

**Soft252 Report**  
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The project consists of building a bookstore, in which I have 5 clients and 1 admin who has definite control over the messages and the resources existing in it. Also the clients need to be able to borrow the resources and to return them back in a certain period of time.

For the implementation and creation of resources I used a super class called Items in which all variables are saved, and the subclasses Books and DVDs that extend the superclass Items. The same method was used for clients and admin, using a super class called User and the subclasses Client and Admin.

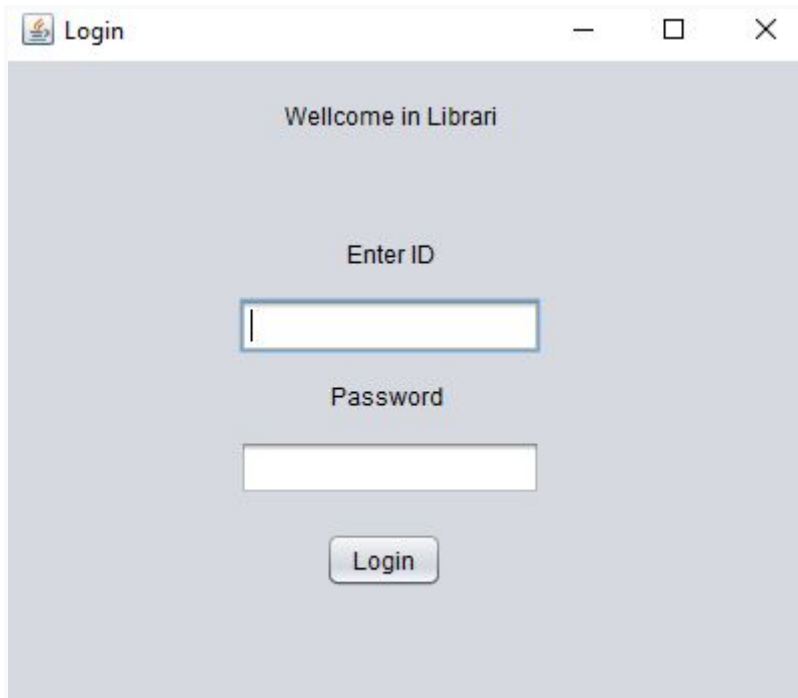
In order to be able to rent one of those resources, or more, the client will need to log in to his account, so the system will check each existing book and rent the book / DVD on the client's id.

In order to verify which resources are borrowed and which are not, and also to be able to return them, I used State Pattern to check them at any time.

Git link: <https://github.com/Alexandru-Catalin/SOFT252-Assignment->

## UserGuide:

In order to access the library, the client will first have to log in to his account.



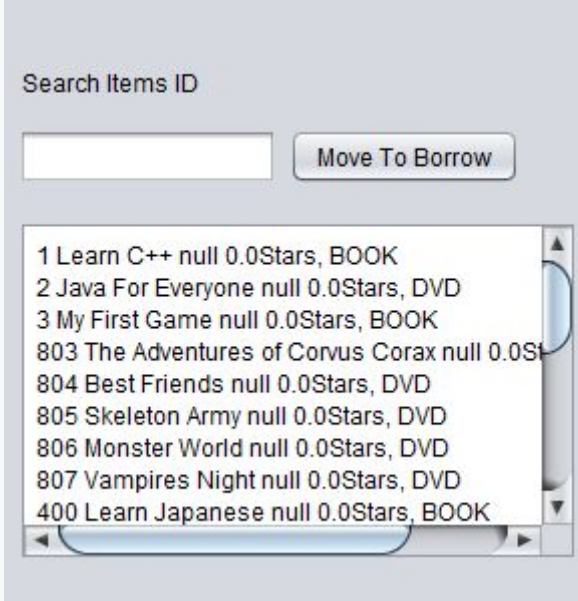
Admin account will start with an index ID of 1 and the clients ID will start from 100.

```
Client c = new Client(100, "Dan", "Dan", "Dan");
Client v = new Client(101, "James", "James", "James");
Client b = new Client(102, "Alex", "Alex", "Alex");
Client n = new Client(103, "Bob", "Bob", "Bob");
Client m = new Client(104, "Paul", "Paul", "");

Admin a = new Admin(1, "Corvus", "Corvus", "Corvus");
```

The number represents the ID, first string represents the password, and the last 2 strings represents the first and the last name.

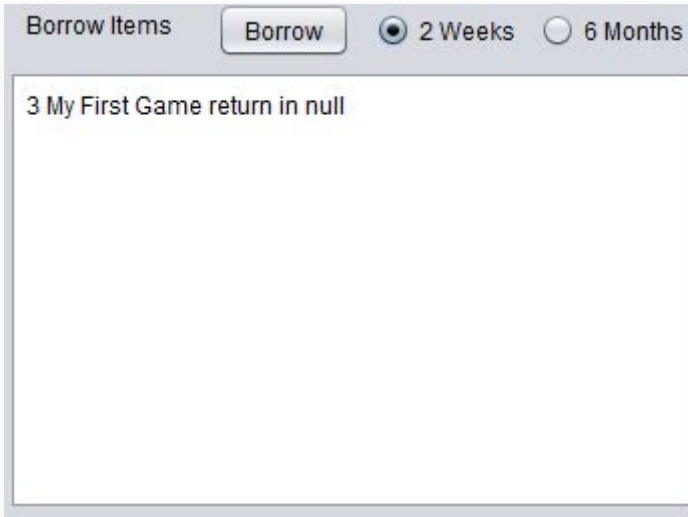
To be able to borrow a book or a DVD, the client needs to insert the index of that resource, and to press the “Move To Borrow” button, each borrow needs to be made 1 by 1.



A window titled "Search Items ID" with a text input field and a "Move To Borrow" button. Below the button is a list box containing the following items:

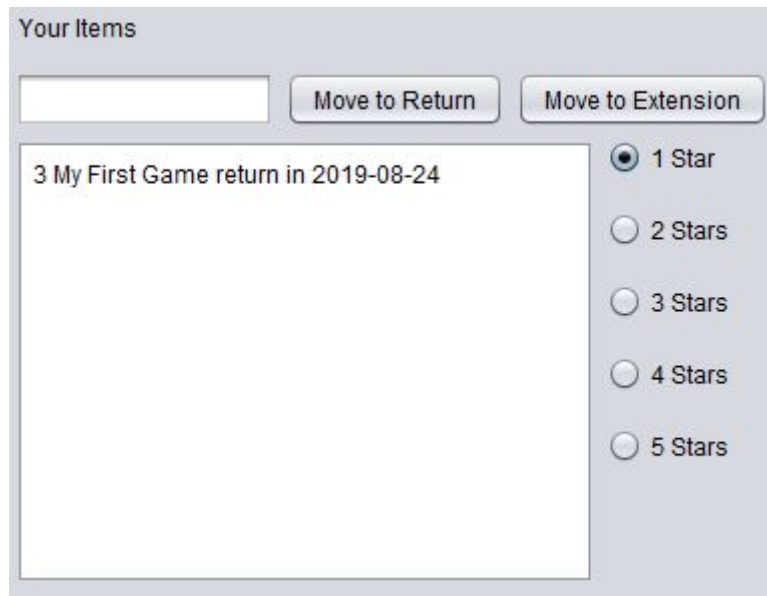
- 1 Learn C++ null 0.0Stars, BOOK
- 2 Java For Everyone null 0.0Stars, DVD
- 3 My First Game null 0.0Stars, BOOK
- 803 The Adventures of Corvus Corax null 0.0Stars, DVD
- 804 Best Friends null 0.0Stars, DVD
- 805 Skeleton Army null 0.0Stars, DVD
- 806 Monster World null 0.0Stars, DVD
- 807 Vampires Night null 0.0Stars, DVD
- 400 Learn Japanese null 0.0Stars, BOOK

Once they pressed the button, they will be moved to the next section where they have to choose the length of time that they want to borrow the item.



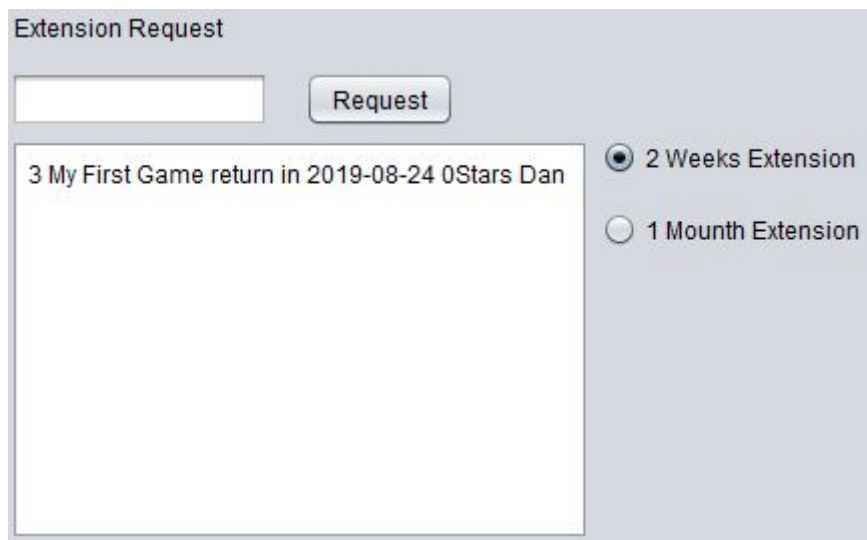
A window titled "Borrow Items" with a "Borrow" button and two radio buttons: "2 Weeks" (selected) and "6 Months". Below the buttons is a text input field containing the text "3 My First Game return in null".

The item will be displayed in their inventory, with the exact date when they have to return it and they can choose if they want to return the book and also to rate it, or if they want to request an extension. They can keep the book as long as they want, but if they get late returning it, they will have to pay the overdue taxes.



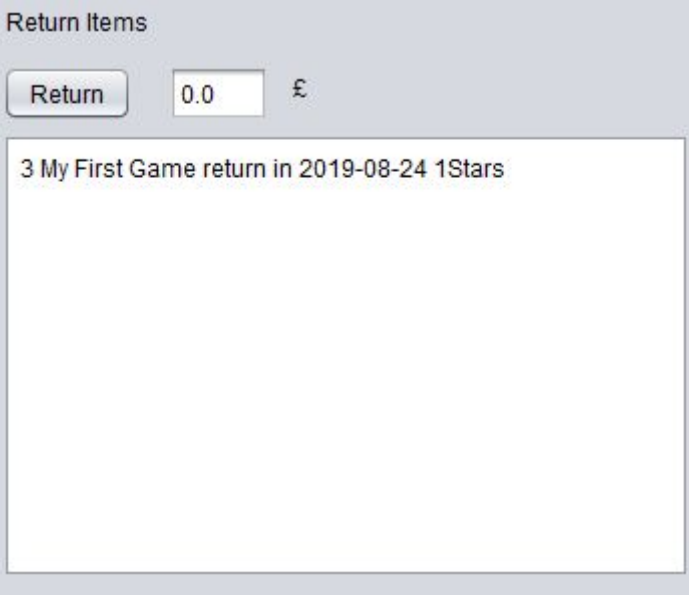
The screenshot shows a web interface titled "Your Items". At the top, there is a search bar and two buttons: "Move to Return" and "Move to Extension". Below these, a list item is displayed: "3 My First Game return in 2019-08-24". To the right of this item is a vertical list of radio buttons for rating: "1 Star" (selected), "2 Stars", "3 Stars", "4 Stars", and "5 Stars".

If they choose to request an extension, they have to choose the length of it (2 weeks or 1 month).



The screenshot shows a web interface titled "Extension Request". At the top, there is a search bar and a "Request" button. Below these, a list item is displayed: "3 My First Game return in 2019-08-24 0Stars Dan". To the right of this item is a vertical list of radio buttons for extension length: "2 Weeks Extension" (selected) and "1 Mounth Extension".

If they choose to return the item, the system will check if the item is overdue or not, and if it is it will auto-calculate the amount of money that they have to pay to be able to return the item and if they have an overdue item, they will not be able to borrow any other items until they pay the taxes and return the item.



The 'Return Items' form has a title bar with the text 'Return Items'. Below the title bar, there is a 'Return' button, a text input field containing '0.0', and a currency symbol '£'. Below these elements is a large text area containing the text '3 My First Game return in 2019-08-24 1Stars'.

If a client is looking for an item that does not exist in the library, they can make a request to the admin. All they need to do is to write a letter to the admin.



The 'Resources Request' form has a title bar with the text 'Resources Request'. Below the title bar, there is a 'Request' button. Below the button is a large text area for writing a letter to the admin.

All the clients will be able to receive “News” and private messages from the admin.

The image shows a vertical layout with two main sections. The top section has a light gray header with the word "News" in a small, dark font. Below the header is a large, empty white rectangular area. The bottom section has a light gray header with the text "Admin messages" in a small, dark font. Below this header is another large, empty white rectangular area. The entire layout is enclosed in a thin gray border.

## Admin Guide:

The admin has a large variety of options, each one with a specific role.

The first one is the extension request. They will be able to see the item id, user id, the normal return date and the length of extension that they choose.

To approve or reject an extension they need to insert the user id and the book id, to select the period and to select one of the buttons.

Down below will be displayed the new period of time.

The screenshot shows an administrative web interface. At the top, a header bar contains the text "Welcome Admin" on the left and a "LogOut" button on the right. Below the header is a navigation menu with five tabs: "Extensions Requests" (which is selected and highlighted), "Create New Resources", "Send News + Messages", "Check Resources", and "Create User". The main content area is divided into two columns. The left column contains a list of extension requests; the first visible entry is "3 My First Game return in 2019-08-24 14 days 15". The right column contains a form for processing a request. It includes a "UserID" label and an input field, followed by a radio button labeled "2 Weeks Extension". Below that is a "BookID" label and an input field, followed by a radio button labeled "1 Months Extension". At the bottom of the form are two buttons: "Accept" and "Reject". A large, empty rectangular box is positioned at the bottom right of the interface.

The second one, allows the admin to create new resources. All they need to do is to complete the empty fields on the right and to select if the item will be a book or a DVD.

Extensions Requests

Create New Resources

Send News + Messages

Check Resources

Create User

Items Requests

Create New Item

ID

Name

Type of ressource

☐ BOOK

☐ DVD

Create



The third section, allows the admin to send news messages or private messages to the clients. To send a private message to a client, they need to insert the clientID first.

Welcome Admin LogOut

Extensions Requests

Create New Resources

Send News + Messages

Check Resources

Create User

News

Send

Send Client Message

Send

The fourth section allows the admin to check the resources status(if they are borrowed or not) and to send reminders to the clients.

Welcome Admin LogOut

Extensions Requests

Create New Resources

Send News + Messages

Check Resources

Create User

Resources

Check

1 Learn C++ null 1.0Stars, BOOK  
2 Java For Everyone null 0.0Stars, DVD  
3 My First Game 2019-08-24 1.0Stars, B  
803 The Adventures of Corvus Corax nu  
804 Best Friends null 0.0Stars, DVD  
805 Skeleton Army null 0.0Stars, DVD  
806 Monster World null 0.0Stars, DVD  
807 Vampires Night null 0.0Stars, DVD  
400 Learn Japanese null 0.0Stars, BOO  
800 The Raven null 0.0Stars, BOOK  
500 Atomic Bomb null 0.0Stars, DVD  
900 World War 2 null 0.0Stars, BOOK  
901 World War 1 null 0.0Stars, DVD  
801 Book Of Secrets null 0.0Stars, BOO  
808 Room 408 null 0.0Stars, BOOK  
700 Best Painters null 0.0Stars, BOOK

Send Reminder

Send

Please do not forget to return the books on time!

Item Status

Last section allows the admin to create new users.

Welcome Admin LogOut

Extensions Requests

Create New Resources

Send News + Messages

Check Resources

Create User

Create Id

First Name

Last Name

Create Password

Create