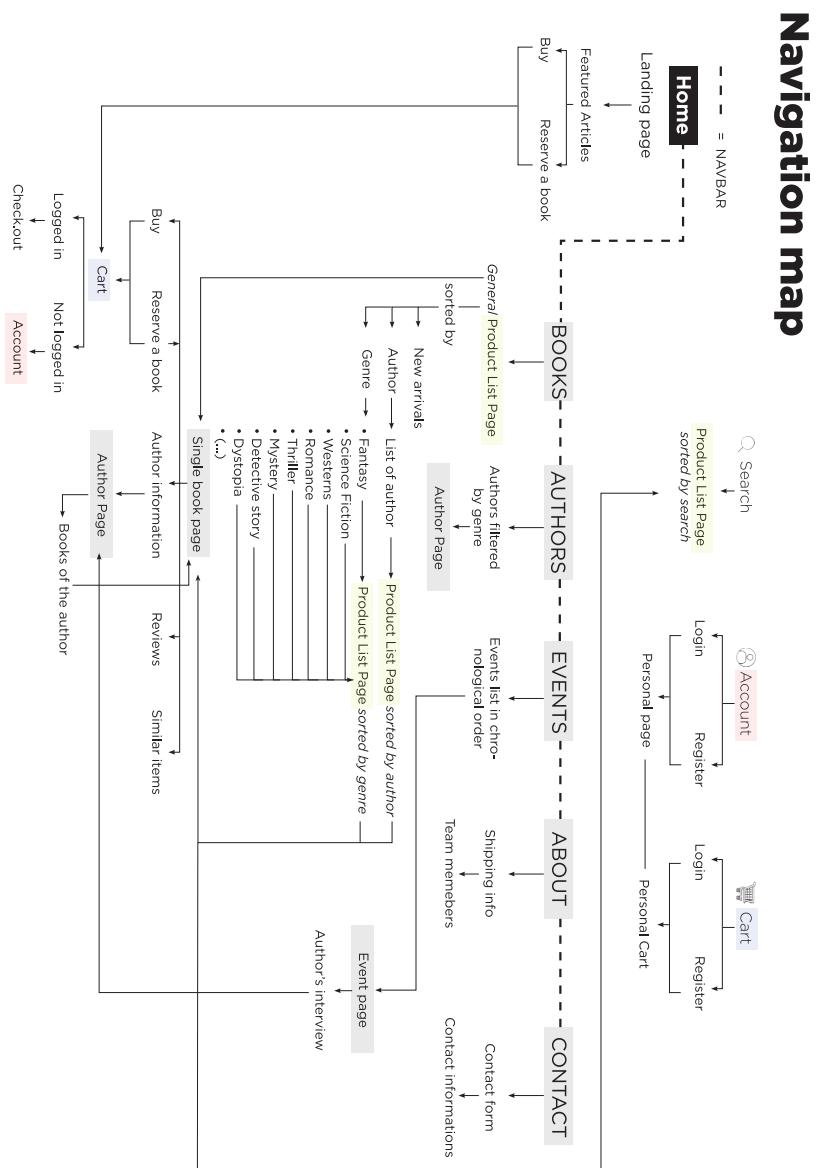


Figure 31: Navigation Map

5 DB Design

Some note on the below diagrams:

- We added some tables in blue color. These tables are there to make the system scalable and for a possible future implementation. In particular the ORDER table will contain all the past orders made by the users (each row represents one order with the date and the id of the user that made it). The GIFT CARD table should be implemented to manage the possibility to have gift card (thought as promo code). The RESERVATION table is thought to contain the orders of books that are not available (out of stock).
- The CART table has only one column (the foreign key id_user). At the moment it could be removed, but in the future, when the GIFT CARD table will be added, a specific gift card will be linked to a specific cart. So we decided to keep it, to make the system scalable and easier to add further features to it in future.

5.1 E-R diagram

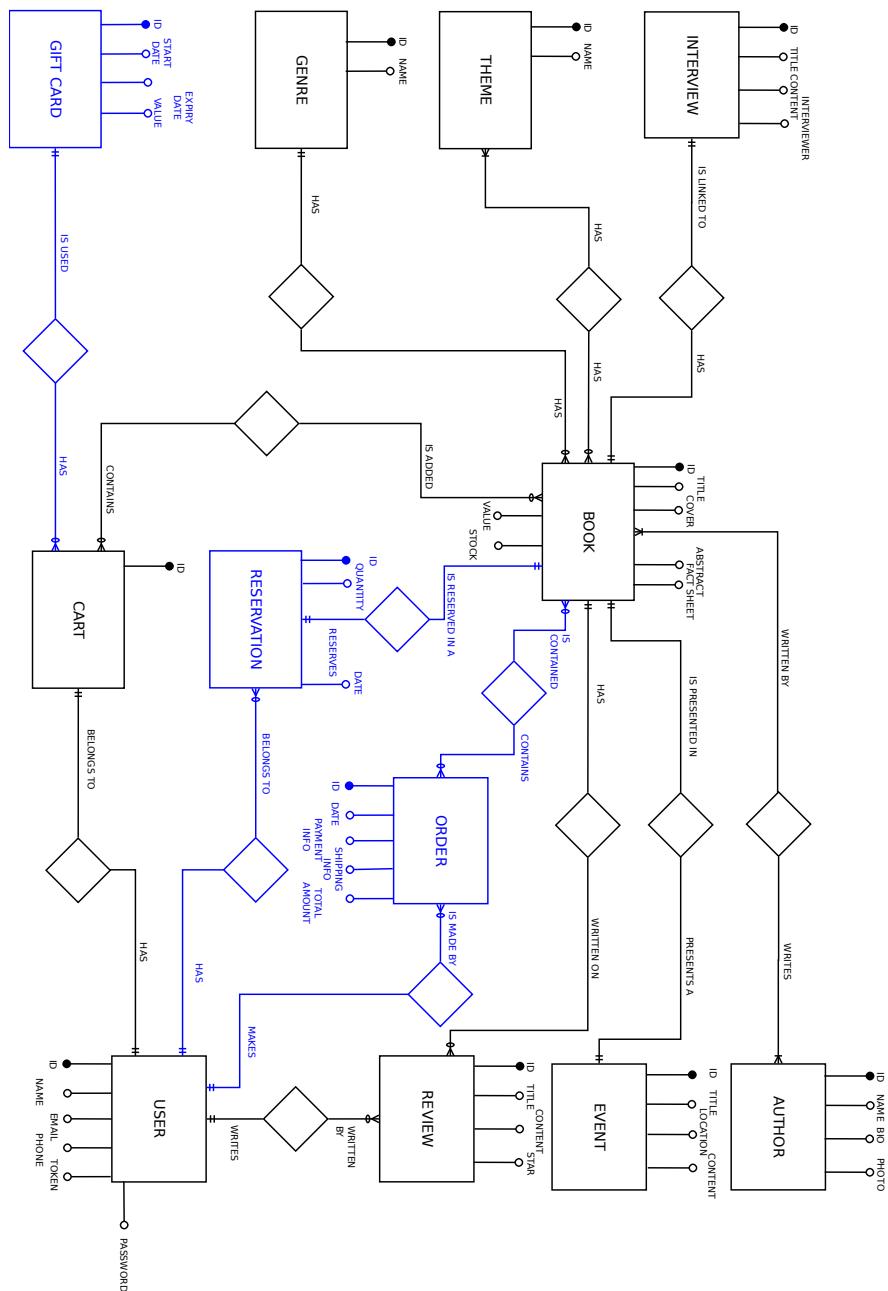


Figure 32: E-R Diagram

5.2 Relational Tables

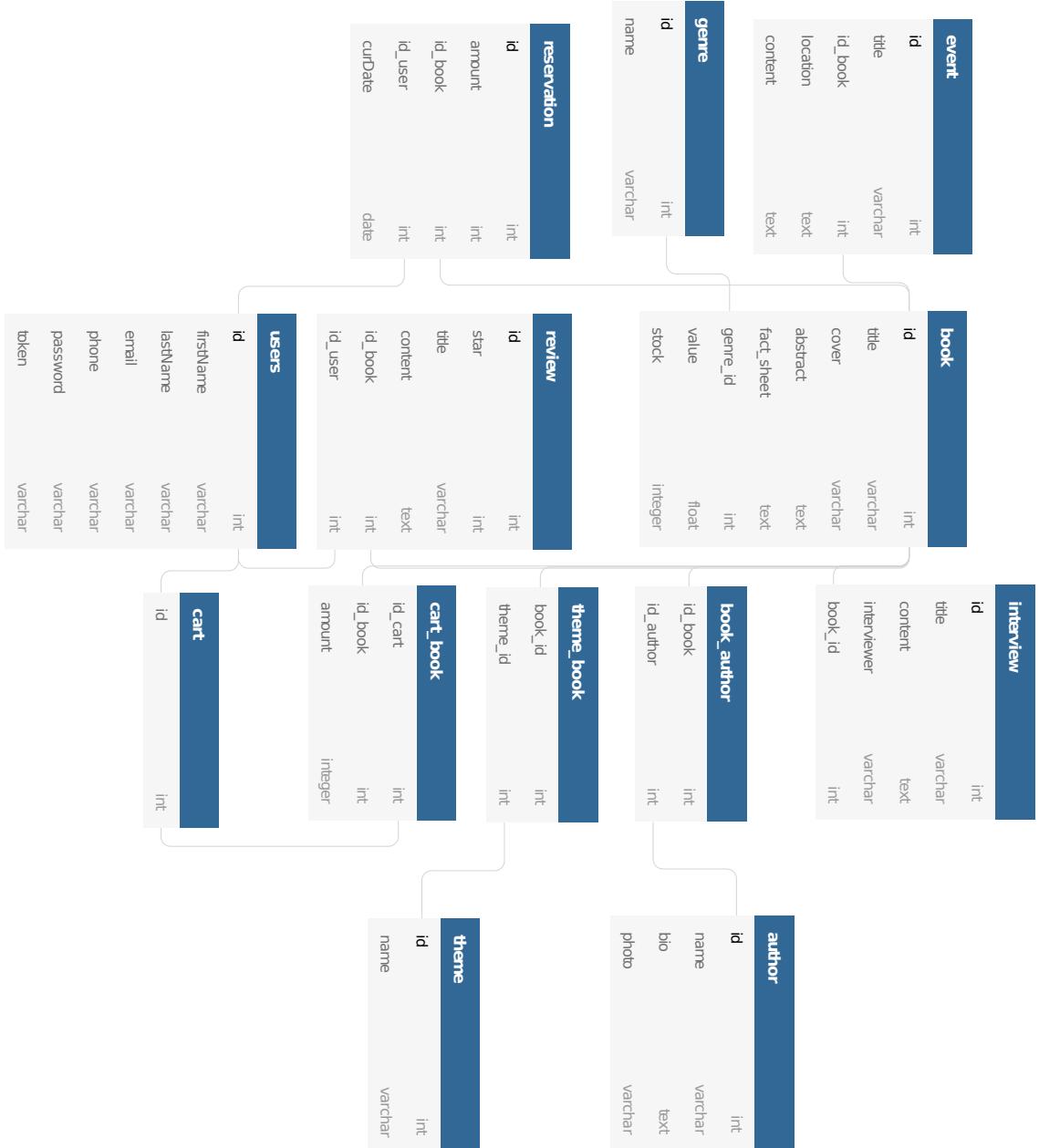


Figure 33: Relational Table Diagram