

# Department of Computer Science

## Software Project Proposal

<b>Course</b>	OBJECT ORIENTED PROGRAMMING 2	<b>Group No.</b>	<b>04</b>
Student ID	Name	Section	
21-45600-3	WALIUL HASNAT WASIF	E	
22-47038-1	ABIR BOKHTIAR	E	
21-45605-3	MD.SABBIR HOSSAIN	E	
21-45599-3	MD. SAFWAN BHUIYAN SOHAN	E	

### Project Title:

# Optimizing User Experience and Operational Efficiency in an Online Bookstore System.

### Project Description:

The project based on an online bookstore system is a comprehensive C# windows form project designed to facilitate the book selling management through diminishing lengthly of time, expenses, etc. The project basically focuses on effectiveness of users' activities, and operational efficiency.

There are four distinct roles of the project such as Admin, customer, employee, and supplier.

Here admin is the omnipotent who can oversee every account of the users. He has an impactful role throughout the system. Customers can see the details of the enlisted

books. While ordering books, he can search books in accordance with his will.

Employees are appointed by admin in order to assist customers in generating bills, and its modifications through updating and deleting.

Suppliers have the capability to view all the enlisted books. If necessary, he can ask for approval of adding new book-stock from admin.

### **Admin:**

1. Being omnipotent, he oversees the users' activities and checks basic information of all accounts.
2. An admin has the capacity of activating and deactivating users' account.
3. Having access of viewing the collection of books, modifying books' information through adding, updating and deleting.
4. The capacity of checking bill and deleting its history.
5. To add new books in the store by suppliers, it requires the approval of the admin.

### **Supplier:**

1. A supplier also has access of viewing the collection of books.
2. A supplier can add new book stock in the store. It just requires the approval of the admin to execute the process.
3. A supplier sometimes modifies the new book-stock through adding or deleting. But he has some limitations in its modification. Whenever the book-stock is approved by the admin, suppliers can't modify anymore.
4. He can modify the information of his own account except his ID and Role.

### **Employee:**

1. An employee can check users' bill history through searching client name.
2. He also can edit the bill history. But it requires the security key of the customer.
3. He has the capacity to generate bills. To execute the process, the validity of the customer's ID & Security Key is prerequisite. Besides this, the ID has to be active.

## Customers:

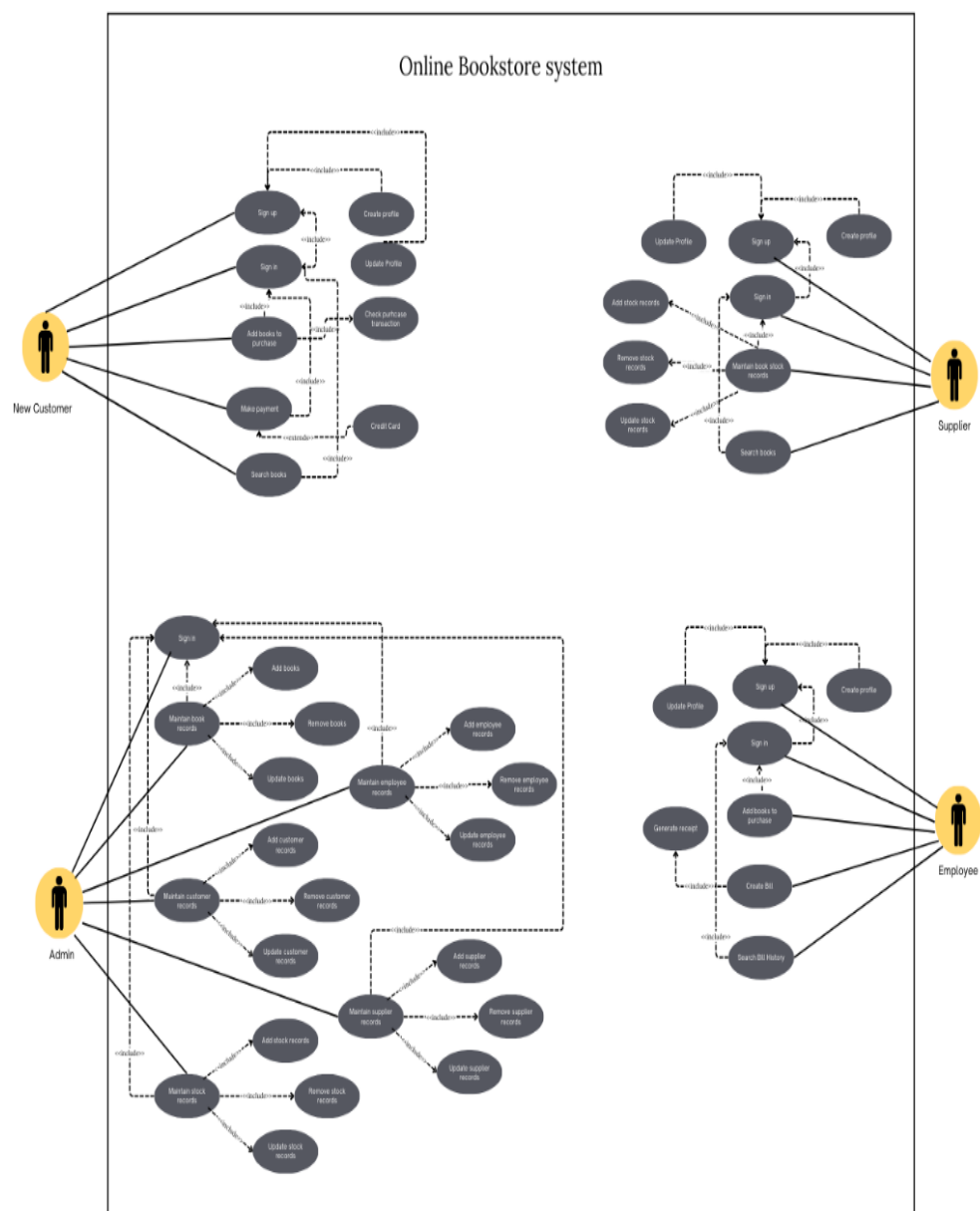
1. Customers can see the details of the enlisted books including book id, book title, author name, category, quantity, price and status.
2. A customer can search for books in two ways such as category wise and name wise.
3. Before ordering books, he needs to select its quantity.
4. He can see the total amount of the bill after selecting the quantity of books.
5. He has the ability to check his bill history.
6. A customer can see his account information, and modify except the user ID and Role.

## User Story:

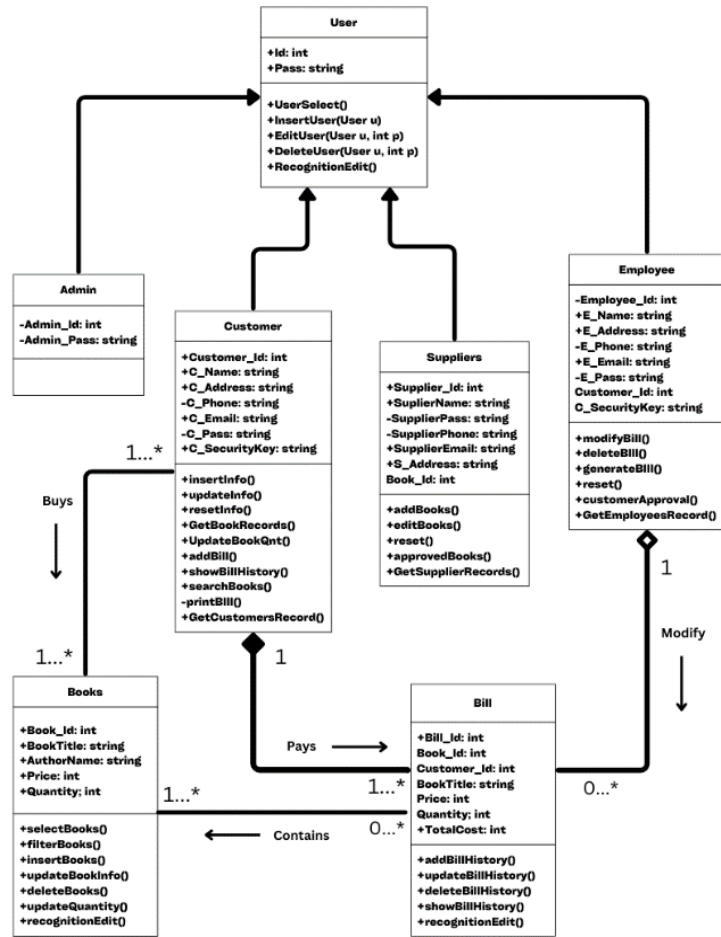
Use Case Name	Actor	User Story
Signing up	Customer, Supplier, Employee	As a customer, Supplier or Employee of the system, he/she can sign-up to the system to access the features of the system.
Log in	Admin, Customer, Supplier, Employee	After signing up, all of them can log in to the system. Admin doesn't need to sign up.
Search books	Customer, Supplier	Customer can search for books to purchase. Supplier can search for books for adding new books.
Add books to purchase	Customer, Employee	Customer can add books to purchase. Customer can also add books to purchase through an Employee.
Cancel purchased books	Employee	Customer can cancel the purchased books through Employee.
Make Payment	Customer	Customer can make payment.
See Bill History	Admin	Admin can view bill history & delete.
Maintain book records	Admin	Admin can maintain book records by adding, removing and updating.
Maintain employee records	Admin	Admin can maintain employee records by adding new employees, removing.

Maintain customer records	Admin	Admin can maintain customer records by adding, removing.
Maintain supplier records	Admin	Admin can maintain supplier records.
Maintain stock records	Admin	Admin can maintain stock records by adding, removing & updating stocks.

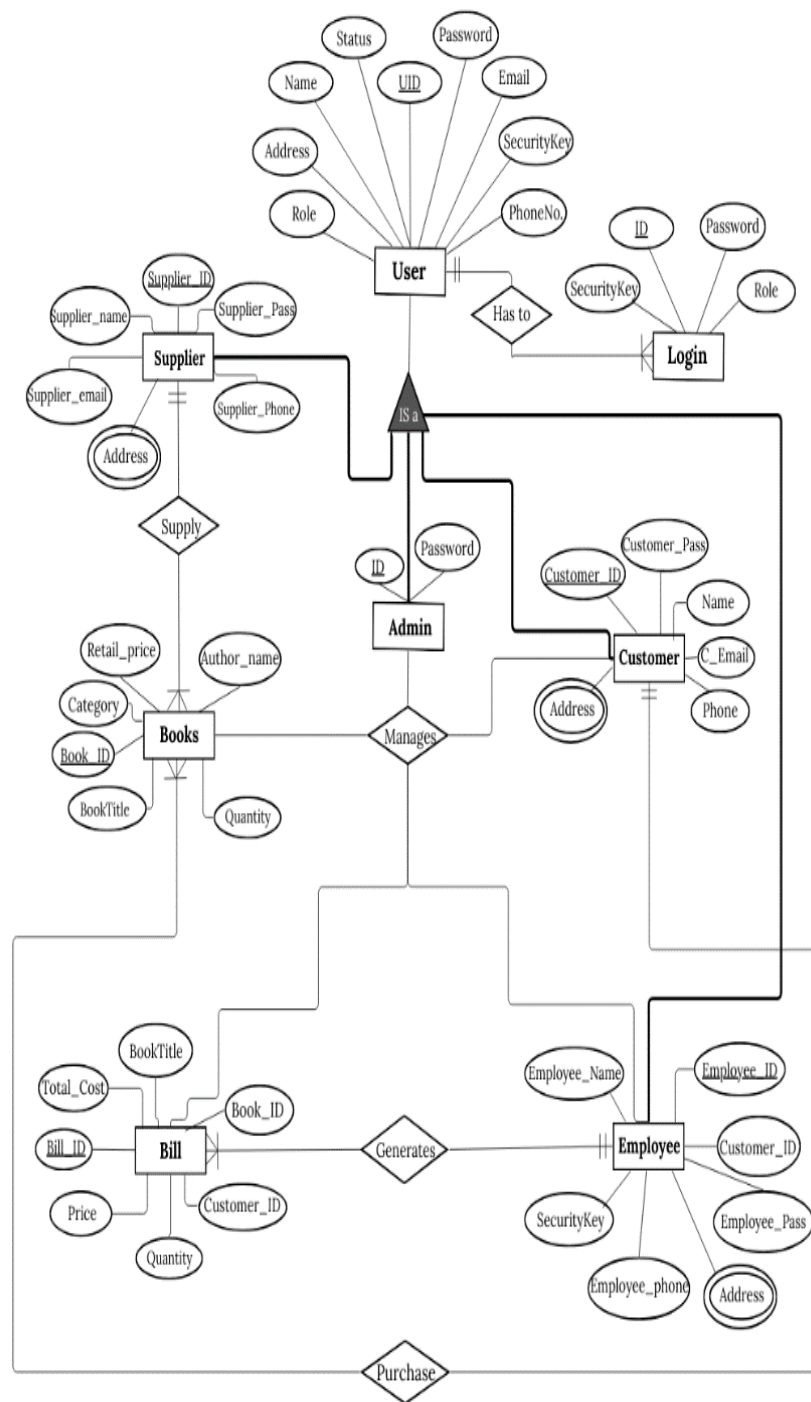
## Use case diagram:



## Class diagram:



## E-R diagram:



## User Interface Design:



Fig 1 : Loading Page

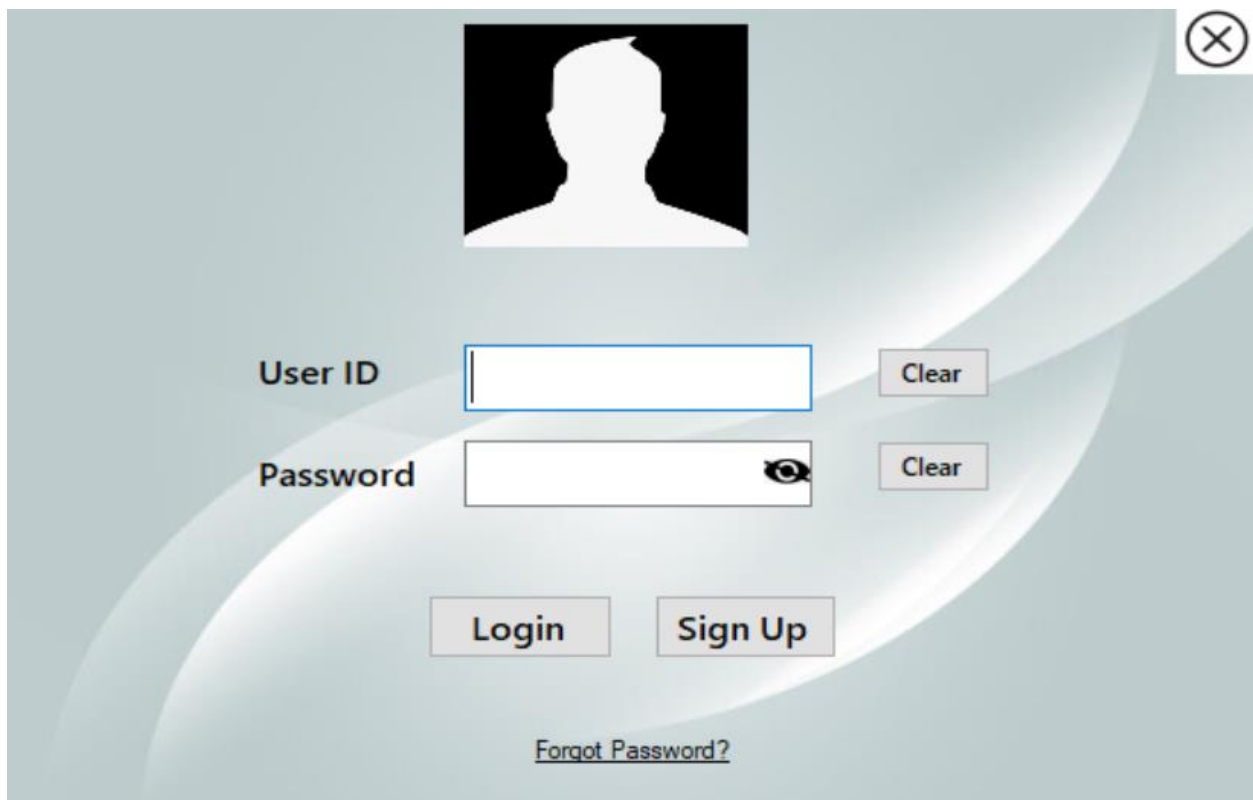
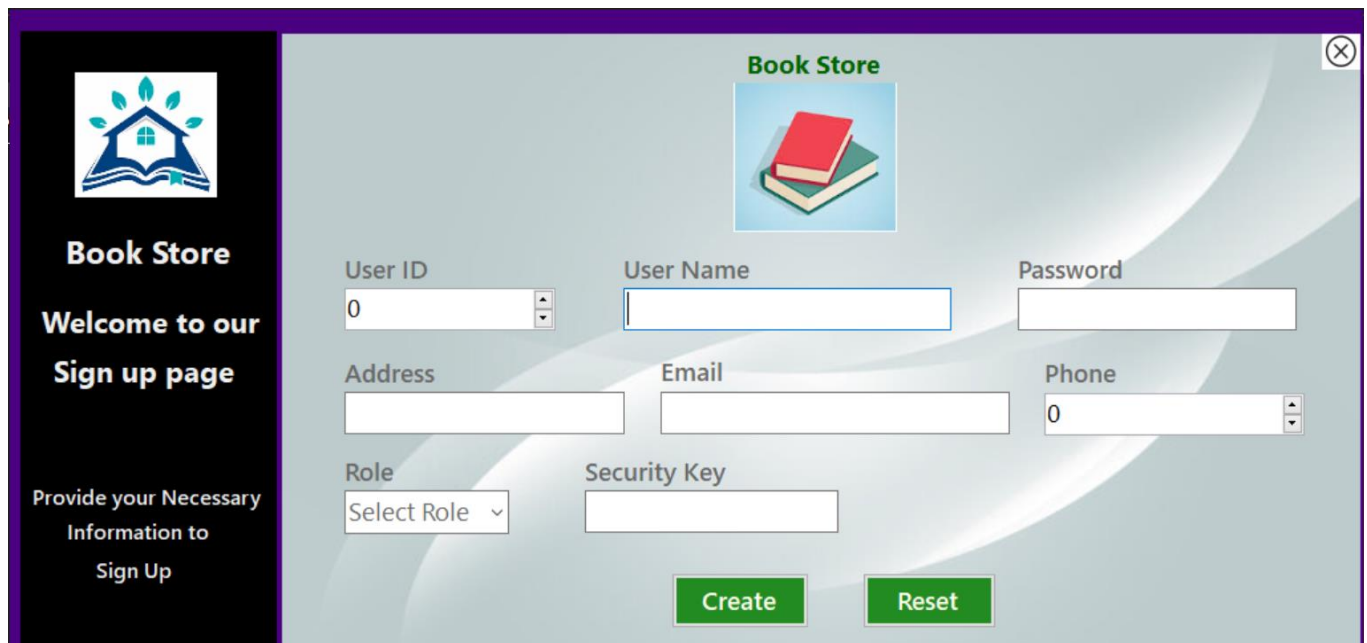
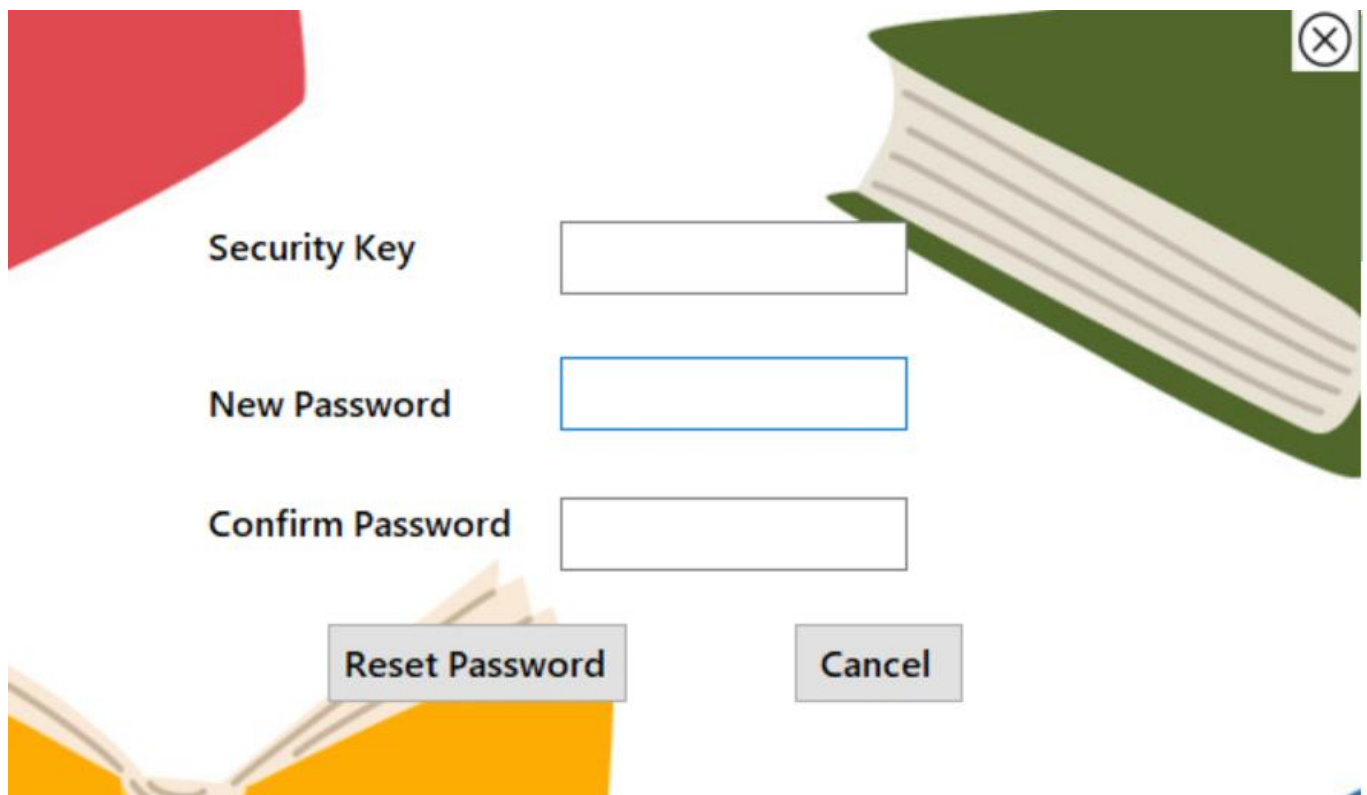


Fig 2 : Login Page



The image shows a web application window titled "Book Store" with a close button in the top right corner. On the left is a dark purple sidebar containing a logo of a house with an open book inside, the text "Book Store", "Welcome to our Sign up page", and "Provide your Necessary Information to Sign Up". The main area has a light blue background with a "Book Store" header and a book icon. Below this are input fields for "User ID" (containing "0"), "User Name", "Password", "Address", "Email", "Phone" (containing "0"), "Role" (a dropdown menu showing "Select Role"), and "Security Key". At the bottom are two green buttons labeled "Create" and "Reset".


**Fig 3 : Sign Up Page**



The image shows a password recovery form with a decorative background of books. The form includes three input fields labeled "Security Key", "New Password", and "Confirm Password". At the bottom are two buttons: "Reset Password" and "Cancel". A close button is located in the top right corner.

**Fig 4 : Password Recovery Page**




**Book Store**

Books

Users

Dashboard

Logout

Book Store

Status

Book Title

Author

Categories

Select Category ▾

Quantity

0 ▴ ▾

Price

0 ▴ ▾

Book ID

0 ▴ ▾

Save

Edit

Delete

Reset

Books List

Filter By Category ▾

Search Book Name

Refresh

	BookID	BookTitle	AuthorName	Category	Quantity	Price
▶	101	Hary Potter and t...	J.K. Rowling	Story	484	250
	104	A Handbook of ...	Robert C. Martin	Story	137	250
	105	Your Journey to ...	Andrew Hunt and...	Programming	330	220
	106	Effective Java	Joshua Bloch	Programming	379	250
	107	Computer Networ...	Olivier Bonavent...	Networking	494	285

**Fig 5 : Admin Menu Booklists View Page**

Search By Name


Refresh

Activate

Deactivate

	BookID	BookTitle	AuthorName	Category	Quantity	Price	Status
▶	101	Hary Potter and t...	J.K. Rowling	Story	484	250	Inactive
	104	A Handbook of ...	Robert C. Martin	Story	137	250	Active
	105	Your Journey to ...	Andrew Hunt and...	Programming	330	220	Active
	106	Effective Java	Joshua Bloch	Programming	379	250	Active
	107	Computer Networ...	Olivier Bonavent...	Networking	494	285	Active
	108	Network Warrior	Gary A. Donahue	Networking	600	290	Active
	109	A Guided Tour of...	Steven Strogatz	Mathematics	393	300	Active
	110	The Power of Ma...	Jordan Ellenber	Mathematics	297	280	Active
	111	A Mathematician'	G.H. Hardy	Mathematics	387	290	Active
	112	C++ Concurrency...	Anthony Williams	Programming	600	250	Active
	120	MP3 GK	Sadik	Story	197	150	Active
	121	The C++ Program...	Bjame Stroustrup	Programming	568	400	Active
	200	NULLTo Kill a M...	Harper Lee	Story	280	300	Active

**Fig 6 : Admin Menu Booklists Approve Page**


**Book Store**


Books

**Users**


Dashboard

Logout

Book Store



Status



User ID

202

User Name

Ashraf

Password

Address

Bipel, Ashuliya

Phone

1673107805

Email

ashraf@gmail.co

Role

Employee

Save

Delete

Reset

Security Key

User List

Search User Name

Refresh

	UserID	Name	Address	Phone	Email	Role	Status
	201	Abrar	Gazipur	01624107906	abrar@gmail.com	Supplier	Active
▶	202	Ashraf	Bipel, Ashuliya	01673107805	ashraf@gmail.com	Employee	Active
	203	Sabbir	Pollibiddut	01634108908	sabbir@gmail.com	Customer	Active
	204	Abir	Zikatola, Dhaka	01735189802	abir@gmail.com	Customer	Active
	205	Safwan	Badda, Rampura	01843189086	safwan@gmail.com	Customer	Active

**Fig 7 : Admin Menu User lists Oversee Page**

Search By Name

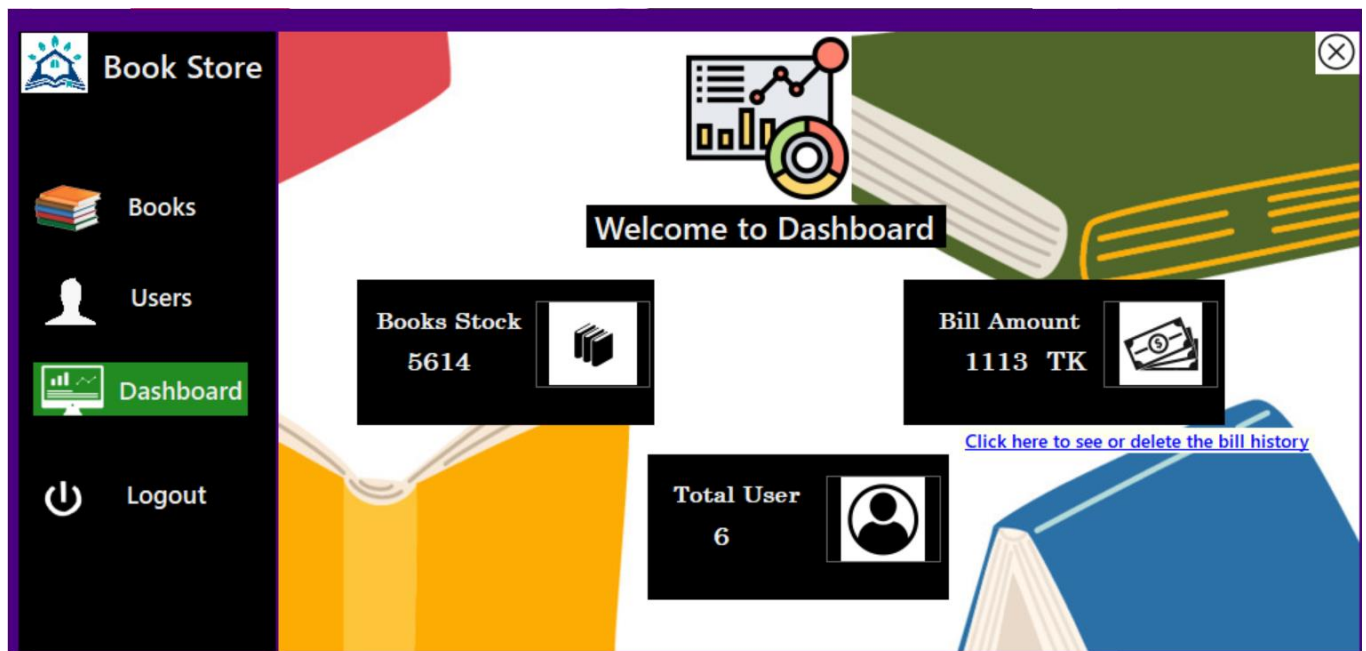
Refresh

	ID	Name	Role	Status
▶	201	Abrar	Supplier	Active
	202	Ashraf	Employee	Active
	203	Sabbir	Customer	Active
	204	Abir	Customer	Active
	205	Safwan	Customer	Active
	208	Wasif	Customer	Active
	301	WaliulHasnat	Admin	Active

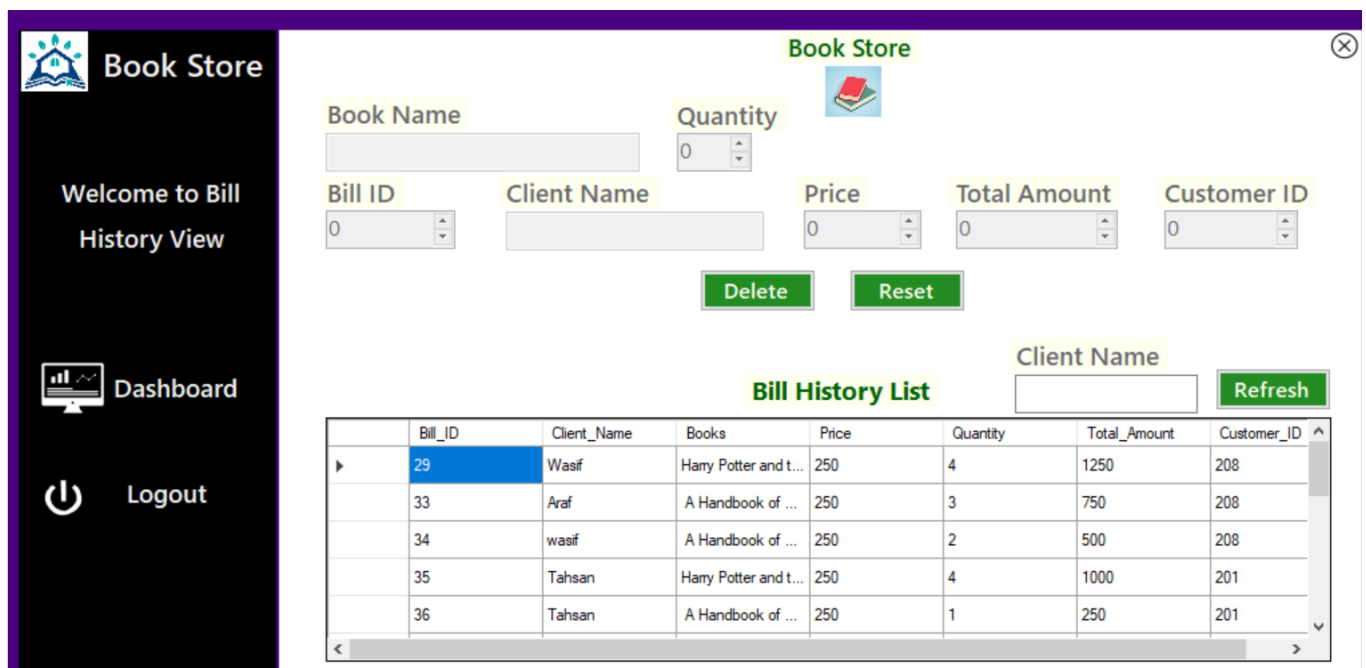
Activate

Deactivate


**Fig 8: Admin Menu User lists Approval Page**




**Fig 9:** Admin Menu Dashboard Page




**Fig 10:** Admin Menu Bill History View Page




Supplier ID: 201

 Acc. Info.

Welcome to Book Stock View And Modify

 Logout

### Book Store



Book Title

A Handbook of Agile S...

Author

Robert C. Martin

Categories

Story

Quantity

137

Price

250

Book ID

104

Save

Edit

Delete

Reset

#### Books List


Filter By Category

Search Book Name


Refresh

	BookID	BookTitle	AuthorName	Category	Quantity	Price
	101	Harry Potter and t...	J.K. Rowling	Story	484	250
▶	104	A Handbook of ...	Robert C. Martin	Story	137	250
	105	Your Journey to ...	Andrew Hunt and...	Programming	330	220
	106	Effective Java	Joshua Bloch	Programming	379	250
	107	Computer Networ...	Olivier Bonavent...	Networking	494	285


Fig 11: Supplier Menu Page




Supplier ID: 201

 Acc. Info.

Welcome to Book Stock View And Modify

 Logout

### Book Store



User ID

0

User Name

Password

Address

Phone

0

Email

Role

Select Role

Security Key


Edit

Reset


#### Your Information

	UserID	Name	Password	Address	Phone	Email	Role
▶	201	Abrar	abrar201	Gazipur	01624107906	abrar@gmail.com	Supplier


Fig 12: Supplier Menu Account Information Modification Page




Employee ID: 202

 Acc. Info.

Welcome to Bill  
History View  
And Modify

 Logout

Book Store



Book Name

Quantity

Security Key

Bill ID

Client Name

Price

Total Amount

Customer ID

Save

Edit

Delete

Reset


Client Name

Bill History List


Refresh

	Bill_ID	Client_Name	Books	Price	Quantity
▶	29	Wasif	Harry Potter and t...	250	4
	33	Araf	A Handbook of ...	250	3
	34	wasif	A Handbook of ...	250	2
	35	Tahsan	Harry Potter and t...	250	4
	36	Tahsan	A Handbook of ...	250	1


Fig 13: Employee Menu Page




Employee ID: 202

 Acc. Info.

Welcome to Bill  
History View  
And Modify

 Logout

Book Store



User ID

User Name

Password

Address

Phone

Email

Role

Security Key


Edit

Reset


Your Information


	UserID	Name	Password	Address	Phone	Email	Role
▶	202	Ashraf	ashraf202	Bipel, Ashuliya	01673107805	ashraf@gmail.com	Employee

Fig 14: Employee Menu Account Information Modification Page




Customer ID: 208

 Acc. Info.



Welcome to Book Store

 Logout

### Book Store

Book Name

Your Journey to Mastery

Client Name

Saqib

Quantity

5

Price

220

Add To Bill

Reset

Bill History

### Books List

Filter By Category

Search Book Name

Refresh

BookID	BookTitle	AuthorName	Category	Quantity	Price
101	Hary Potter and t...	J.K. Rowling	Story	484	250
104	A Handbook of ...	Robert C. Martin	Story	133	250
105	Your Journey to ...	Andrew Hunt and...	Programming	325	220
106	Effective Java	Joshua Bloch	Programming	379	250
107	Computer Networ...	Olivier Bonavent...	Networking	494	285
108	Network Warrior	Gary A. Donahue	Networking	600	290

### Books Bill

Client Name	Books	Price
Saqib	A Handbook of Agile Softw...	250
Saqib	Your Journey to Mastery	220


2100 tk

Print


Fig 15: Customer Menu

Book Shop				
Client Name	PRODUCT	PRICE	QUANTITY	TOTAL
Saqib	A Handbook of Agile Software Craftsmanship	250	4	1000
Saqib	Your Journey to Mastery	220	5	1100
Grand Total: Tk2100				
***** Online BookStore *****				


Fig 16: Customer Menu Bill generated




Customer ID: 208



Acc. Info.




Welcome to Book Store



Logout

### Book Store



User ID

User Name

Password

Address

Phone

Email

Role

Security Key

208

Wasif

wasif123

Bank Colony, Sava

1534108907

wasif@gmail.coi

Customer

1234

Edit

Reset

#### Your Information

	UserID	Name	Password	Address	Phone	Email	Role
	208	Wasif	wasif123	Bank Colony, Sa...	01534108907	wasif@gmail.com	Customer

**Fig 17:** Customer Menu Account Information Modification Page

Data dictionary:

Login Table:


	Column Name	Data Type	Allow Nulls
PK	ID	int	<input type="checkbox"/>
	Name	varchar(50)	<input type="checkbox"/>
	Password	varchar(50)	<input type="checkbox"/>
	Role	varchar(50)	<input type="checkbox"/>
	SecurityKey	varchar(50)	<input checked="" type="checkbox"/>
	Status	varchar(50)	<input type="checkbox"/>
			<input type="checkbox"/>

User Table:


	Column Name	Data Type	Allow Nulls
PK	UserID	int	<input type="checkbox"/>
	Name	varchar(50)	<input type="checkbox"/>
	Password	varchar(50)	<input type="checkbox"/>
	Address	varchar(50)	<input type="checkbox"/>
	Phone	varchar(50)	<input type="checkbox"/>
	Email	varchar(50)	<input type="checkbox"/>
	Role	varchar(50)	<input type="checkbox"/>
	Status	varchar(50)	<input type="checkbox"/>
	SecurityKey	varchar(50)	<input checked="" type="checkbox"/>



**Book Table:**

	Column Name	Data Type	Allow Nulls
	BookID	int	<input type="checkbox"/>
	BookTitle	varchar(50)	<input type="checkbox"/>
	AuthorName	varchar(50)	<input type="checkbox"/>
	Category	varchar(50)	<input type="checkbox"/>
	Quantity	int	<input type="checkbox"/>
	Price	int	<input type="checkbox"/>
	Status	varchar(50)	<input checked="" type="checkbox"/>

**Bill Table:**

	Column Name	Data Type	Allow Nulls
	Bill_ID	int	<input type="checkbox"/>
	Client_Name	varchar(50)	<input type="checkbox"/>
	Books	varchar(50)	<input type="checkbox"/>
	Price	int	<input type="checkbox"/>
	Quantity	int	<input type="checkbox"/>
	Total_Amount	int	<input type="checkbox"/>
	Customer_ID	int	<input checked="" type="checkbox"/>