Summative assignment

PLS

Ferdi Bilgic, 0984562

Jitske Bots, 0965322

Mark van 't Hof, 0911691
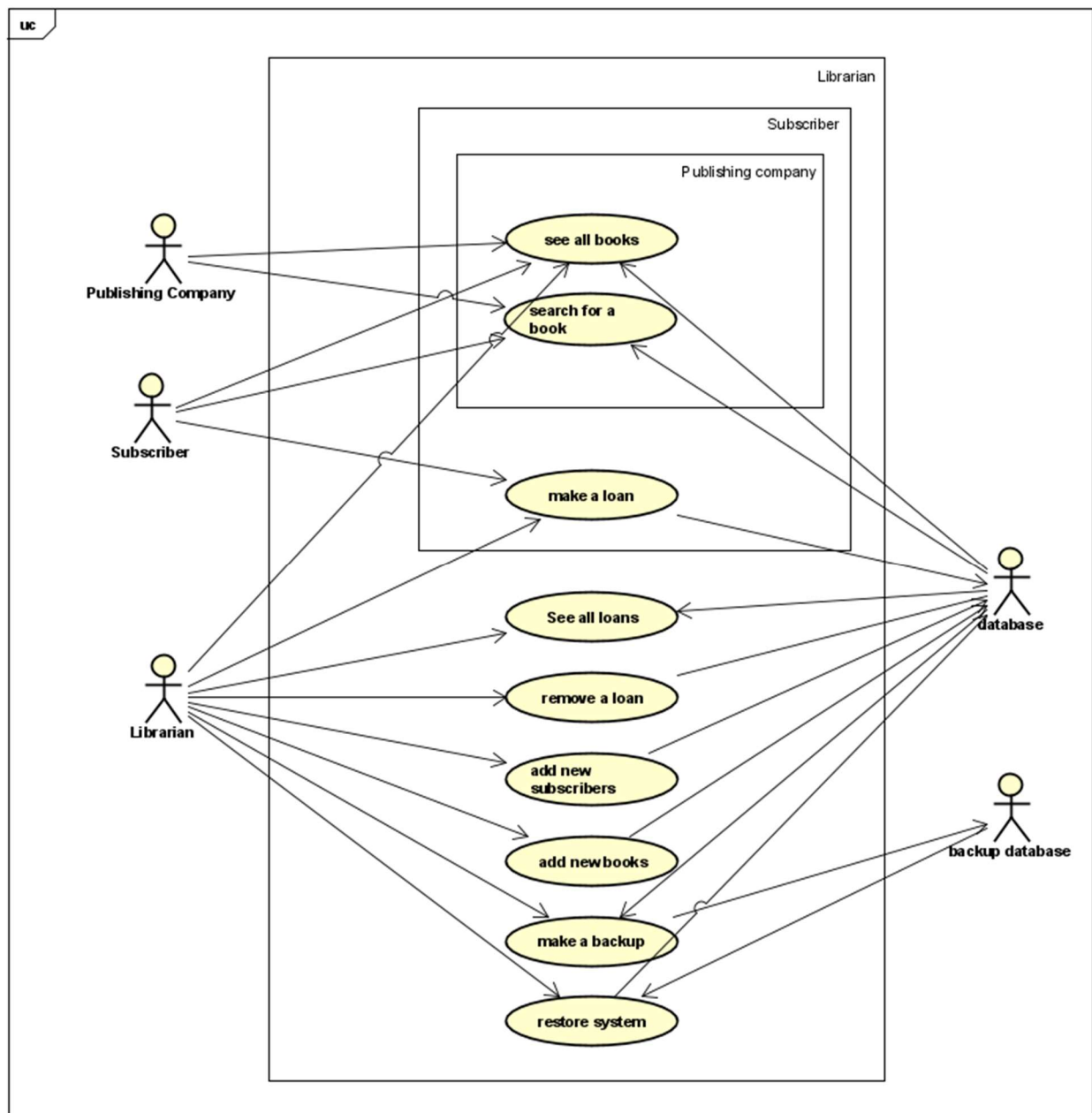
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Contents

Requirements

Functional requirements

- As a subscriber I must be able to see the title, author, ISBN, language, country available copies of all books.
- As a subscriber I must be able to search books with keywords: title, author, ISBN, language, country or combinations. And after the search see the title, author, ISBN, language, country and available copies of the book.
- As a subscriber I must be able to loan a book that I want. Before loaning a book there must be an overview of the loan and a conformation from the subscriber. When the loan is made all book and subscriber and date info will saved with each other.

- As the librarian I must be able to see the title, author, ISBN, language, country available copies of all books.
- As the librarian I must be able to search books with keywords: title, author, ISBN, language, country or combinations. And after the search see the title, author, ISBN, language, country and available copies of the book.
- As the librarian I must be able to make loan for a subscriber. To make a loan the book as well as the subscriber it is for must be filled in. When the loan is made all book and subscriber and date info will saved with each other.
- As the librarian I must be able to see all loans made. The librarian will see the title, customer, date, email and telephone number.
- As the librarian I must be able to remove a loan that was made. Search on name of the subscriber for the loan. And then enter title to select the book. Before removing ask for confirmation.
- As the librarian I must be able to add new books to the system. Everything will be asked separately and everything must be filled in. Give an overview of the filled in information. The librarian can confirm or cancel the add.
- As the librarian I must be able to add new subscribers to the system. Everything will be asked separately and everything must be filled in. Give an overview of the filled in information. The librarian can confirm or cancel the add.
- As the librarian I must be able to make a backup of the data in the system. Before the backup is made, confirmation will be asked.
- As the librarian I must to be able to restore the library from the back up. Before the restoration, confirmation will be asked.

- As a publishing company I must able to see the title, author, ISBN, language, country available copies of all books.
- As a subscriber I must be able to search books with keywords: title, author, ISBN, language, country or combinations. And after the search see the title, author, ISBN, language, country and available copies of the book.
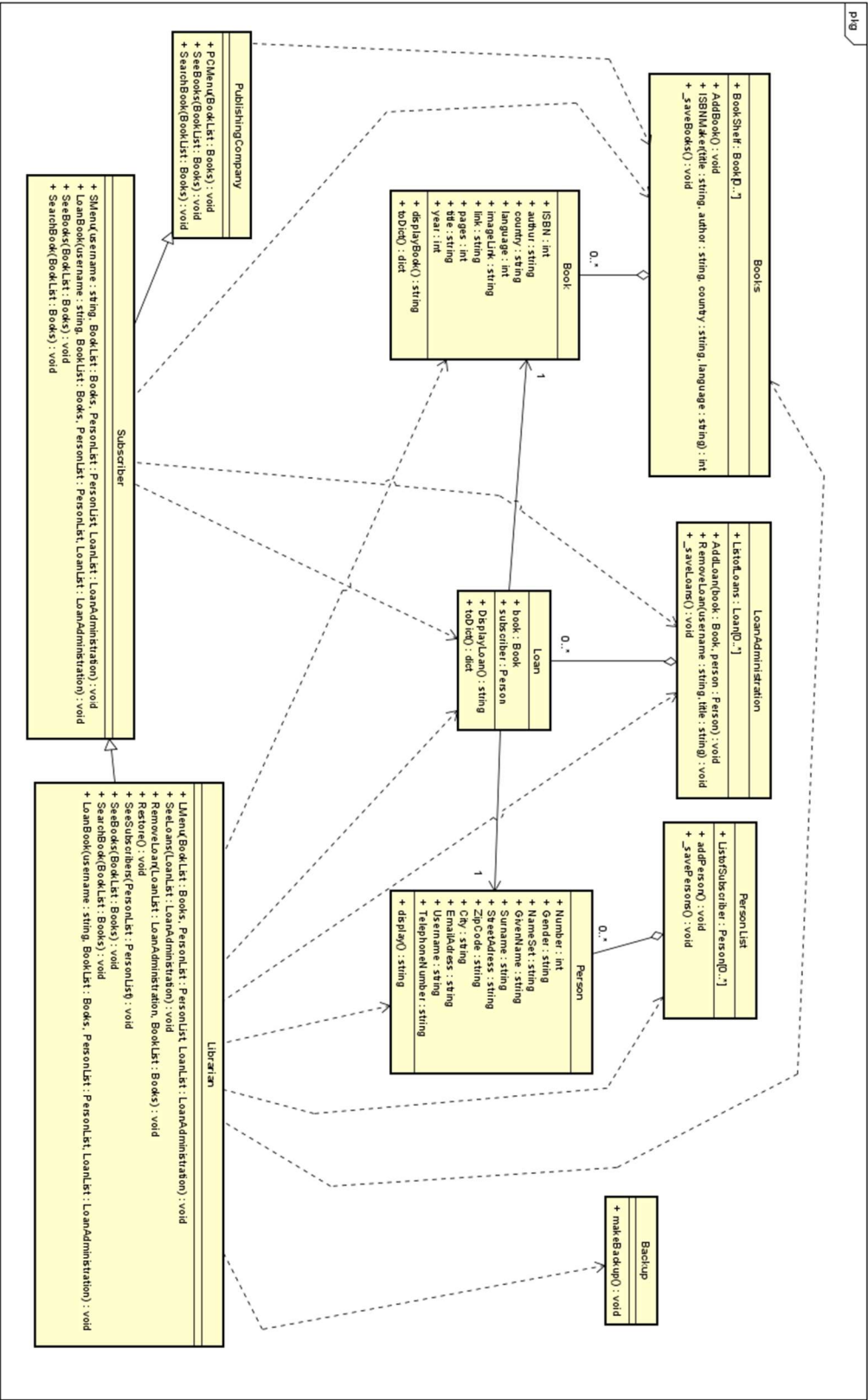
Non-functional requirements

- The code must be writing in python.
- The backup must be in a json file.
- The backup must contain:
  - All the Books
  - All the subscribers
  - All the loans
- The data in the system must contain:
  - All the Books
  - All the subscribers
  - All the loans
  - The backup6

Use Case

Class Diagram

Books
+ BookShelf : Book[0..*]
+ AddBook() : void
+ ISBNMake(title : string, author : string, country : string, language : string) : int
+ _saveBooks() : void

Book
+ ISBN : int
+ author : string
+ country : string
+ language : int
+ imageLink : string
+ link : string
+ pages : int
+ title : string
+ year : int
+ displayBook() : string
+ toDict() : dict

PublishingCompany
+ PCMenu(BookList : Books) : void
+ SeeBooks(BookList : Books) : void
+ SearchBook(BookList : Books) : void

Subscriber
+ SMenu(username : string, BookList : Books, PersonList : PersonList, LoanList : LoanAdministration) : void
+ LoanBook(username : string, BookList : Books, PersonList : PersonList, LoanList : LoanAdministration) : void
+ SeeBooks(BookList : Books) : void
+ SearchBook(BookList : Books) : void

LoanAdministration
+ ListofLoans : Loan[0..*]
+ AddLoan(book : Book, person : Person) : void
+ RemoveLoan(username : string, title : string) : void
+ _saveLoans() : void

Loan
+ book : Book
+ subscriber : Person
+ DisplayLoan() : string
+ toDict() : dict

PersonList
+ ListofSubscriber : Person[0..*]
+ addPerson() : void
+ _savePersons() : void

Person
+ Number : int
+ Gender : string
+ NameSet : string
+ GivenName : string
+ Surname : string
+ StreetAdress : string
+ City : string
+ ZipCode : string
+ EmailAdress : string
+ Username : string
+ TelephoneNumber : string
+ display() : string

Librarian
+ LMenu(BookList : Books, PersonList : PersonList, LoanList : LoanAdministration) : void
+ SeeLoans(LoanList : LoanAdministration) : void
+ RemoveLoan(LoanList : LoanAdministration, BookList : Books) : void
+ Restore() : void
+ SeeSubscribers(PersonList : PersonList) : void
+ SeeBooks(BookList : Books) : void
+ SearchBook(BookList : Books) : void
+ LoanBook(username : string, BookList : Books, PersonList : PersonList, LoanList : LoanAdministration) : void

Backup
+ makeBackup() : void

User Manual

Publishing Company

```
[1] Subscriber
[2] Publishing company
[3] Librarian
Please enter a number that stand before the choices:
```

- o Type 2 and press enter to go to the Publishing company page

```
Please enter a number that stand before the action you want to do
[1] See all available books
[2] Search for a book
[3] Exit
```

- o Type 1 and press enter to see all books

```
Title: The Red and the Black
Author: Stendhal
Year: 1830
Language: French
Country: France
Pages: 576
Books left: 1/1

Title: The Life And Opinions of Tristram Shandy
Author: Laurence Sterne
Year: 1760
Language: English
Country: England
Pages: 640
Books left: 1/1

Title: Confessions of Zeno
Author: Italo Svevo
Year: 1923
Language: Italian
Country: Italy
Pages: 412
Books left: 3/3

Title: Gulliver's Travels
Author: Jonathan Swift
Year: 1726
Language: English
Country: Ireland
```

- o Type 2 and press enter to search for a book

```
Please enter a number that stand before the action you want to do
[1] Search on title
[2] Search on Author
[3] Search on language
[4] Search on country
```

- Press the number that stands before the search you want to do. And after that fill in on what you chose to search for.

Subscriber

```
[1] Subscriber
[2] Publishing company
[3] Librarian
Please enter a number that stand before the choices: 1
Please enter your username: _
```

- Type 2 and press enter. After that fill in your username (it has to exist else it won't work, username that works: Reech1950)

```
Please enter a number that stand before the action you want to do
[1] See all available books
[2] Search for a book
[3] Loan a book
[4] Exit
```

- Type 1 and press enter to see all books

```
Title: The Red and the Black
Author: Stendhal
Year: 1830
Language: French
Country: France
Pages: 576
Books left: 1/1

Title: The Life And Opinions of Tristram Shandy
Author: Laurence Sterne
Year: 1760
Language: English
Country: England
Pages: 640
Books left: 1/1

Title: Confessions of Zeno
Author: Italo Svevo
Year: 1923
Language: Italian
Country: Italy
Pages: 412
Books left: 3/3

Title: Gulliver's Travels
Author: Jonathan Swift
Year: 1726
Language: English
Country: Ireland
```

- o Type 2 and press enter to search for a book

```
Please enter a number that stand before the action you want to do
[1] Search on title
[2] Search on Author
[3] Search on language
[4] Search on country
```

- • Press the number that stands before the search you want to do. And after that fill in on what you chose to search for.
- o Type 3 and press enter to loan a book

```
Please enter the title of the book you want to reserve
_
```

- • Give the title of the book you want to loan

Librarian

```
[1] Subscriber
[2] Publishing company
[3] Librarian
Please enter a number that stand before the choices: 3
Please enter your username:
librarian
Please enter the password:
```

- o Type 2 and press enter. After that fill in your username and password (Username is visible in the picture below and the password = librarian)

```
Please enter the number that stands before the actions you want to do
[1] See all available books
[2] Search for a book
[3] Add a book
[4] See all loans
[5] Make a loan
[6] Cancel a loan
[7] See all subscribers
[8] Add a subscriber
[9] Make a backup
[10] Restore from backup
[11] Exit
```

- o After this step you will all the choices that a librarian can make, lets start with 1.

```
Title: Memoirs of Hadrian
Author: Marguerite Yourcenar
Year: 1951
Language: French
Country: France/Belgium
Pages: 408
Books left: 2/2

Title: something
Author: sfsd
Year: 1999
Language: wedvb
Country: fdjs
Pages: 300
Books left: 1/1

Title: iets
Author: dasf
Year: 2000
Language: bfdg
Country: vcv
Pages: 200
Books left: 3/3

Title: asdf
Author: asdf
Year: 1234
Language: asdf
Country: asdf
Pages: 123
```

- o This will show all the available books in our system. Available means the books we have in our library, it will still show the books even when there are 0 of them at the library.

```
Please enter a number that stand before the action you want to do
[1] Search on title
[2] Search on Author
[3] Search on language
[4] Search on country
```

- o After that we press 2 Search for a book, which allows us to search for any book via it's title, author, language or country of origin.

```
2
Author:
Homer
Title: Iliad
Author: Homer
Year: -735
Language: Greek
Country: Greece
Pages: 608
Books left: 1/1

Title: Odyssey
Author: Homer
Year: -800
Language: Greek
Country: Greece
Pages: 374
Books left: 3/3
```

o   Then if you wanna press 2 to search for an author like "Homer", you'll get this as result.

```
Add a book
Author:
```

o   After that at the librarian start screen we can press 3 Add a book which will show us what we see in the image above and it just allows us to simply add a new book to our system.

```
4
Title: Things Fall Apart
Author: Chinua Achebe
Year: 1958
Language: English
Country: Nigeria
Pages: 209

PERSON ID: 1
GENDER: male
NAMESET: Dutch
GIVENNAME: Hisham
SURNAME: Altink
STREET: Borkelsedijk 53
ZIPCODE: 5571 GA
CITY: Bergeijk
EMAIL: HishamAltink@teleworm.us
USERNAME: Reech1950
TELEPHONE: 06-16898224
------------------------------------------------
```

o   At the start screen pressing 4 See all loans, will show us all the books we have lent out at that moment, it will also show us all the information on the person and the book he has.

```
5
Please enter the username of the person that wants to loan a book
```

- At the start screen pressing 5 make a loan, will allow us to make a loan for a person via his username.

```
6
Please enter the username
```

- At the start screen pressing 6 will allow us to cancel a person's loan in case he returned his book, we enter his username and the title of the book he is returning.

```
7
PERSON ID: 1
GENDER: male
NAMESET: Dutch
GIVENNAME: Hisham
SURNAME: Altink
STREET: Borkelsedijk 53
ZIPCODE: 5571 GA
CITY: Bergeijk
EMAIL: HishamAltink@teleworm.us
USERNAME: Reech1950
TELEPHONE: 06-16898224

PERSON ID: 2
GENDER: female
NAMESET: Dutch
GIVENNAME: Maren
SURNAME: Breider
STREET: Van Humboldtstraat 130
ZIPCODE: 3514 GS
CITY: Utrecht
EMAIL: MarenBreider@dayrep.com
USERNAME: Othed1997
TELEPHONE: 06-23093526
```

- At the start screen pressing 7 see all subscribers, will show us all the people we have in our system as subscribers at that moment. It will show the full information like their name, email and telephone number. Via their username they will do most actions in the application.

```
8
Add a person:
GENDER:
male
NAMESET:
Dutch
GIVENNAME:
Jan
SURNAME:
Doe
STREET:
somethingstreet
ZIPCODE:
2218AB
CITY:
Rotterdam
EMAIL:
JanDoe@gmail.com
USERNAME:
JanD
TELEPHONE:
012345678
```

- o At the start screen pressing 8 add a subscriber, will allow us to add a person to our system which afterwards would allow the person to lend a book from the library.

```
9
Backup has been succesfully made.
```

- o At the start screen pressing 9 make a back up, will make a backup of all the books and subscribers we have at that moment so if anything ever goes wrong in the system, the people at the library will be able to load a back up (will be shown in the next screenshot) and continue from their last saved point.

```
10
[1] C:\Users\Gebruiker\Documents\GitHub\PLS\backups\143010052020.json
[2] C:\Users\Gebruiker\Documents\GitHub\PLS\backups\143310052020.json
[3] C:\Users\Gebruiker\Documents\GitHub\PLS\backups\164414052020.json
[4] C:\Users\Gebruiker\Documents\GitHub\PLS\backups\214713052020.json
[5] C:\Users\Gebruiker\Documents\GitHub\PLS\backups\214813052020.json
Chose the number before the file you want
```

- o At the start screen pressing 10 Restore from back up, will print a list of json files from previous made backups. Via the names of the json files you can deduce from what date and time they were made and that way you will be able to load in a previous state of the files.

Short function explanation

Publishing company

```
Please enter a number that stand before the action you want to do
[1] See all available books
[2] Search for a book
[3] Exit
```

1. Here you will see all the available books. (Title, author, year, language, country, pages and books left)
2. Here you can search for a book. (Title search, author search, language search and country search)
3. Exit to main menu.

Subscriber

```
Please enter a number that stand before the action you want to do
[1] See all available books
[2] Search for a book
[3] Loan a book
[4] Exit
```

1. Here you will see all the available books. (Title, author, year, language, country, pages and books left)
2. Here you can search for a book. (Title search, author search, language search and country search)
3. Here you can lend a book as a subscriber by filling in the title of a book.
4. Exit to main menu.

Librarian

```
Please enter the number that stands before the actions you want to do
[1] See all available books
[2] Search for a book
[3] Add a book
[4] See all loans
[5] Make a loan
[6] Cancel a loan
[7] See all subscribers
[8] Add a subscriber
[9] Make a backup
[10] Restore from backup
[11] Exit
```

1. Here you will see all the available books. (Title, author, year, language, country, pages and books left)
2. Here you can search for a book. (Title search, author search, language search and country search)
3. Here you can add a book to the system by filling in the form.

4. Here you can see all the loans and in the loans you can see who made the loan and which book they got.
5. Here you can lend a book as a subscriber by filling in the subscriber and the title of a book.
6. Here you can cancel a loan for a subscriber by filling in the subscriber and the title of the book.
7. Here you can see a list of all the subscribers who have a subscription at the library.
8. Here you can add a subscriber to the system so that the person can lend a book.
9. Here you can make a backup of all the files that require data (subscribers, books and loans).
10. Here you can restore from a backup which will return all the data to the point the backup was made.
11. Exit to main menu.