



TRIBHUVAN UNIVERSITY
INSTITUTE OF ENGINEERING
PULCHOWK CAMPUS

Object Oriented Analysis and Design
Lab – 1, 2 and 3

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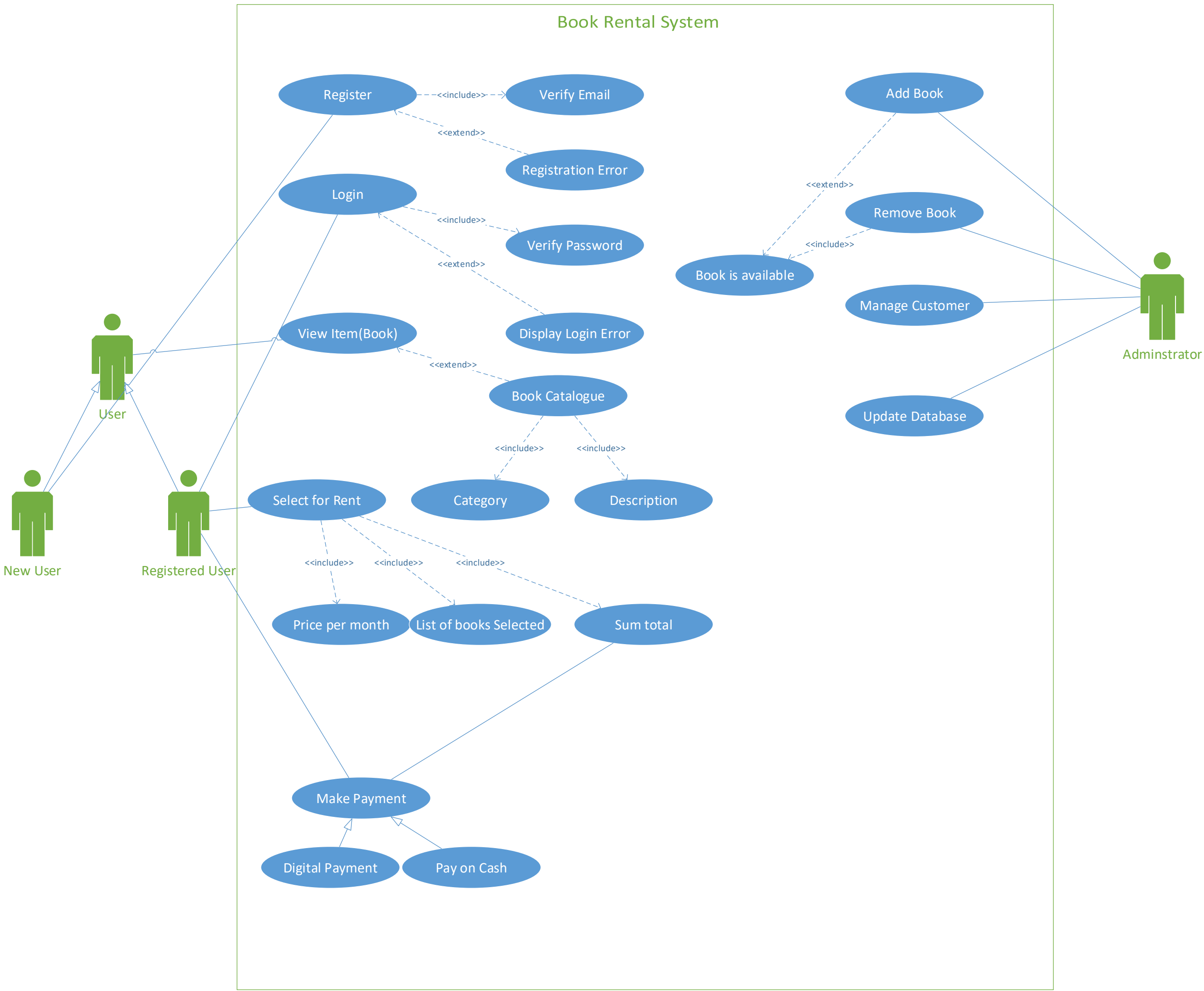
Online Book Rental System

Functional Requirements:

1. Recommend books based on previous Search history of the user.
2. Show Trending Books.
3. Include login and registration system.
4. Implement email verification while registering and password verification while login and display errors if any during registration and login.
5. Show Book Description and category to both registered and unregistered users.
6. Renting option for Registered user with pricing details on per month basis
7. List view of the selected books(in case of multiple books selected by the user)
8. Provide payment option which can be either by cash or by using payment gateway
9. Integration with external payment gateway service provider
10. Give permission to the Administrator for Adding and Removing books from available books.
11. Administrator must be able to manage existing customers and to update the database

Non functional requirements:

1. Better response to the user.
2. Handel all the customers.
3. Easy to use and navigate.
4. Protection of use data and secure payment process.
5. Support across all types of devices.
6. Easy to upgrade and maintain.
7. Email verification link should be sent within 5 seconds of the registration.



Register
Brief Description: New User uses the website to issue books on rent. User registers using username email and password and get the access to apply for the rent
Actors: New User
Preconditions: Proper network and valid email
Flow of Events: <ol style="list-style-type: none"> 1. User Click Register button 2. Fills the Registration form 3. Gets confirmation email for validation of email 4. Else get error message for invalid mail
Post Conditions: New users information gets stored in the database.

Login
Brief Description: Registered User logs in using its credentials . User get access to the extra features after login
Actors: Registered User
Preconditions: Stable network
Flow of Events: <ol style="list-style-type: none"> 1. User clicks login and get directed to login page 2. User fills login form 3. Entered credentials are validated using password verification 4. If error encountered, error message is displayed 5. Else user get redirected to homepage
Post Conditions: Logged in users can get access to the rental procedure

View Item(Book)
<p>Brief Description:</p> <p>This Functionality displays all books in the store.</p>
Actors: All the users using the webpage
Preconditions: Stable network
<p>Flow of Events:</p> <ol style="list-style-type: none"> 1. User sends get request to the webpage 2. User enters the home page 3. User sees some books 4. If user Clicks on the book then book catalog and description is shown to the user
Post Conditions:

Select for Rent
<p>Brief Description: Book can be selected for requesting the rent. This functionality gives users flexibility to select as many books as they want with prices per month displayed.</p>
Actors: Registered User
Preconditions: Must be logged in
<p>Flow of Events:</p> <ol style="list-style-type: none"> 1. User Clicks on the book and then checkmarks the rent option. 2. List of books Selected, Price Per month and Sum total get displayed on the screen
Post Conditions: Availability of the selected book for the requested time frame is verified.

Make Payment
Brief Description: After the book has been selected, Sum total is shown on the screen which gives payment option.
Actors: Registered user
Preconditions: Logged in and must have at least a book selected
Flow of Events: <ol style="list-style-type: none"> 1. User Selects books for rent 2. User clicks on the make payment 3. User gets option of digital payment and payment on cash 4. If user selects digital payment, user get prompted to payment gateway
Post Conditions: A verified payment receipt is provided.

Add Book
Brief Description: Adding new books and updating current stocks
Actors: Administrator
Preconditions: Must be signed in as Administrator
Flow of Events: <ol style="list-style-type: none"> 1. Administrator choose book to be added 2. If the book is already in the system then its stock is increased 3. Else the book is added as new entity
Post Conditions: Books added can be viewed in the website with its data updated in the database.

Remove Book
Brief Description: Removing Existing book and updating the current stocks
Actors:Administrator
Preconditions: Must be signed in as an Administrator
Flow of Events: <ol style="list-style-type: none"> 1. Administrator chooses book to be removed 2. The Quantity of books in the system is decreased
Post Conditions: Details regarding the book get removed both from the website and database.

Manage Customer
Brief Description: Managing the customer access and number of customers
Actors:Administrator
Preconditions: Must be signed in as an Administrator
Flow of Events: <ol style="list-style-type: none"> 1. Administrator responds to customers feedback 2. Administrator works on providing excellent customer services
Post Conditions:

Update Database
Brief Description: Update the records related to books, users and payment
Actors: Administrator
Preconditions: Must be signed as an administrator
Flow of Events: <ol style="list-style-type: none"> 1. Administrators can update or create new entities in the database regarding the books genre and users. 2. Database gets the required updated data
Post Conditions: Changes is reflected in the webpage according to the database update

