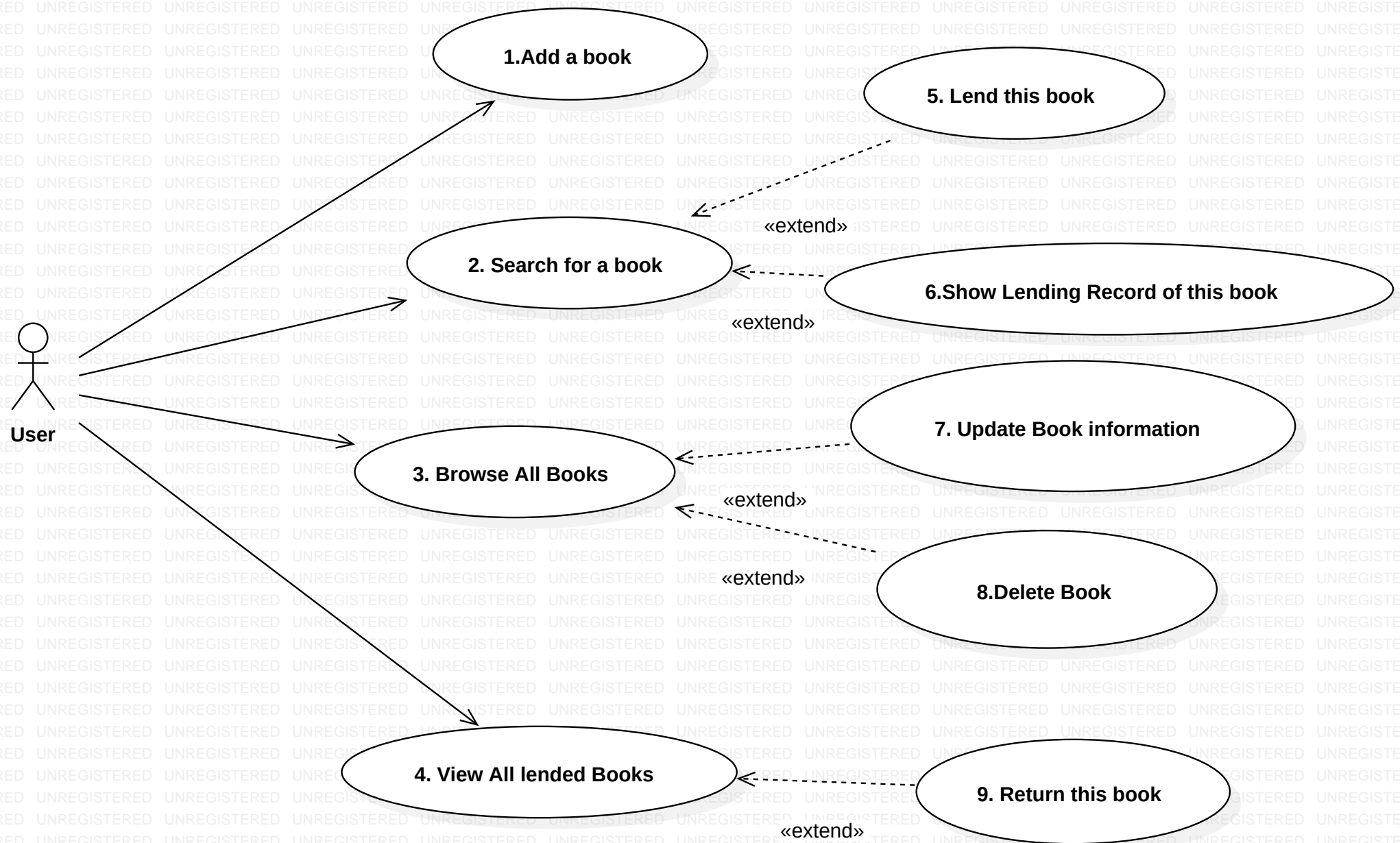
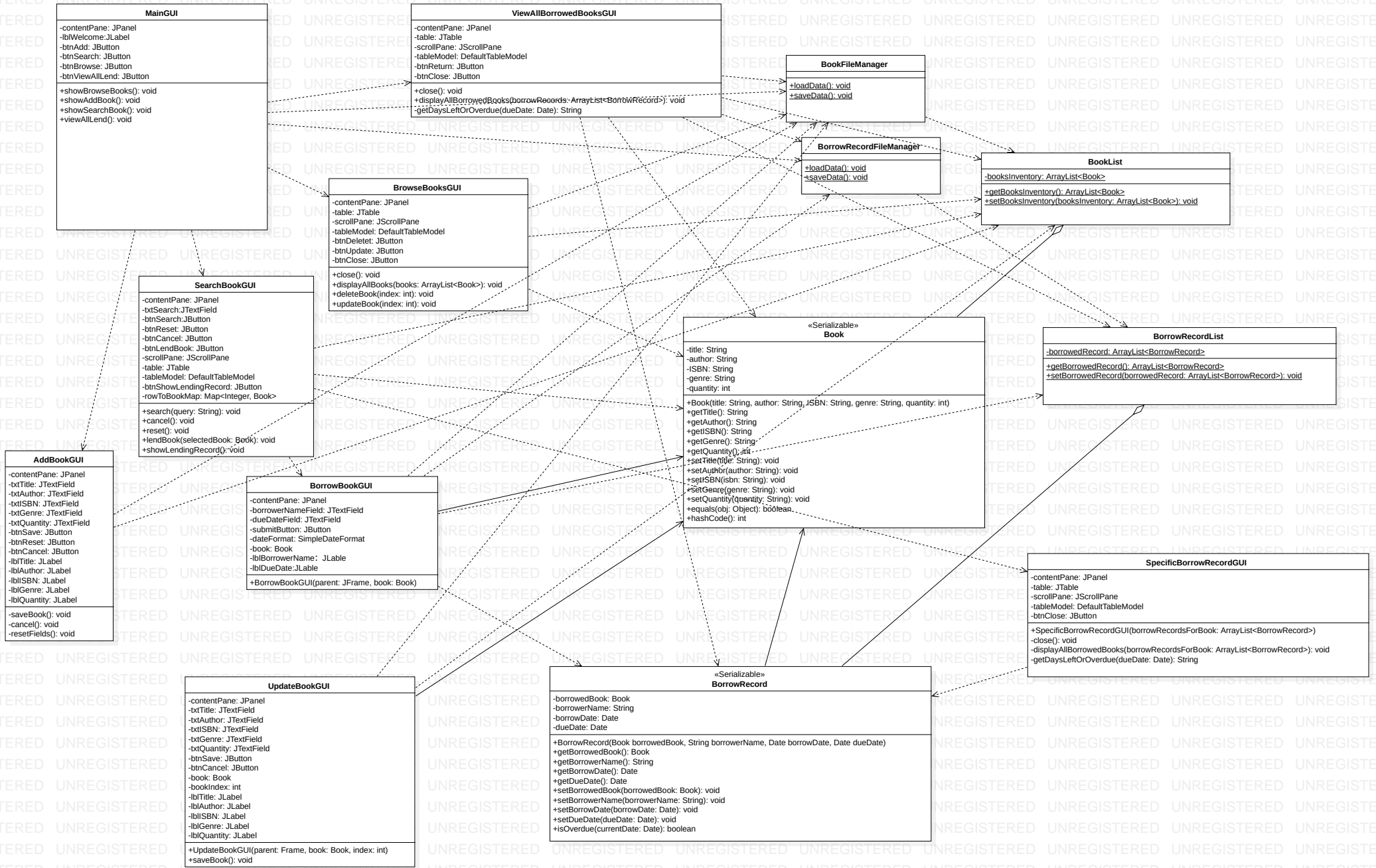


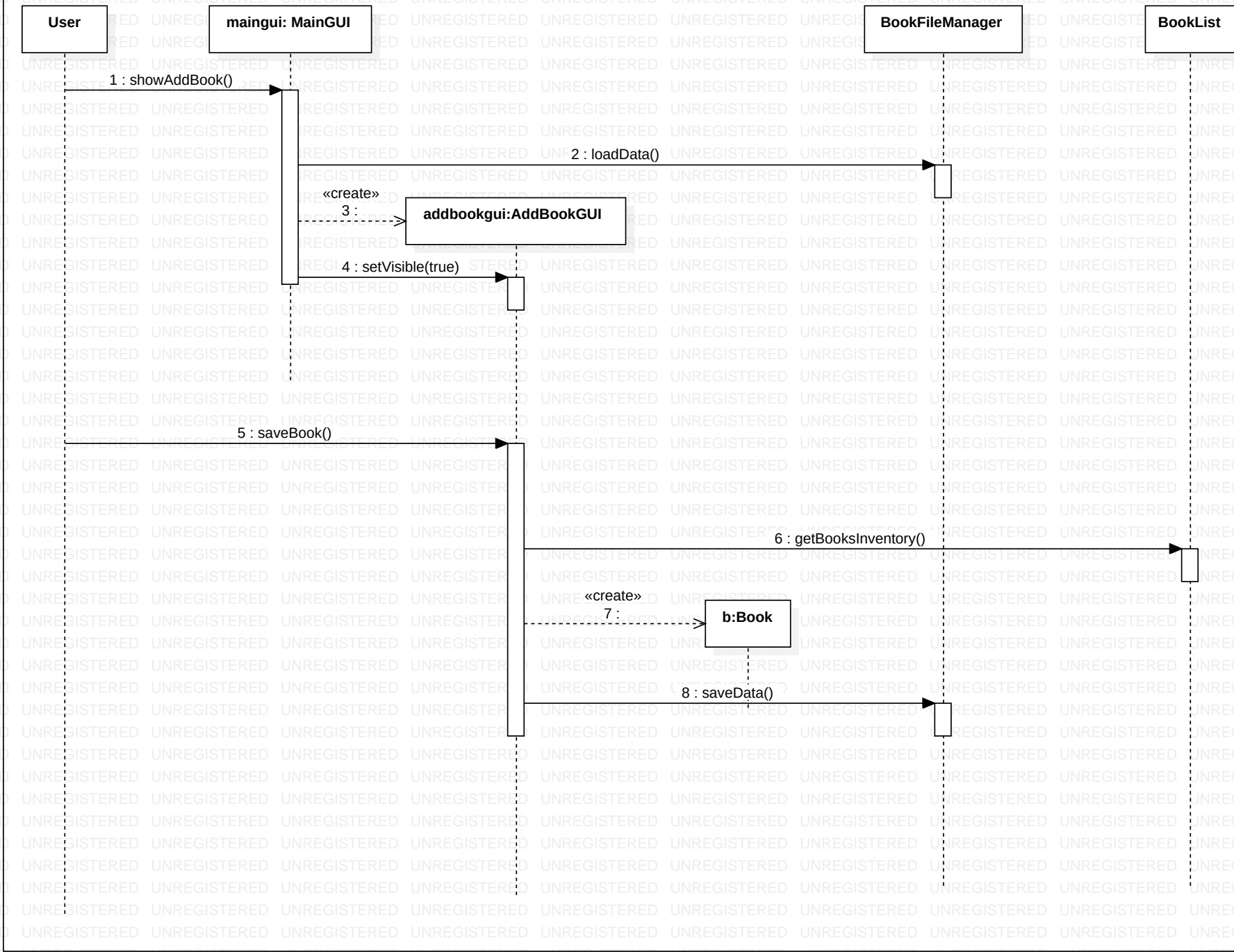
Model1::UseCaseDiagram1



Model1::ClassDiagram1

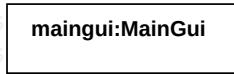


sd Add a Book



Model1::Collaboration2::Interaction1::Search for a book

sd Search for a book



1 : showSearchBook()

2 : loadData()

«create»

3 :

searchbookgui:SearchBookGUI

4 : setVisible(true)

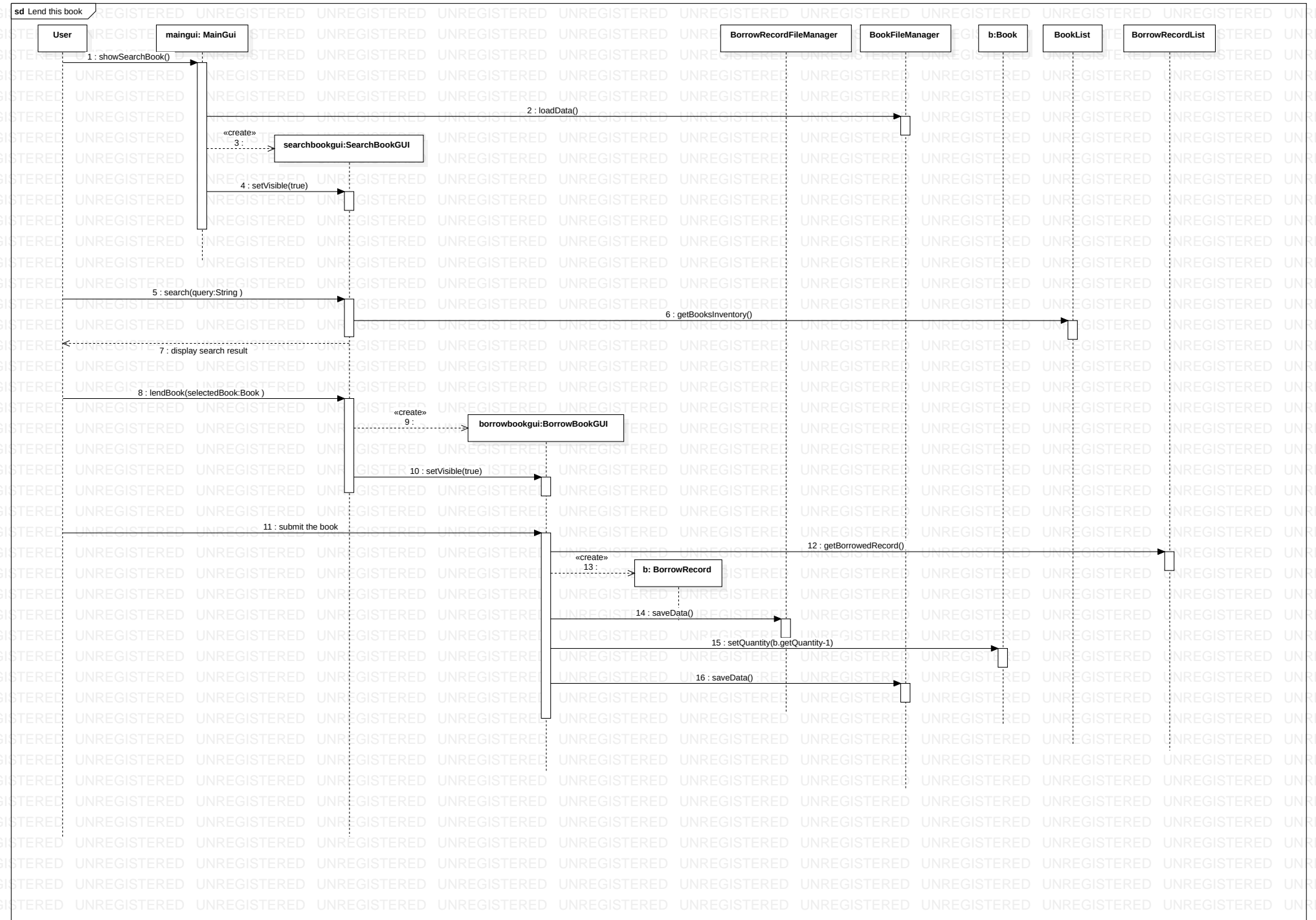
5 : search(query:String)

6 : getBooksInventory()

7 : display search result

searchbookgui:SearchBookGUI

Model1::Collaboration3:Interaction1::Lend this book



Model1::Collaboration4::Interaction1::Browse All Books

sd Browse All Books

User

maingui:MainGUI

BookFileManager

1 : showBrowseBooks()

2 : loadData()

«create»

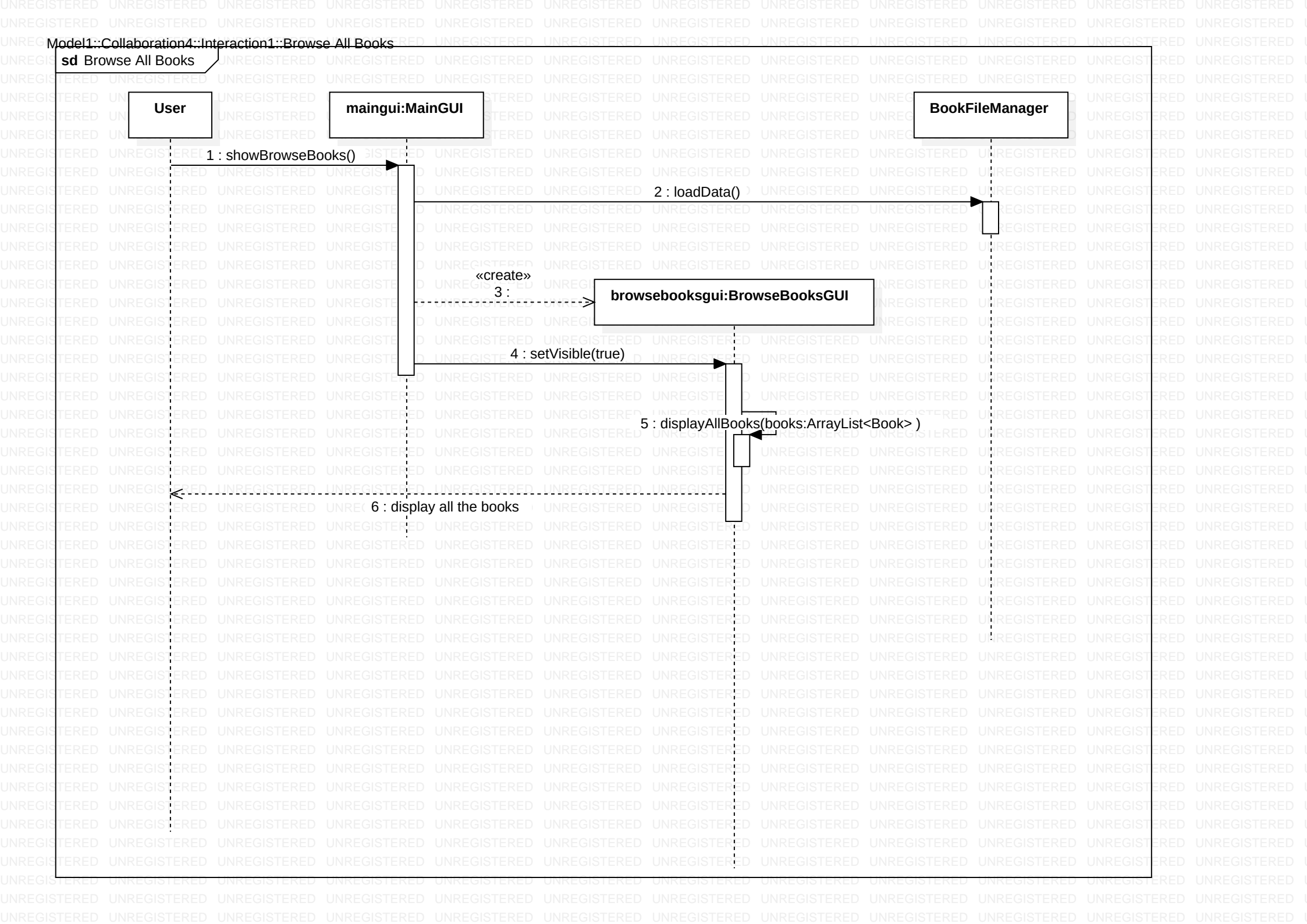
3 :

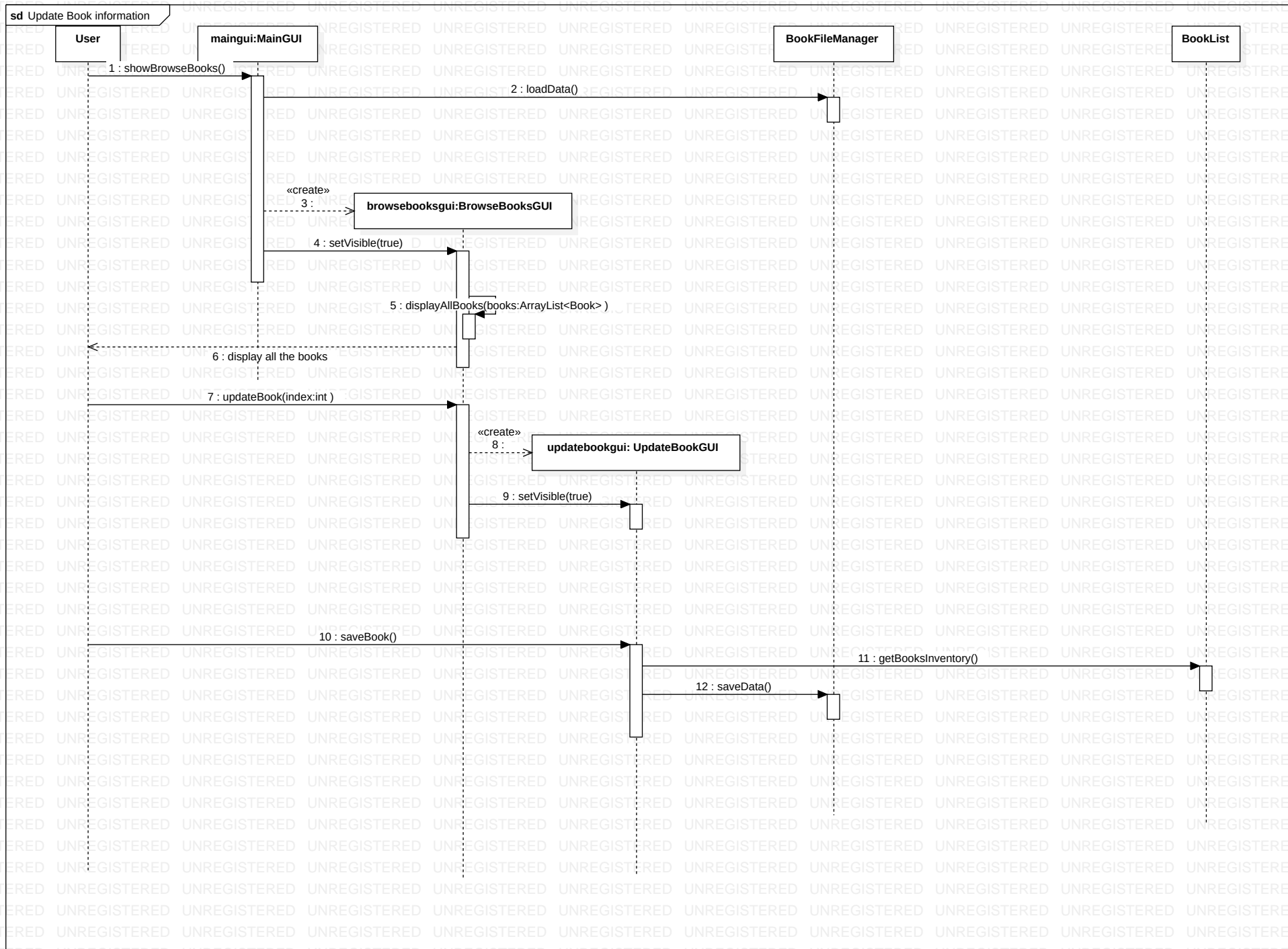
browsebooksgui:BrowseBooksGUI

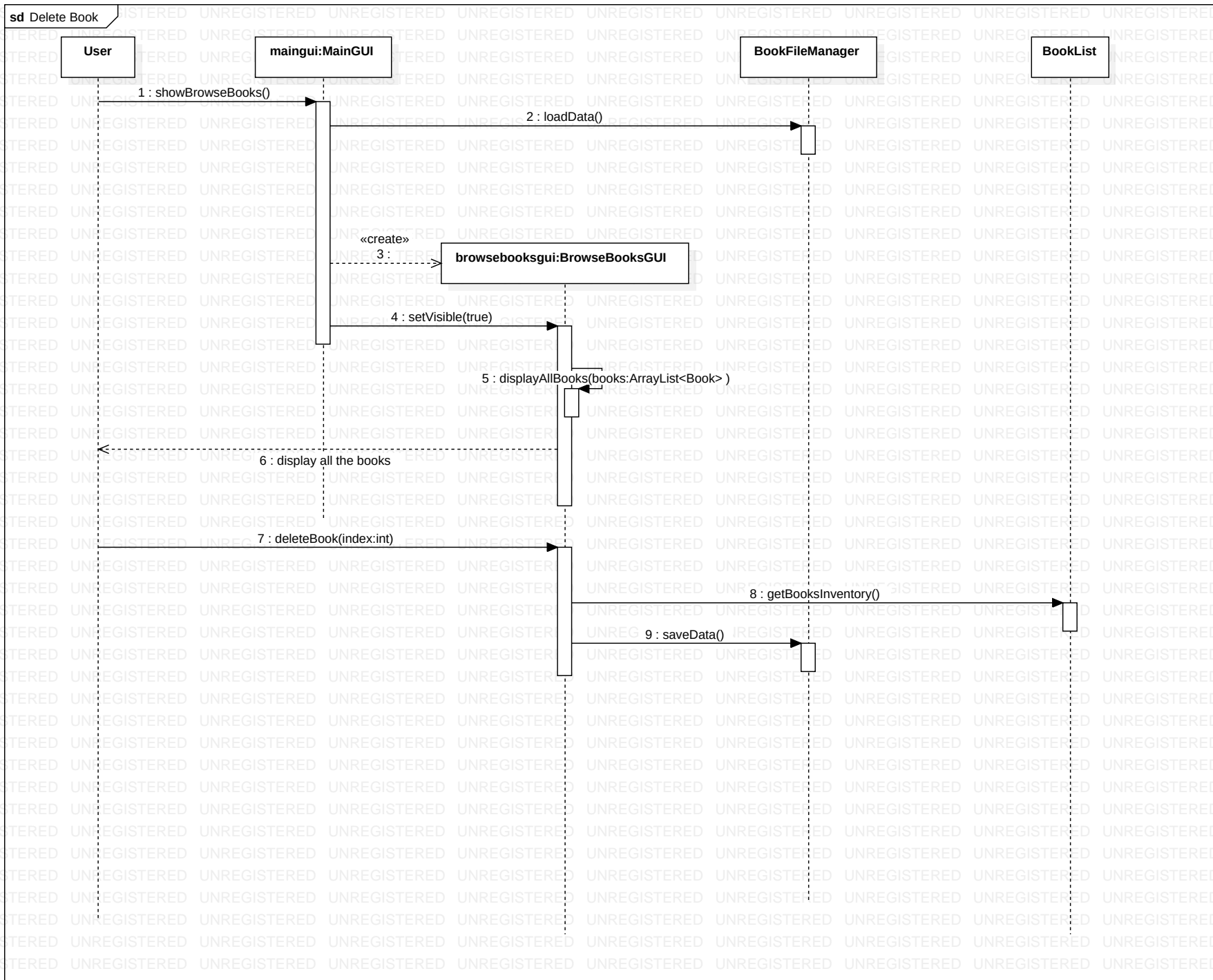
4 : setVisible(true)

5 : displayAllBooks(books:ArrayList<Book>)

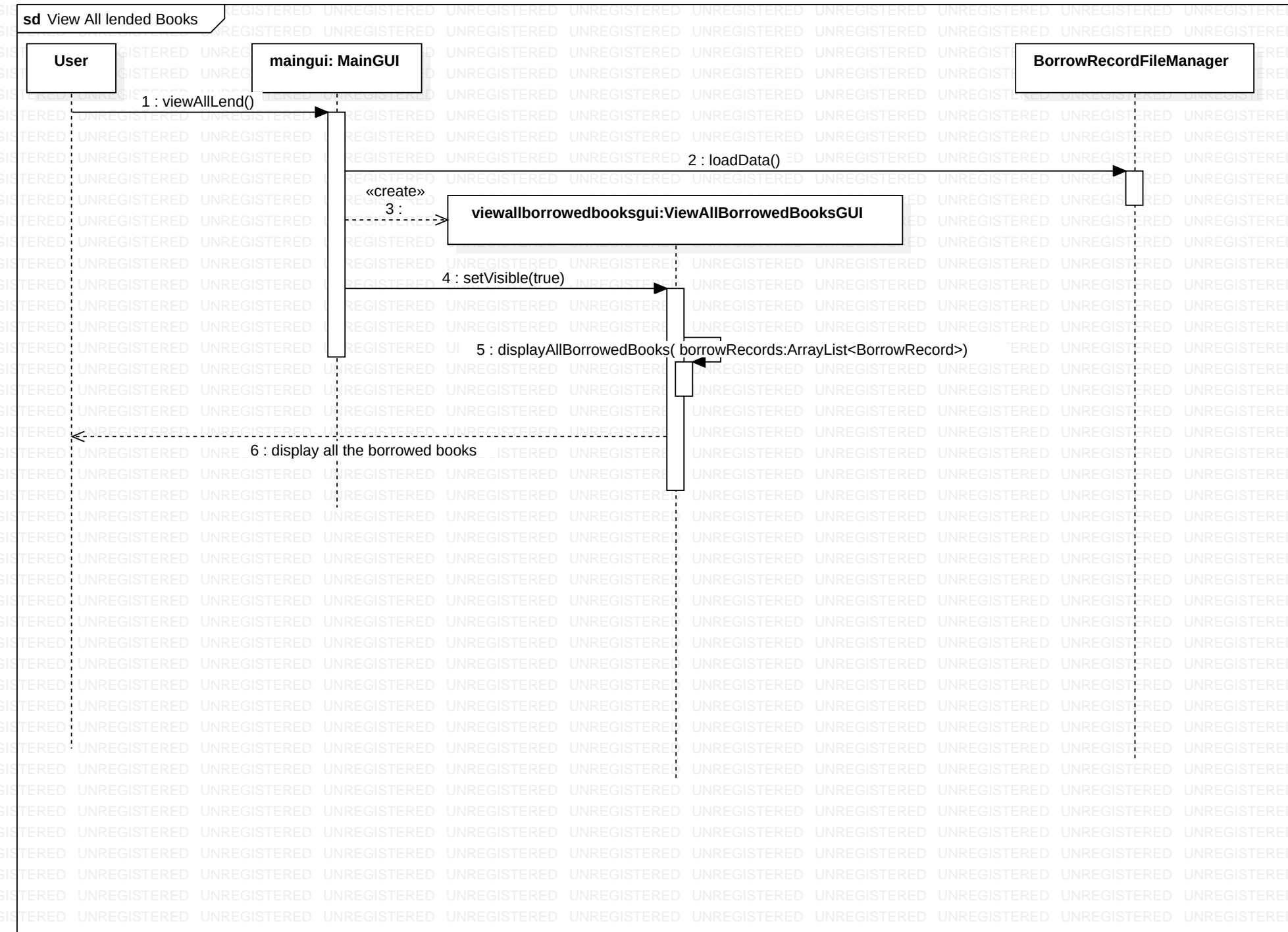
6 : display all the books





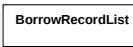
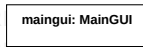


Model1::Collaboration7::Interaction1::View All lended Books



Model1: Collaboration8: Interaction1: Return this book

sd Return this book



1 : viewAllLend()

2 : loadData()

3 : loadData()

«create»

4 :

5 : setVisible(true)

6 : displayAllBorrowedBooks(borrowRecords:ArrayList<BorrowRecord>)(true)

7 : display all the borrowed books

8 : return the selected book

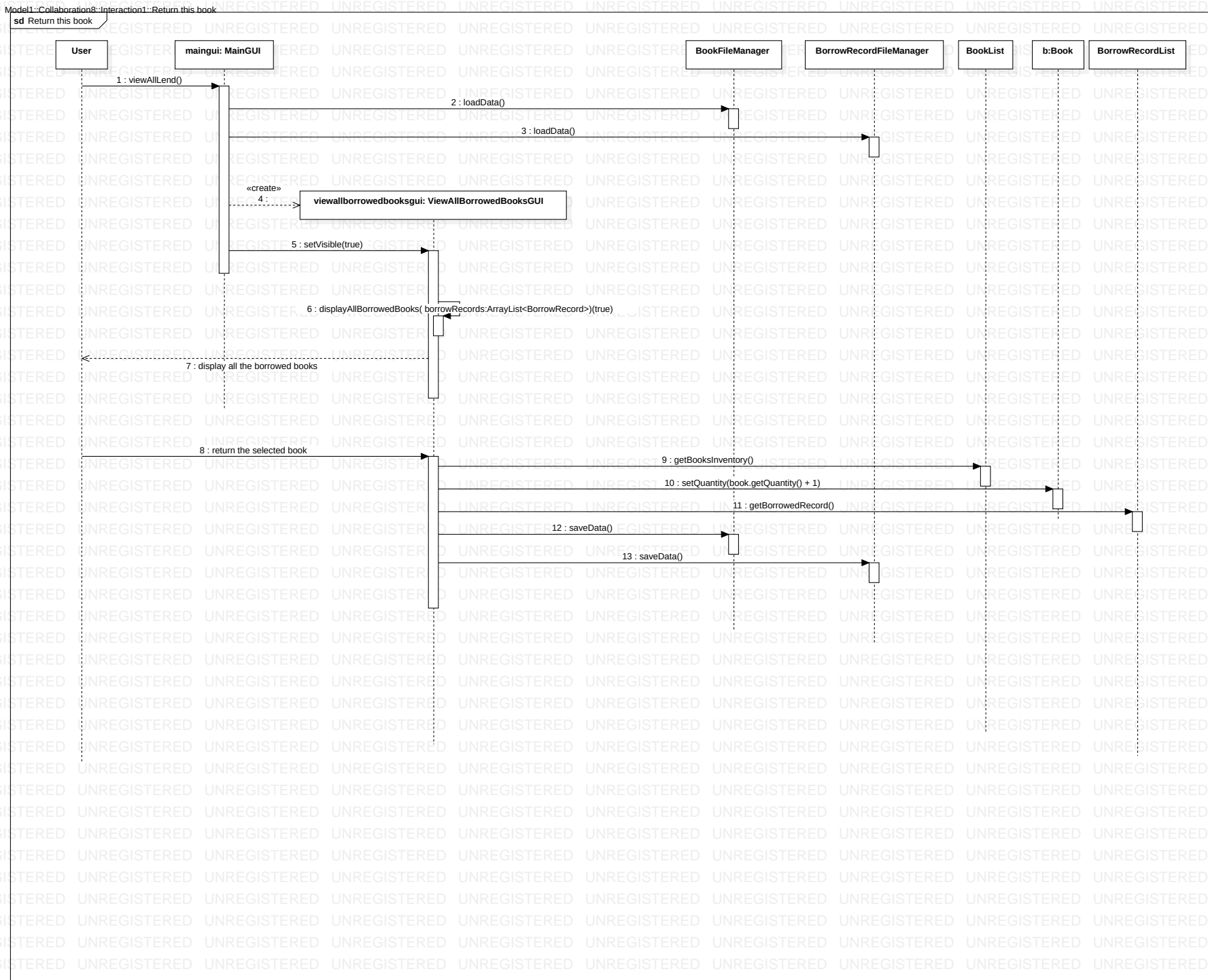
9 : getBooksInventory()

10 : setQuantity(book.getQuantity() + 1)

11 : getBorrowedRecord()

12 : saveData()

13 : saveData()



Model1: Collaboration2: Interaction1: Show lending record of this book
sd Show lending record of this book



| | |
|--------------------------|---|
| UC Reference Name/Number | Add a book(UC1) |
| Overview | Users can add a new book to the library inventory system, including information about title, author, isbn, genre, and quantity. |
| Related use cases | N/A |
| Actors | User |

| | |
|--------------------------|---|
| UC Reference Name/Number | Search for a book(UC2) |
| Overview | The user can search the book in the library inventory system by title, author, isbn, and genre. |
| Related use cases | Lend this book(UC5),show lending record of this book(UC6) |
| Actors | User |

| | |
|--------------------------|---|
| UC Reference Name/Number | Browse All Books(UC3) |
| Overview | Users can view all their added books' details stored in the library inventory system. |
| Related use cases | Update Book information(UC7), Delete Books(UC8) |
| Actors | User |

| | |
|--------------------------|---|
| UC Reference Name/Number | View All lended Books(UC4) |
| Overview | Users can view all the lended books' details stored in the library inventory system |
| Related use cases | Return this book(UC9) |
| Actors | User |

| | |
|--------------------------|---|
| UC Reference Name/Number | Lend this book(UC5) |
| Overview | Users can lend a book from the library inventory system |
| Related use cases | Search for a book(UC2) |
| Actors | User |

| | |
|--------------------------|--|
| UC Reference Name/Number | show lending record of this book(UC6) |
| Overview | Users can show the lending record of a specific book from the library inventory system |
| Related use cases | Search for a book(UC2) |
| Actors | User |

| | |
|--------------------------|--|
| UC Reference Name/Number | Update Book information(UC7) |
| Overview | Users can update the information(title, author, isbn, genre, and quantity.) of the selected book |
| Related use cases | Browse All Books(UC3) |
| Actors | User |

| | |
|--------------------------|---|
| UC Reference Name/Number | Delete Book(UC8) |
| Overview | Users can delete a book from the library inventory system |
| Related use cases | Browse All Books(UC3) |
| Actors | User |

| | |
|--------------------------|---|
| UC Reference Name/Number | Return this book(UC9) |
| Overview | Users can return a book to the library inventory system, and then this book are able to be borrowed again |
| Related use cases | View All lended Books(UC4) |
| Actors | User |