

OLD BOOK STORE

A PROJECT REPORT

Submitted By

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**Submitted in partial fulfillment of the
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**Under the Supervision of
Dr.Amit Kumar**



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Introduction

The purpose of this document is to provide an architectural design for the Online Book Store. The design will show the presentation tier, the middle tier consisting of classes, sequence diagrams, and the data tier consisting of the database design diagram.

Customers can get their book delivered instead of actually going and buying the book. They can make payment online itself.

Managing of inventory in the shop for shopkeeper becomes easier as customers are not visiting and ordering online.

This system saves both time and travelling cost of customers.

User can get to know different kinds of books that they were unaware of by just searching in the system using keywords.

The only disadvantage is if the customer receives a book that is not in proper condition or has some kind of defect then there incurs an additional charge of posting it back.

ACKNOWLEDGEMENTS

Success in life is never attained single handedly. My deepest gratitude goes to my thesis supervisor, Dr.Ajay Kumar for his guidance, help and encouragement throughout my research work. Their enlightening ideas, comments, and suggestions.

Words are not enough to express my gratitude to Dr. Ajay Kumar Shrivastava, Professor and Head, Department of Computer Applications, for his insightful comments and administrative help at various occasions.

Fortunately, I have many understanding friends, who have helped me a lot on many critical conditions.

Finally, my sincere thanks go to my family members and all those who have directly and indirectly provided me moral support and other kind of help. Without their support, completion of this work would not have been possible in time. They keep my life filled with enjoyment and happiness.

Anuj Tripathi
Aayush Awasthi
Ramji Gupta

Abstract

The main objective of the project is to create an online book store that allows users to search and purchase a book online based on title, author and subject. The selected books are displayed in a tabular format and the user can order their books online through credit card payment. Using this Website the user can purchase a book online instead of going out to a book store and wasting time.

There are many online book stores like Powell's, Amazon which were designed using Html. I want to develop a similar website using .NET, SQL Server.

Online Book store is an online web application where the customer can purchase books online. Through a web browser the customers can search for a book by its title or author, later can add to the shopping cart and finally purchase using any type of transaction. The user can login using his account details or new customers can set up an account very quickly. They should give the details of their name, contact number and shipping address. The user can also give feedback to a book by giving ratings on a score of five. The books are divided into many categories based on subject like Software, Database, English, Architecture etc.

The Online Book Store Website provides customers with online shopping through a web browser. A customer can, create, sign in to his account, place items into a shopping cart and purchase using any mode.

The Administrator will have additional functionalities when compared to the common user. He can add, delete and update the book details, book categories, member information and also confirm a placed order.

This application is developed using HTML, CSS, Python, JavaScript programming language. The Master page, data sets, data grids, user controls are used to develop the Online Book store.

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Section.1 Vision Document

1. Introduction

1.1 Purpose and Motivation

The main objective of the project is to create an online book store that allows users to search and purchase a book based on title, author and subject. The selected books are displayed in a tabular format and the user can order their books online through credit card payment. The Administrator will have additional functionalities when compared to the common user.

The motivation to create this project has many sources

- Interest to develop a good user friendly website with many online transactions using a database.
- To increase my knowledge horizon in technologies like .NET, SQL, CSS, HTML.
- To gain good experience in .NET before joining in a full time job.
- To gain expertise using Data Grid, Data Set, Data Table, Data Adapter and Data Readers.

2. Project Overview

2.1 Background

There are many online book stores like Powell's, Amazon which were designed using Html. I want to develop a similar website using .NET, SQL Server.

Online Book store is an online web application where the customer can purchase books online. Through a web browser the customers can search for a book by its title or author, later can add to the shopping cart and finally purchase using credit card transaction. The user can login using his account details or new customers can set up an account very quickly. They should give the details of their name, contact number and shipping address. The user can also give feedback to a book by giving ratings on a score of five. The books are divided into many categories based on subject Like Software, Database, English, Architecture etc.

This project has the following functionalities:

1) A Home page with product catalog

This is the page where the user will be navigated after a successful login. It will display all the book categories and will have a search keyword option to search for the required book. It also includes some special sections like recommended titles, weekly special books.

2) Search

A search by keyword option is provided to the user using a textbox .The keyword to be entered should be the book title.

3) Advanced Search

Advanced search helps the user to search for a book based on Title, Author, Category and price range. All the books which match the particular search criteria and their total count will be displayed .From here the user can select a book and add to the shopping cart.

4) Book Description

If the user would like to know details about a book he can click on the title from where he will be directed to a Book description page. It includes the notes on the book content and also a link to Amazon.com to get the book review.

5) User Voting

The user can give rating to a book based on his interest. He can rate it by giving a score of five as Excellent, four for very good, three for good, two for regular and one for deficient. The final rating of a book will depend on all the individual userrating.

6) Shopping Cart

The user can manage a shopping cart which will include all the books he selected. The user can edit, delete and update his shopping cart. A final shopping cart summary is displayed which includes all the items the user selected and the final total cost.

7) Managing user accounts

Each user should have an account to access all the functionalities of website. User can login using login page and logout using the logout page. All the user sessions will be saved in the database.

8) Administration

The Administrator will be provided with special functionalities like

- Add or delete a book category
- Add or delete a member
- Manage member orders.
- Add or delete a Credit Card type.

3. Requirement Specifications

All the requirements are specified using OCL a software specification language in the second phase of my presentation.

3.1 Main Requirements

The Main Requirements include Microsoft Visual Studio 2005 and ASP.NET to develop the web application, SQL Server 2005 to design the database and Mozilla as a main web browser to run the website.

3.2 Critical Use Case Requirements

User and Administrator are the two actors included in the Online Book Store. Fig.2 shows the use case diagram for this website.

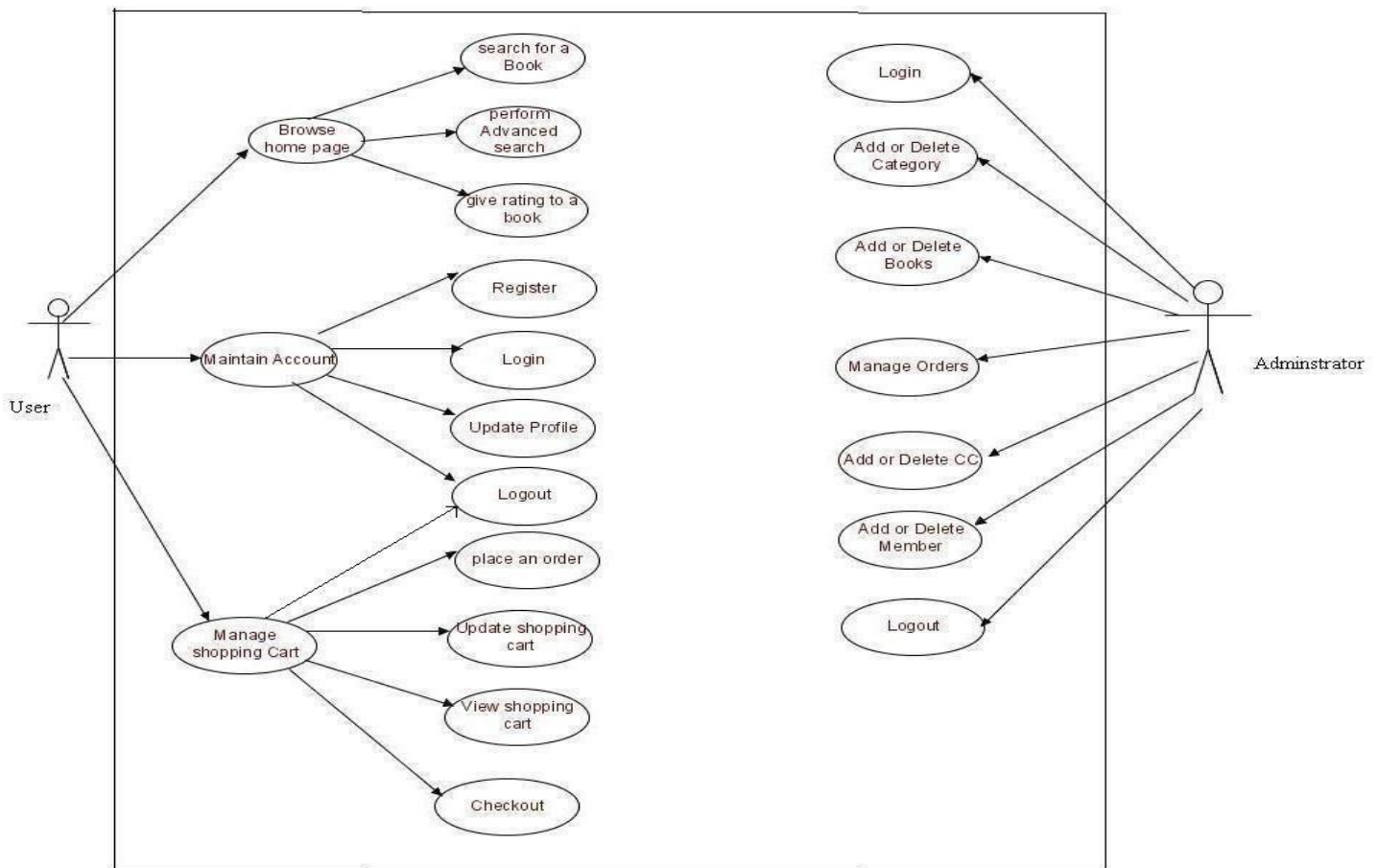
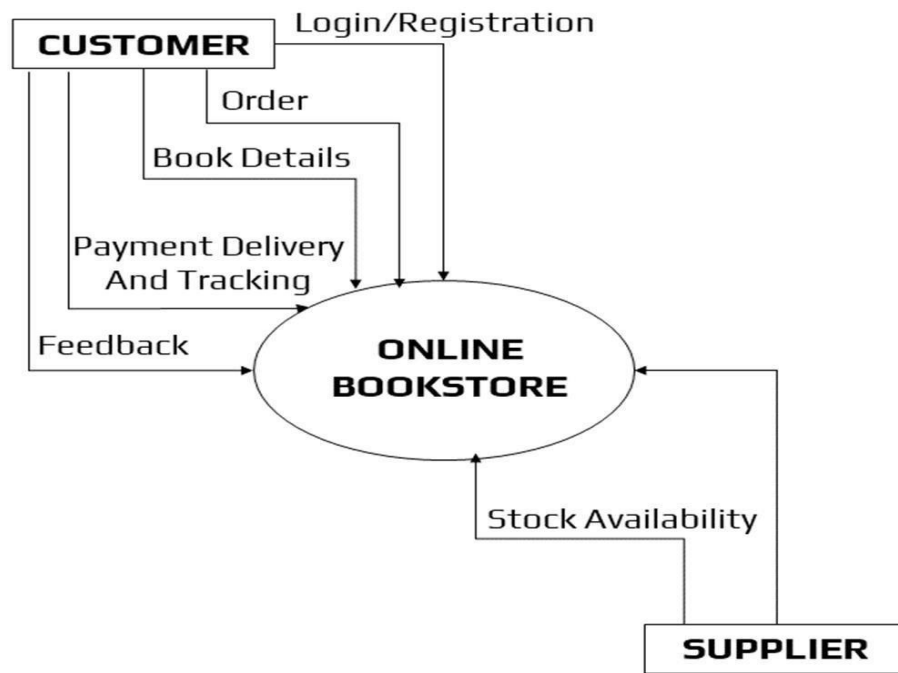
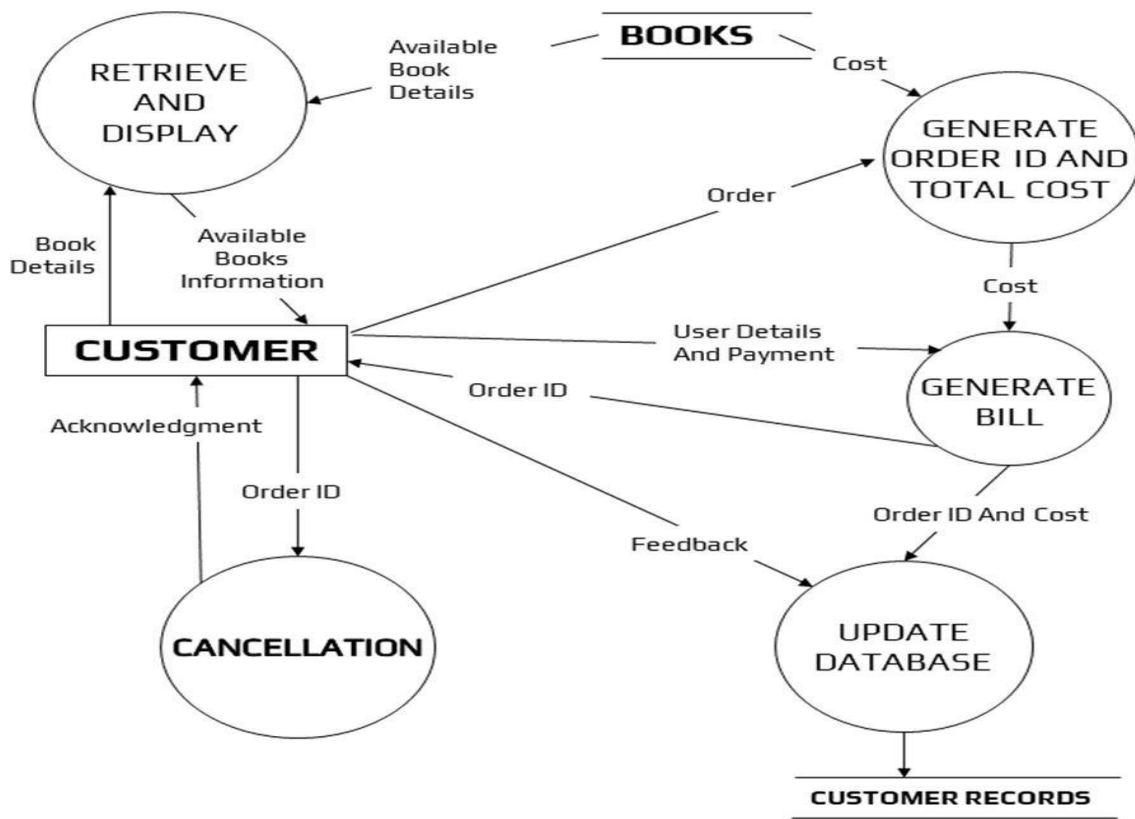


Fig.2 Use Case Diagram

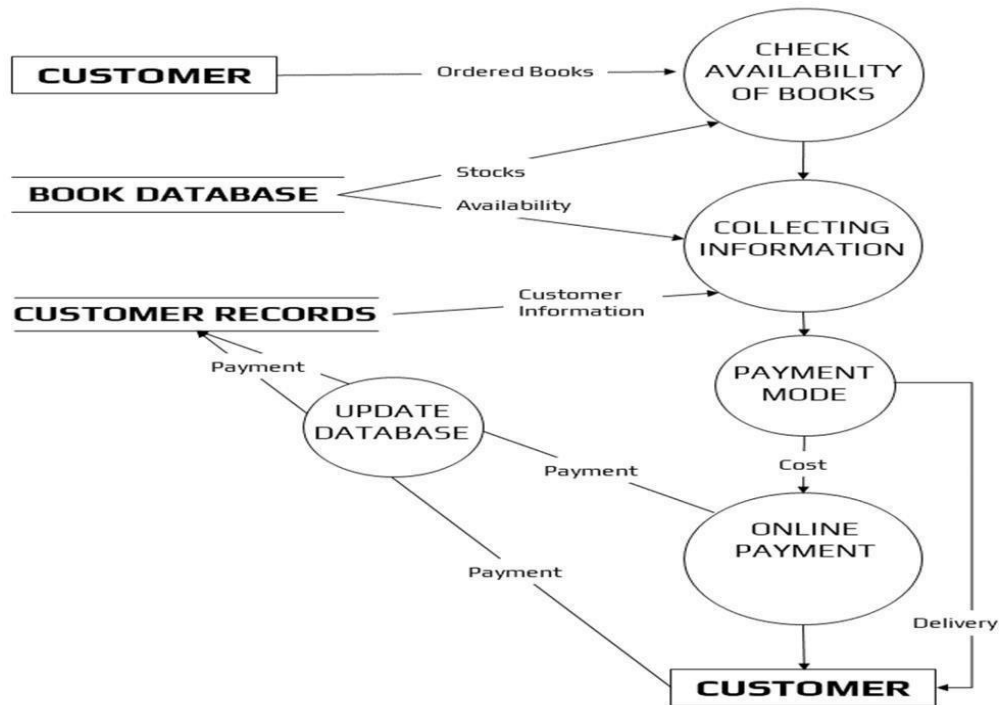
Zero Level Data flow Diagram (0 Level DFD)



First Level Data flow Diagram (1 Level DFD)



Second Level Data flow Diagram (2 Level DFD)



Use Cases:

Browse Catalog

1) Search for a Book

- **Purpose:** A user can search for a book of his choice by selecting category and title. Then a select query is used to retrieve data from the database and display the selected information.
- **Actor:** User
- **Input:** The user will select a category and enter title in a text box provided.
- **Output:** The system will display the books which matches the selected search criteria. A dataset is created as a result of select query. Later the dataset is binded to the data repeater to display the selected data.

2) Perform Advanced Search

- **Purpose:** If the user wants to perform an advanced search he can search for a book of his choice by selecting category, title, author and price range. Then a select query is used to retrieve data from the database and display the selected information.
- **Actor:** User
- **Input:** The user will select a category and enter title, author, and price range in a text box provided.
- **Output:** The system will display the books which matches the selected search criteria. A dataset is created as a result of select query. Later the dataset is binded to the data repeater to display the selected data.

3) Give rating to a book

- **Purpose:** If the user wants to give rating according to his opinion for a book he can select either Excellent, Very good, good, regular or deficient. The final rating of a book will depend on all the individual user rating.
- **Actor:** User
- **Input:** The user will select a rating based on his opinion.
- **Output:** The system will display the rating of a book and the total number of votes received. Below is the display for various rating.
 - ***** Excellent
 - **** Very Good
 - *** Good
 - ** Regular
 - * Deficient

Maintain Account

1) Register

- **Purpose:** If the user doesn't have an account then he will be asked to register.
- **Actor:** User
- **Input:** The user will enter details in the registration form according to the required fields. The fields include
 1. Username
 2. Password
 3. confirm password
 4. first name
 5. last name
 6. email
 7. Address
 8. Phone
 9. CC details
- **Output:** After registration the user will be directed to the main home page.

2) Login

- **Purpose:** If the user wants to get access to all the functionalities of Online Book Store he should login using his username and password.
- **Actor:** User
- **Input:** The user will enter his username and password.
- **Output:** If it is a successful login the user will be directed to the main home page. Else if the user enters invalid information he will be asked to check the entered information.

3) Update Profile

- **Purpose:** If the user wants to change his personal account information then he can update his selected fields and the entire data will be updated in the data base through an update query.
- **Actor:** User
- **Input:** The user will update his account information.
- **Output:** The system will update the entered information in the database using an update query.

4) Logout

- **Purpose:** If the user wants to end his session and sign out of the website then he can use the logout option.
- **Actor:** User

- **Input:** The user will click the logout button.
- **Output:** The user's account session comes to an end and he should login again if he wants to enter into the website.

Manage Shopping Cart

1) Place an order

- **Purpose:** If the user wants to purchase a book then he can place an order by selecting the add to shopping cart button and entering the quantity required under the book description.
- **Actor:** User
- **Input:** The user will enter the quantity required and click the add to shopping cart button.
- **Output:** The order will be added to the user's shopping cart.

2) Update Shopping Cart

- **Purpose:** If the user wants to change the quantity of a book or change a book then he can update his shopping cart.
- **Actor:** User
- **Input:** The user will click the details button in the shopping cart summary to edit and update his order details..
- **Output:** The updated order details are reflected in the shopping cart summary.

3) View Shopping Cart

- **Purpose:** If the user wants to view the items he added to the shopping cart then he can click the shopping cart link at the top of the page.
- **Actor:** User
- **Input:** The user will click the shopping cart link at the top of every page.
- **Output:** The user's shopping cart summary will be displayed in the form of a tabular format with all the books and their quantity. A total cost of all the items is also displayed at the bottom.

Administrator

1) Login

- **Purpose:** If the Administrator wants to get access to all the functionalities of Online Book Store he should login using his username and password.
- **Actor:** Administrator
- **Input:** The Administrator will enter his username and password.

- **Output:** If it is a successful login the Administrator will be directed to his menu page. Else if the Administrator enters invalid information he will be asked to check the entered information.

2) Add or Delete Category

- **Purpose:** If the Administrator wants to add or delete a book category then he can insert or delete a book category using his administration rights and the category table will be updated in the database.
- **Actor:** Administrator
- **Input:** If the Administrator wants to add a book category the he should click the insert link button in the category page else he can delete a particular selected book category.
- **Output:** The updated categories list will be displayed in the main home page.

3) Add or Delete Book

- **Purpose:** If the Administrator wants to add or delete a book then he can insert or delete a book using his administration rights and the book table will be updated in the database.
- **Actor:** Administrator
- **Input:** If the Administrator wants to add a book the he should click the insert link button in the book page and fill the following fields related to the book.
 1. Title
 2. Author
 3. Price
 4. Category
 5. Notes
 6. Product url

If he wants to delete a book he can click the delete button to remove it from the database.

- **Output:** The updated books list will be displayed in the main home page under their particular category.

4) Manage Orders

- **Purpose:** If the Administrator wants to add or delete an order then he can insert or delete an order using his administration rights.
- **Actor:** Administrator
- **Input:** If the Administrator wants to add an order the he should click the insert link button in the orders page else he can delete a particular selected order
- **Output:** The updated orders list will be processed to the users.

5) Add or Delete CC (Credit Card)

- **Purpose:** If the Administrator wants to add or delete a CC type then he can insert or delete a CC type using his administration rights and the CC table will be updated in the database.
- **Actor:** Administrator
- **Input:** If the Administrator wants to add a CC type the he should click the insert link button in the CC page else he can delete a particular selected CC type..
- **Output:** The updated CC list will be displayed in registration page where the user will select it for his future transactions.

6) Add or Delete Member

- **Purpose:** If the Administrator wants to add or delete a book category then he can insert or delete a book category using his administration rights and the category table will be updated in the database.
- **Actor:** Administrator
- **Input:** If the Administrator wants to add a book category the he should click the insert link button in the category page else he can delete a particular selected book category.
- **Output:** The updated categories list will be displayed in the main home page.

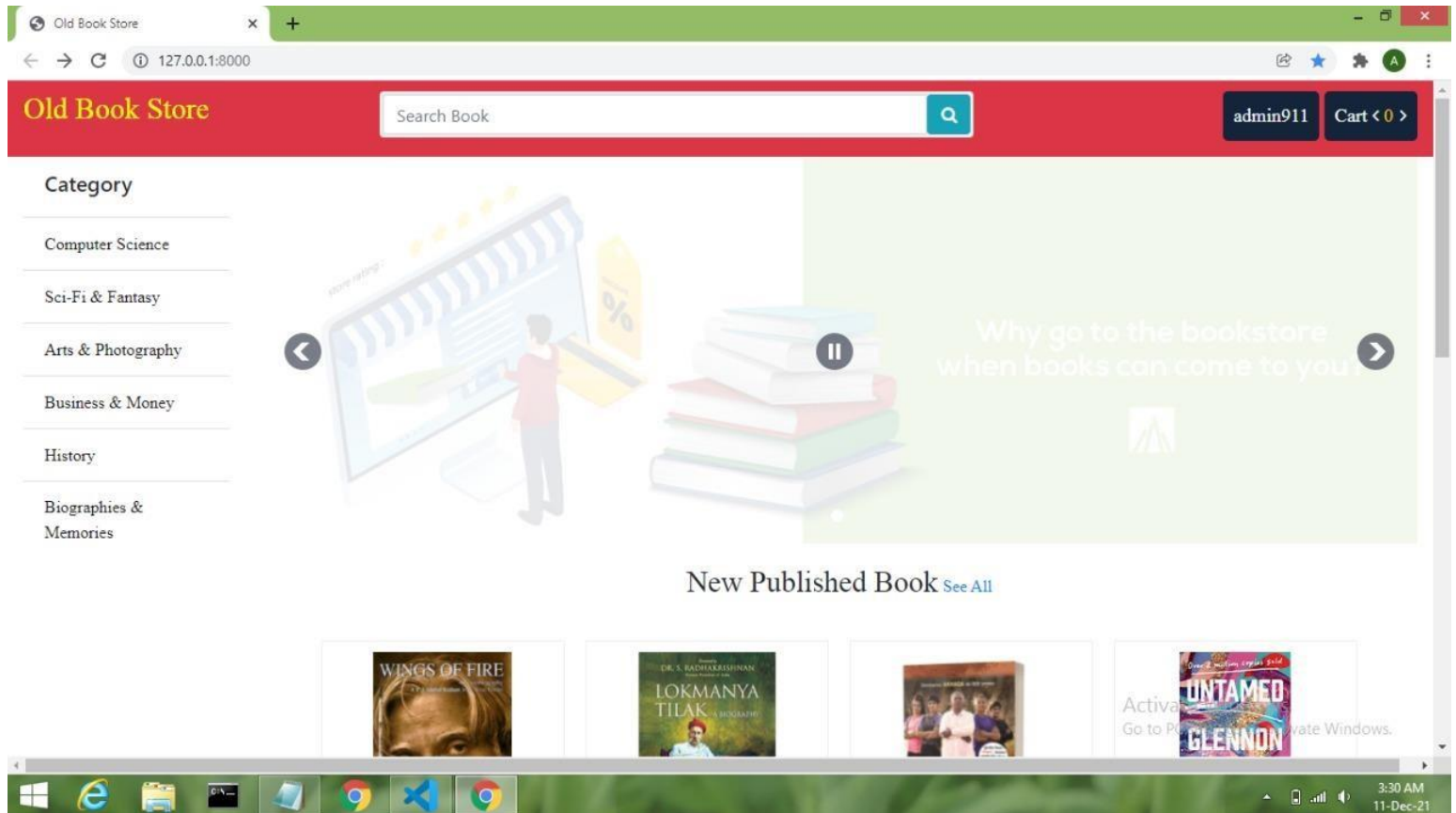
7) Logout

- **Purpose:** If the Administrator wants to end his session and sign out of the website then he can use the logout option.
- **Actor:** Administrator
- **Input:** The Administrator will click the logout button.
- **Output:** The Administrator's account session comes to an end and he should login again if he wants to enter into the website.

3.3 Environment

- The Online Book store will be developed in Visual Studio 2005 environment.
- C# will be used as the programming language.


ScreenShots



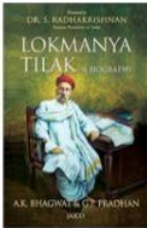
Old Book Store

127.0.0.1:8000


Top Selling Book




Wings of Fire
Rajendra Singh Chaudhary
★★★★★ 0
₹3000
[Add to cart](#)



Lokmanya Tilak
Pavitra Kumar
★★★★★ 1
₹6000
[Add to cart](#)



Akhada
Saurabh duggal
★★★★★ 0
₹3000
[Add to cart](#)



Untamed
Pavitra Kumar
★★★★★ 0
₹3000
[Add to cart](#)

Contact
 098977546
 admin9@gmail.com
 Ghaziabad

Menu
 > Books

Old Book Store 2021. All Rights Reserved
 Activate Windows
 Go to PC settings to activate Windows.

Old Book Store

127.0.0.1:8000/books


admin911 Cart < 0 >

Old Book Store

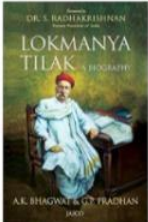
Search Book

Category


- Computer Science
- Sci-Fi & Fantasy
- Arts & Photography
- Business & Money
- History
- Biographies & Memories




Wings of Fire
Rajendra Singh Chaudhary
★★★★★ 0
₹3000
[Add to cart](#)



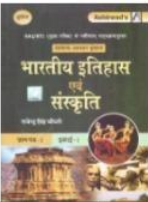
Lokmanya Tilak
Pavitra Kumar
★★★★★ 1
₹6000
[Add to cart](#)



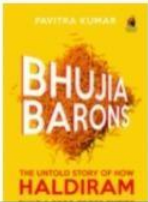
Akhada
Saurabh duggal
★★★★★ 0
₹3000
[Add to cart](#)



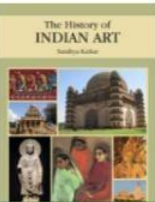
Untamed
Pavitra Kumar
★★★★★ 0
₹3000
[Add to cart](#)



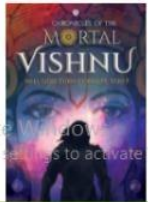
भारतीय इतिहास
संस्कृति
₹3000
[Add to cart](#)



BHUIJA BARONS
₹3000
[Add to cart](#)



The History of INDIAN ART
₹3000
[Add to cart](#)



MORTAL VISHNU
₹3000
[Add to cart](#)

Activate Windows
Go to PC settings to activate Windows.

Old Book Store

127.0.0.1:8000/book/26

Old Book Store

Search Book

admin911 Cart < 1 >

Category

Computer Science

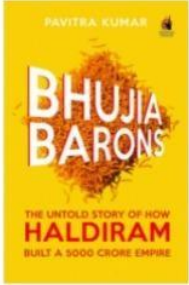
Sci-Fi & Fantasy

Arts & Photography

Business & Money

History

Biographies & Memories



Bhujija

by Pavitra Kumar

★★★★★ 0 Reviews

the best book for business

₹Price: 2500

Add to cart

★★★★★

Write Your Review

Submit

Activate Windows

Go to PC settings to activate Windows.

Old Book Store

127.0.0.1:8000/cart/

Old Book Store

Search Book

admin911 Cart < 1 >

Category

Computer Science



Sci-Fi & Fantasy

Arts & Photography

Business & Money

History

Biographies & Memories

#	Name	Qty	Price	Action
	Bhujija	- 1 +	2500	

Continue Shopping

Proceed to Checkout

Checkout Summary

Books	1
Subtotal	2500
Shipping	100
Payable Total	2600

Contact

098977546

admin9@gmail.com

Ghaziabad

Menu

> Books

Old Book Store 2021. All Rights Reserved

Activate Windows

Go to PC settings to activate Windows.

Old Book Store

127.0.0.1:8000/order/shipping/

admin911 Cart < 1 >

Search Book

Category

- Computer Science
- Sci-Fi & Fantasy
- Arts & Photography
- Business & Money
- History
- Biographies & Memories

Shipping Address

Name* Email*
admin9@gmail.com

Phone*

Address*

Division* District* Zip code*
Ghaziabad City Ghaziabad.1

Payment method*
☐ PayTm
☐ Credit Card

Checkout Summary

Books	1
Subtotal	2500
Shipping	100
Payable Total	2600

Activate Windows
Go to PC settings to activate Windows.

Old Book Store

127.0.0.1:8000/order/shipping/

admin911 Cart < 0 >

Search Book

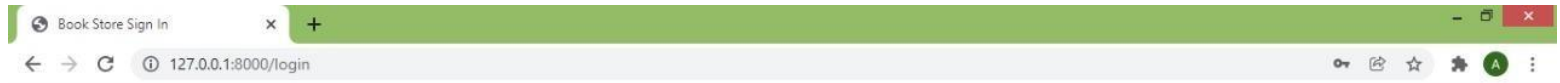
Category

- Computer Science
- Sci-Fi & Fantasy
- Arts & Photography
- Business & Money
- History
- Biographies & Memories

Thank you for you purchase!

OrderID: #201812
Book: 1
Name: Anuj Tripathi
Phone: 09935536710
Email: anujtripathi360@gmail.com
Account No: 97779898776878987876
Payment Method: PayTm
Shipping address: Ghaziabad City:231306, Ghaziabad.1, Goraiya , Sikhar

Activate Windows
Go to PC settings to activate Windows.



Sign In

Username

Password

Login

[Forgot your password?](#)

[New to BookStore?](#)

Create you BookStore account

Activate Windows
Go to PC settings to activate Windows.



Create account

Name:

Email:

Username:

Password:

Password confirmation:

Create you BookStore account

[Already have an account? Sign in](#)

Activate Windows
Go to PC settings to activate Windows.



Section- 2 Architecture Design

1. Introduction

The purpose of this document is to provide an architectural design for the Online Book Store. The design will show the presentation tier, the middle tier consisting of classes, sequence diagrams, and the data tier consisting of the database design diagram.

2. Architecture

Three-tier (layer) is a client-server architecture in which the user interface, business process (business rules) and data storage and data access are developed and maintained as independent modules or most often on separate platforms.

The Architecture of Online Book Store is based on three-tier architecture. The three logical tiers are

- Presentation tier - ASP.NET Web forms, Master Pages, Images.
- Middle tier – C# classes.
- Data tier- Database

Fig.1 below shows the model of 3-tier architecture.

The main reason for considering three-tier architecture for the Online Book store is as follows:

Flexibility:

- Management of data is independent from the physical storage support,
- Maintenance of the business logic is easier,
- Migration to new graphical environments is faster.
- If there is a minor change in the business logic, we don't have to install the entire system in individual user's PCs.

Reusability:

- Reusability of business logic is greater for the presentation layer. As this component is developed and tested, we can use it in any other project and would be helpful for future use.

Security:

- More secured architecture since the client cannot access the database directly.

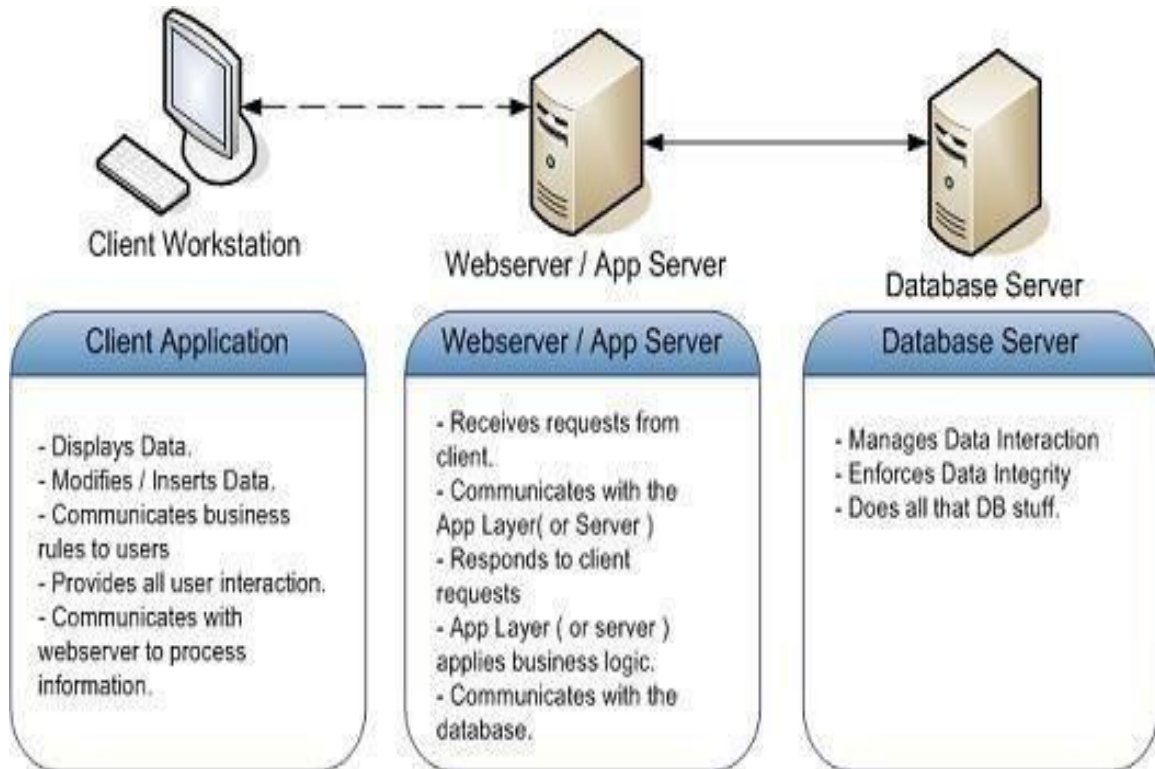


Fig.1 3-tier Architecture

The diagram below captures the page flow for user in the Online Book Store System.

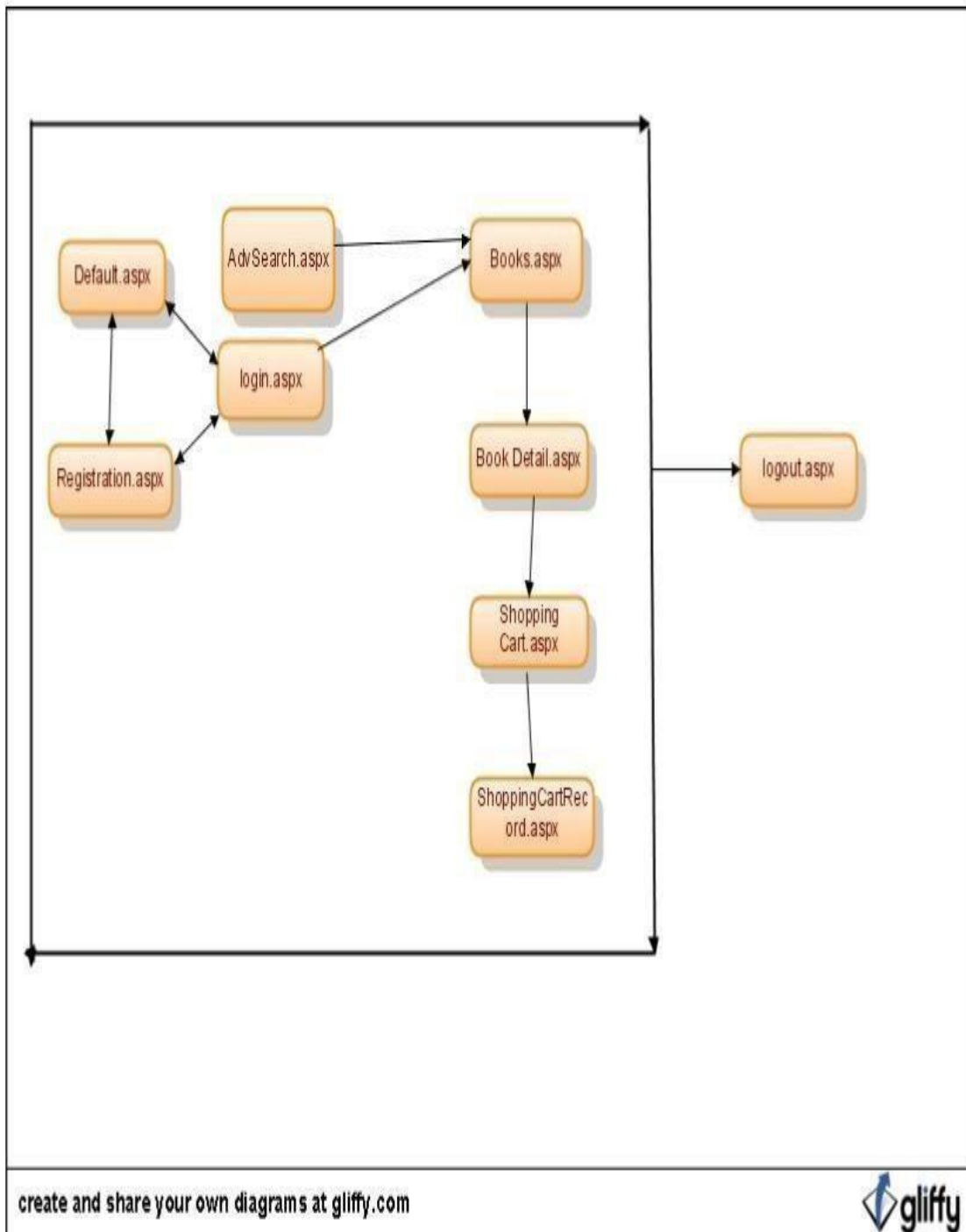


Fig.2 User-Page Flow

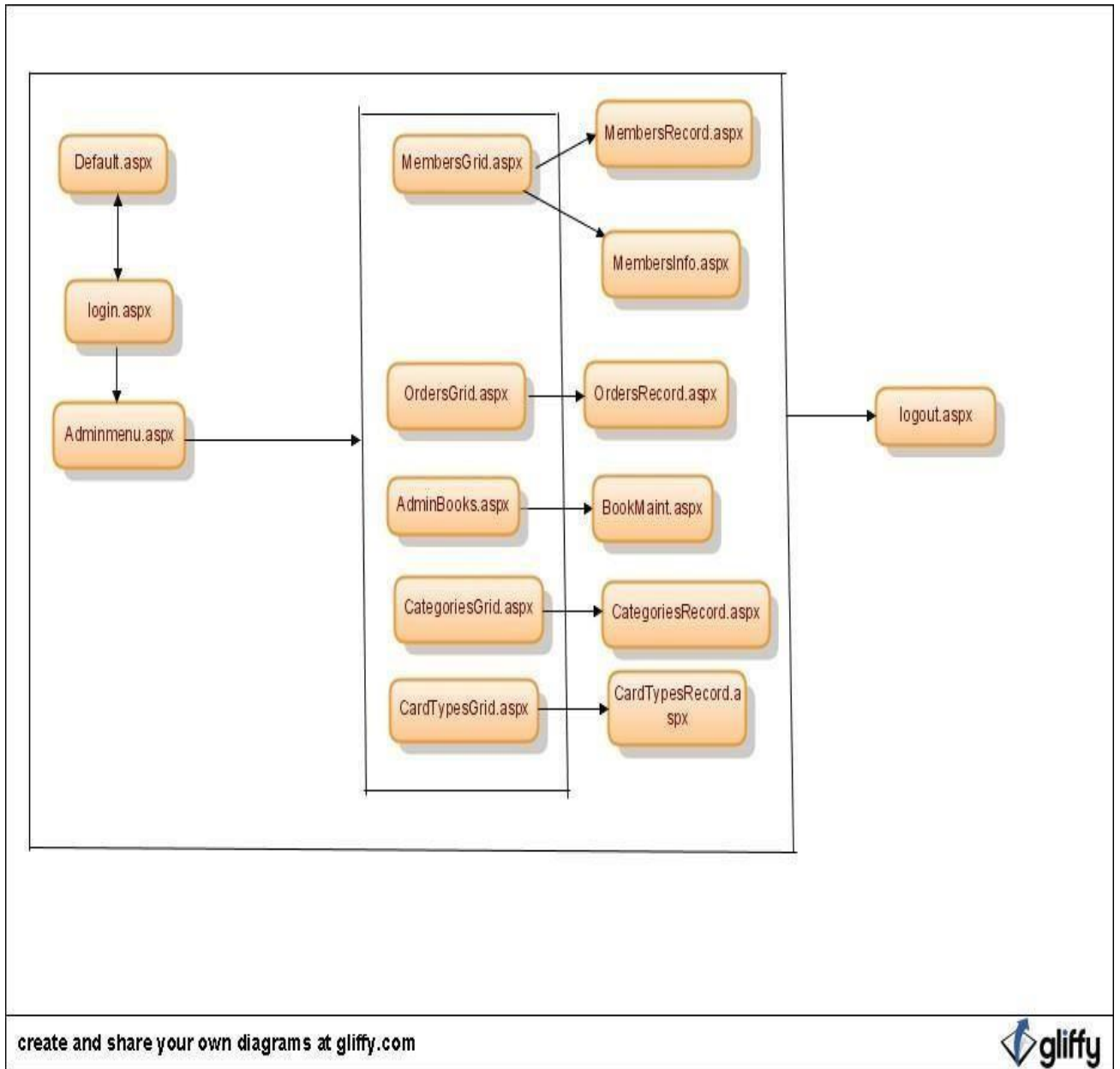


Fig.3 Administrator-Page Flow

3. Middle Tier

The Middle Tier or Business Logic layer consists of eleven classes User, Customer, Administrator, SessionManager, Category, BookSet, Book, BooksOrder, Search, Advanced Search and Shopping Cart.

Class Diagram

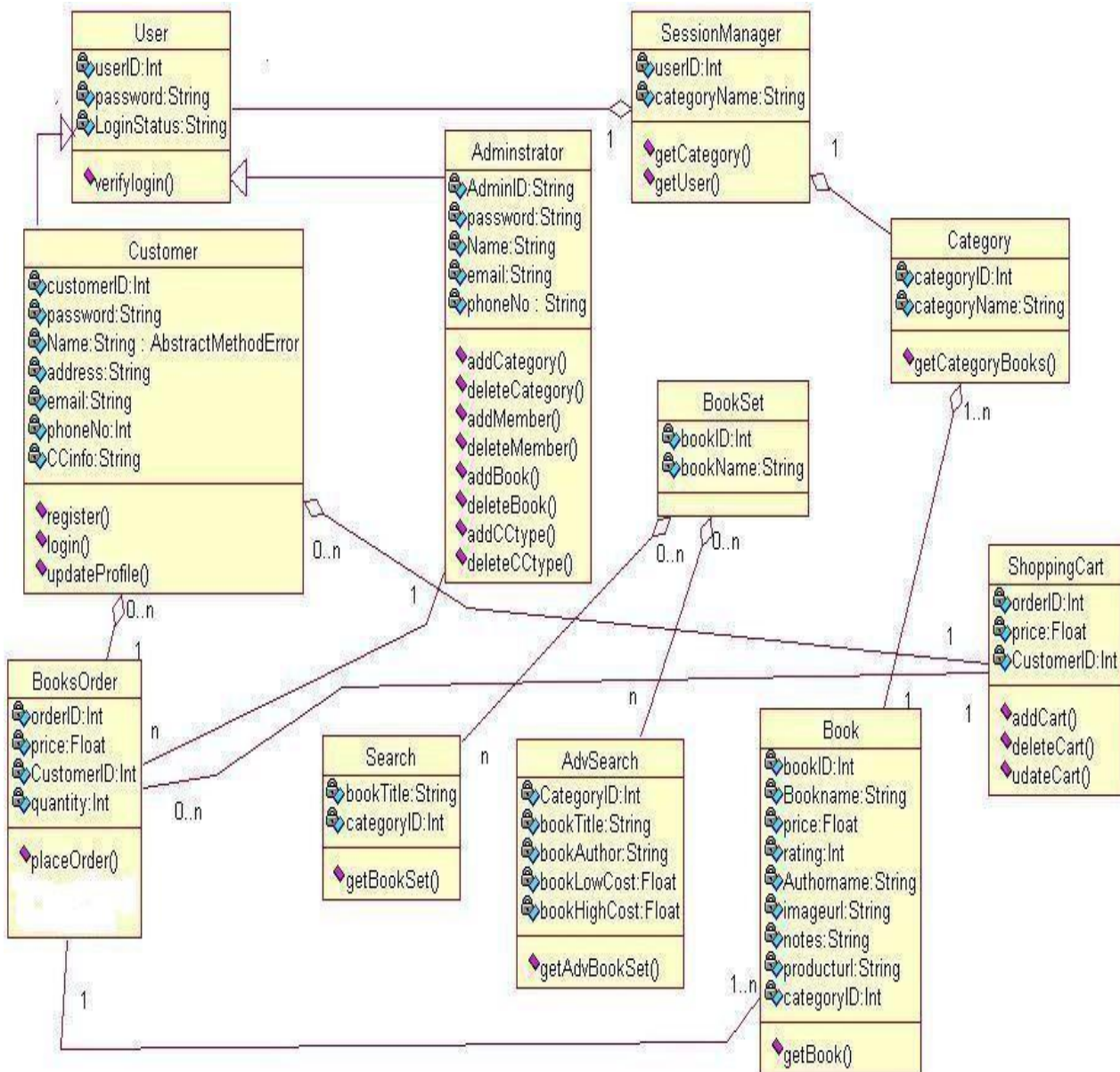


Fig.4 Class Diagram

Sequence Diagrams

1) User Login

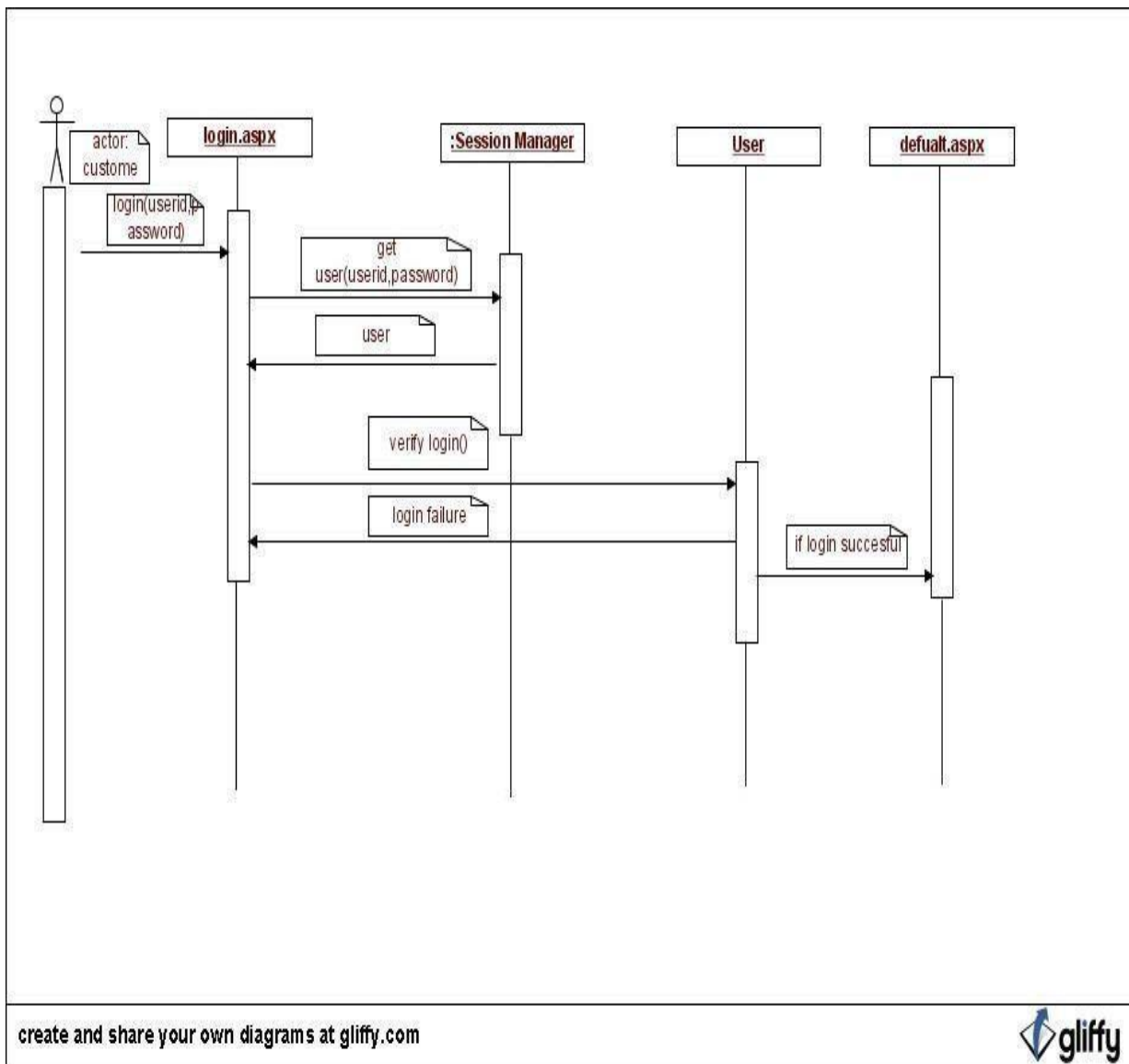


Fig.5 User-Login Sequence Diagram

2) Book Search

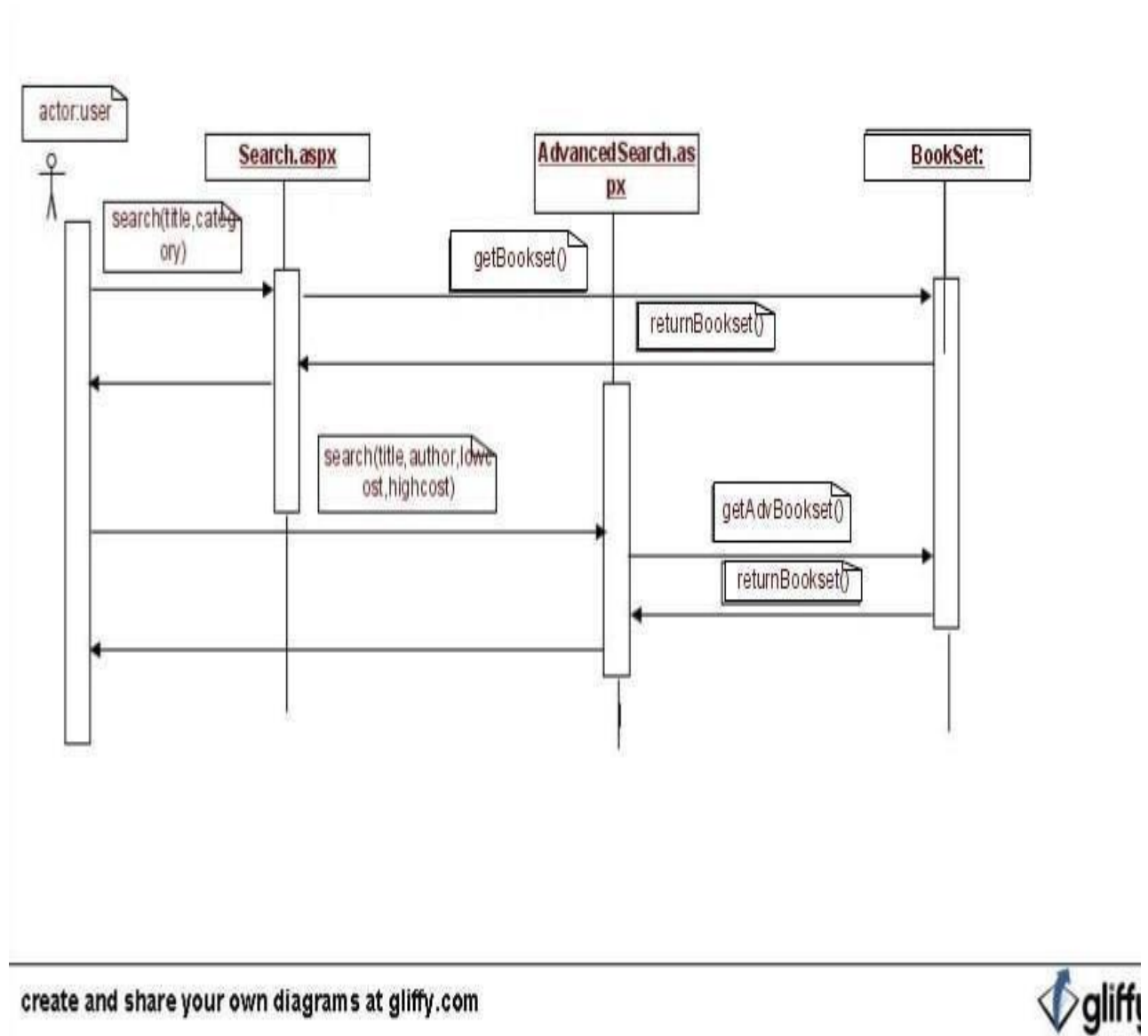


Fig.6 User-Book Search Sequence Diagram

3) Add to shopping cart

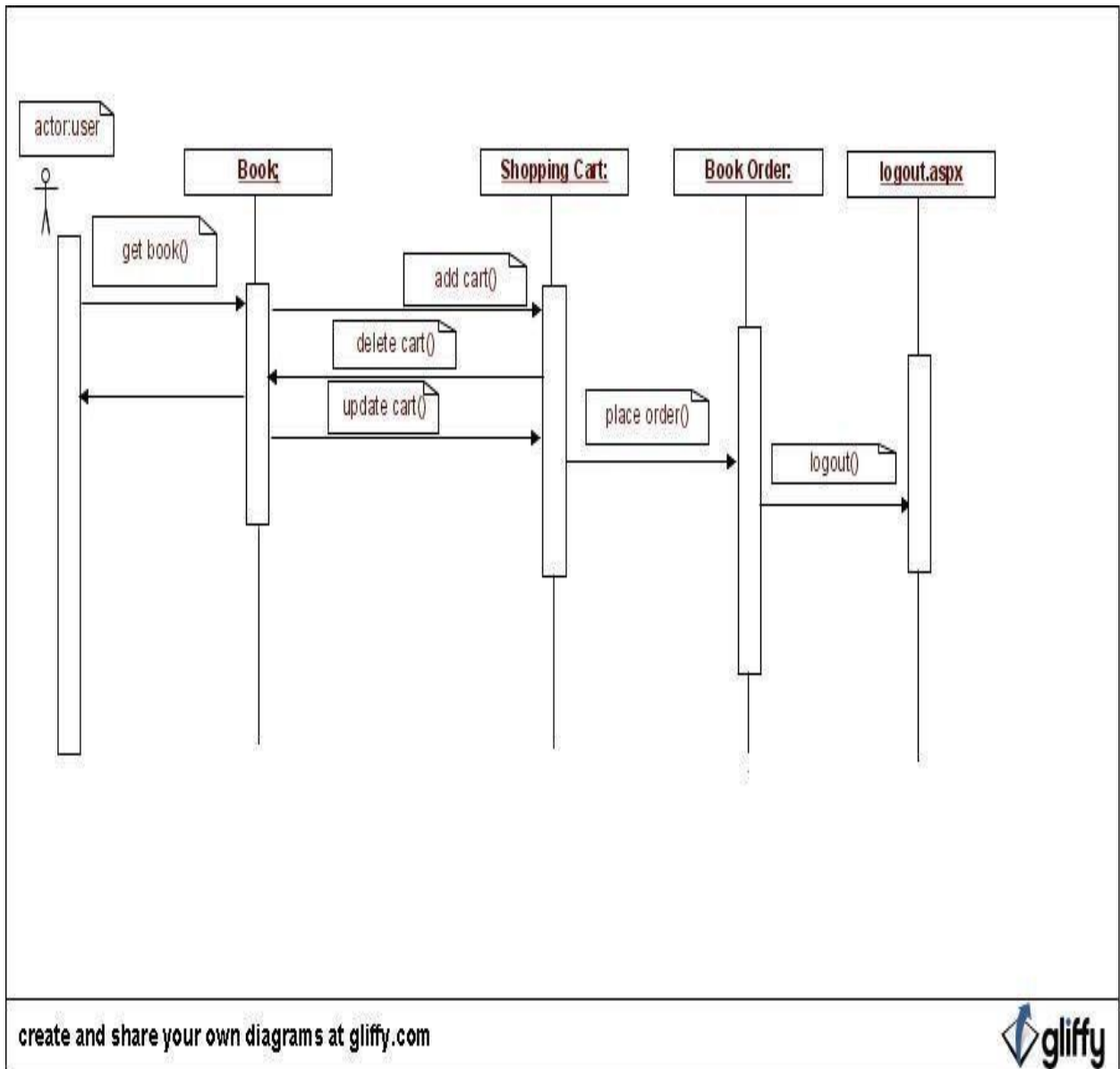


Fig.8 User-Add to Cart Sequence Diagram

4) Administrator

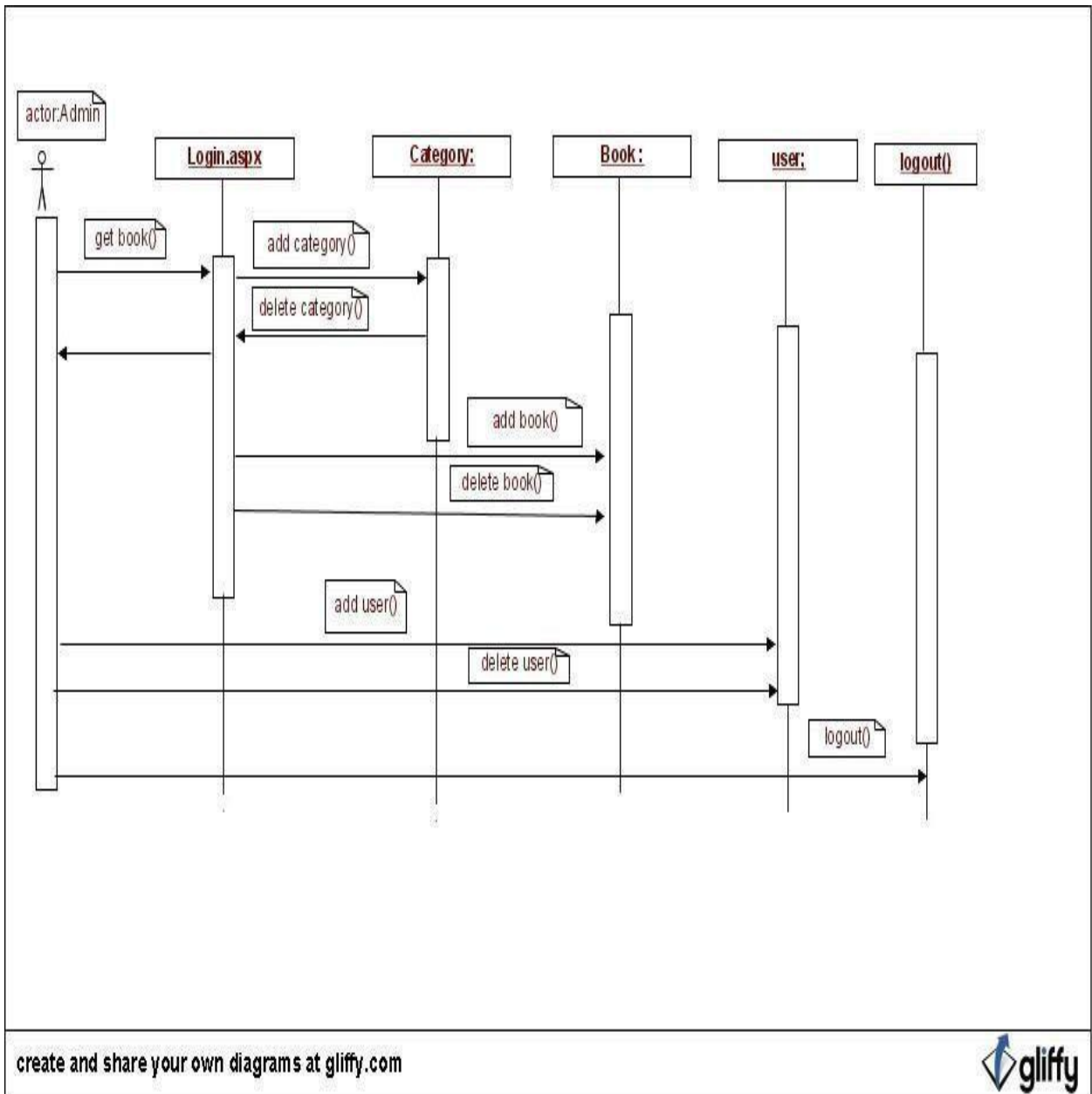


Fig.9 Administrator- Sequence Diagram

4. Data Tier

The system database has five tables Categories, Items, Orders, Members and Card types. The system database design is shown below.

Table Name	Definition
Categories	Contains the Book Categories Information
Items	Contains the Book Information.
Members	Contains the Members Information
Orders	Contains the Book Orders Information
Card Types	Contains the Credit Card Information

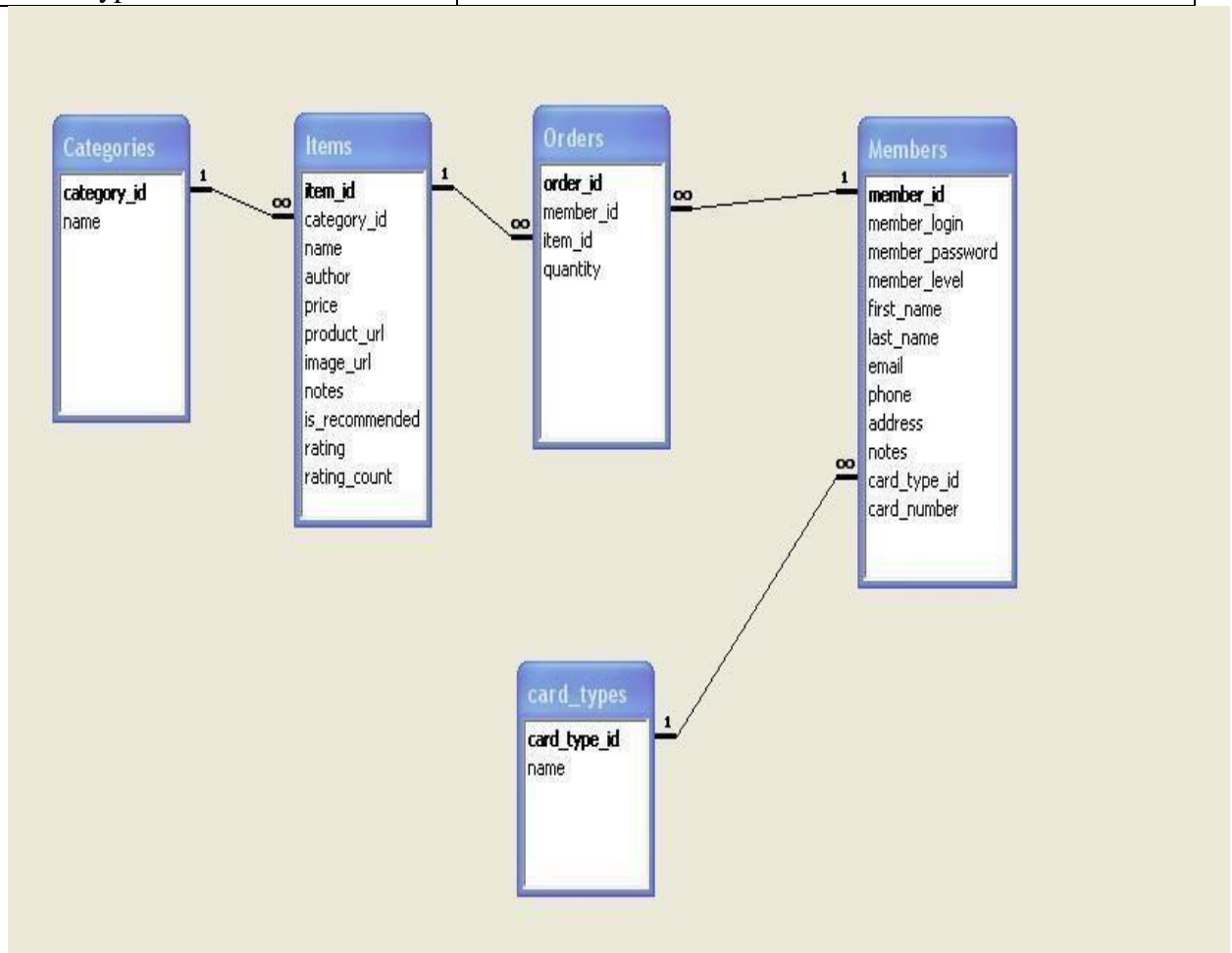


Fig.10 System Database Design

Section-3 Test Plan

1. Testplan identifier

CIS 895-MSE Project Test plan Online Book Store V1.0

1. Introduction

The goal of this document is to develop a test plan for the Online Book Store design system. This document defines all the procedures and activities required to prepare for testing of the functionalities of the system which are specified in Vision document. The objectives of the test plan are to define the activities to perform testing, define the test deliverables documents and to identify the various risks and contingencies involved in testing.

2. Features to be tested

The following list describes the features to be tested:

USER:

- Registration
- Login
- Add To Cart
- Edit Cart

ADMIN:

- Create and Delete book from Category
- Create and Delete a Category
- Manage Orders
- Manage Member

Section-4 Project Evaluation

1. Introduction

This document evaluates the experience of the development of the Online Book Store project. A brief description of the tools, process, techniques employed as well as the mistakes made is presented so that lessons are documented and learned.

2. Problems faced

The following are the problems faced during the design of Online Boos Store Website.

- **Security**

I also had some security issues to be resolved.

- Only the user who will login can order for a book and checkout.
- And also the user should not be able to access the Administrative options.

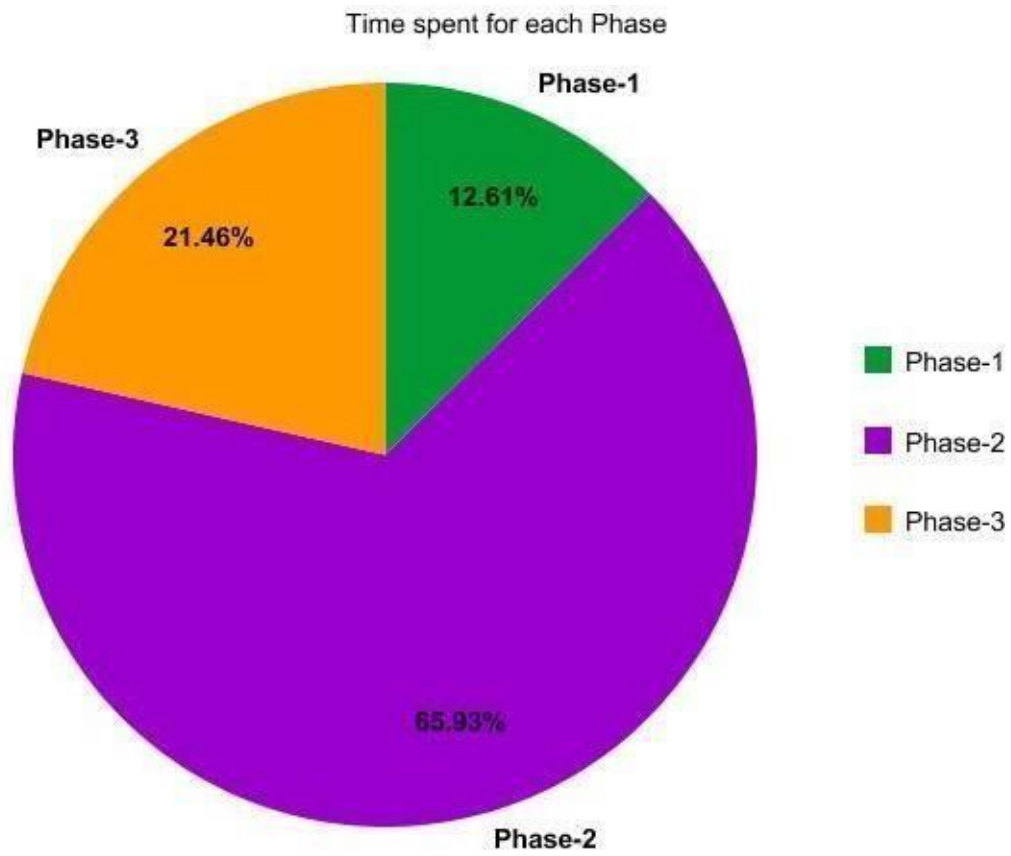
It was easy for me to create the user security options for checkout but I faced problems with protecting Administrative options from the user. But later I was able to figure it out using Google search engine and some videos about C# security.

3. Metrics

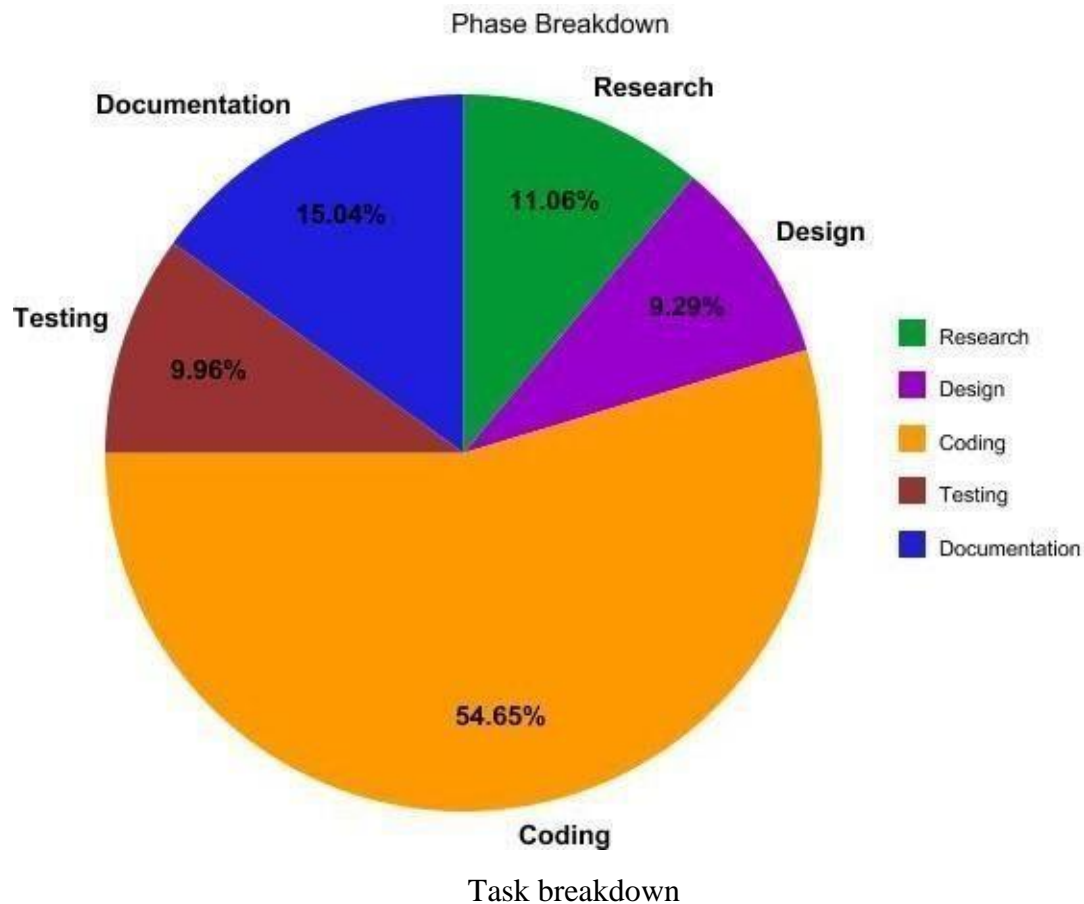
- * **Lines of Code**

My initial estimate was 3000 LOC during Phase-1.

But now I found the total to be 3203 LOC after the coding part is completed. I used the LOC metrics tool to count the total number of Lines of Code.



Project Phase Schedule



4. Lessons Learned

Programming

The Online Book Store Project helped me to improve my confidence level in C# Programming. Though I have made many mistakes during the initial phase I have learnt how to use user controls, master pages, data grid, data set and other data base functionalities.

Time Management

Since MSE Project is done as an individual I have learnt how to manage time during the Software Life Cycle Process. I have also learned how to face tense situations and meet the deadlines. This would add as a good experience for me for my future job prospective.

UML and Software Lifecycle

As software student though I have good knowledge in UML and Software LIFE cycle I never had any good practical experience regarding them. Through this project I have learnt how to develop a project following the various stages in Software Life Cycle.

Documentation

I always had a feeling that I am not good at documentation .But through this project and suggestions from my committee members I believe that I have improved my Documentation skills.

References

- *IEEE Recommended Practice for Software Design Descriptions IEEE Std 1016-1998*
- *IEEE Recommended Practice for Software Requirements Specifications - IEEE Std 830-1998*
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