VILNIAUS GEDIMINO TECHNIKOS UNIVERSITETAS

FUNDAMENTINIŲ MOKSLŲ FAKULTETAS

INFORMACINIŲ SISTEMŲ KATEDRA

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BOOK SHOP

Course project

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CONTENT

1. FIELD ANALYSIS

1.1. Importance of the chosen topic/project

For this project I chose to work on a Book shop. With this topic I wanted to combine my interest and learning how to develop an application, how can a user sign in or buy product. This shop is usefull for the user for many reasons: it can be used whenever he wants, he can buy product and befor thtat he can see what other people thinks about that specific things and he also can leave his opinion.

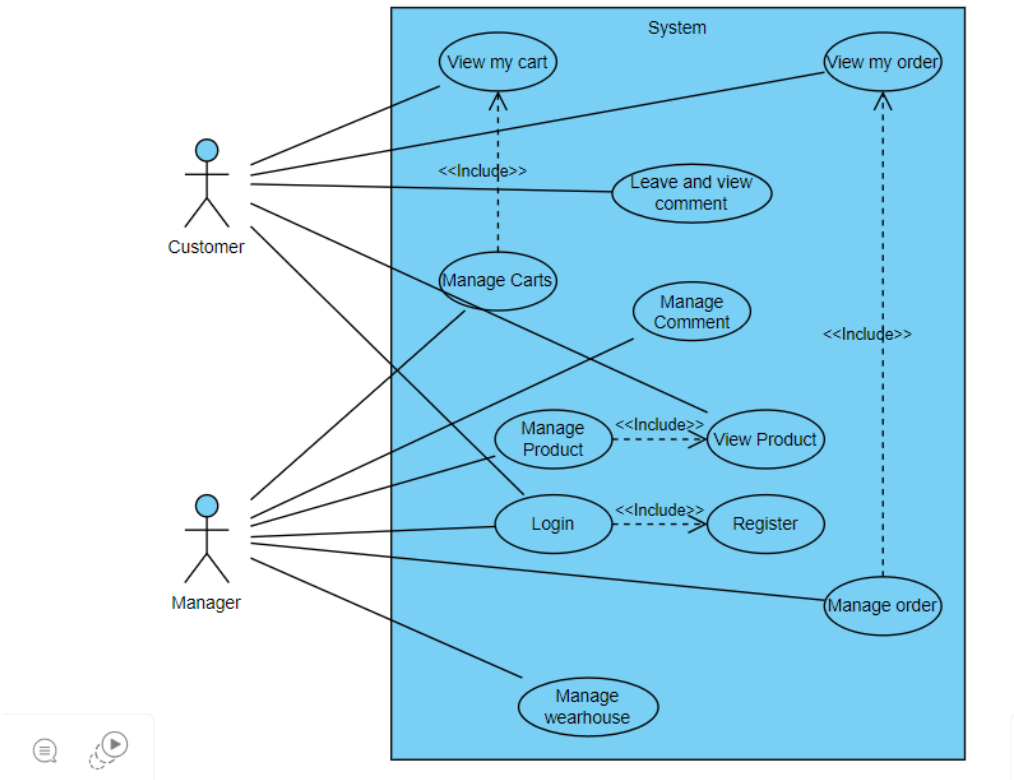
1.2. The aim and purpose of the project

I have created this system to simplify the managment of an e-shop. Like for the product, we can delete, create or update a new product and see it in our database. But other than the product it can be expandend also to the user and the menager. We can manage the creation of a new user or manager and see the information in our database. Each user can do different things in the shop. The customer can see the products, buy them and leave a comment. The manager can manage the product, see the warehouses and see the user that are register to the shop.

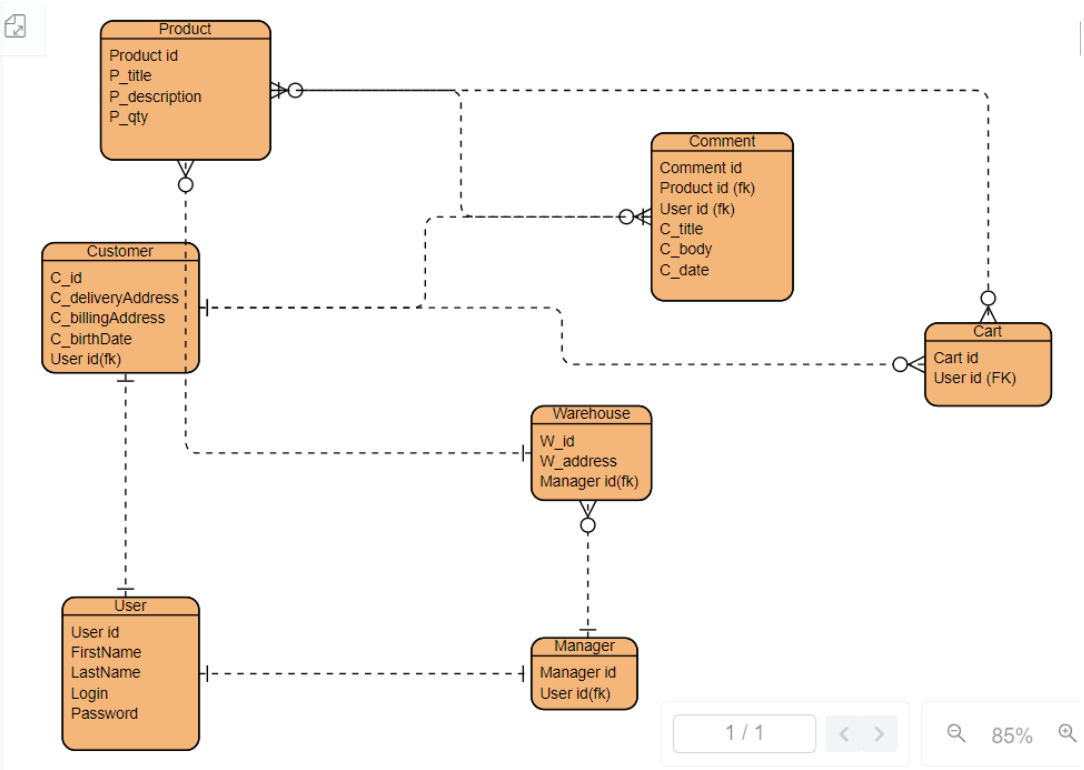
1.3. The chosen Java technology and argumentation

For this project i have used different tools. I have used mainly Java and with that i have also used FXML for the user interface, Hibernate while working with the database, and in the end i have used SpringBoot for the application framework.

1.4. System users and cooperating systems

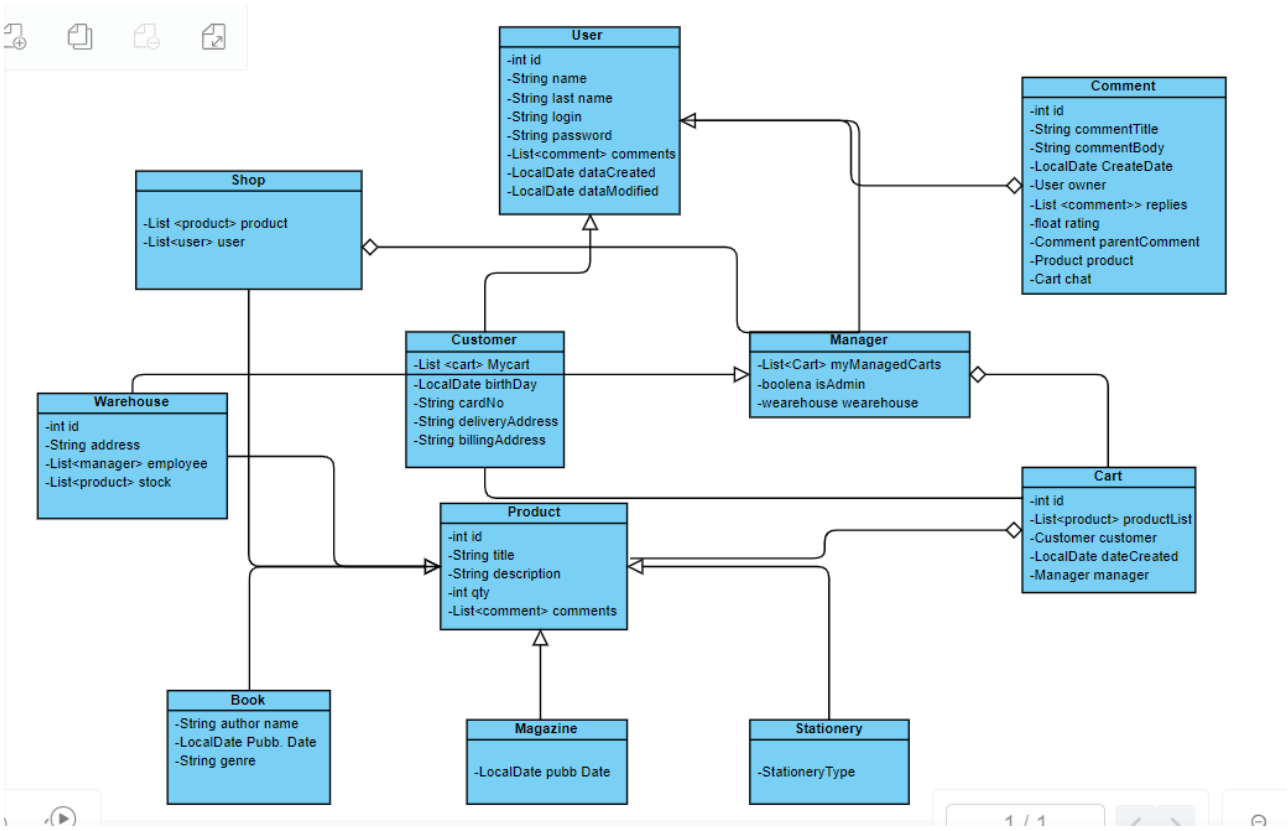


1.5. Summary of the work area



2. SYSTEM ARCHITECTURE

2.1. Used data structures



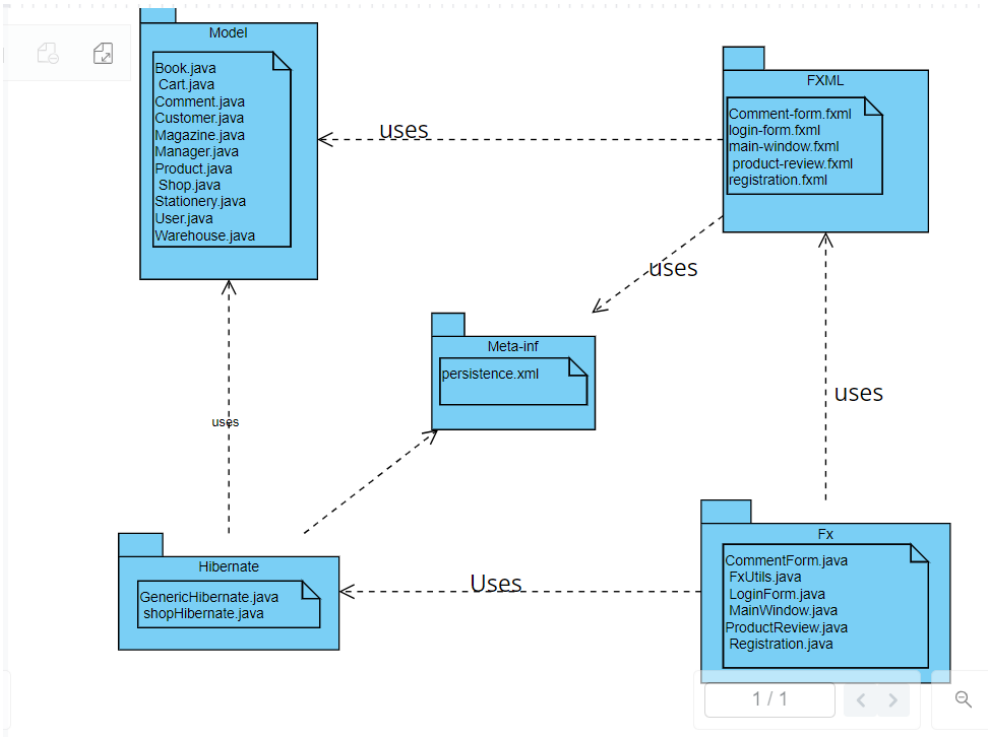
2.2. Additionally used packages and libraries

I have used some additional library in this course project. First of all i have used Lombok. This library generate automatically common Java code constructs like getter and setter, constructors and it does this by using annotations.

I have used also Hibernate to work with the database. It simplify database connection managment, and it provide a way to map Java classes to database tables.

In the web part of the course project i have used gson as an additional library. This library is used for converting Java objects to JSON, and JSON is used for transmitting data between a web server and a client application.

2.3. Simplified system implementation scheme

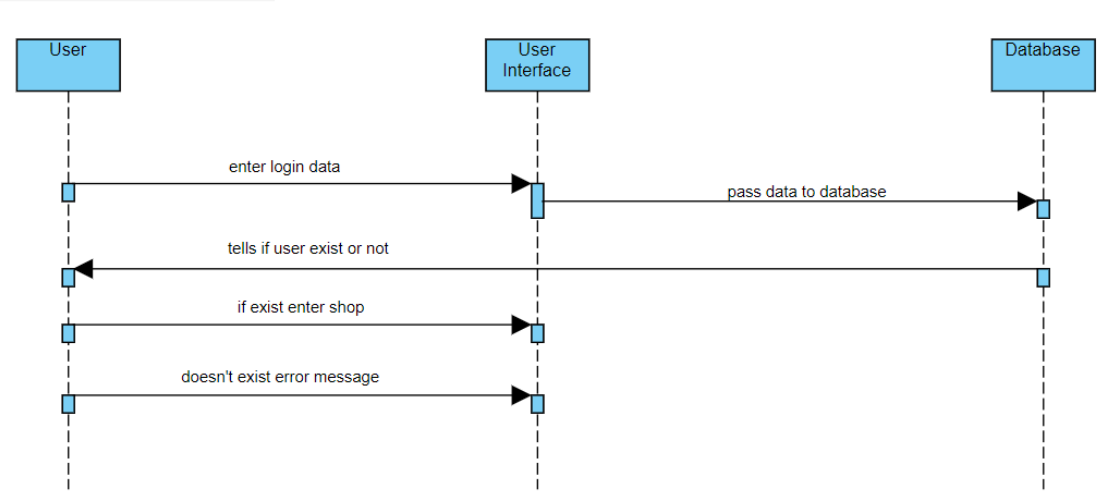


2.4. Main functions of the system

I want to describe the operation of login, create a product and buy a product.

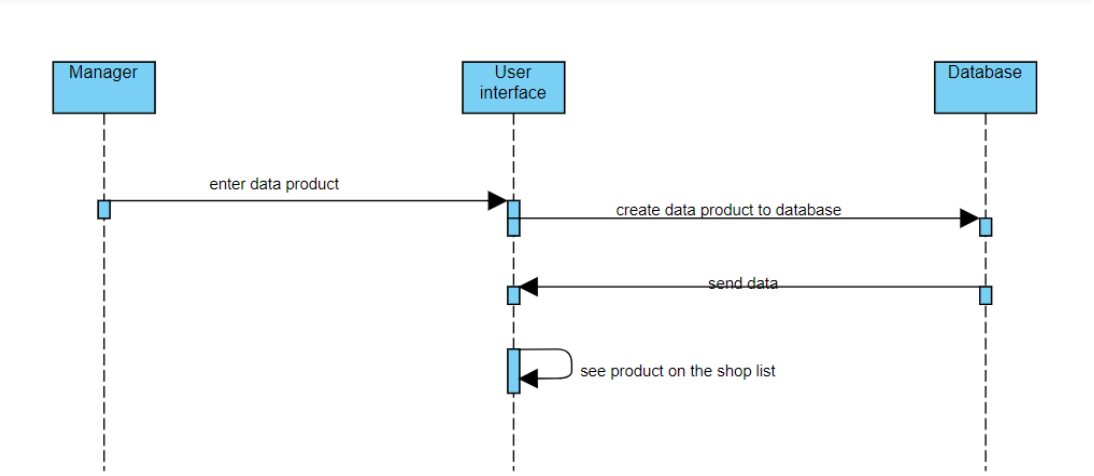
2.4.1. Login

In the login operation we enter the user login data and the database checks if the user exist or not. If the user doesn‘t exist the user interface send an error message, but if the user exist the user interface enter the shop.



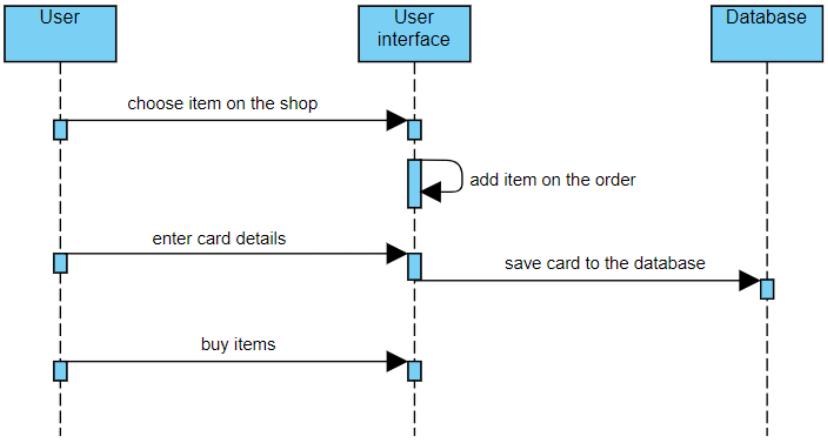
2.4.2. Create product

In this operation the Manager can create a new product by entering the data of the product in the user interface. After that the data will be created also in the database and after this passage we will be able to see the data of the product on the shop list.



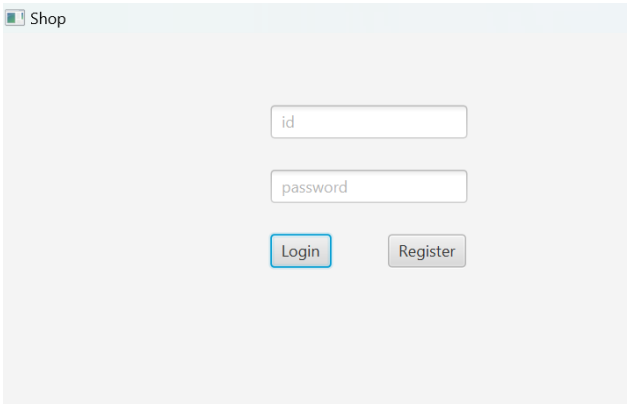
2.4.3. Buy Product

In this operation the user first of all choose wich product he wants to buy. This product will be added to the order list. After this the user will enter the card details and this details will be save in the database. After that the user can buy the product.

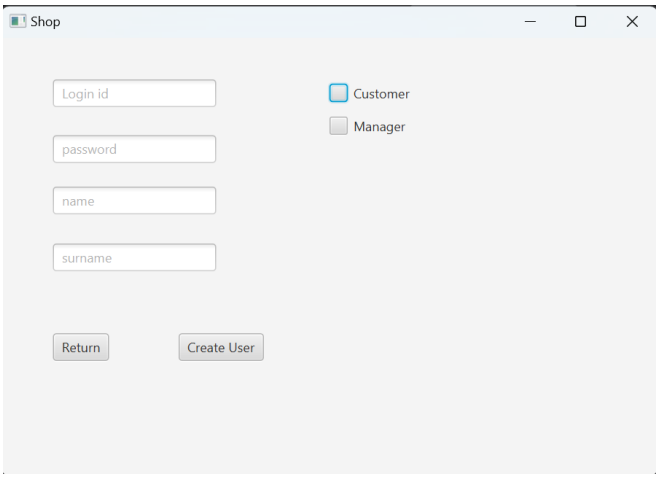

User
User interface
Database
choose item on the shop
add item on the order
enter card details
save card to the database
buy items

3. DEVELOPED SYSTEM AND ITS FUNCTIONALITY

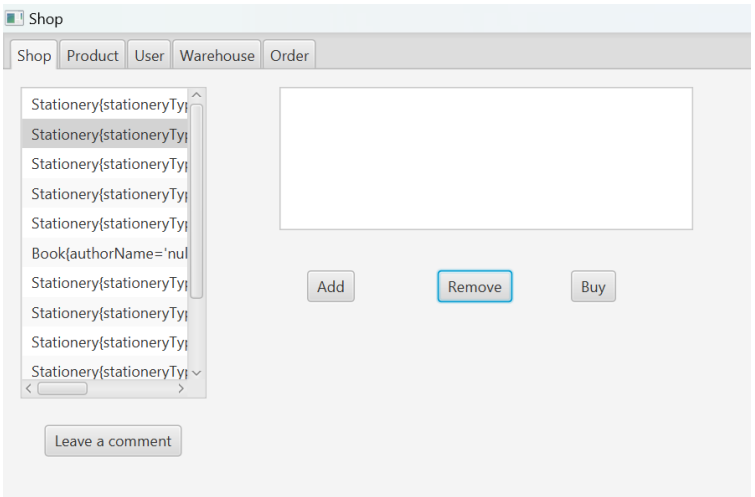
When the shop start we see this window. In this window the user can enter his data or if hi is not register yet he can click on **Register** and the following window will open.



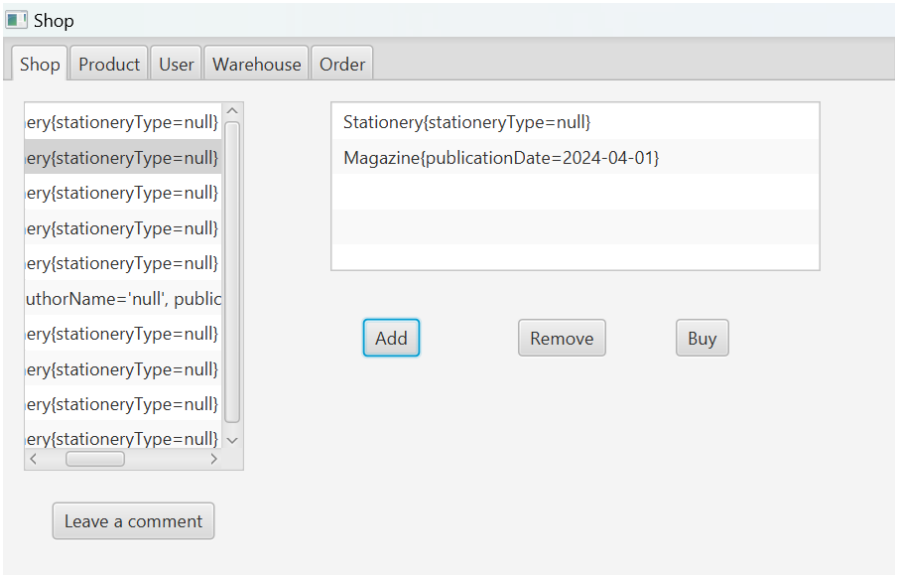
In this window the user will enter his data and choose if he is a customer or menager and the click on **Create User** so that the user will be saved in the database and the click on **Return** to go back to the login window where there he can enter his login data and enter in the shop.



If the user is a customer, he can see the list of product available on the shop.

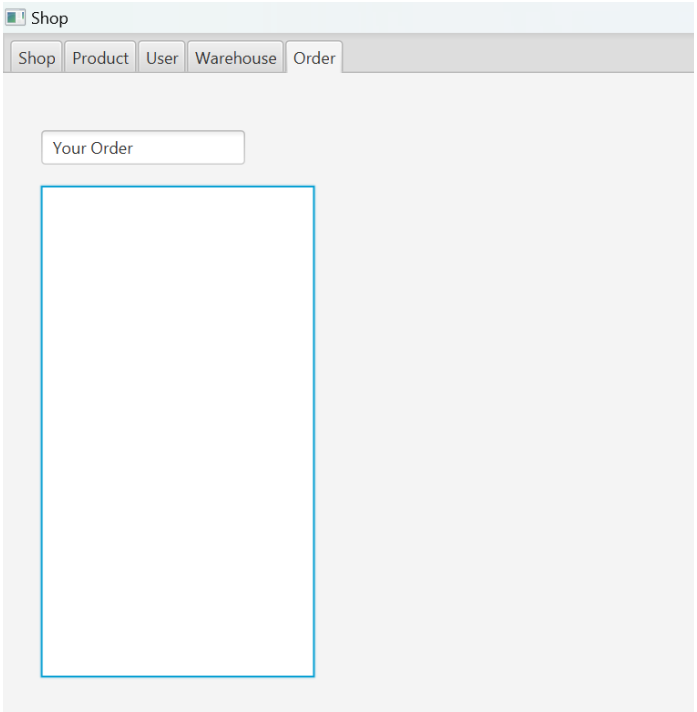


In the shop the customer can add the product on the order list by press the buttom **Add**. If he wants to remove some items form the order he can press **Remove**, and in the end he can click on **Buy** to buy the product in the order.

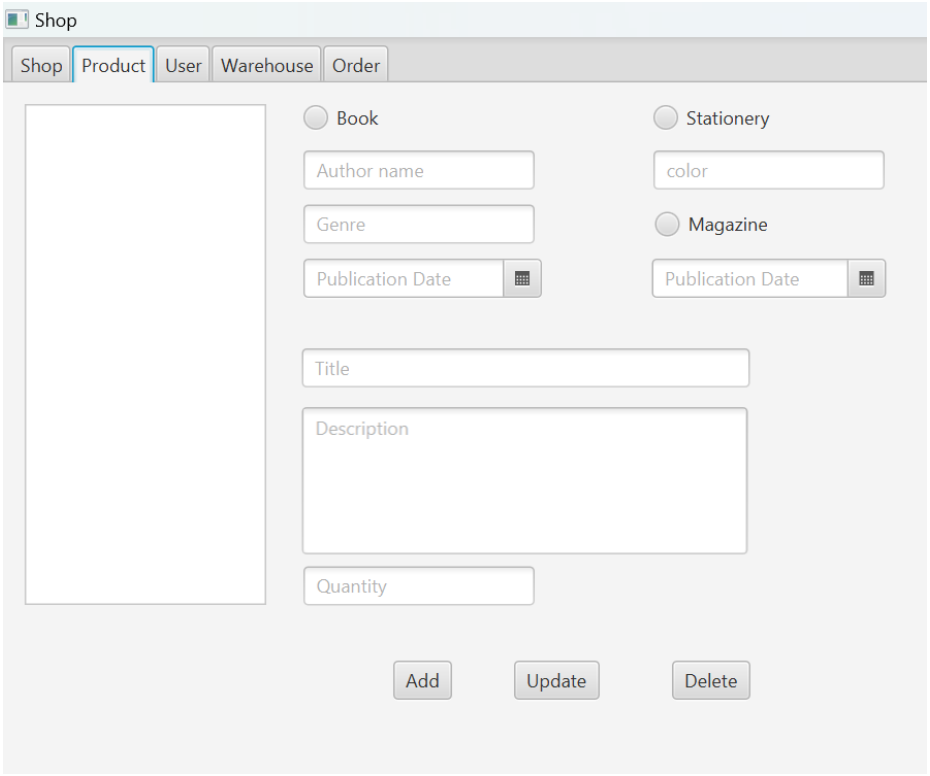


After that the customer can **Leave a comment** of the product he has just buy.

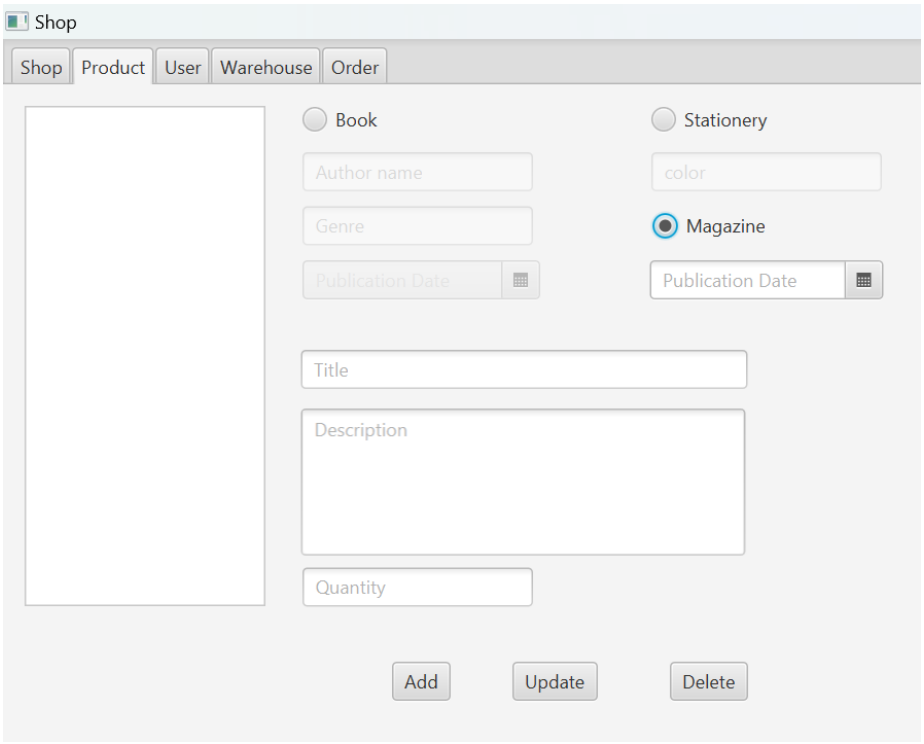
The customer can also see his orders on **Order.**



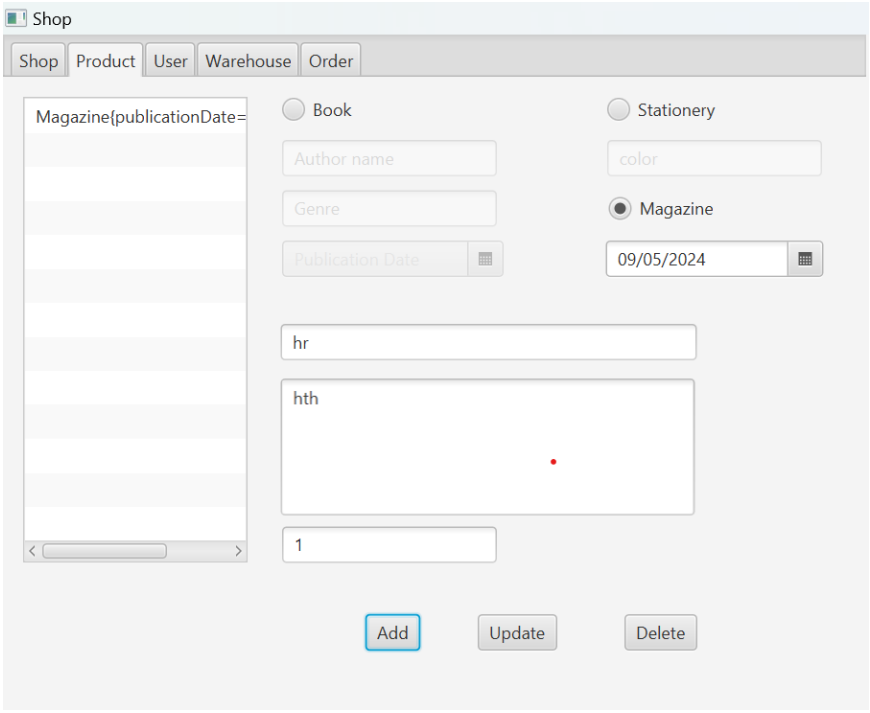
The manager can do different things. He will login the same way as the customer, and after that in the Shop he can create, update or delete product.



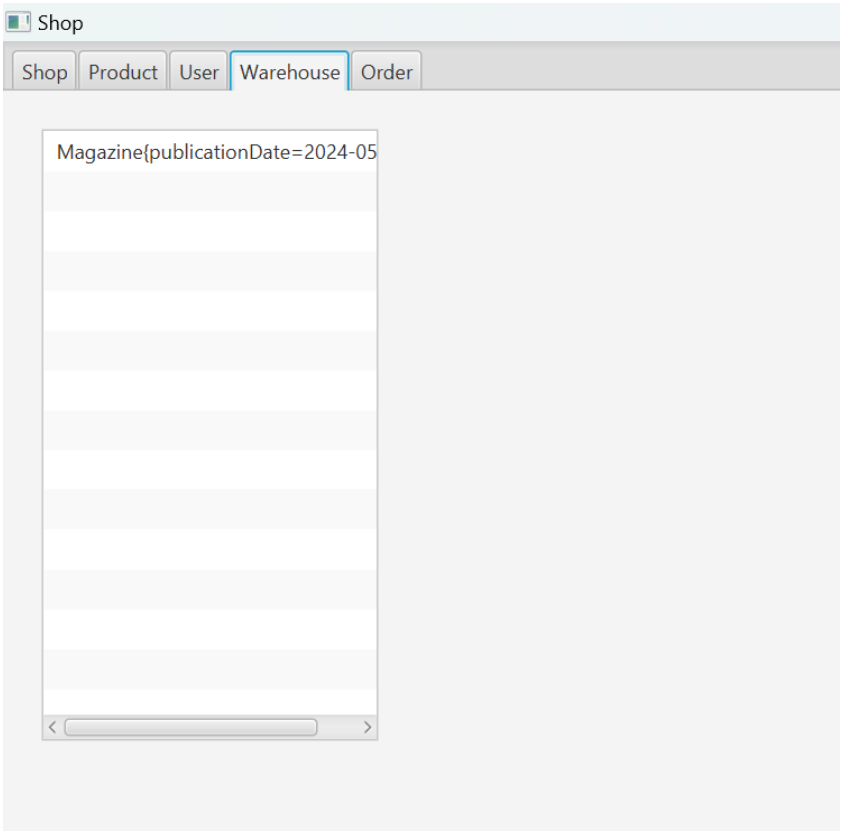
There when he click on **Book, Stationery or Magazine** the fields of the other two type of product will be disable. Once he has write all the data of the product he can add it by pressing on **Add** and the product will be shown on the shop and on the listo on the left.



If he wants to **update** the data he can select the product from the list and then change the data. If he wants to **delete** the product he can select the product form the list and then click on delete.



The manager can also see which products are left in the warehouse.



The manager can also see in the **User** tab who is register in the shop. He can see the customer and the manager data.

4. SUMMARY OF THE PROJECT

This project implement a book shop using Java, FXML, hibernate and SpringBoot. We have different classes that describe everything we need for a shop. Also we have some features like user autenthication, user comment, buy product and everything we need for a shop.

While working on this project I ran into some difficulties. It was my first time programming with Java so everything was new to me. I had some difficluties in integrating different framework like FXML, and most of all Hibernate. I think warking with database and understand how does it work was the most difficult part for me, also with the relationship between classes and everything.

Of course i can improve this project by adding additional functionality for the customer and the manager to make the manage of the shop more easy. I can also improve the user interface and make it more simple to understand or add new features.