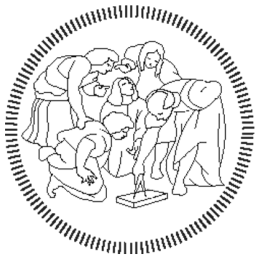

POLITECNICO
MILANO 1863

HYPERMEDIA APPLICATION:

WEB AND MULTIMEDIA

BOOKSTORE PROJECT

Design Document

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June 11, 2019

Contents

1 Introduction

1.1 Revision History

Version	Date	Authors	Summary
0.1	-	Davide Avanzi, Francesca Bernecich, 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

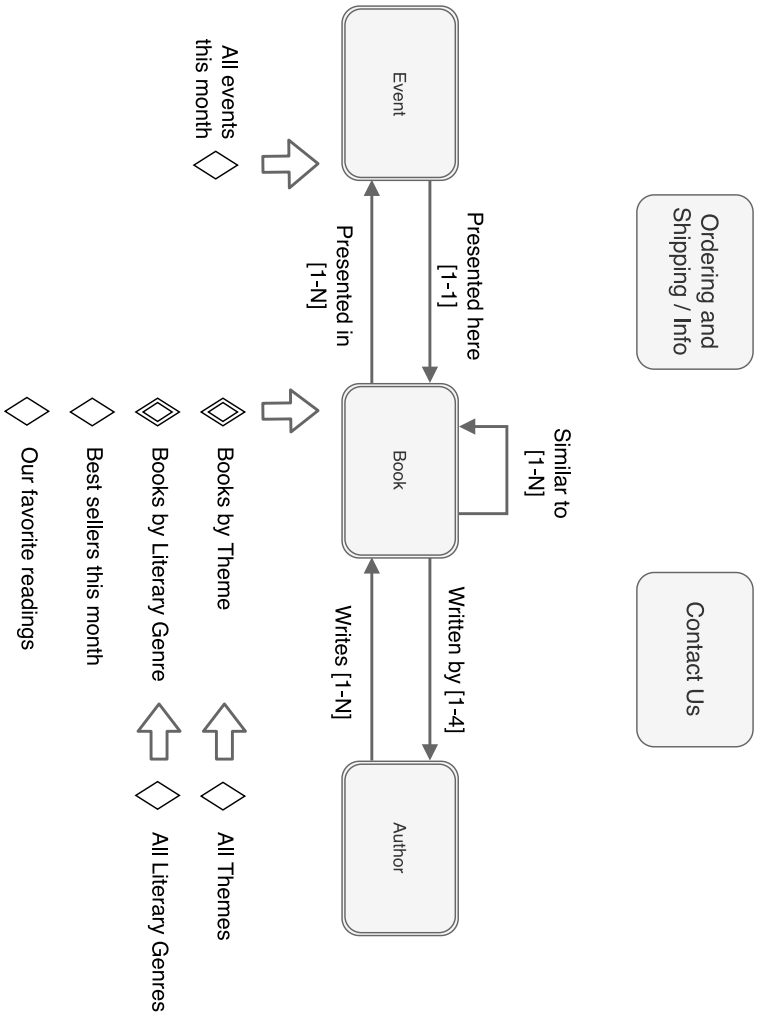

Figure 1: C-IDM

2.2 L-IDM schema

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	1. The guest reaches the registration page 2. The system requires the guest to enter all his/her personal information 3. The guest types the requested information and presses the 'Next' button 4. The system verifies the uniqueness of the email 5. The system reports the registration and redirects the user to the login page
Postconditions	The user has signed up.
Exceptions	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.

3.1.1 User registration sequence diagram

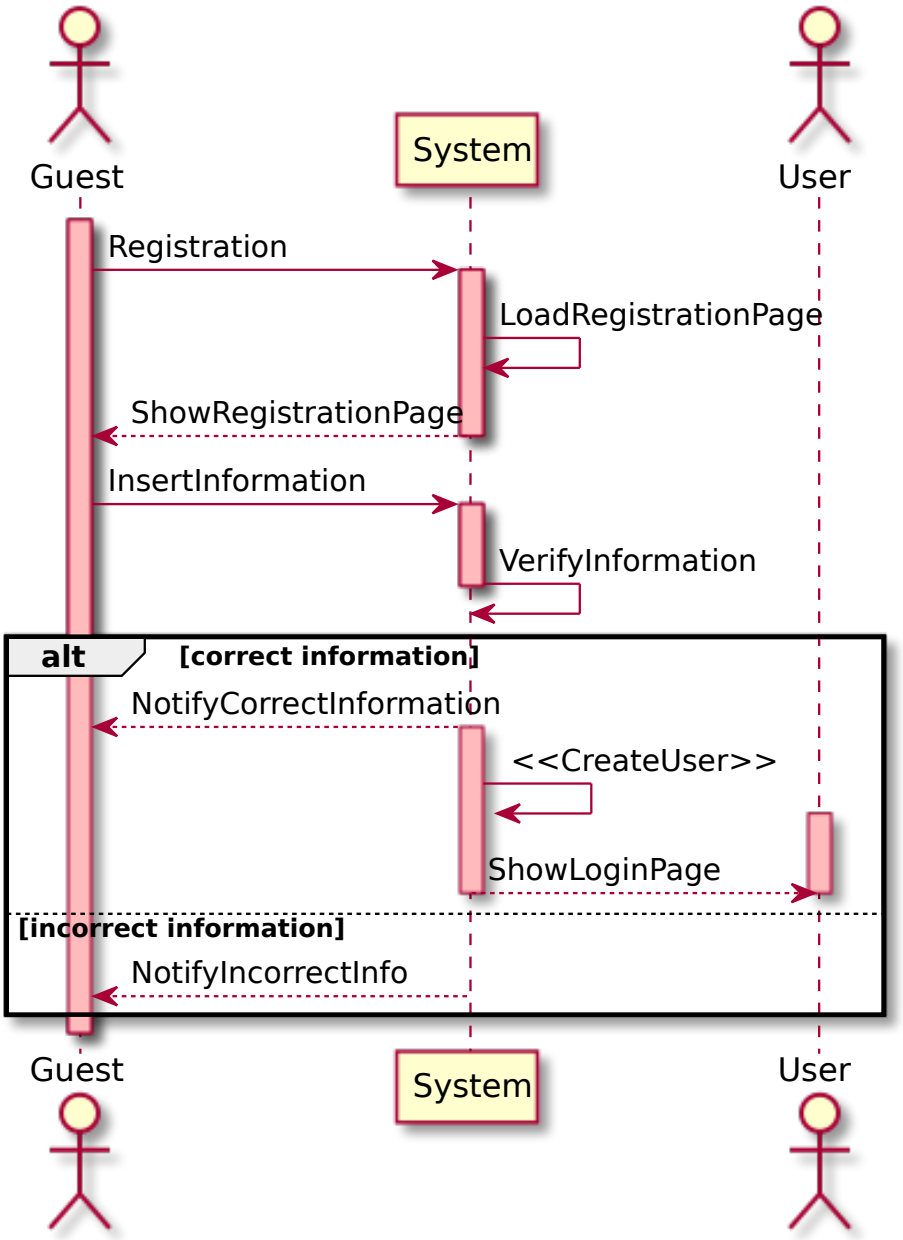

Figure 2: User registration sequence diagram

3.1.2 User registration screenshots

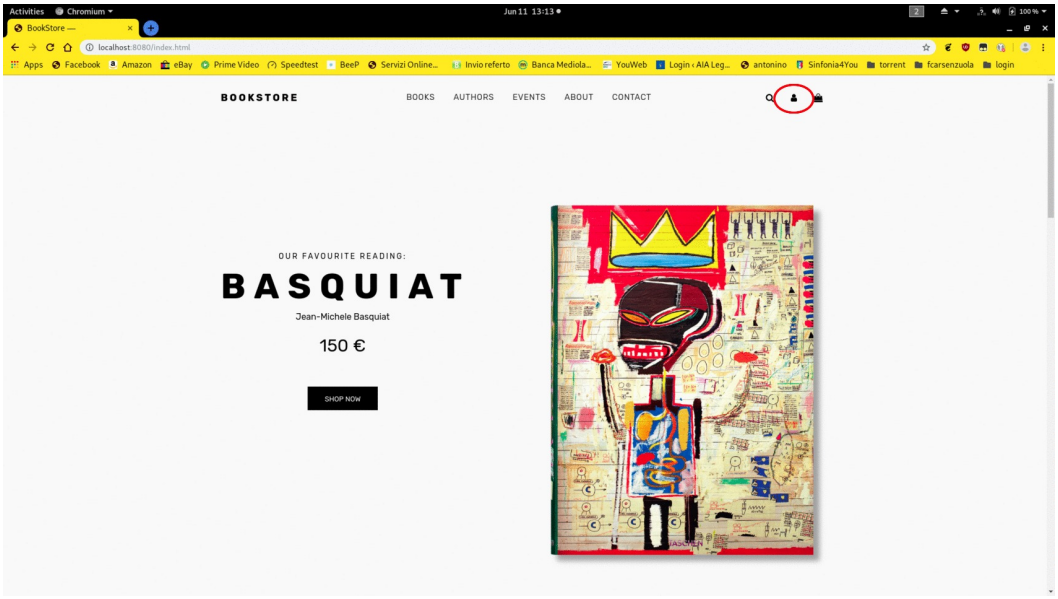

Figure 3: Select user page

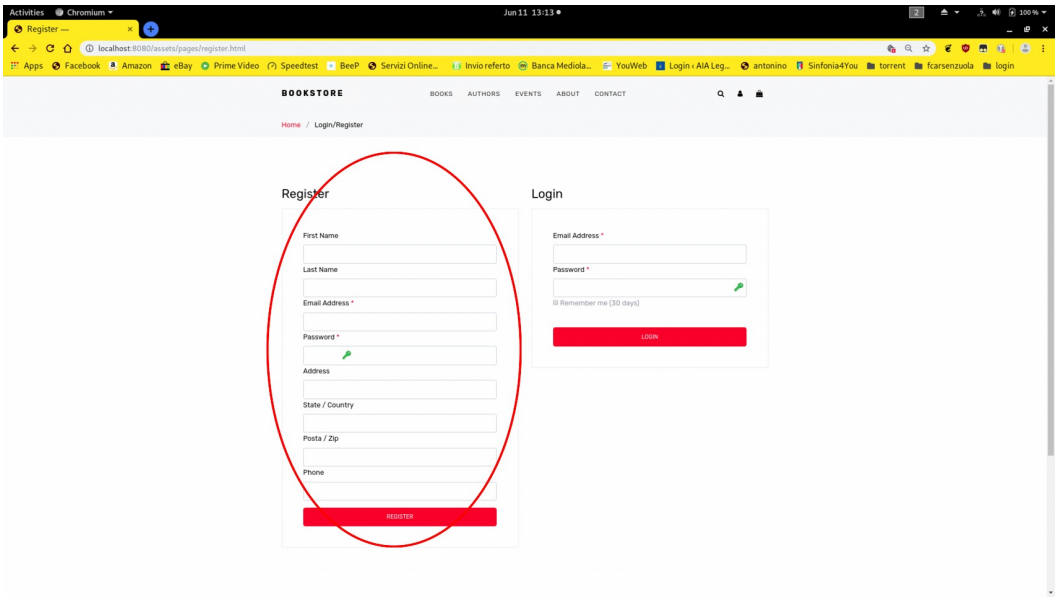

Figure 4: Insert register informations

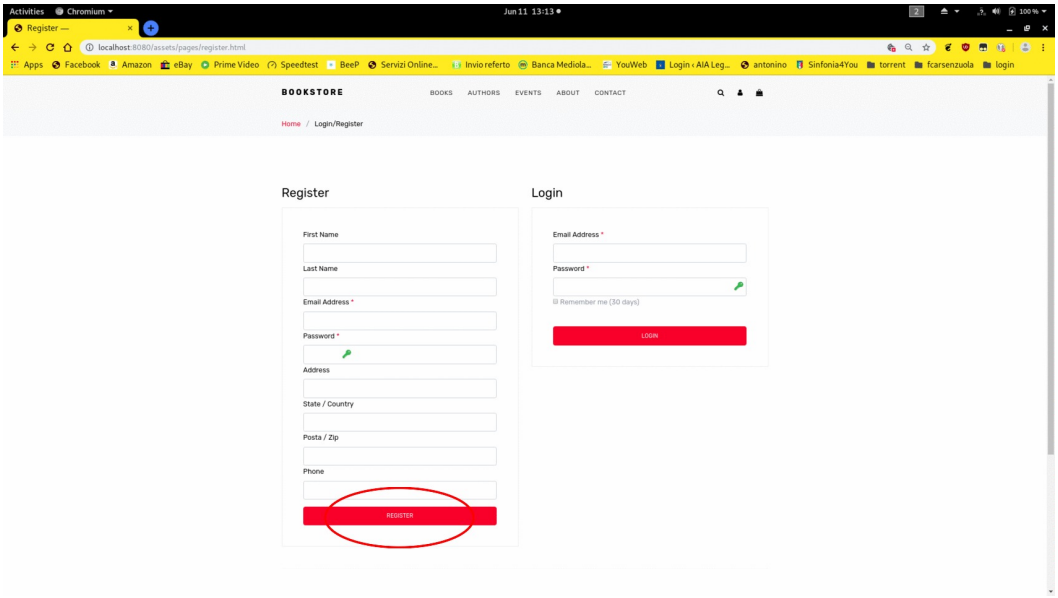

Figure 5: Click on register button

3.2 User login

Actors	User
Preconditions	The actor has a working Internet connection and is already registered.
Events	1. The actor reaches the log in page 2. The system requires the actor to enter his email and password 3. The actor types the requested information and press the 'Log in' button 4. The system verifies the correctness of the email and password 5. The system redirects the actor to the main page
Postconditions	The actor is logged in.
Exceptions	The email or the password the actor typed are not correct. One of the fields is empty. In these cases the actor can't complete the log in. The system notifies the error and cannot complete the login.

3.2.1 User login sequence diagram

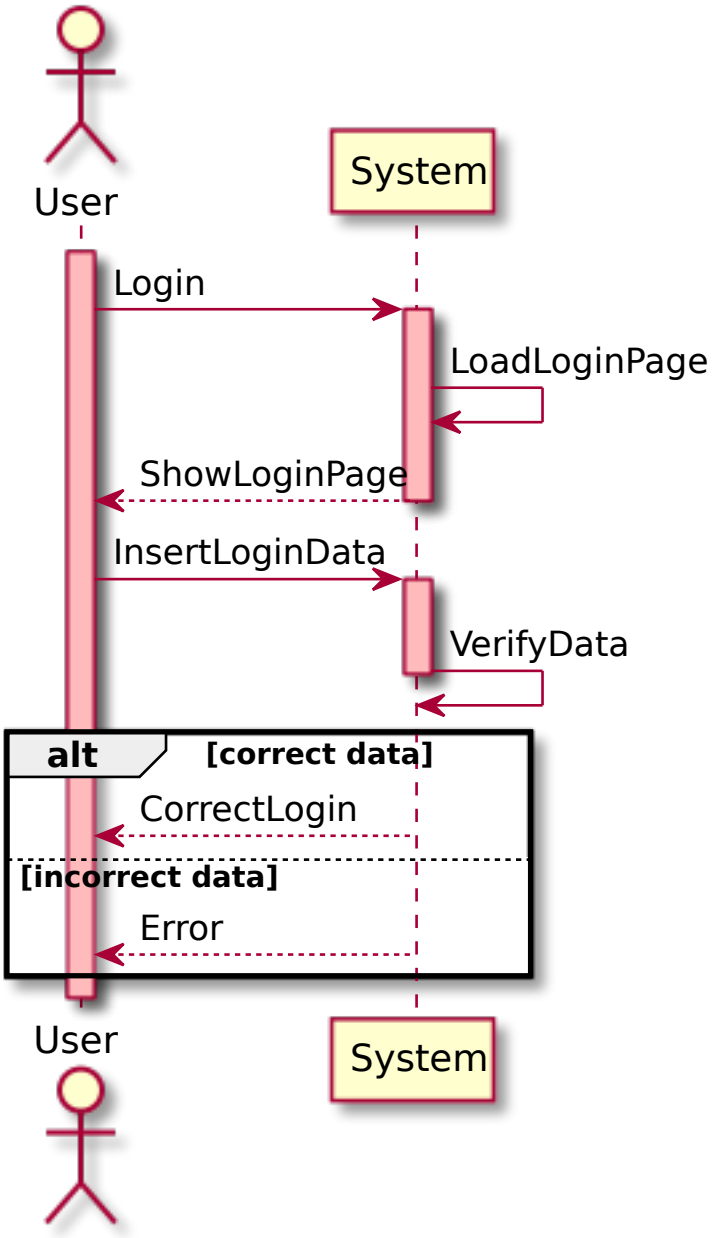

Figure 6: User login sequence diagram

3.2.2 User login screenshots

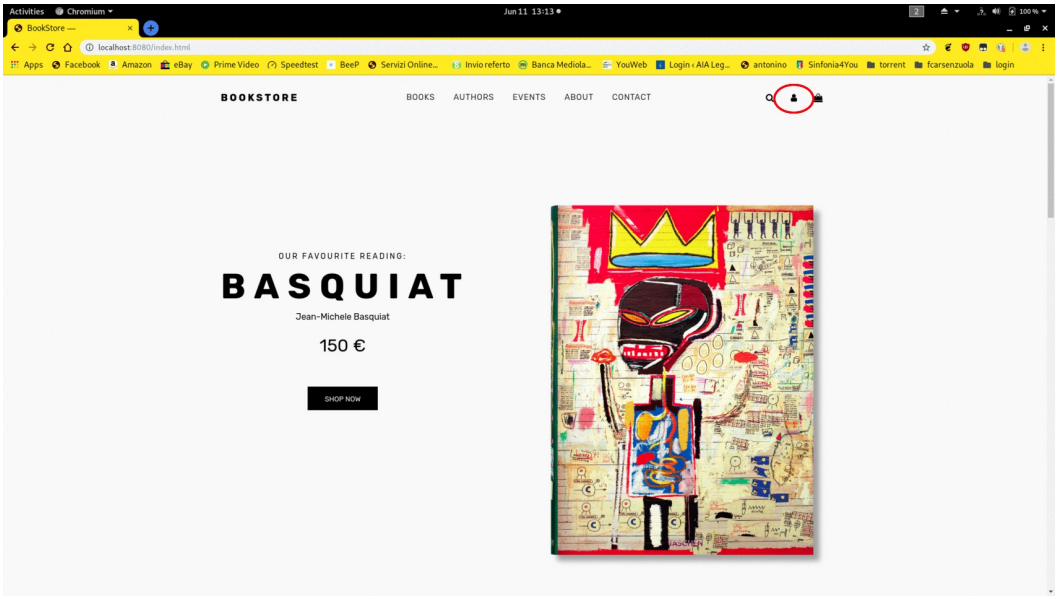

Figure 7: Select user page

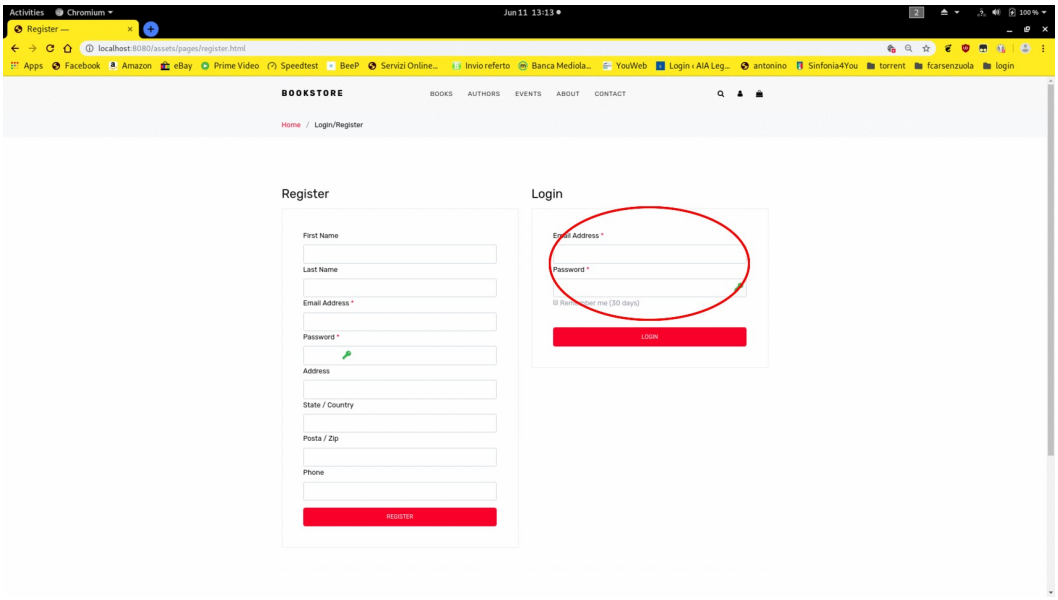

Figure 8: Insert login informations

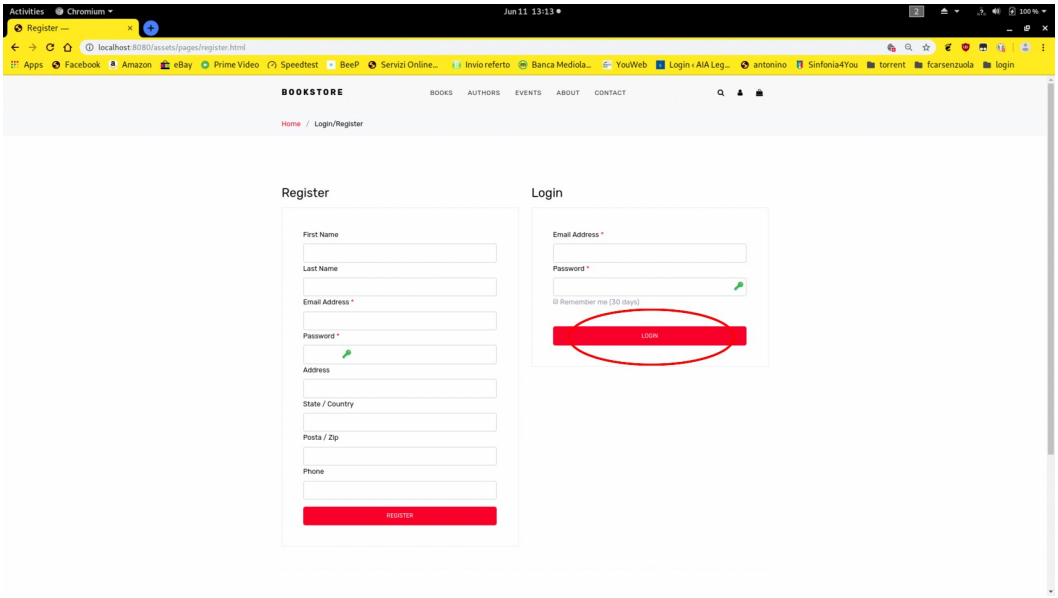

Figure 9: Click on login button

3.3 Add book to cart

Actors	User
Preconditions	The actor has a working Internet connection and is already login.
Events	1. The actor reaches the book page 2. The actor choose the amount of book that he/she want to put in him/her cart 3. The actor click on the add button 4. 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	The chosen amount of the book isn't available. In this case the system put in the actor's cart the maximum amount available.

3.3.1 Add book to cart sequence diagram

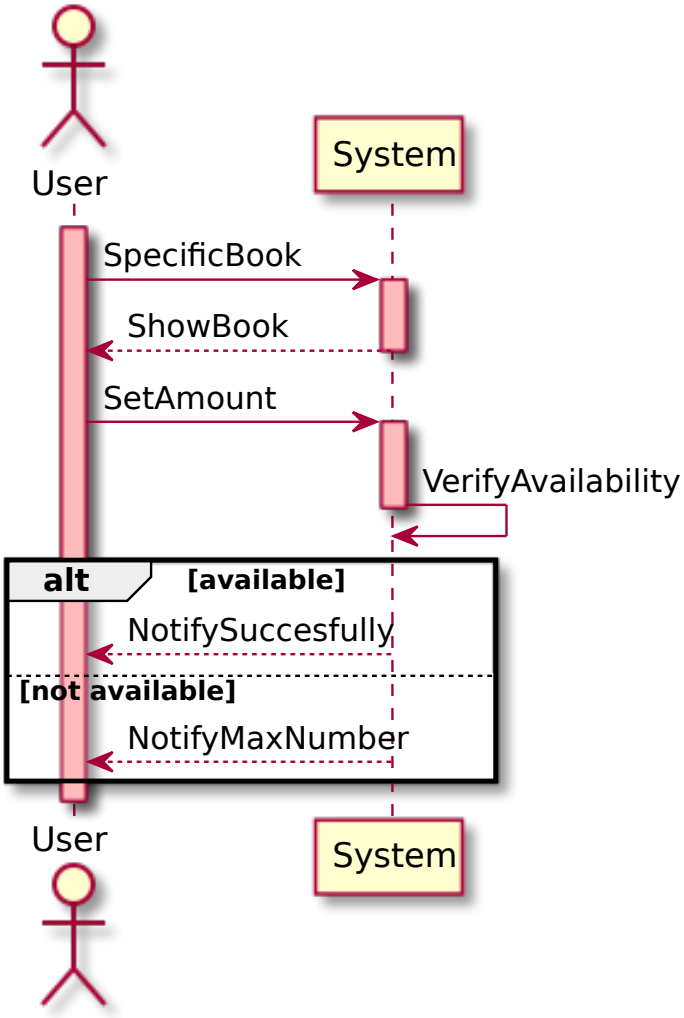

Figure 10: Login Sequence Diagram

3.3.2 Add book to cart screenshots

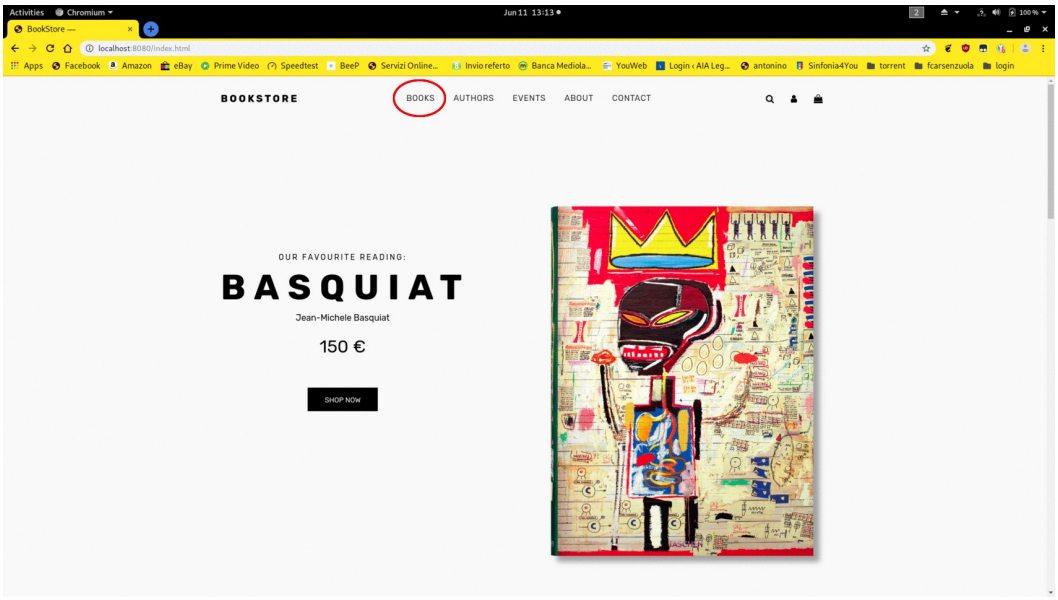

Figure 11: Select books page

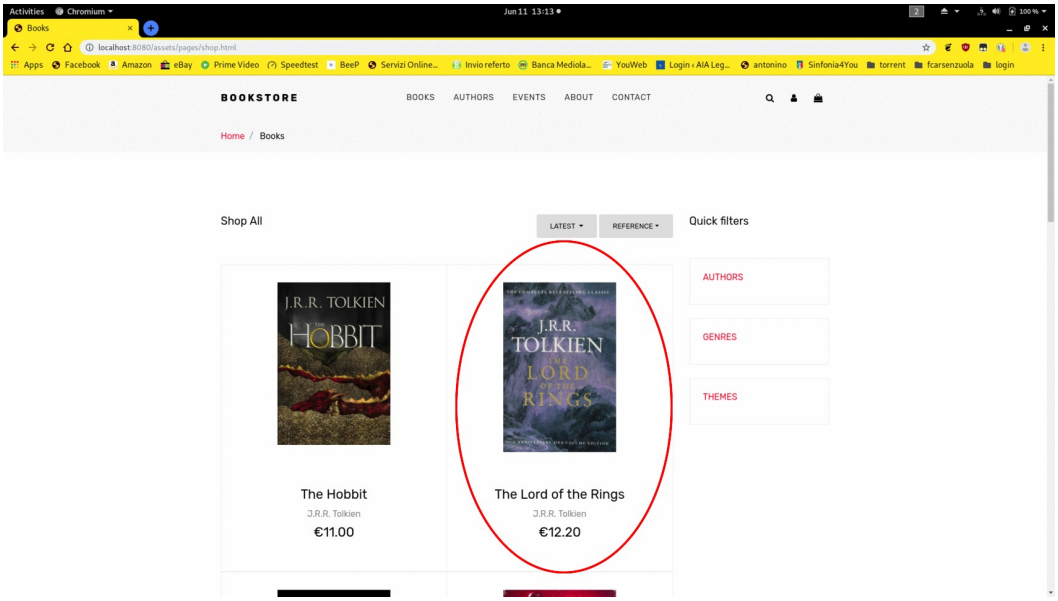

Figure 12: Select one book

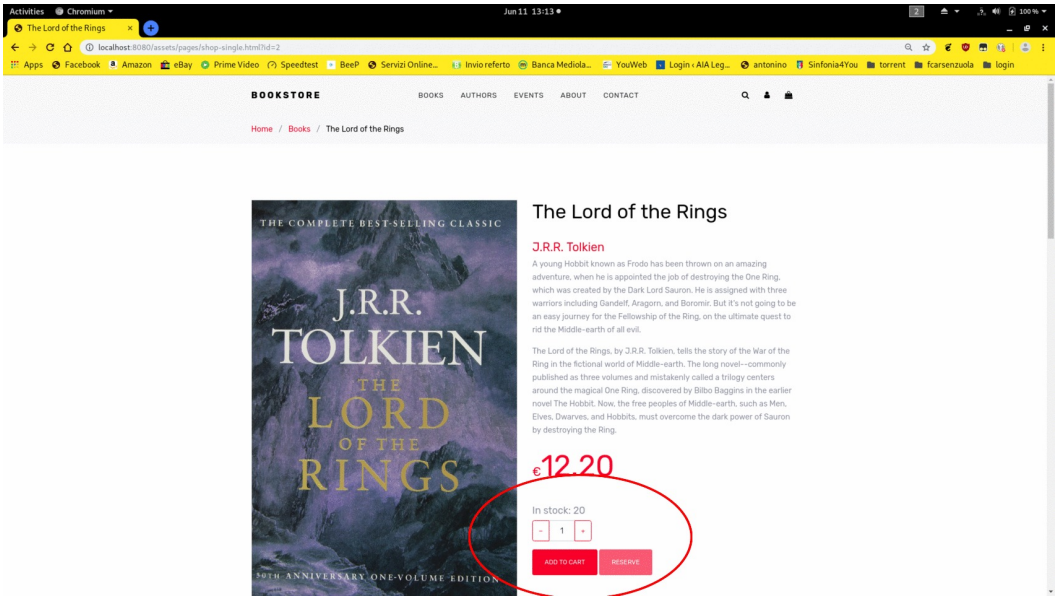

Figure 13: Select the desired amount and press add to cart button

4 Design-in-the small

4.1 Sketches

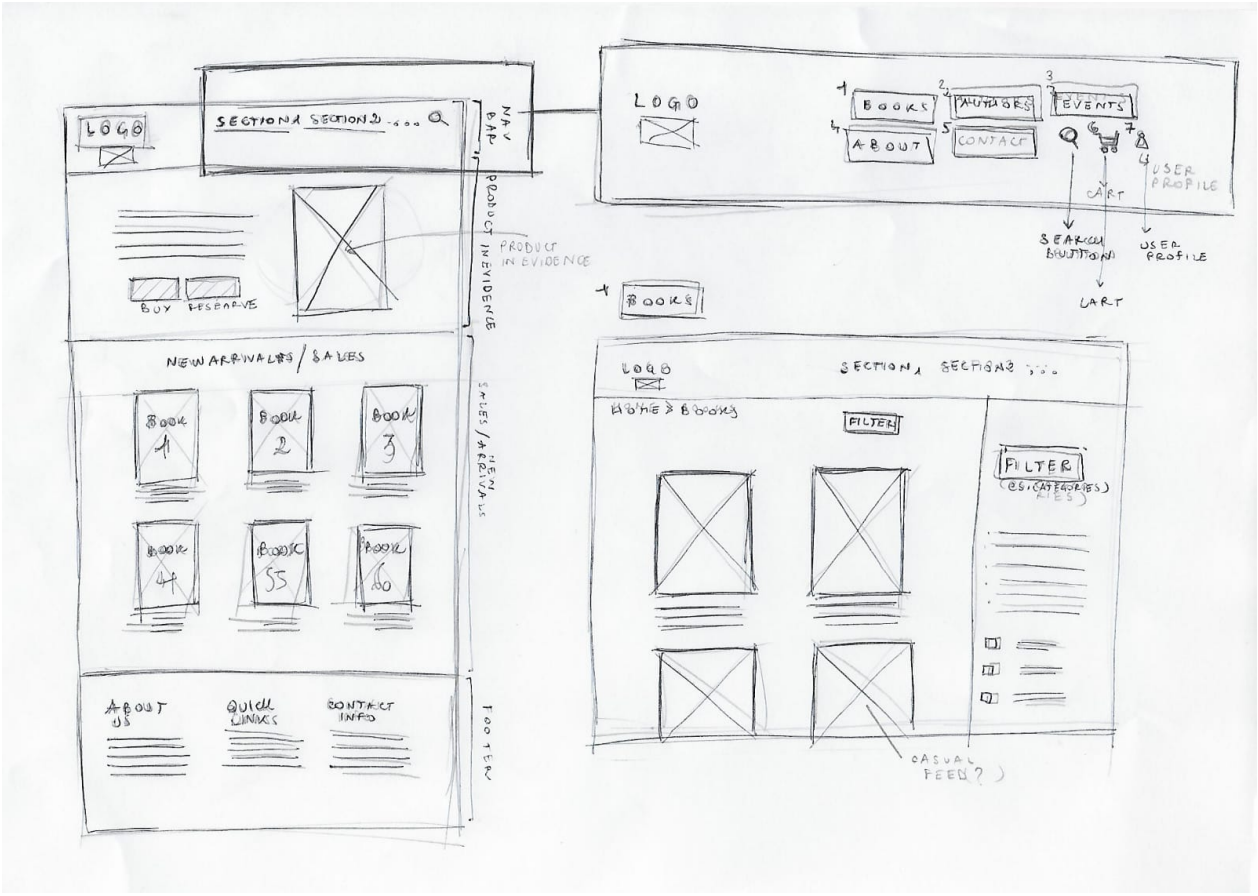

Figure 14: Home/Books Pages

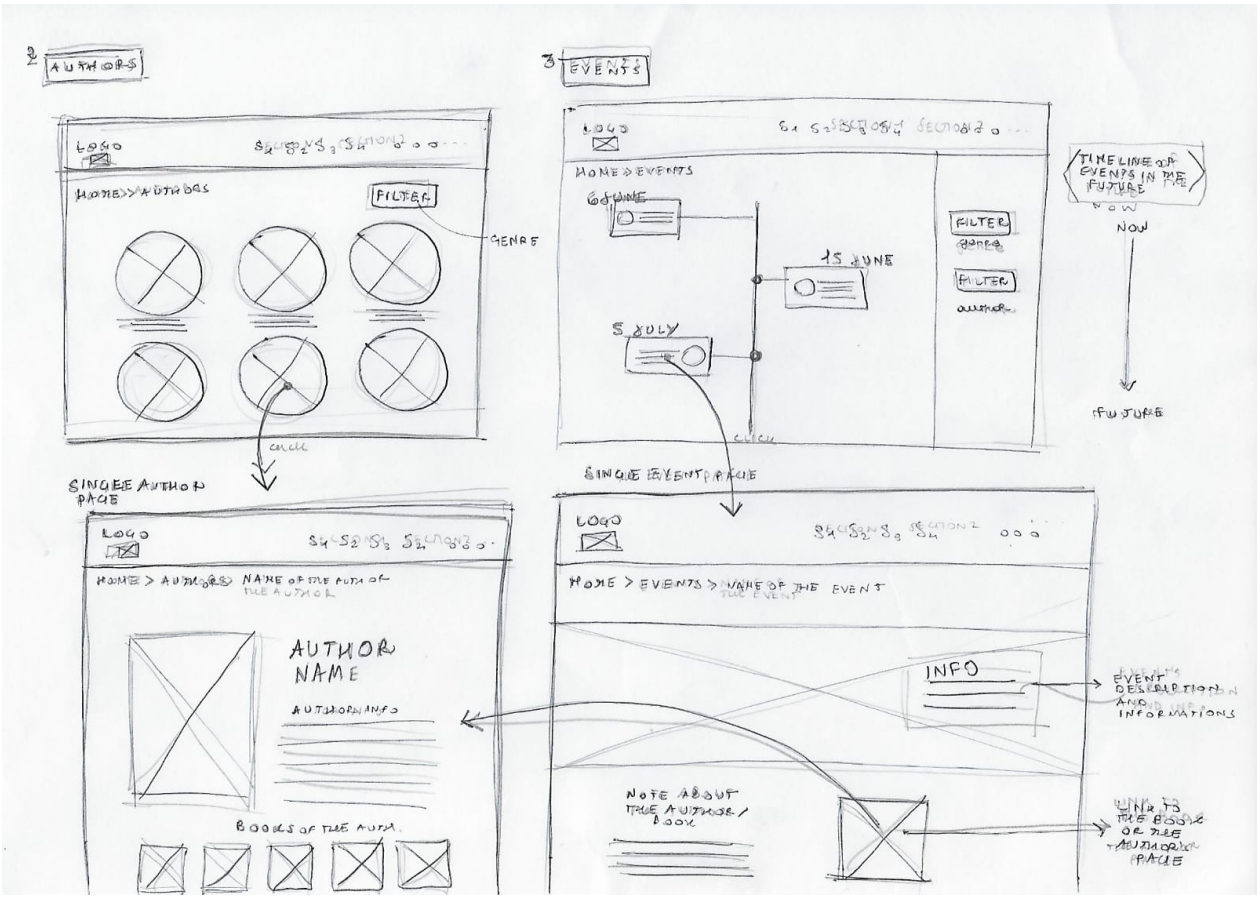

Figure 15: Authors/Events Pages

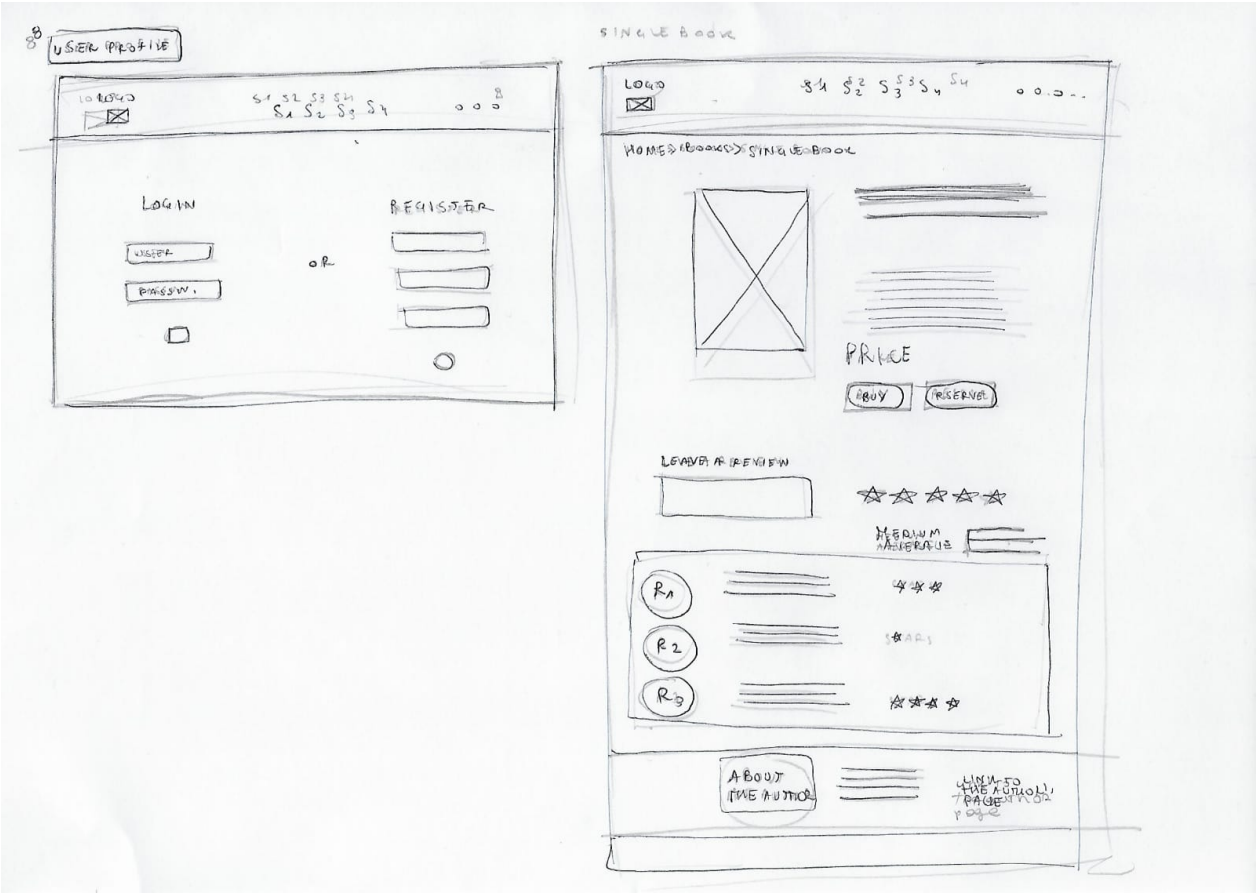

Figure 16: Single Book/User Pages

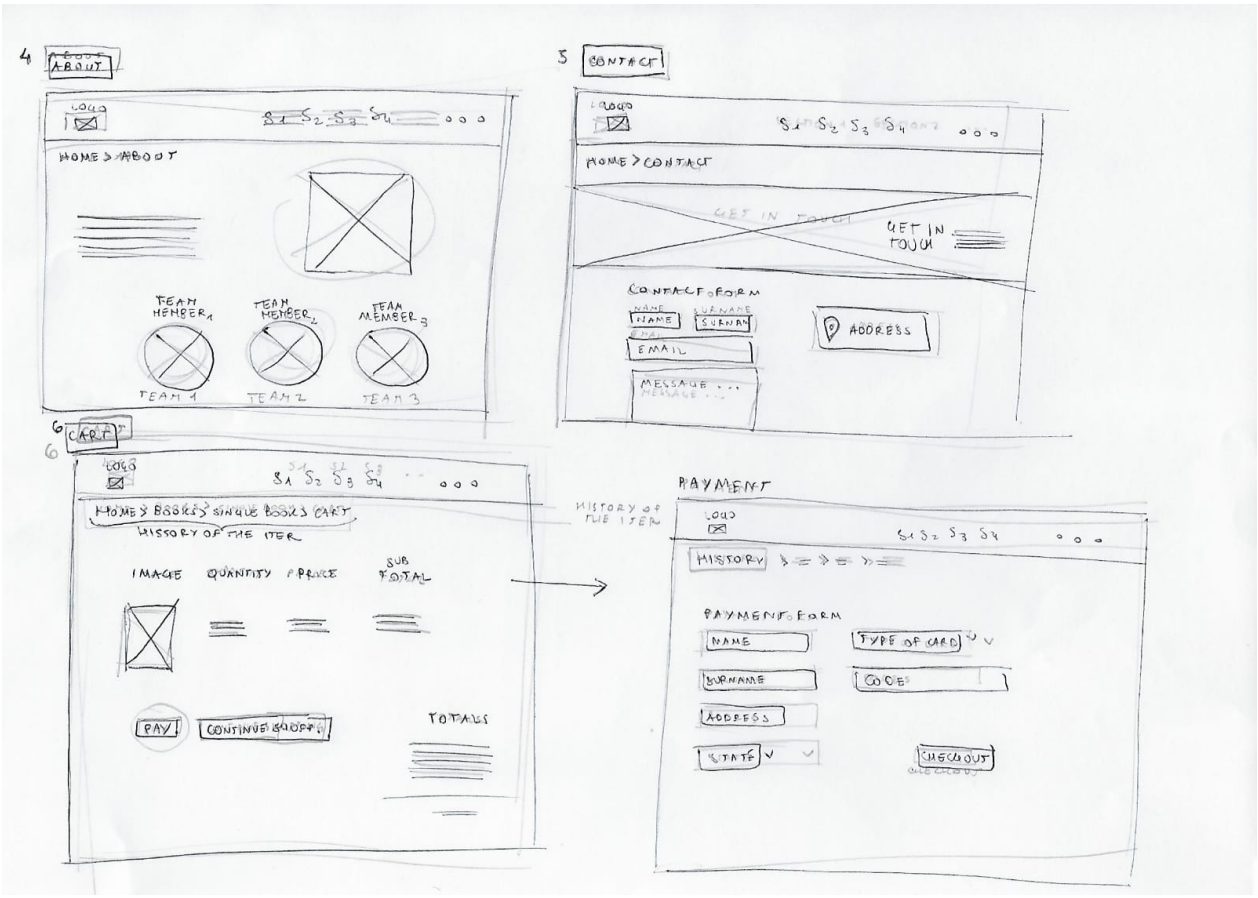

Figure 17: About/Contact/Cart/Payment Pages

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 availabe (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 and to make easier to add further feature to it in future.

5.1 E-R diagram

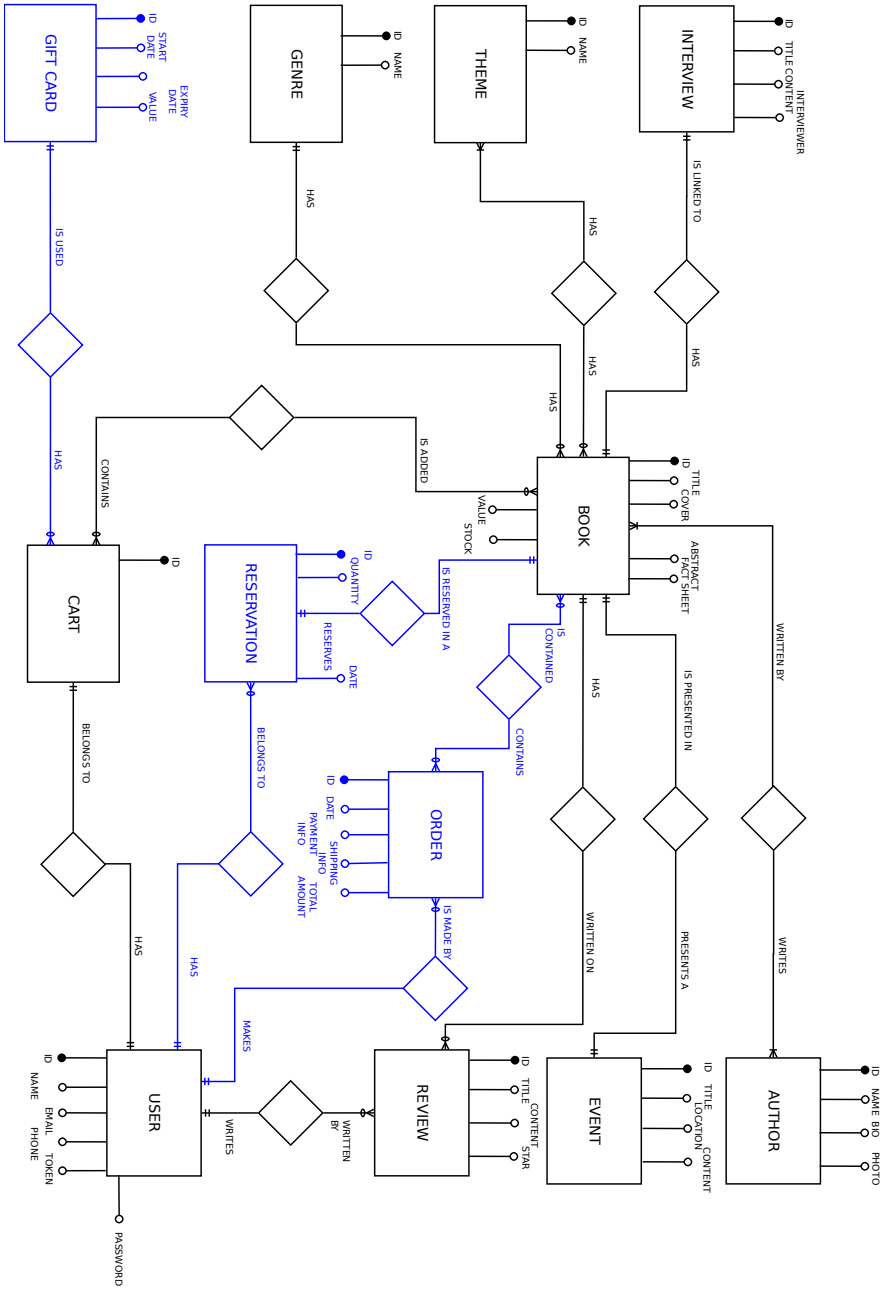

Figure 18: E-R Diagram

5.2 Relational Tables

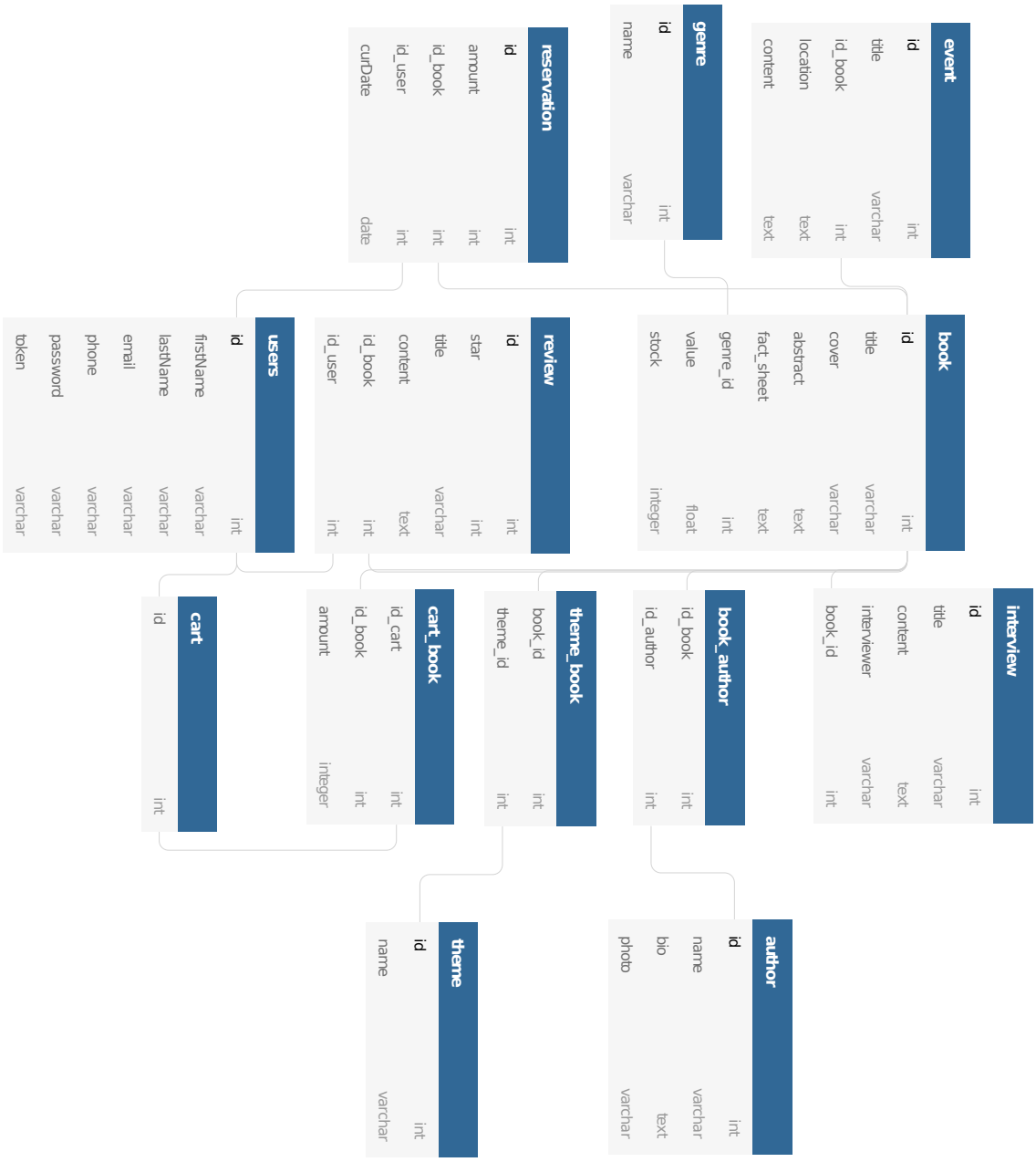

Figure 19: Relational Table Diagram