Design Report
For E-Book Sharing System

Version 1.0

<u>Prepared by</u>: Shawn Mathew, Anthony Tan, Amy Wong

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Design Report

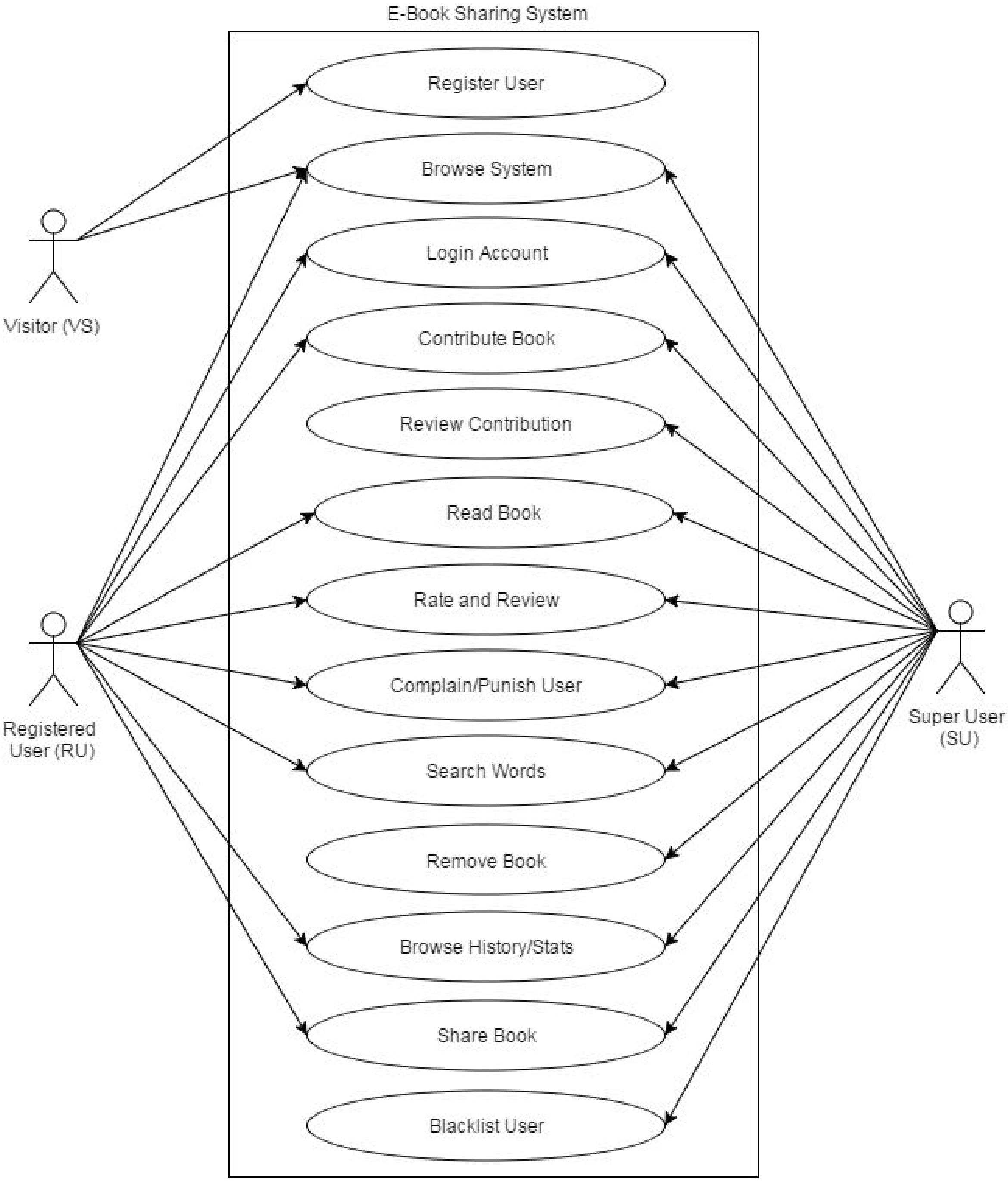
1) Introduction

1.1 Overview

The purpose of this document is to provide a description of the functionalities of the E-book Sharing System. Through the use of natural language, various diagram, screenshots, and pseudo code. This document will give an in depth look at the various functionalities of the system and of how users interact within the system. The E-book Sharing System is designed to introduce a new way of sharing and reviewing eBooks. Potential scenarios include uploading E-books to the system for others to read, accumulating points for reading books, searching through an online catalog of available books and etc.

2) Overall Description

2.1 System Use Case Diagram



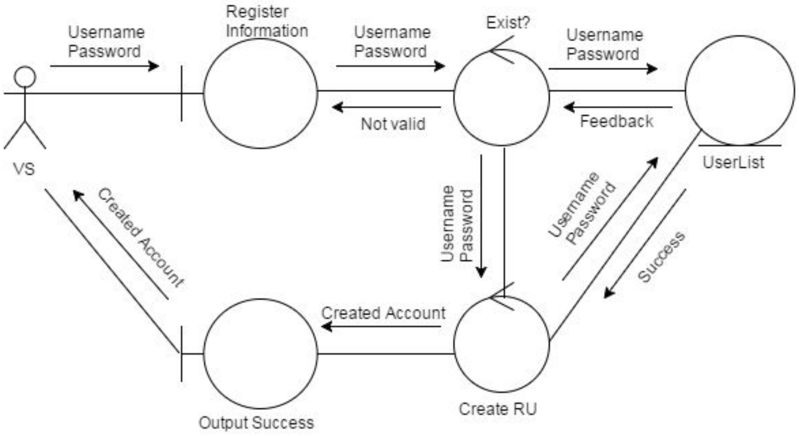
2.2 Use Cases In Details

Register User

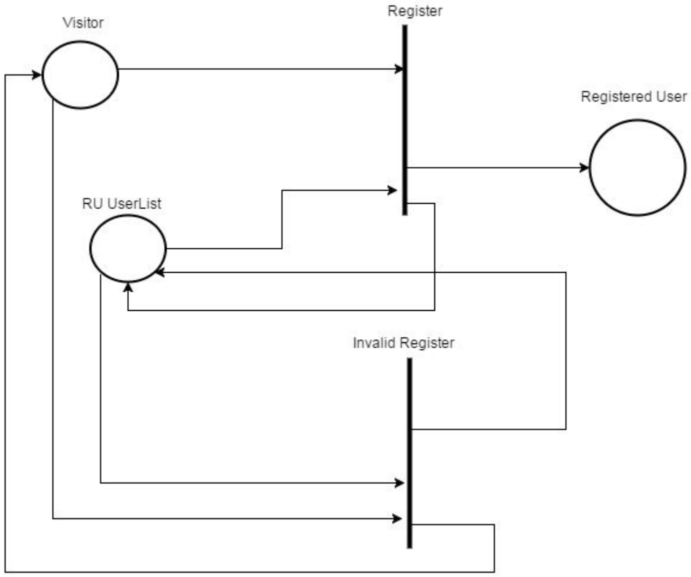
Scenarios:

A Visitor registers as an user by clicking on the Register button. A window opens and the Visitor enters an unique username and password. The system checks if the username exist. If the username is nonexistence, then the system displays a new window with a success message. If the username already exist, the system displays the register window with an error message to enter another username and password.

Collaboration Diagram:



Petri-net Diagram:

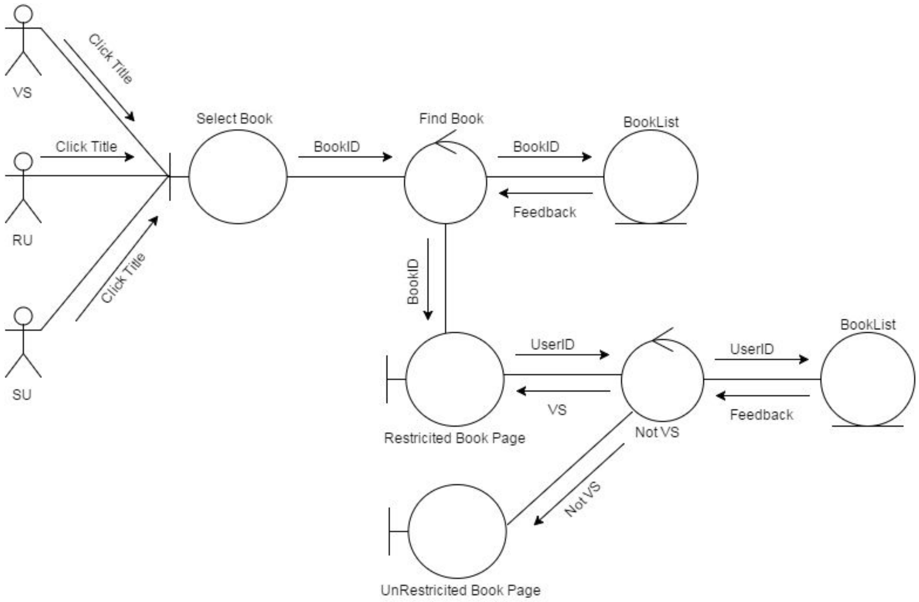


Browse System

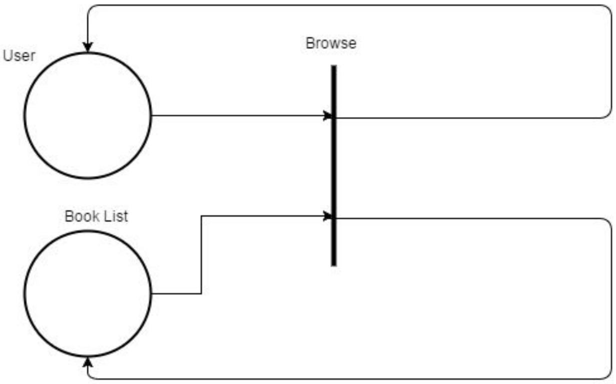
Scenarios:

The home page of the system displays the eBook catalog as a table of titles. On the right side of the page, there's a list of the current top five recommended eBooks. The user can scroll through the table and click on one of the titles on the row or click on one of the books in the list. If a title is clicked on, the system goes to a new window that shows the clicked book's information. The information includes the book cover, title, author, summary, stats, reviews and etc. The Visitor can only see this restricted amount of information. If the user looking at the book page is a Registered User or Super User, he will see an additional search bar and a purchase button to read the book.

Collaboration Diagram:



Petri-net Diagram:

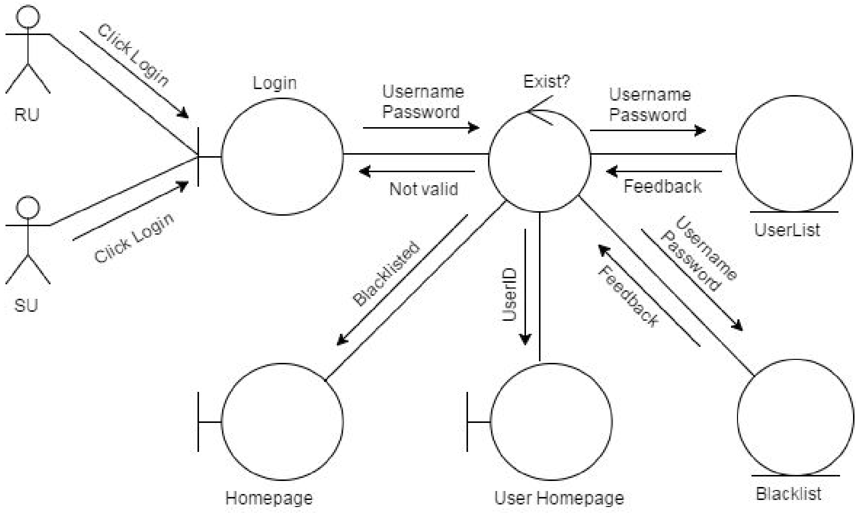


Account Login

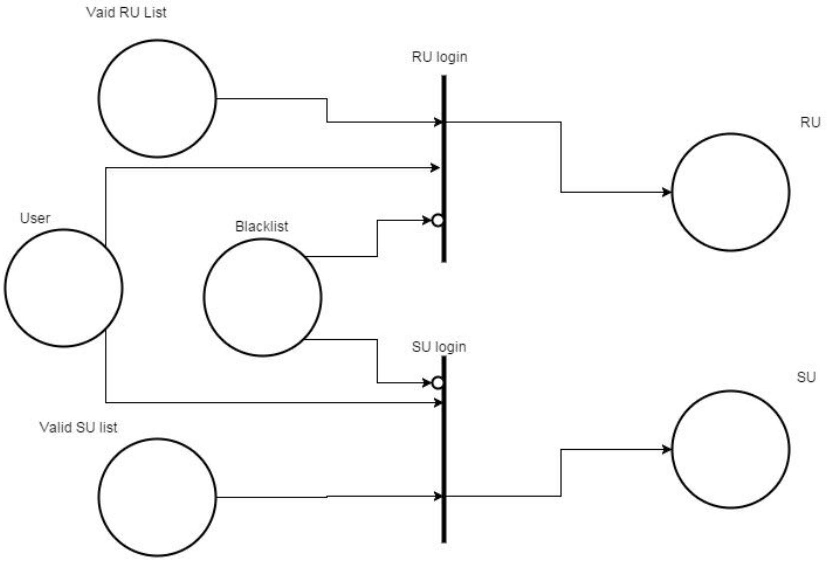
Scenarios:

Register and Super Users can log into their account by clicking on the login button on the homepage of the system. Another window will pop up asking for the username and password. The user will then enter his login information and the system will check for a matching username and password combination. If correct, the user is logged into the system and will view a less restricted version of the homepage than before. If the inputted combination is wrong, the user will be prompted back to the login window with an error message. If the inputted username is on the blacklist, the user is prompted back to the original system homepage.

Collaboration Diagram:



Petri-net Diagram:

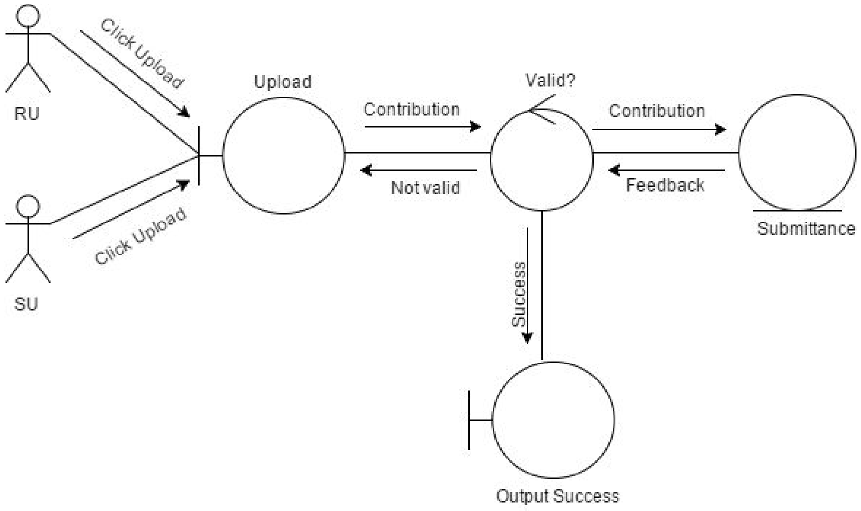


Contribute Book

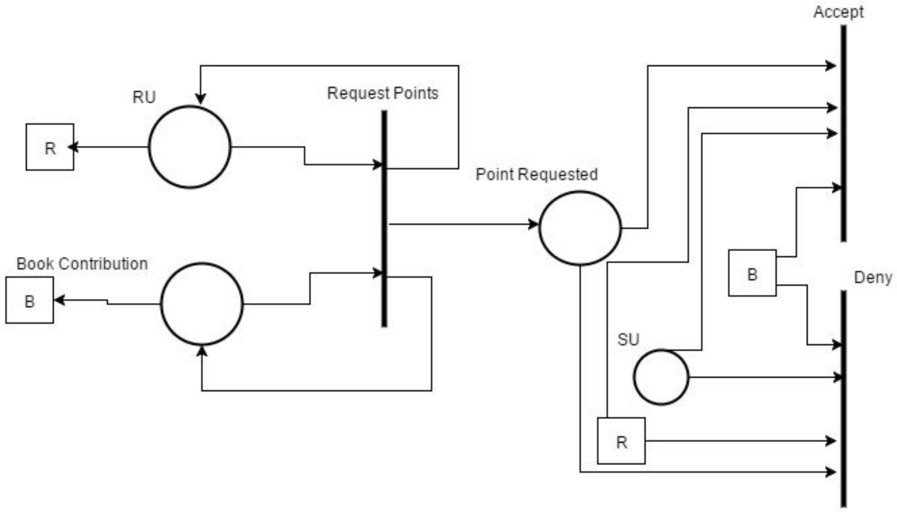
Scenarios:

Registered and Super Users have an option to upload eBooks to the system. This is done by clicking on a button which will open the upload page. The user must enter all of the book information asked on the page such as the book itself and the number of points wanted as an reward. After entering all of the information, the user will see a message pertaining to the success of the submittance. If any of the book information or the book itself is missing, the contribution will not be submitted into the system and the user will see an error message.

Collaboration Diagram:



Petri-net Diagram:

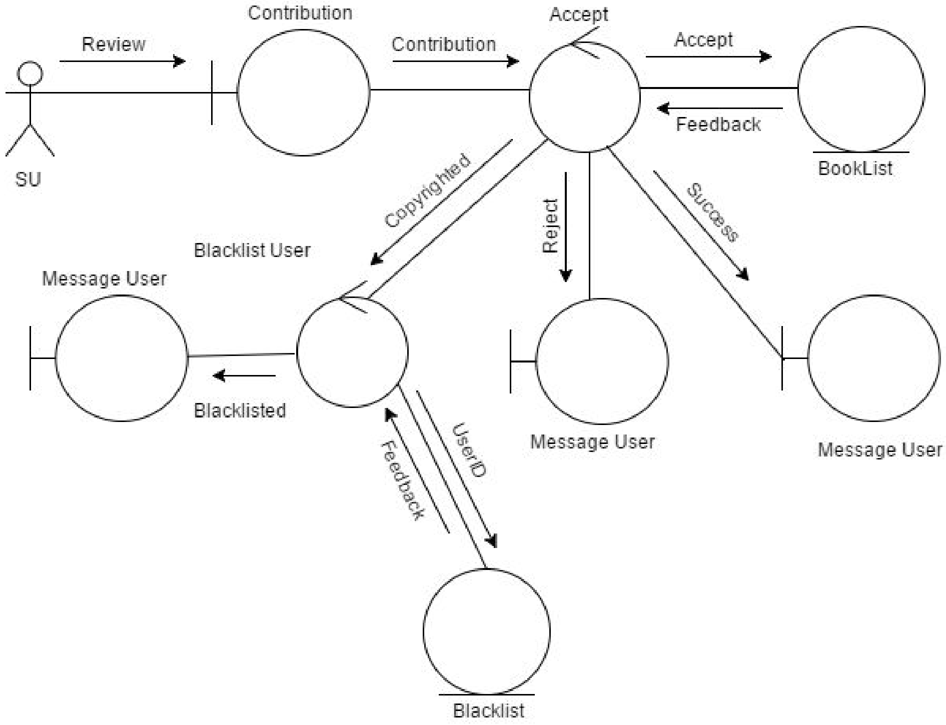


Review Contribution

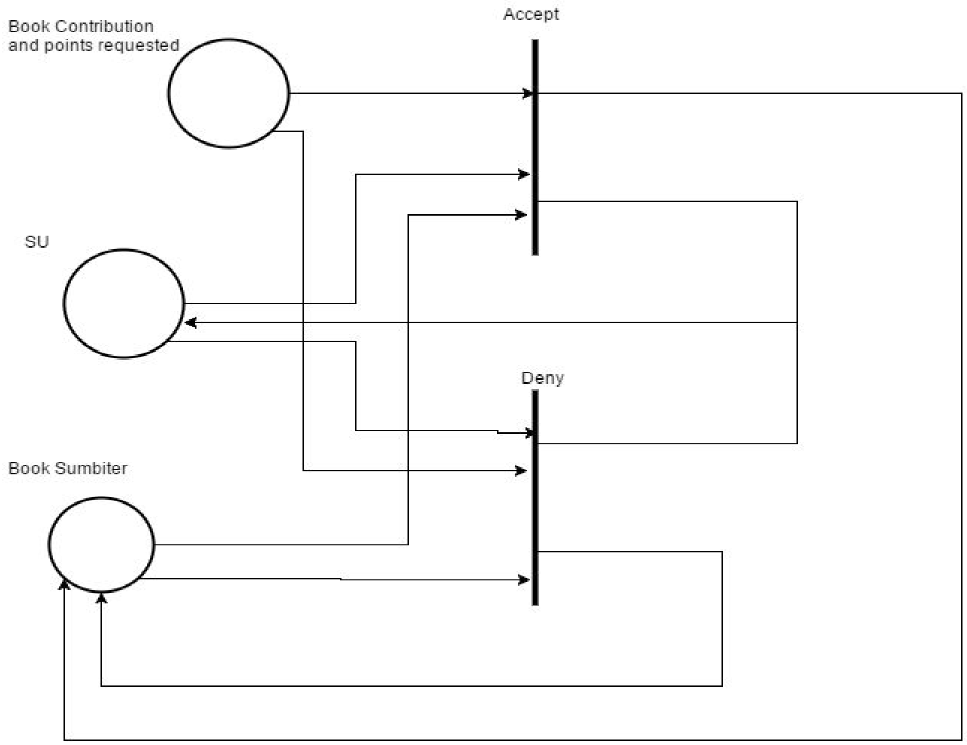
Scenarios:

Any of the Super Users can review the submittance of a contributed book. If the book is accepted as a contribution, the Super User will assign the number of points that is required to purchase and read the book. Afterwards, the book is added to the eBook catalog along with the given book information. The requested points are also added to the contributor's account. The Super User can be reject the book if the contributing user is asking for too many points or if the book is copyrighted. If the user contributor asked for too many points, then a message is sent to the contributor to reevaluate the point amount. If the book is copyrighted, the Super User will put the contributor on the blacklist.

Collaboration Diagram:



Petri-net Diagram:

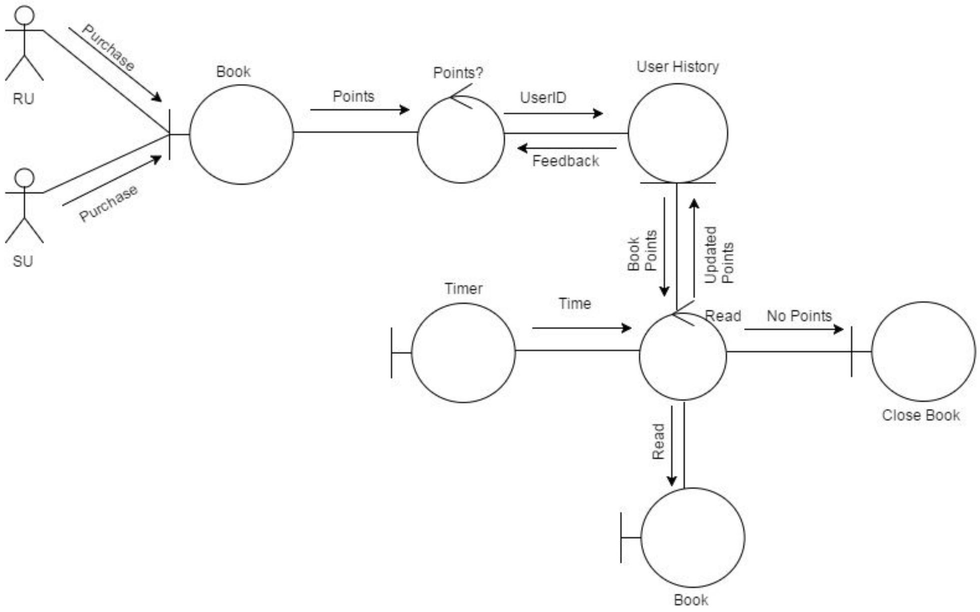


Read Book

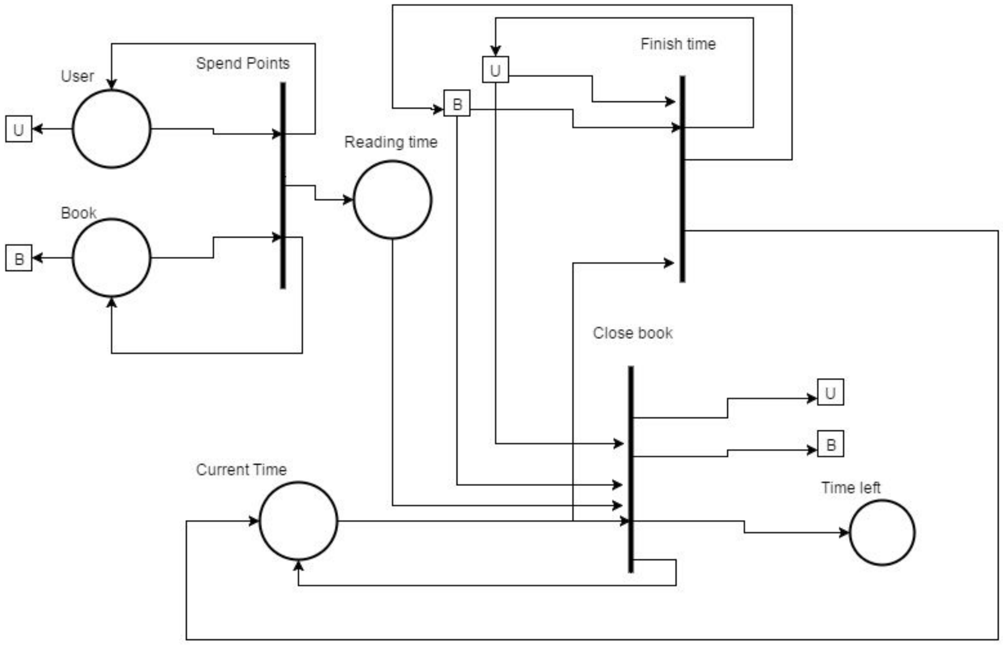
Scenarios:

Registered and Super Users can read a book by purchasing the book with points they have. If the user doesn't have enough points to purchase the book, then the purchase is rejected and the user will see an error message on the book page. If the user does have enough points, then the purchase is complete and the book will appear on the user's reading history. This is where the user can access the book. After the purchase, every time the user opens the book, the timer will start counting down. Every time the user closes the book before the timer ends, the timer will stop moving until the book is reopened. Once the timer runs out or the user finishes reading the book, the book is returned to the system.

Collaboration Diagram:



Petri-net Diagram:

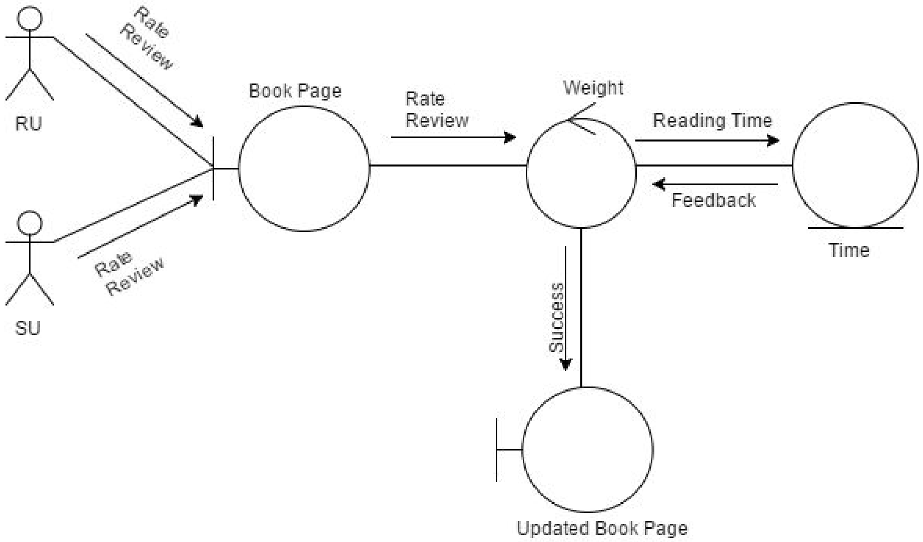


Rate and Review

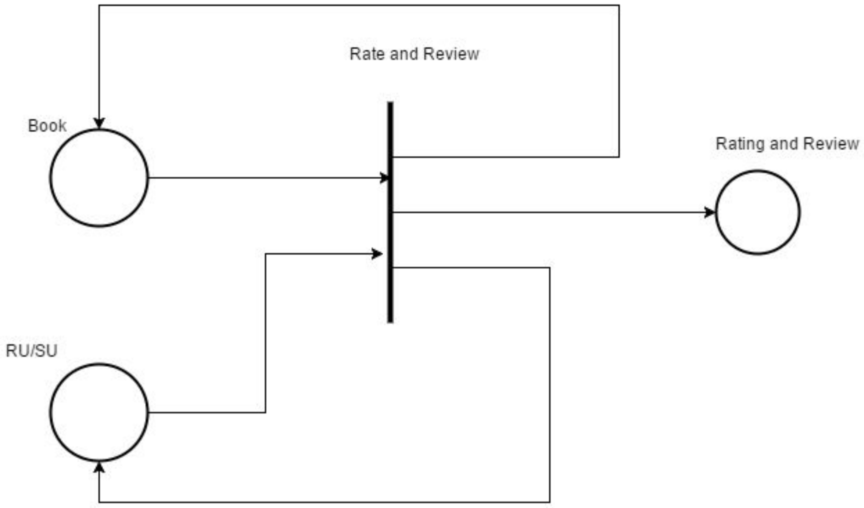
Scenarios:

Registered and Super Users will have the option of giving ratings and reviews for the books they have read. These functions will only appear if the user has purchased the book. Based on how much time the user spent on reading the book, a weight will be set on the rating and review. The system will calculate and update the new overall rating of the book along with the addition of the latest rating and review on the book page.

Collaboration Diagram:



Petri-net Diagram:

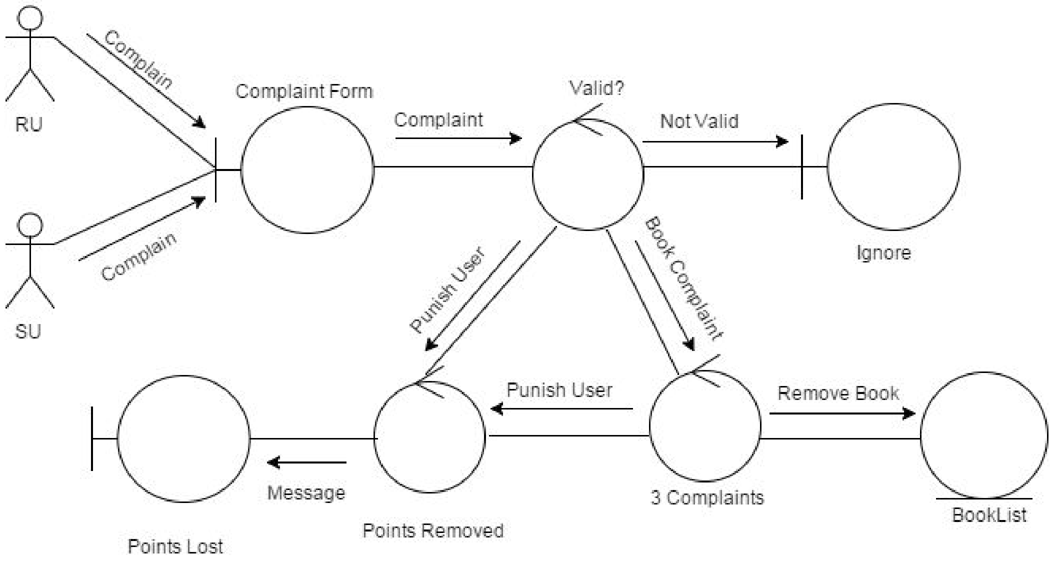


Complain/Punish User

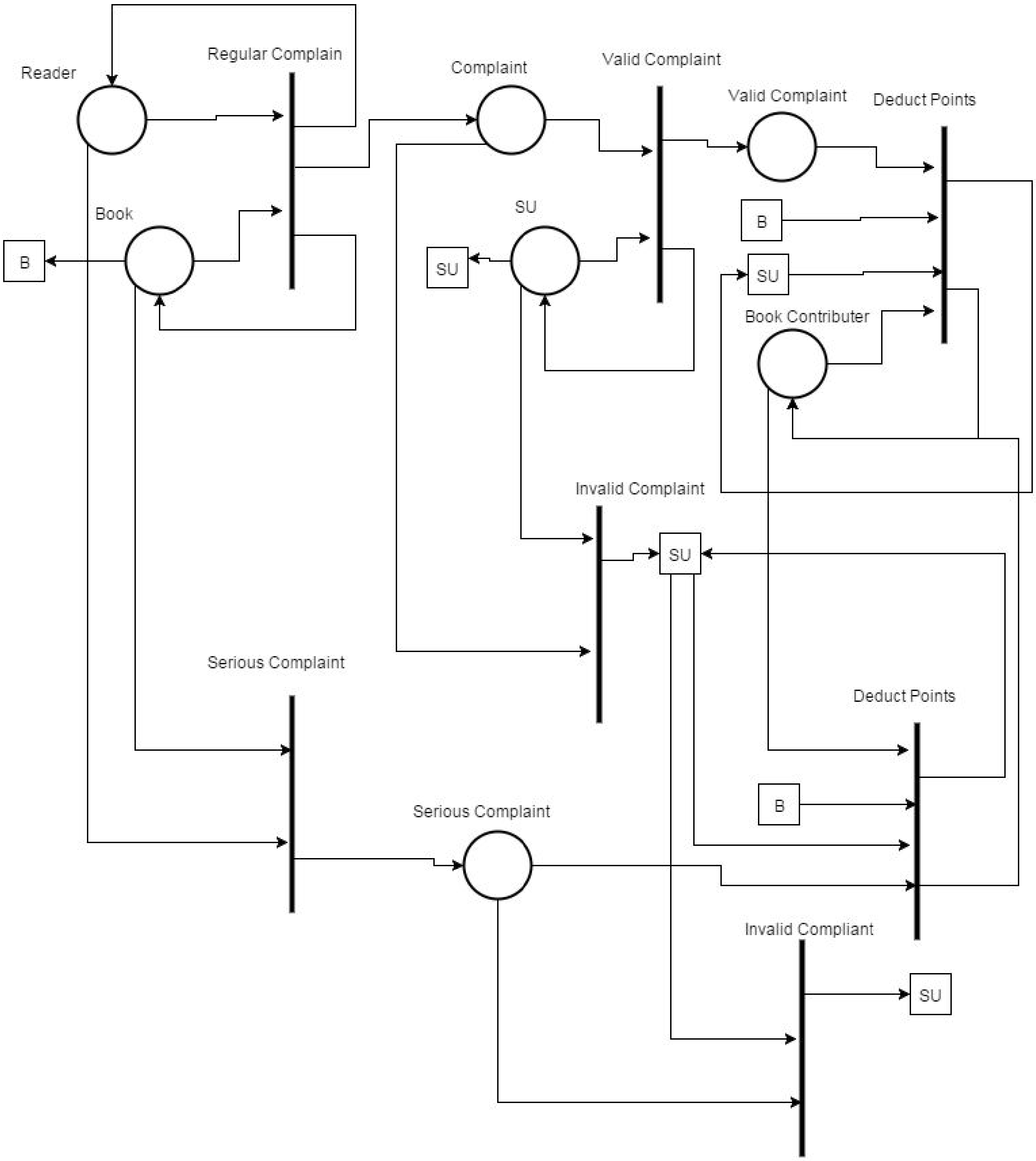
Scenarios:

Registered and Super Users can file complaints against books or other users. This is done by filling and submitting a form on the complaints page of the system. A Super User will then review the complaint. If the complaint is not valid, then it will be ignored. However, if it is considered to be valid, then punishment can occur. If more than 3 complaints are made against a book, then the Super User removes the book and points are deducted from the contributing user. If a serious complaint is filed against an user, punishment can occur in the form of points removal.

Collaboration Diagram:



Petri-net Diagram:

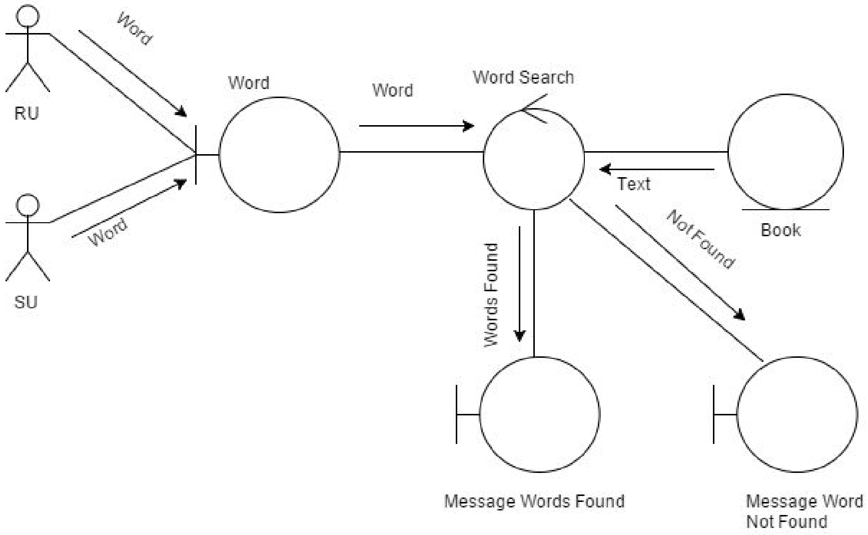


Search Words

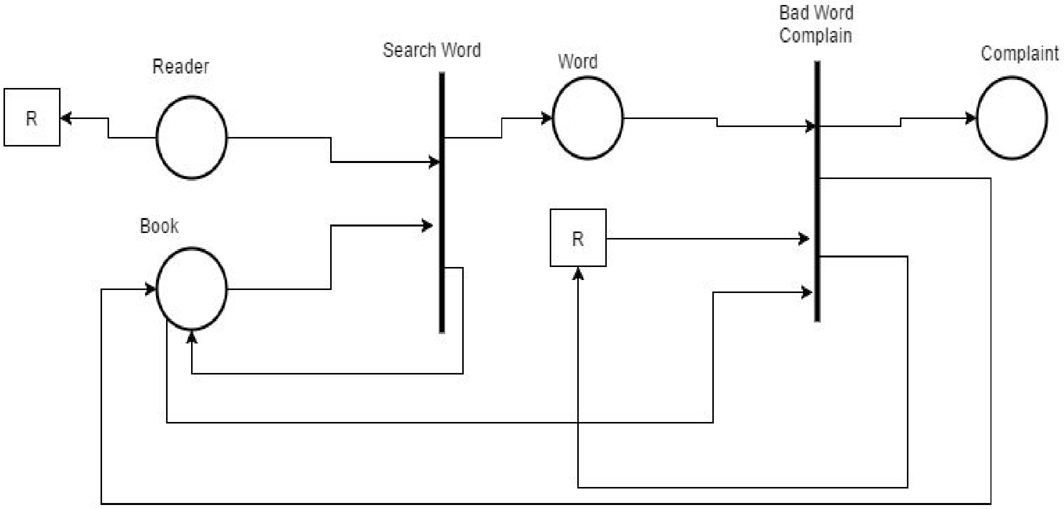
Scenarios:

The search function allows a Registered or Super User to input some words into the search bar, which is located on the book page of every book. The inputted text will be searched through the text of the book. If no matches were found, then an error message will pop up. Otherwise, the matching results will be shown in a new window and the user can file a complaint if the results were found for bad words.

Collaboration Diagram:



Petri-net Diagram:

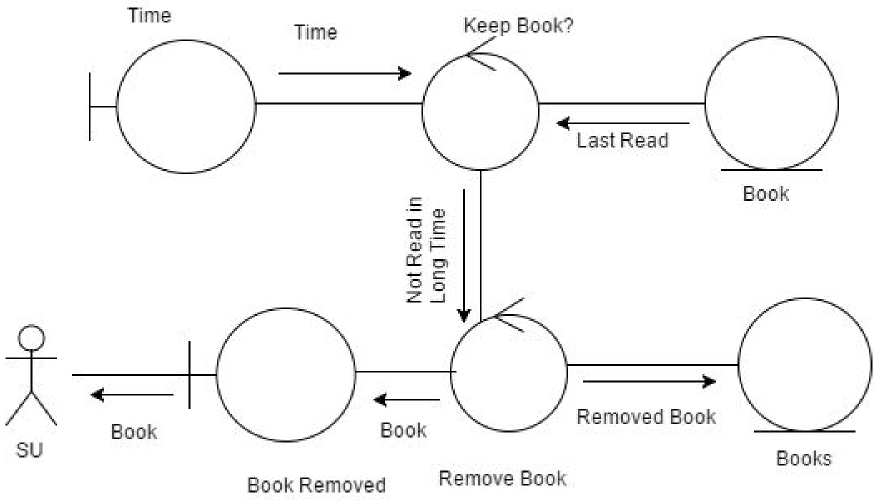


Remove Book

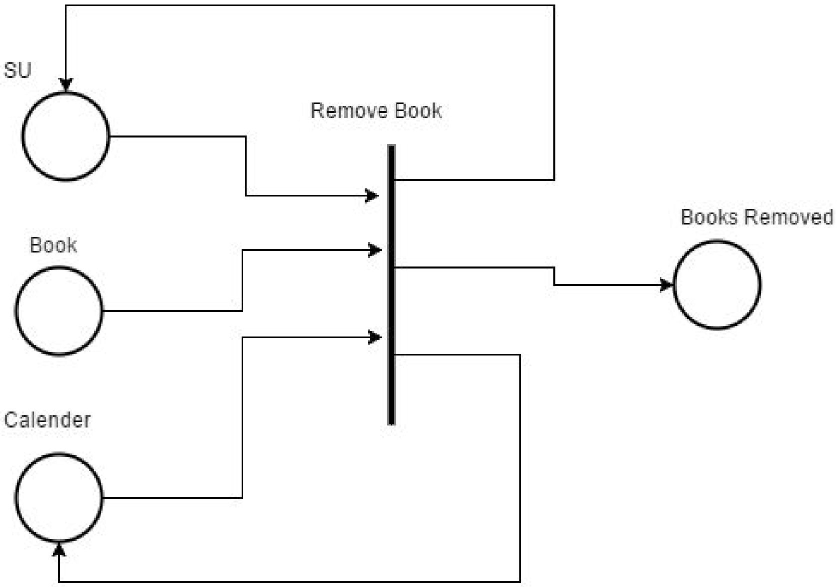
Scenarios:

The system keeps track of the time period of how long a book hasn't been purchased for all the books in the catalog. If the time period exceed a certain amount, then the system or a Super User removes the book from the catalog. As a result, the user that contributed the book will have 5 points deducted from his account.

Collaboration Diagram:



Petri-net Diagram:

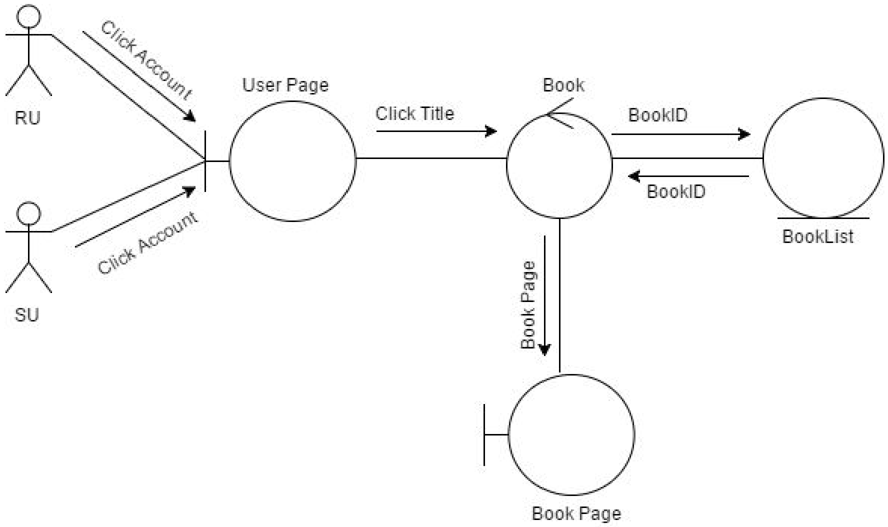


Browse History/Stats

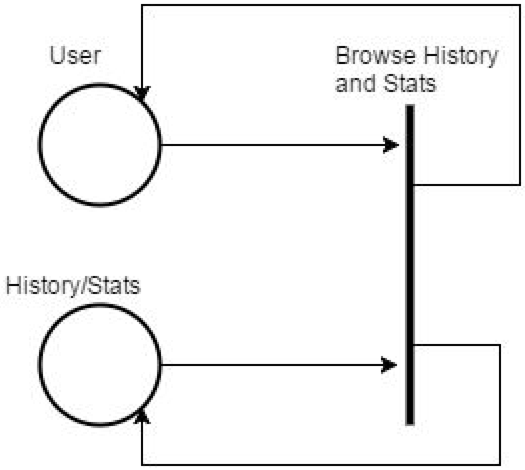
Scenarios:

Registered Users and Super Users can browse through their history/stats on their account page. The history is a list of all the books purchased and read by the user. The user should be able to click on any of the books to go to the book page for it. The stats which are located right above the reading history will include the user's information such as the points and number of books purchased. A user with a newly created account will have an empty reading history along with defaulted zero values for stats.

Collaboration Diagram:



Petri-net Diagram:

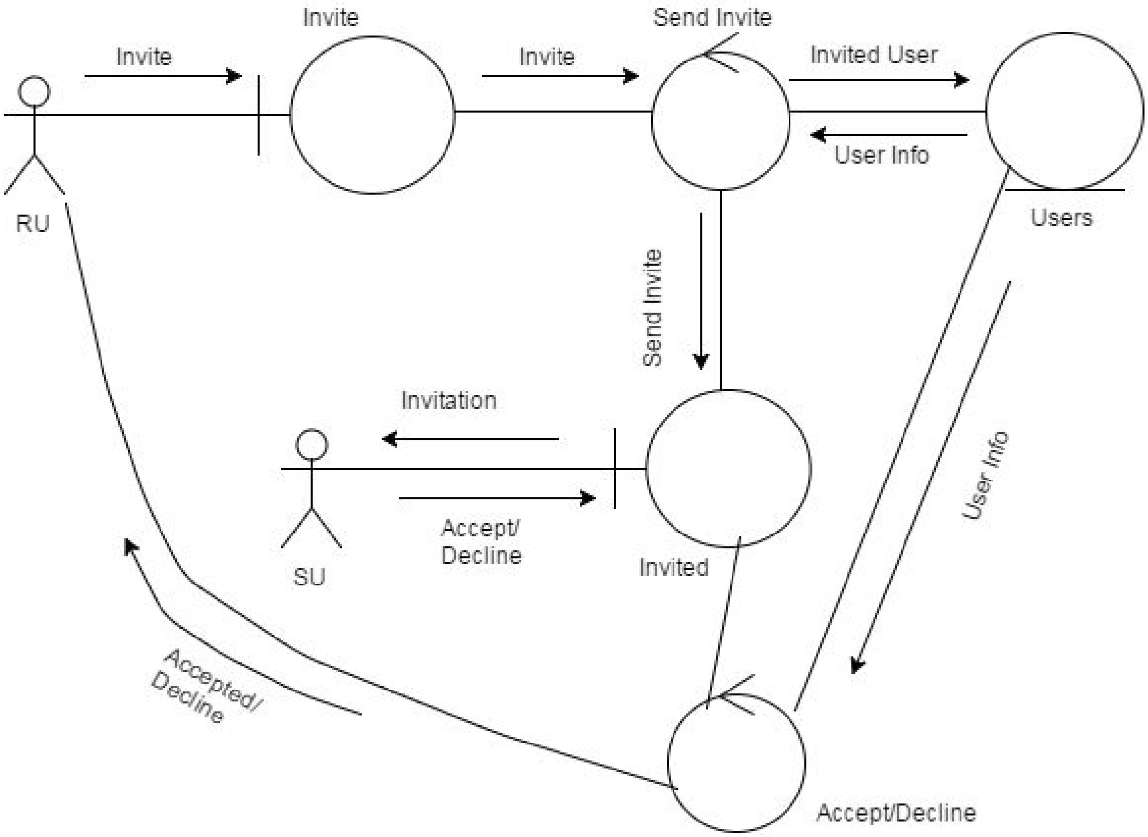


Share Book

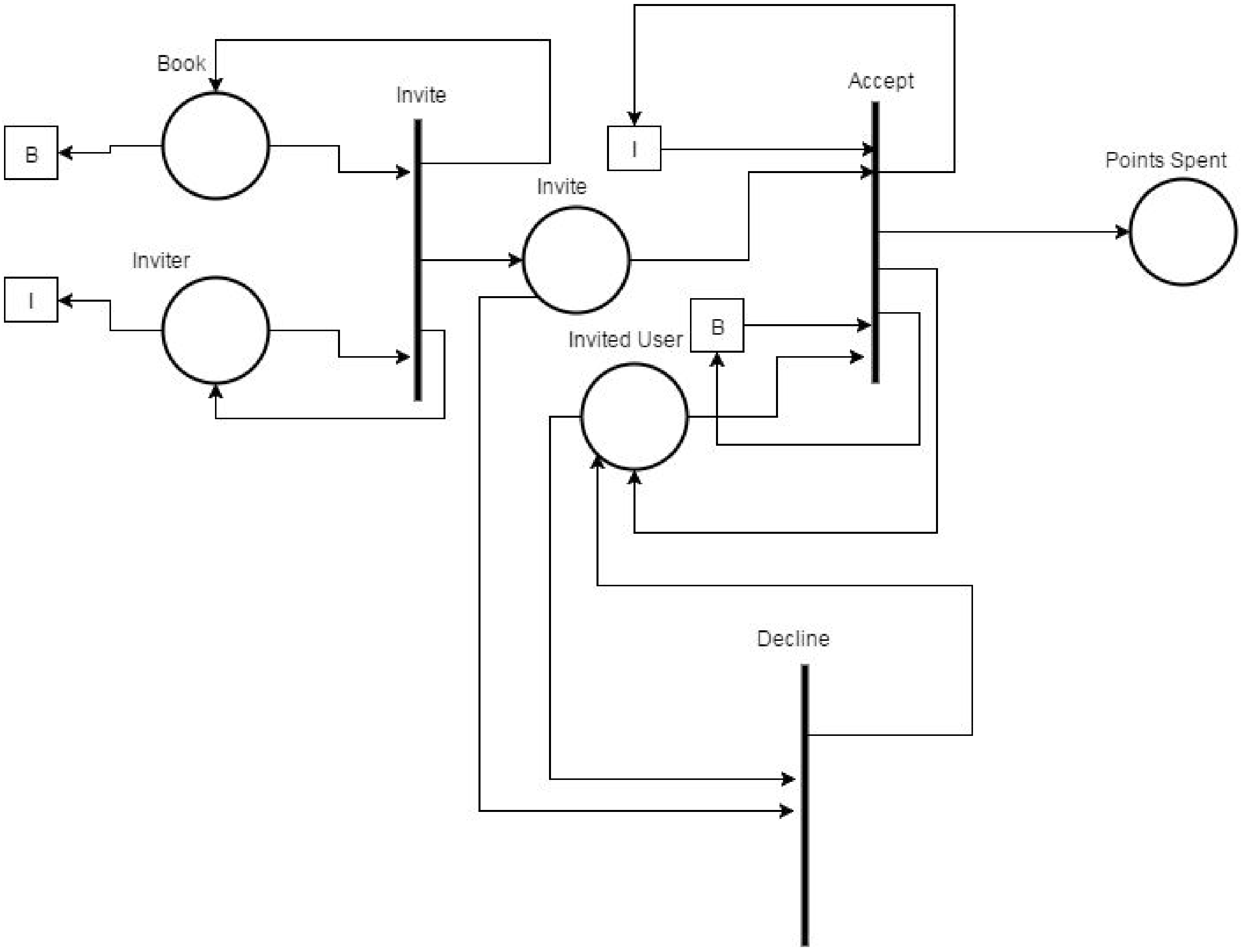
Scenarios:

Registered and Super Users can invite another Registered User or Super User to read a book together. If the invite is accepted, then the points for purchasing and the reading time for the book will be split between them. If the invite is rejected, then the invitor is informed of this decision and the invite is dropped.

Collaboration Diagram:



Petri-net Diagram:

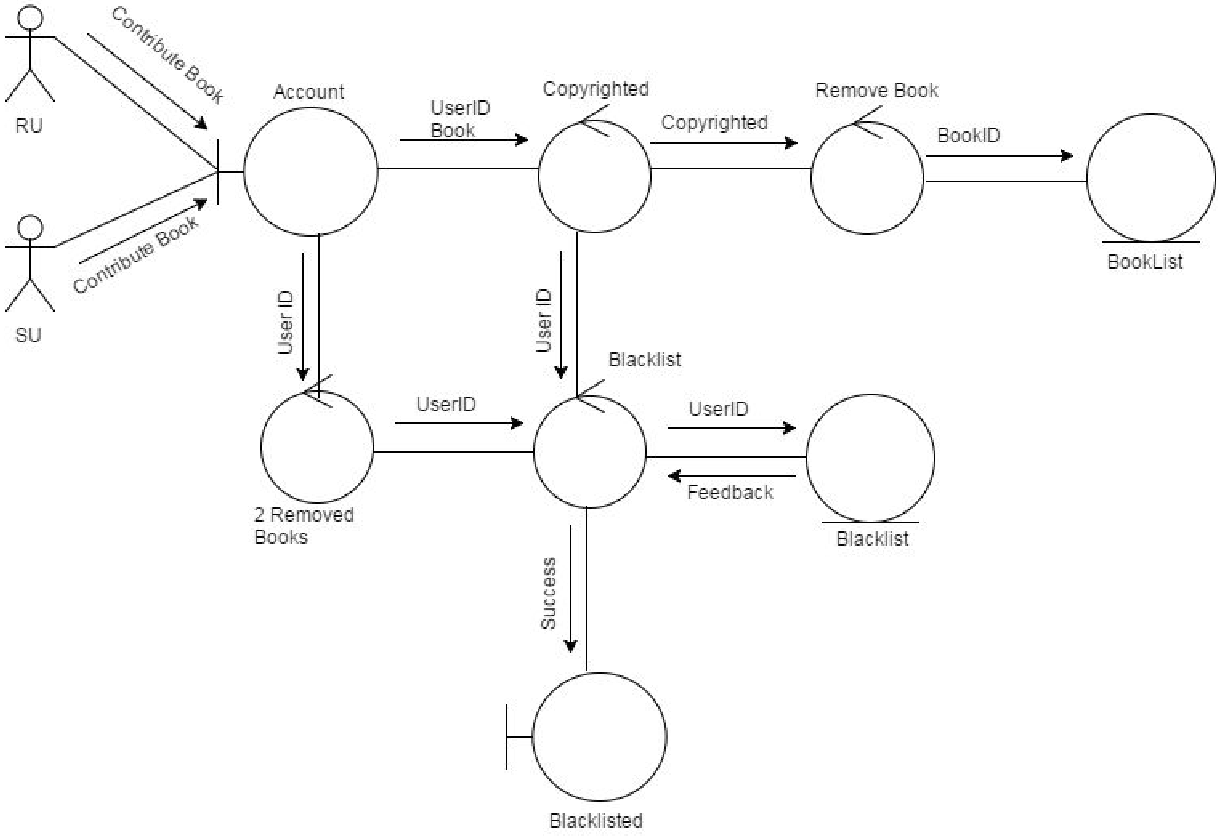


Blacklist User

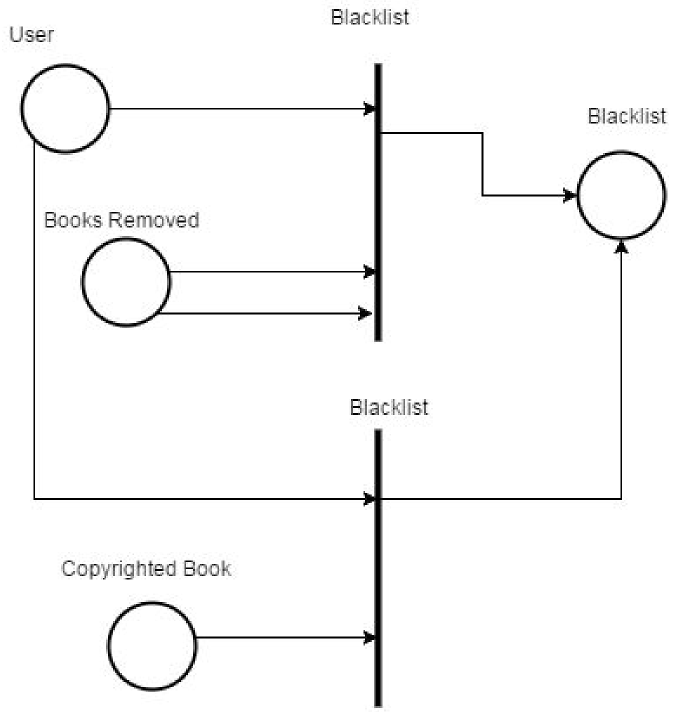
Scenarios:

All Registered and Super Users have the potential to be placed on the blacklist and ejected from the system. If the user had at least two of his contributed book removed or contributed a copyrighted book then the user is blacklisted from the system. If the reason was a copyright issue, then the contributed book is also removed. That specific user will be blocked from ever logging into his account.

Collaboration Diagram:



Petri-net Diagram:



3) Specific Requirements

3.1 Methods

Register User

```
if ( input.username not in userList and  input.username not NULL)
    new user (Input.username, Input.password)
else
    print(Not valid username)
```

Browse System

```
display(user.recomendedBooks())
display(bookList);
if(input.bookclicked){
    clear window
    display(input.bookInfo)
    if(curr_user != VS)
        display(user.bookPageFeatures())
```

Account Login

```
display(loginPage)
ind= -1;
for(int i=0; i<userList.size; i++)
    if(userList[i]==input.username)
        ind==i;
if(ind >-1 and userList[i].password== input.password;  userList[i] not in blacklist)
    curr_user= userList[i]
```

Contribute Book

```
bookContribution = input.book
if (book.fieldsNotNull())
    potentialBookList.add(book);
else
    display('Not all fields filled out' )
```

Review Contribution

```
if(cur_user != SU)
    display(You do not have access to this)
else
    display(displayBooks(potentialBookList))
    k= input.bookIndex
    if(copyrighted?(potentialBookList[k].book))
        blacklist.add(potentialBookList.contributer)
        break
    if( potentialBookList[k].points<=input.points)
        bookList.add(potentialBookList[k].book)
        potentialBookList[k].contributer.points +=potentialBookList[k].points
    else
        potentialBookList[k].contributer.message('Decreasing Points for Book')
```

Read Book

```
Purchase Book:
if (curr_user.points < book.points)
    display('Not enought points')
    return
curr_user.points -= book.points
curr_user.bookList.add(book)

Read Book:
while( curr_user.book.points> 0)
    display(curr_user.book)
    curr_user.book.points -= curr_user.book.rate
    if(curr_user.book.shared?())
        curr_user.book.ohterUser.points-=curr_user.book.rate
    sleep(1 sec)
```

Rate and Review

```
if(curr_user== VS)
    display('You do not have access to this')
    return
else if(book not in curr_user.history)
    display('You did not read this book. You cannot rate and review it')
    return
else if(curr_user in book.reviewers)
    display('You have already reviewed this book')
    return
display(ratePage)
readBook= curr_user.history.find( book)
weight= readBook.points
book.rating= ((book.rating*book.weight)+input.Points)/(book.weight+weight)
book.review.add(input.review)
```

Complain/Punish User

Complaint:

```
complaintList.add(complaint(book, input.complaint))
```

Review Complaints:

```
if(curr_user!=SU)
    display('You do not have access to this page')
display(complaintList)
complaint=input.complaint
complaintList.delete(complaint)
if(complaint.serious?())
    display(PointReduction)
        complaint.book.contributer.points -= input.points
        complaint.book.delete()
else if(complaint.valid?())
    compliant.book.complaintCount +=1
    if(complaint.book.complaintCount==3)
        display(PointReduction)
        complaint.book.contributer.points -= input.points
        complaint.book.delete()
```

Search Words

```
word=input.word
if(word in book.text)
    display(mactchesFound)
    if(input.complaint!=NULL)
        complaintList.add(input.complaint)
```

Remove Book

```
for (int i=0; i<bookList.size(); i++)
    if(bookList[i].lastRead-curr_time >= 5)
        contibutor.points -= 5
        contributor.removedBook += 1
        delete bookList[i]
```

Browse History/Stats

```
if(curr_user.history==NULL)
    display('You have no history')
    return
display(user.history.books)
display(user.information)
```

Share Book

Invite User:

```
user= input.user
new invitation= invite(curr_user,input.book,input.points)
user.inviteList.add(invitation)
```

Receive Invite:

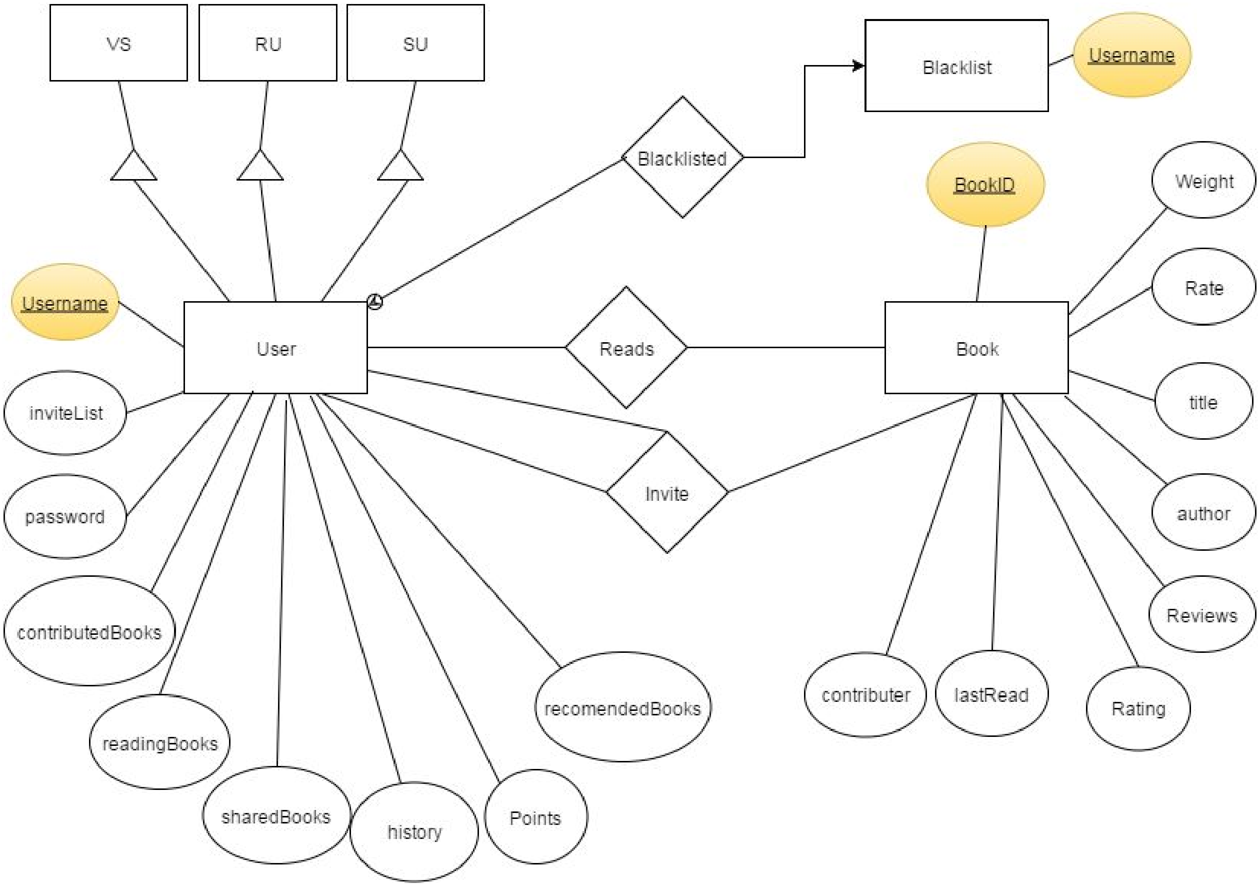
```
if(curr_user.inviteList!= NULL)
    for(invitation in inviteList)
        display(invitation)
        if(input.accept?())
            curr_user.sharedBook.add(invitation.book);
            invitation.user.sharedBook.add(invitation.book);
            curr_user.points-=invitation.points/2
            invitation.user.points-= invitation.points/2
```

Blacklist User

```
for(user in userList)
    if(user.removed==2)
        blacklist.add(user)
        remove(user, userList)
    if(user.removedBooks.copyright?())
        blacklist.add(user)
        remove(user, userList)
```

4) E-R Diagram

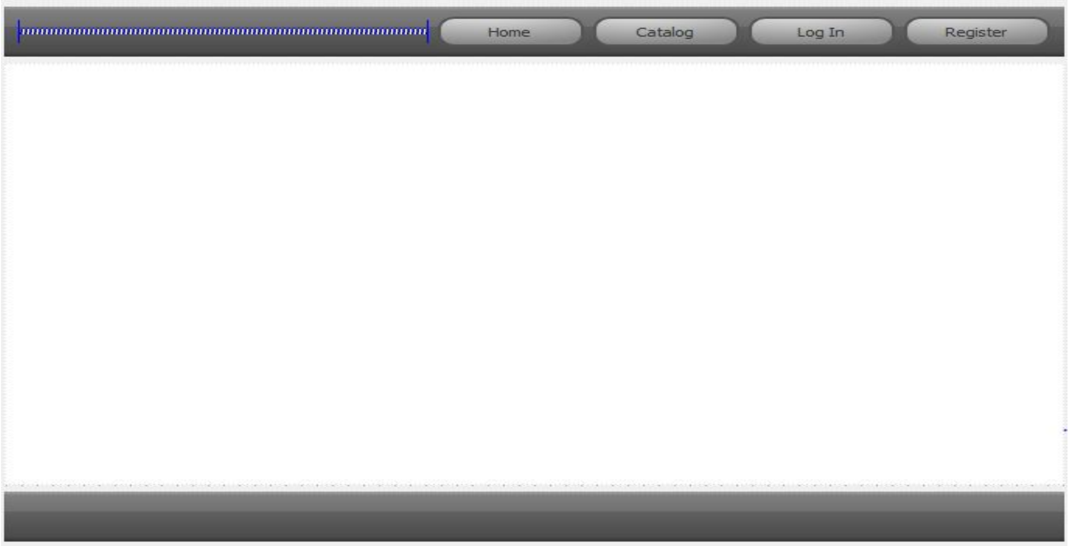
4.1 System E-R Diagram



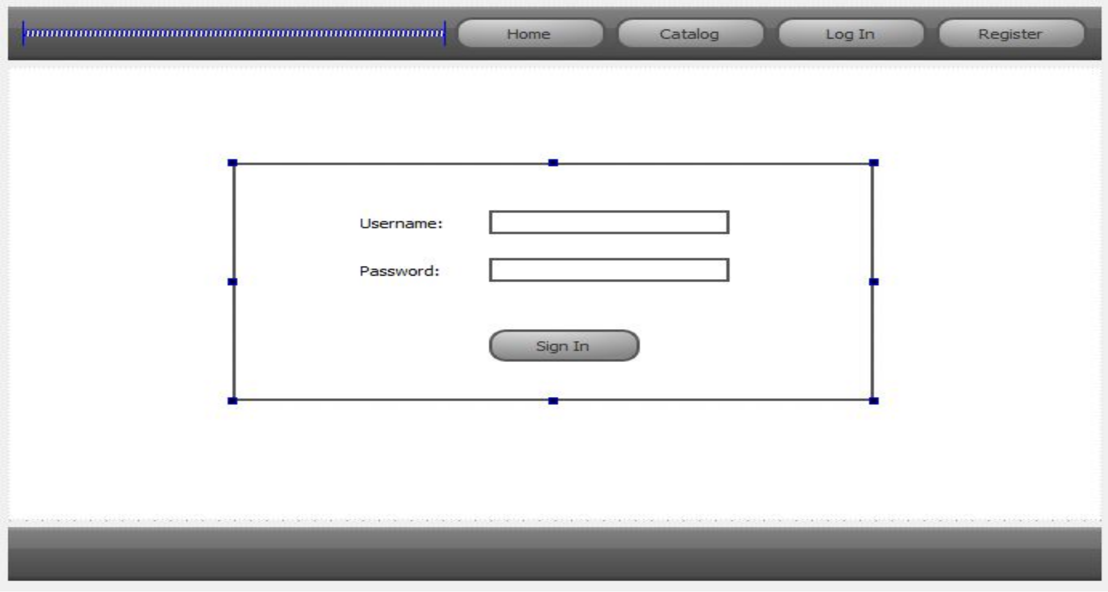
5) System Screens

5.1 GUI Screens

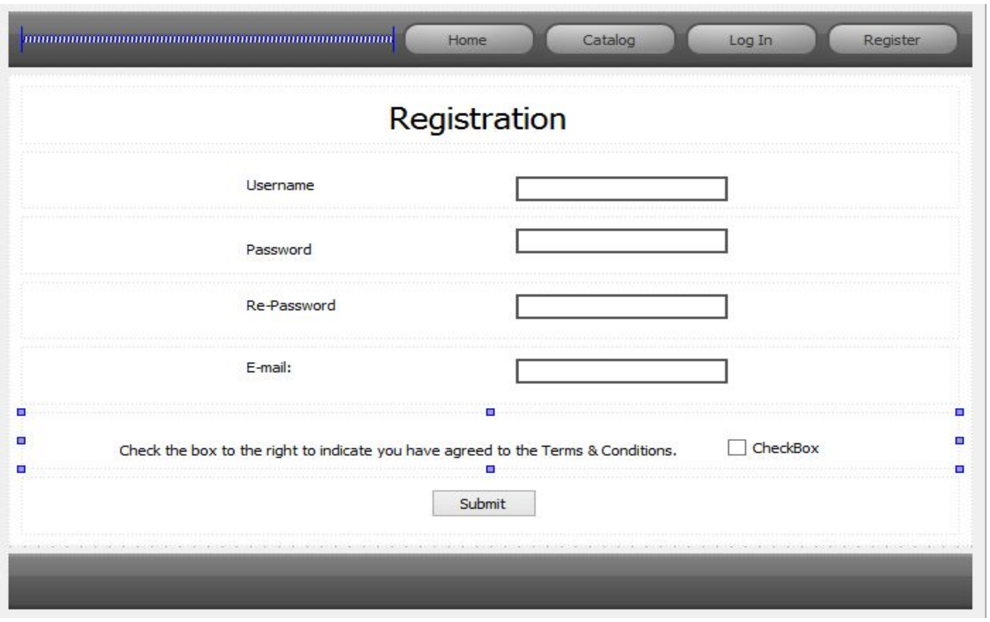
The main page that appears when the application is started. From here, we can navigate through the rest of the application.



Registered Users and Super Users are able to log into their respective accounts through the login page. Users are prompted to enter their username and password before clicking on the “Sign In” to verify whether they have entered the correct information.



Visitors using the application are given the opportunity to register for an account through the Registration page. They are to input their desired username, password, and email address to be stored in the system. After checking in the checkbox which indicates that the visitor agrees to the Terms and Conditions, the visitor may submit their registration form in by clicking the submit button.



Registration

Username

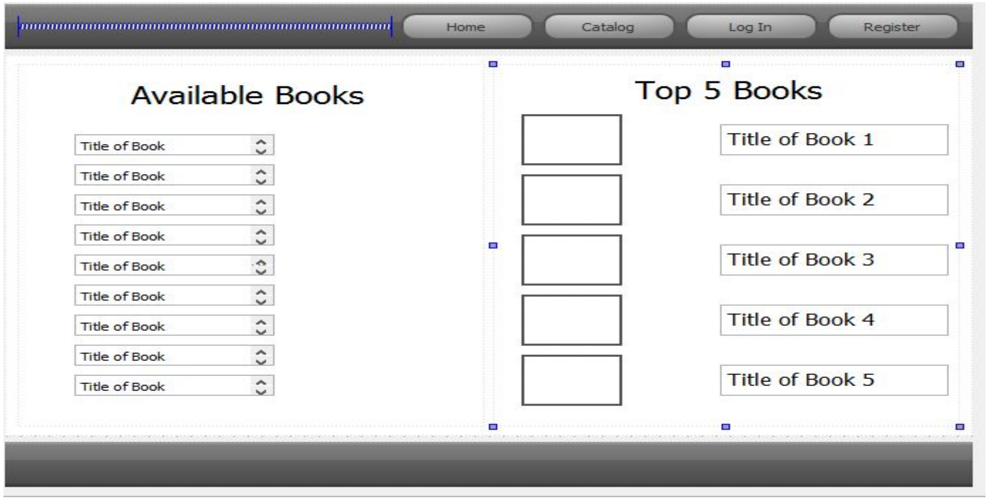
Password

Re-Password

E-mail:

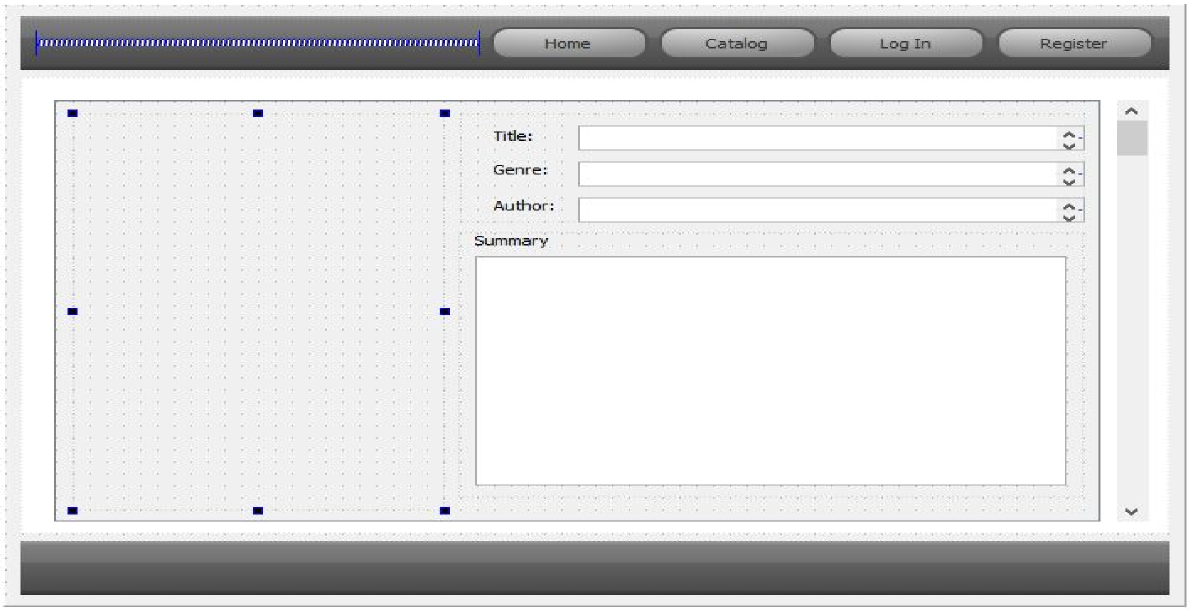
Check the box to the right to indicate you have agreed to the Terms & Conditions. □ CheckBox

Visitors and Users alike are given access to the catalog page. Visitors will be able to see on the left side of the screen, the available books that the system currently has to offer. On the right side, they will be able to see the top five books that are currently popular with the users of the system. However, only users are given direct access to reading any of these books.

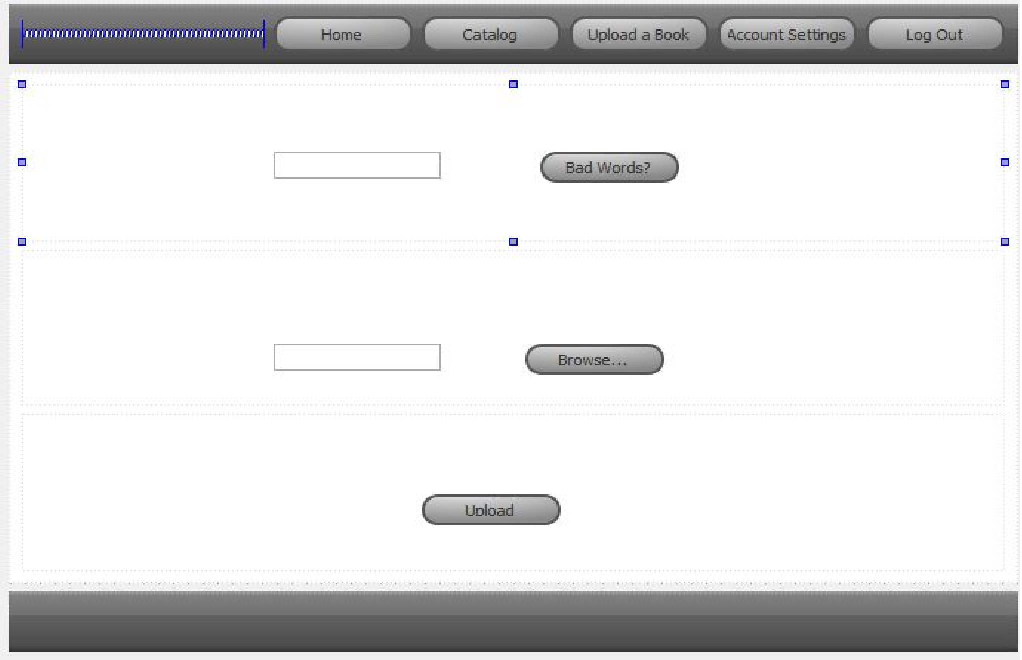


Available Books	Top 5 Books
Title of Book	Title of Book 1
Title of Book	Title of Book 2
Title of Book	Title of Book 3
Title of Book	Title of Book 4
Title of Book	Title of Book 5
Title of Book	
Title of Book	
Title of Book	
Title of Book	

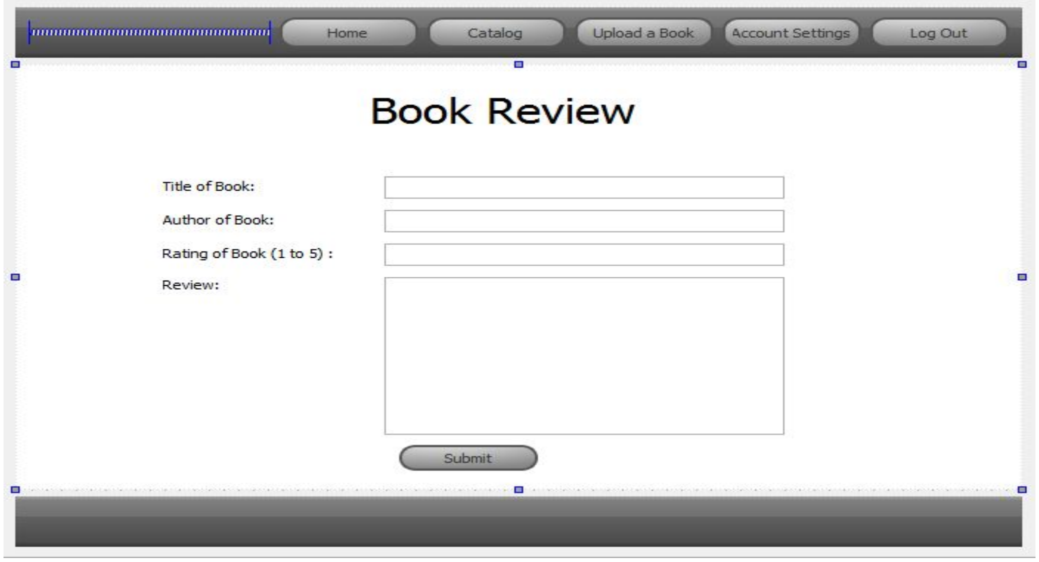
With every book that is available, visitors and users alike are able to check the basic information that we have on the book such as its title and genre. On this page, a short summary of the book will be given for readers to skim. On the left side of the screen and image of the cover of the book will be shown.



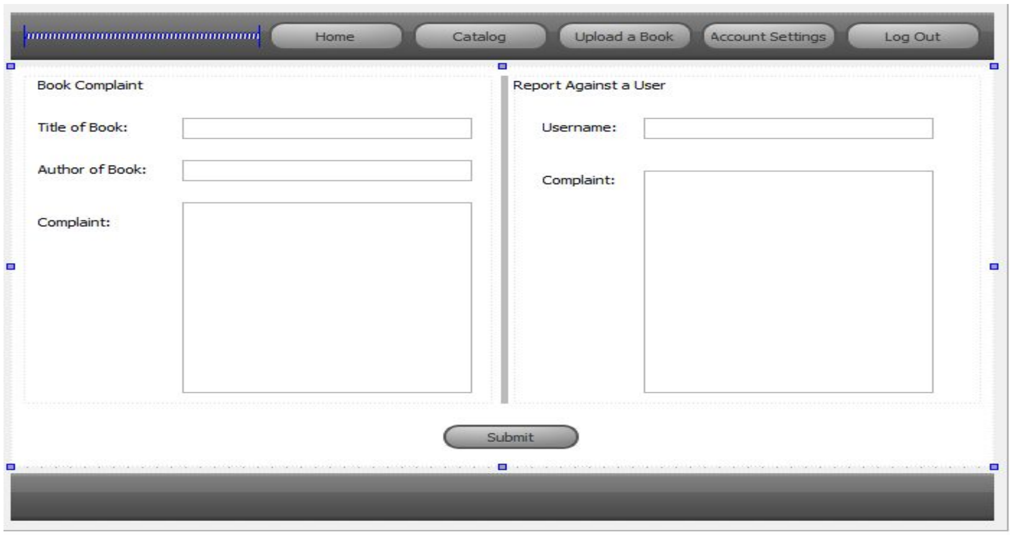
Users are deeply encouraged to upload books into the system through the Upload page. Users can browse their computer for the eBook file they would like to upload.



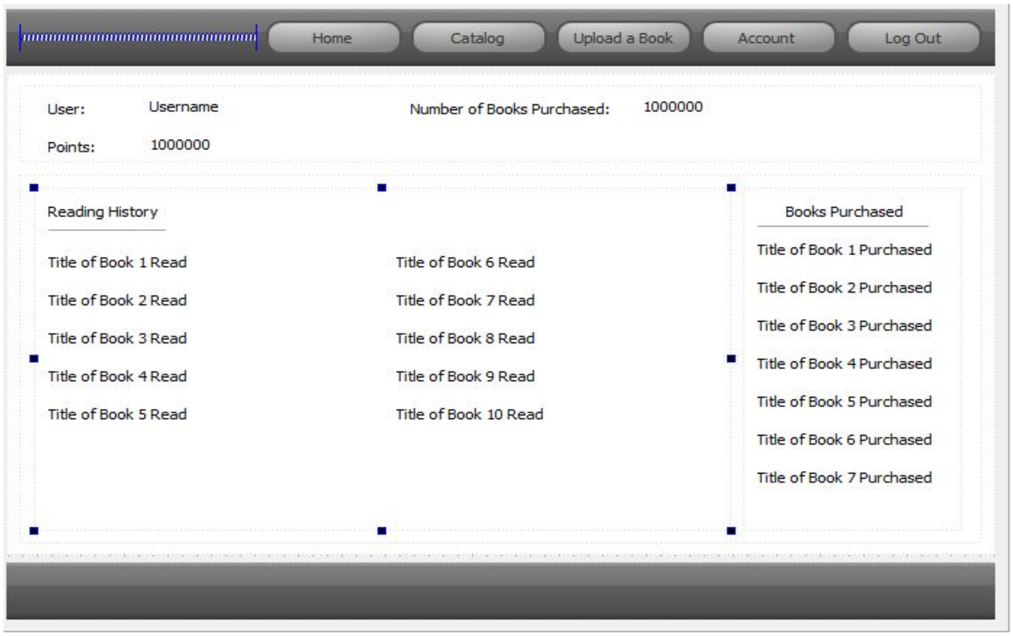
For all books that are available in the system, all users (Registered and Super) are given the opportunity to write a review. Users are to provide the title, author, and rating before giving their review on the book.



If any user have any problem with a book or user, they are able to send in a complaint for review. Users are to provide the basic information regarding whoever or whatever they are complaining against such as username or title of the book. They are also prompted to provide a description of the complaint that they have.



In the account page, users will be able to see the basic information that the system has on them. Information displayed on this page include username, number of points that the user has left, and a history of the books that the user had read.



User: Username

Number of Books Purchased: 1000000

Points: 1000000

Reading History

Title of Book 1 Read
Title of Book 2 Read
Title of Book 3 Read
Title of Book 4 Read
Title of Book 5 Read
Title of Book 6 Read
Title of Book 7 Read
Title of Book 8 Read
Title of Book 9 Read
Title of Book 10 Read

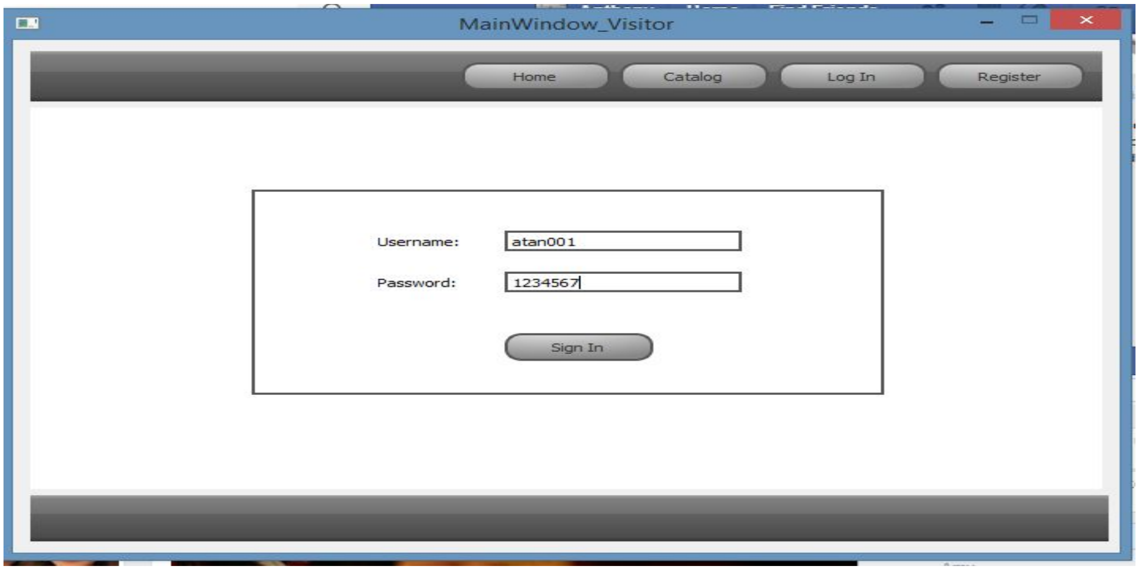
Books Purchased

Title of Book 1 Purchased
Title of Book 2 Purchased
Title of Book 3 Purchased
Title of Book 4 Purchased
Title of Book 5 Purchased
Title of Book 6 Purchased
Title of Book 7 Purchased

5.2 Prototype of Functionality

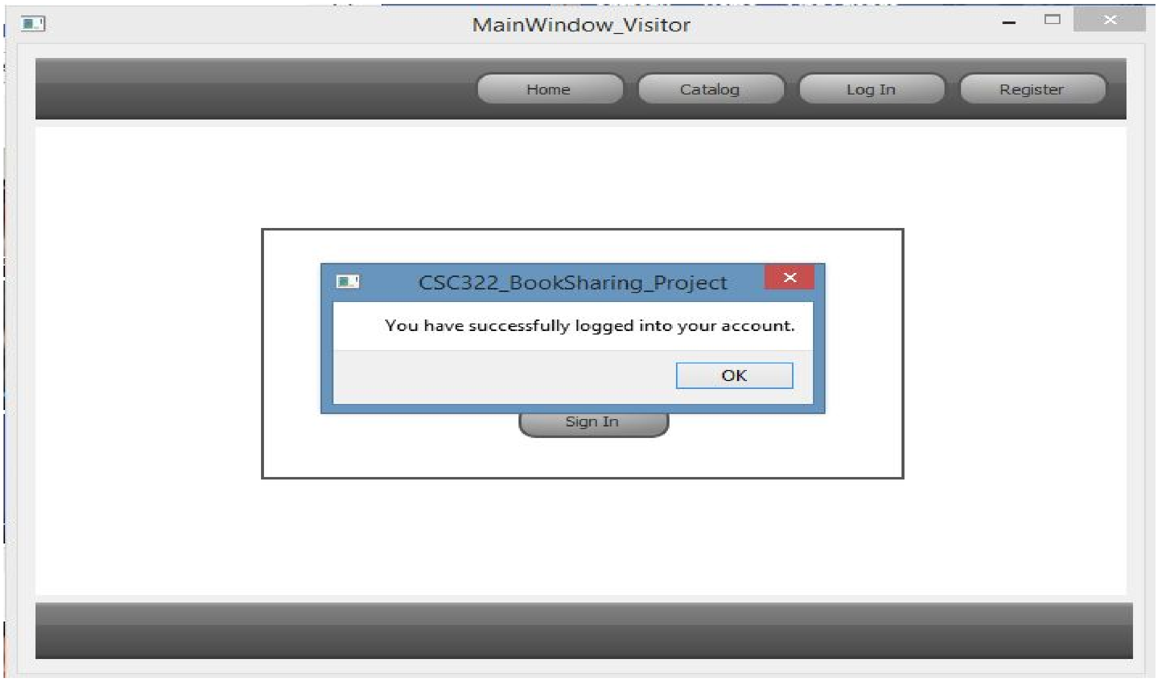
Login System:

One of the functionalities provided in the system is a Login system in which users are to provide an username and password to get further access to the features that are given by the system. If users inputted a correct username and password, then a message will pop-up stating that the user had successfully logged into his/her account. Afterward, the user will be redirected to a new main page.



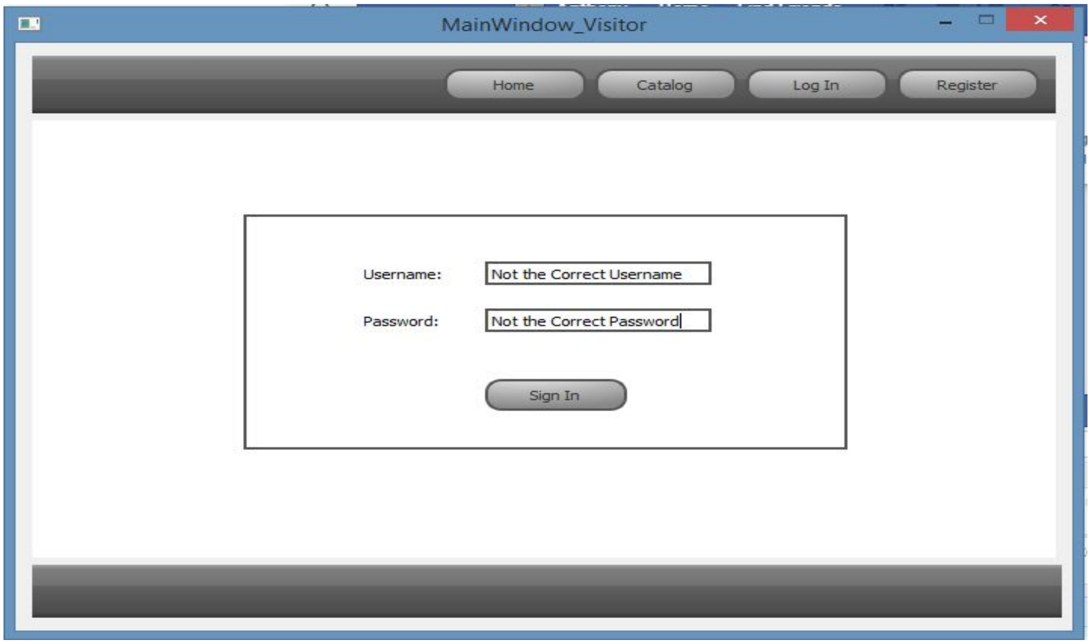
Username: atan001

Password: 1234567



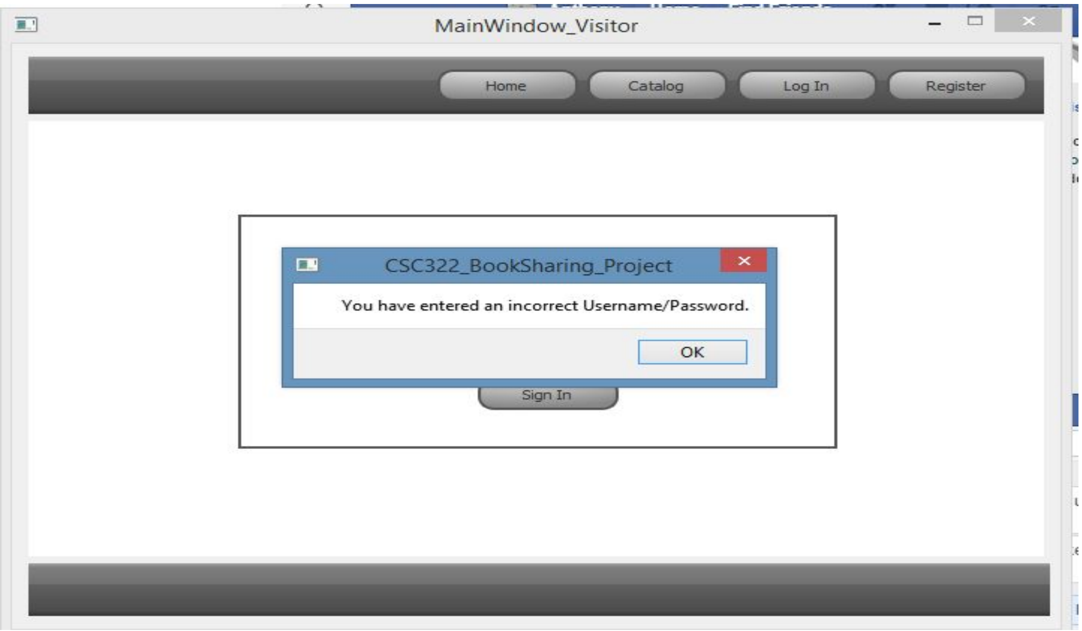
You have successfully logged into your account.

Users that inputted an incorrect username/password will be given a message which states that the username or password that they have provided is incorrect. They will not be redirected to any new page rather they will just stay on the Login page.



Username: Not the Correct Username

Password: Not the Correct Password



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You have entered an incorrect Username/Password.

6) Group Meetings

6.1 Report

Every Friday during lab sessions, we all meet up to work on the project and provide an update to the work we have been doing throughout the week. We discuss solutions to problems that any group member may be having with their part of the work load. In addition, we redistribute any new tasks that needs to be done for the next week. Throughout the week, we will speak to one another through an online chat system where we can share our progress and send necessary materials to one another.