

Bangladesh University of Business and Technology (BUBT)

Dept. of Computer Science & Engineering



Book Ordering System

An Innovative Online Bookstore Solution

- Presented By

- Md. Imran Hossen (21222203001)
- Rohan Rashid (21222203050)
- Rajesh Chandra Barman (21222203002)
- Istiak Ahmed Arnob (21222203028)
- Bikash Chandra Ray (21222203045)

- Submitted To

Project Supervisor

Mr. Ali Azgar

Assistant Professor

Department of Computer
Science & Engineering





Outline

1. Introduction
2. Problem statement
3. Objective
4. Motivation
5. Literature review
6. Features
7. Fragmentation
8. Fragmented Database
9. Diagrams
10. System Design
11. Future works
12. References



Introduction

What is a Distributed Database System?

Why do we need a Book Ordering System?



Problem Statement

Our Systems Face Challenges Such As:

- **Performance Bottlenecks**
- **Single Point Of Failure**
- **Low Scalability**

Using A **Distributed DBMS** With Fragmentation And Replication Solves These Problems By Improving Data Distribution And Access Efficiency.



Objective

Develop a distributed book ordering system using category-wise data partitioning.

Goals:

- Improve system performance
- Enhance fault tolerance
- Ensure efficient access to distributed data



Motivation

- Book Categories Like Knowledge, Academic, Magic, And Adventure Have Varying **Access Patterns**.
- Distributing Categories Across Nodes:
 - Balances Server **Load**
 - Enhances **Modularity**
 - Improves **Response Time**
 - Enables **Localized Transactions**

Technology Stack

- FRONTEND:

- HTML5, CSS3, JavaScript, Bootstrap.

- BACKEND:

- PHP

- DATABASE:

- MySQL.

- HOSTING:

- Localhost or Cloud-Based Servers.



Literature review

Ezéchiél Et Al. [1] (2019) Reviewed Distributed Database Systems (DDBS) Focusing On Three Strategies: Data Fragmentation, Allocation, And Replication. Key Challenges Include Query Optimization For Fragmented Data, Np-hard Allocation Problems, And Synchronization In Replicated Systems. The Paper Proposes Solutions For Efficient Synchronization, Particularly In Decentralized Peer-to-peer (P2P) Setups, Highlighting The Need For Scalability And Autonomy

Santiago Et Al. [2] (2021) Explored The Integration Of Distributed Database Systems (DDBS) In Data Security, Emphasizing Scalable And Expandable Access Control Models. The Paper Discusses The Challenges Of Implementing Access Control, Such As The Complexity Of DDBS, Data Integrity, And The Need For Skilled Management. It Also Examines Real-world Applications In Sectors Like IT And Social Media, Stressing The Importance Of Robust Security Measures And Future Research In Enhancing Data Protection.



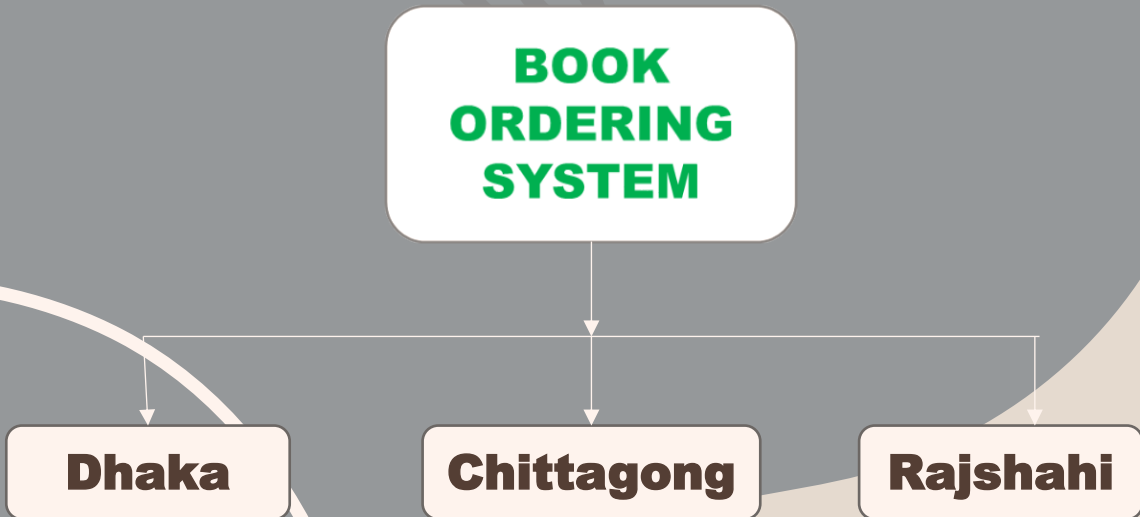
Features

- Distributed book storage based on category: knowledge, academic, magic, adventure
- Global search with local data management
- Category-specific transactions and fault isolation

Fragmentation

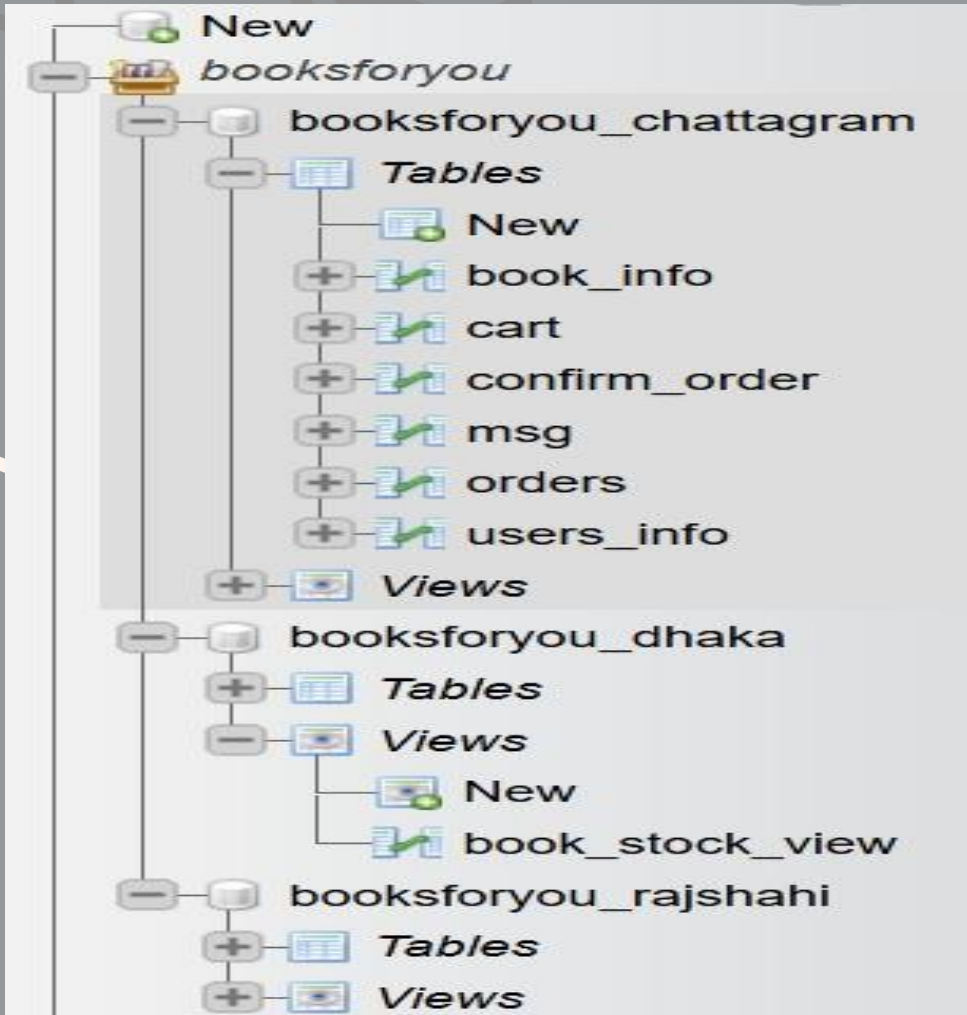
Horizontal fragmentation strategy by User Branch:

- Dhaka Branch
- Rajshahi Branch
- Chittagong Branch



Fragmented Database

Database View



Nodewise Fragmentation

**BOOK ORDERING
SYSTEM**

Node 1 → Dhaka Branch

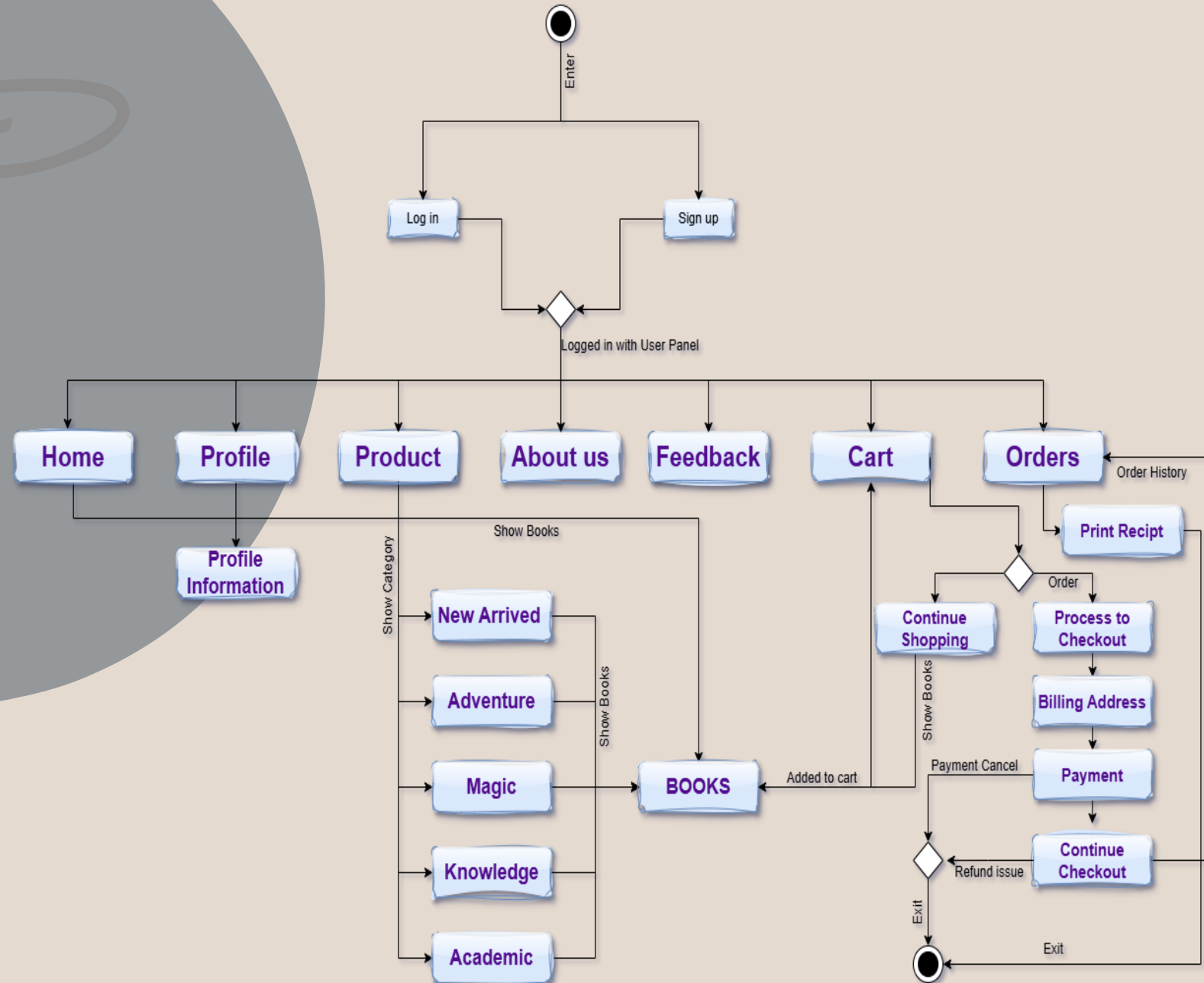
**Node 2 → Chittagong
Branch**

Node 3 → Rajshahi Branch

Activity Diagram of Boook Ordering Sytem

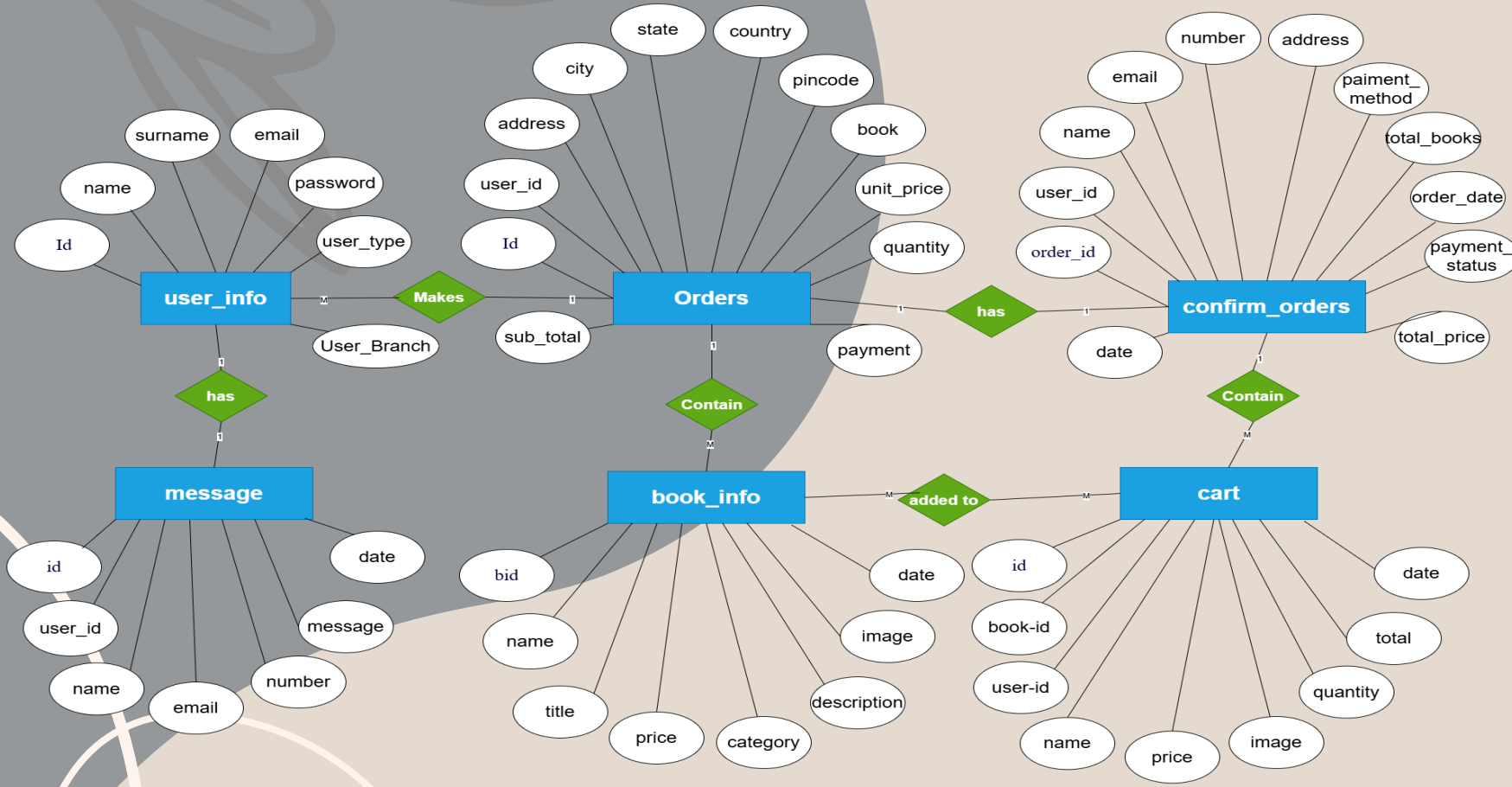
Workflow diagram

Flow of Data: Showing a activity diagram of how data flows between modules.



ER Diagram:

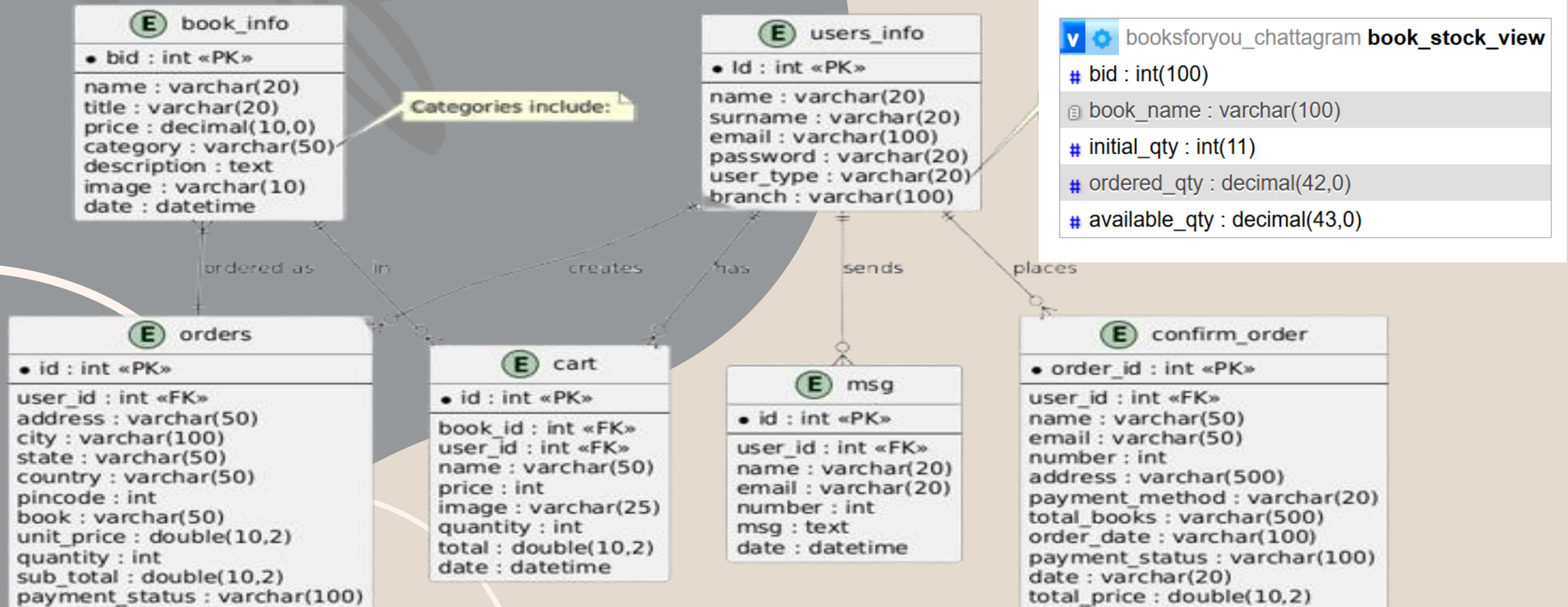
Highlight relationships between key entities like Users, Books, and Orders



Database (Schema Diagram)

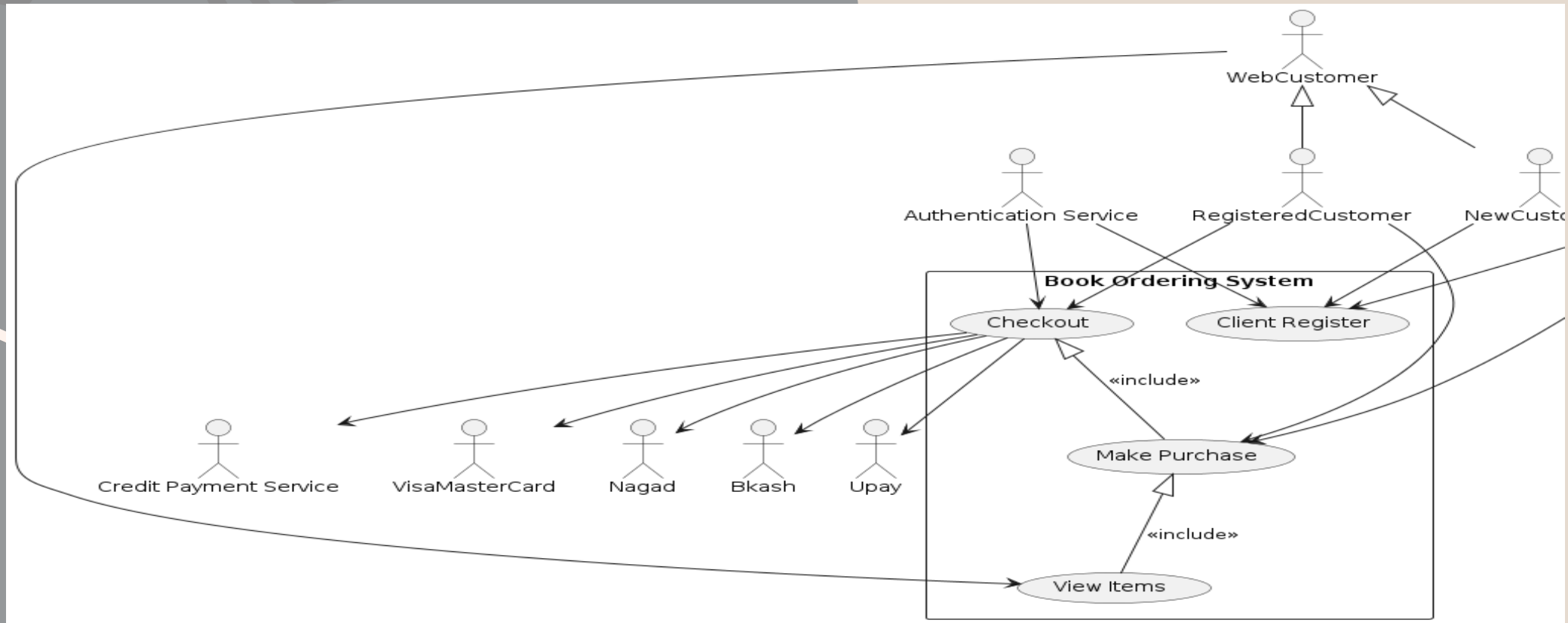
Database Tables:

Highlight table structure for Users, Books, and Orders.



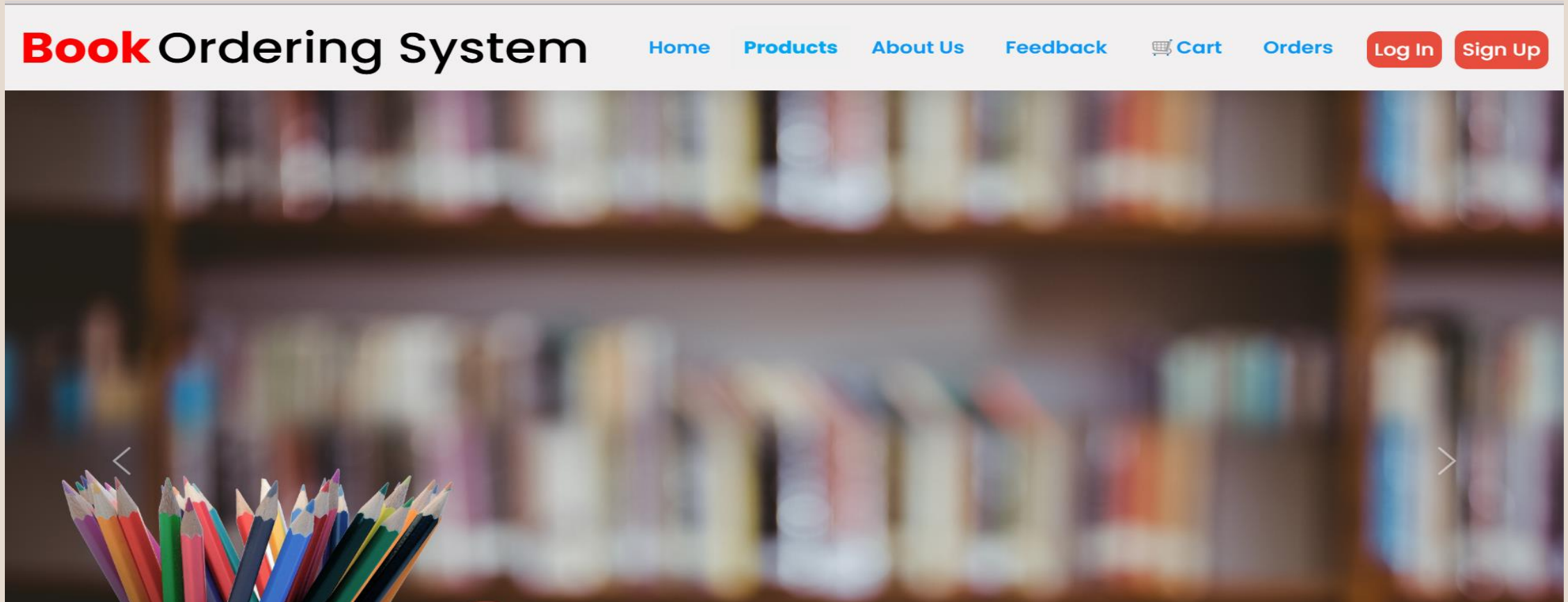
Use Case Diagram:

Show interaction between users, administrators, and the system.



System Architecture

User Module: Homepage.



System Home Page

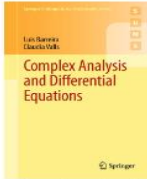
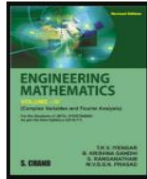



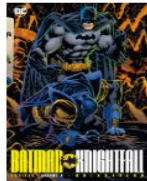


System Architecture

User Module: Homepage.

Book Ordering System

Home Products About Us Feedback Cart Orders

New Arrived

 <p>Complex Analysis And Price: TK 399/- Available: 20pcs View Details</p>	 <p>Engineering Mathemat Price: TK 500/- Available: 20pcs View Details</p>	 <p>Java: The Complete R Price: TK 425/- Available: 15pcs View Details</p>	 <p>Programming With C++ Price: TK 350/- Available: 19pcs View Details</p>
 <p>Last Blood Price: TK 500/- Out of stock</p>	 <p>Batman Knight Price: TK 789/- Available: 20pcs View Details</p>	 <p>Sunrise Price: TK 800/- Available: 20pcs View Details</p>	 <p>Seventh Sun Price: TK 560/- Available: 17pcs View Details</p>

System Architecture

User Module: Registration, login, and profile management.

BookOrdering System

Home Products About Us Feedback Cart Orders Log In Sign Up

Sign Up To Use **Book** Ordering System

Enter Name

Enter Surname

Enter Email Id

Enter password

Confirm password

User

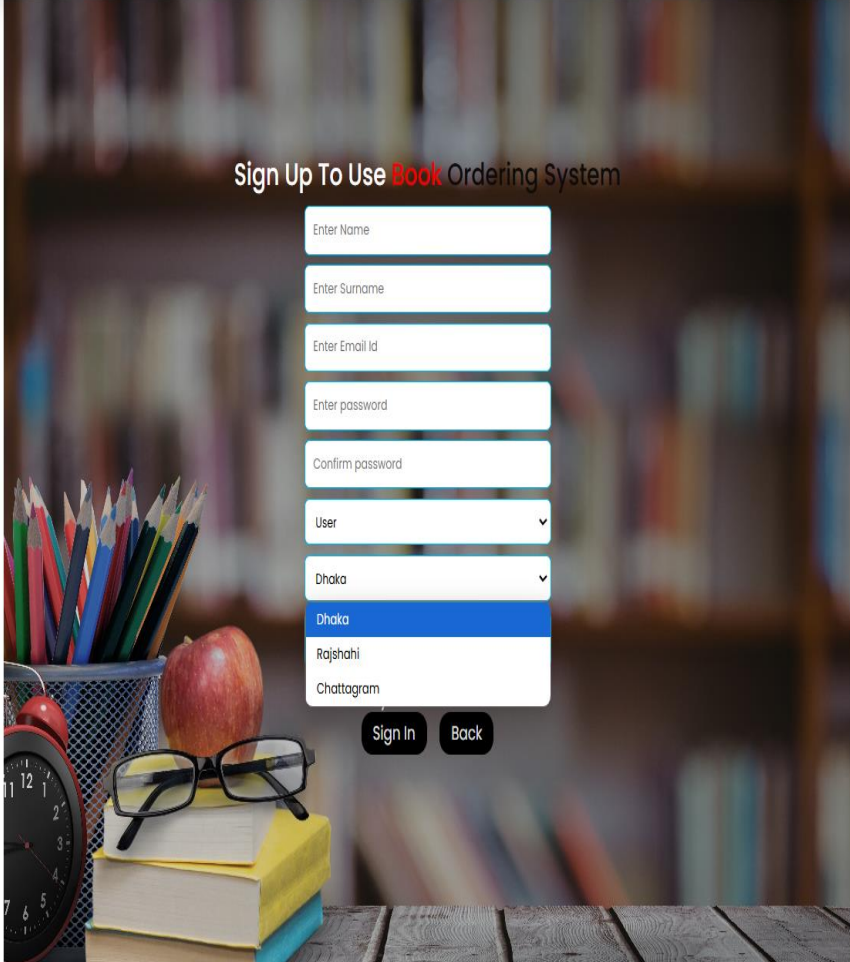
Dhaka

Dhaka

Rajshahi

Chattogram

Sign In Back

The registration form is displayed on a webpage with a background image of a desk with books, pencils, and glasses. The form includes input fields for Name, Surname, Email, Password, and Confirm Password. It also features dropdown menus for User and Dhaka, and a list of locations: Dhaka, Rajshahi, and Chattogram. At the bottom of the form are buttons for Sign In and Back.

BookOrdering System

Home Products About Us Feedback Cart Orders Log In Sign Up

Sign In To **Book** Ordering System

rohan@gmail.com

.....

Sign In

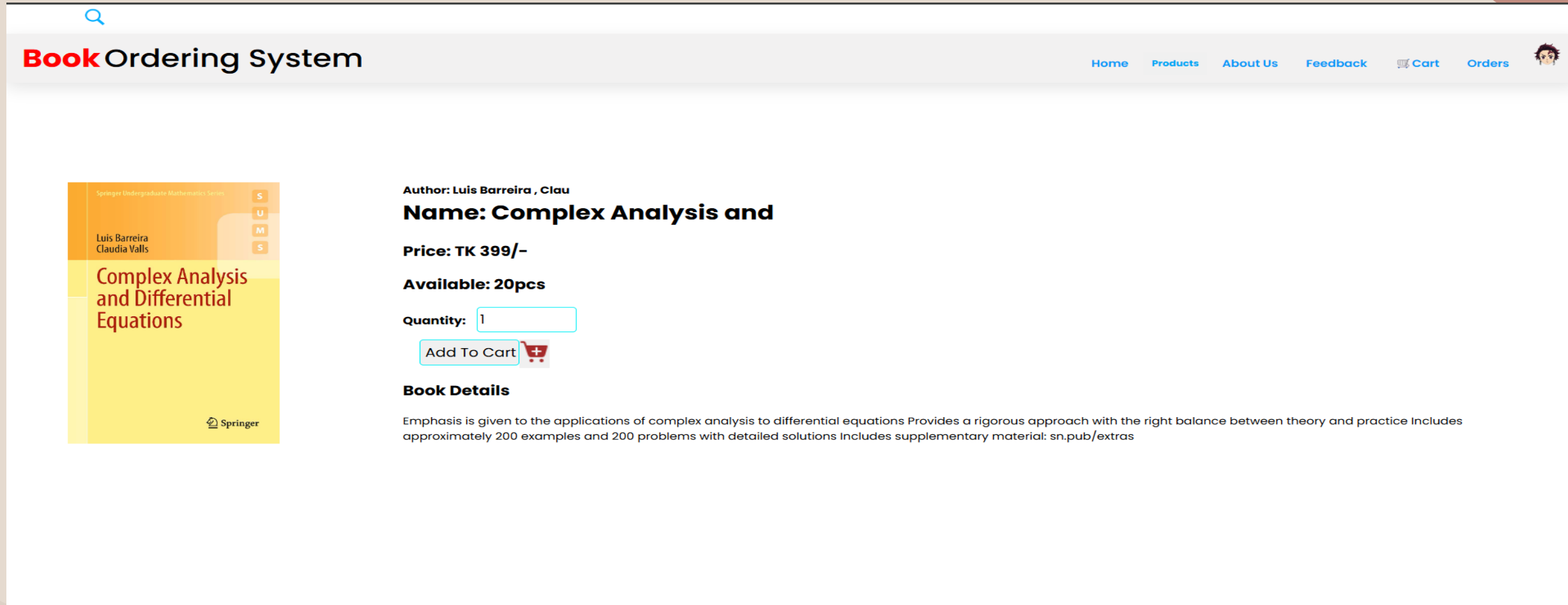
Don't have an Account?

Sign Up Back

The login form is displayed on a webpage with a background image of a desk with books, pencils, and glasses. It includes input fields for Email and Password. Below the password field is a Sign In button. At the bottom, there is a link for Don't have an Account? with buttons for Sign Up and Back.

System Architecture

Book Module: Search, browse, and add to cart.



System Architecture

Order Module: Order processing and tracking.

The screenshot shows the 'Book Ordering System' cart page. At the top, there's a navigation bar with links: Home, Products, About Us, Feedback, Cart, and Orders. The main content area features a table with columns: Image, Name, price, Quantity, and Total (). A single item is listed: 'Programming With C++' with a price of 350 and a quantity of 3. A 'Remove' button is next to the quantity. Below the table, a blue bar shows the 'Total' as 'TK 1050/-'. At the bottom, there are two buttons: 'Proceed To Checkout' (orange) and 'Continue Shopping' (blue).

Image	Name	price	Quantity	Total ()
	Programming With C++	350	3 Remove	1,050
Total		TK 1050/-		

The screenshot shows the 'Place Your Order Here' page with a success message 'order placed successfully!' in a red box. The page has a navigation bar with links: Home, Products, About Us, Feedback, Cart, and Orders. Below the message, there's a section titled 'Place Your Order Here' with the subtitle 'Just One Step away from getting your books'. The main content area is divided into three sections: 'Billing Address' with fields for Full Name and Email; 'Books In Cart' showing 'your cart is empty' and 'Grand total : TK 0/-'; and 'Payment' with 'Accepted Payment Gateways' and a Visa logo.

The screenshot shows the 'Place Your Order Here' page with a detailed form. The page has a navigation bar with links: Home, Products, About Us, Feedback, Cart, and Orders. Below the navigation bar, there's a section titled 'Place Your Order Here' with the subtitle 'Just One Step away from getting your books'. The main content area is divided into three sections: 'Billing Address' with fields for Full Name, Email, Number, Address, City, State, Country, and Pincode; 'Books In Cart' showing 'Programming With C++' with a price of 350 and a quantity of 3, and 'Grand total : TK 1050/-'; and 'Payment' with 'Accepted Payment Gateways' and a Visa logo. A 'Choose Payment Method' dropdown menu is open, showing options: Cash on delivery, Debit card, Credit card, Rocket, and Blash. A 'Continue to checkout' button is at the bottom.

System Architecture


Admin Module: Inventory management and order supervision.

BookOrdering System

Admin Pannel

HomeAdd BooksOrdersMessageUsers


Hello adminlogout



Number Of Pending Orders

ord: 16 TK: 3688


Details



Number Of Completed Orders in TK

16546


Details



Number Of Books Available

17


See BooksAdd Books



Number Of Users Queries

0


Details



Number Of Registered Admins

1


Details



Number Of Registered Users

16

Details



Today Sales

0

Details

PLACED ORDERS

Order Date : 19-May-2025

Order Id : #35

Name : Rone

Mobile Number : 1751572586

Email Id : sho@gmail.com

Address : Rajbari Sadar, Rajbari, Dhaka, Dhaka, Bangladesh - 1268

Payment Method : cash on delivery

Your orders : Seventh Sun #93,(1)

Total price : TK 560.00/-

Payment Status : pending

Update

Delete

Order Date : 24-May-2025

Order Id : #0

Name : Mr. Ali Azgar

Mobile Number : 1

Email Id : aliazgar@cse.bubt.edu.bd

Address : Eastern Housing, Mirpur, Dhaka, Bangladesh - 1216

Payment Method : cash on delivery

Your orders : Programming With C++ #98,(3)

Total price : TK 1050.00/-

Payment Status : pending

Update

Delete

21

System Architecture

Admin Module: Adding books.

Book Ordering System
Admin Pannel

HomeAdd BooksOrdersMessageUsers

Hello adminlogout

See All Books

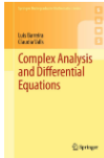
Add Books To Books For You

Adventure

Choose File

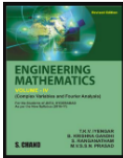
No file chosen

Add Book



Aurthor: Luis Barreira , Clau
Name: Complex Analysis And
Price: TK 399/-

UpdateDelete



Aurthor: Dr. T K V Iyengar, D
Name: Engineering Mathemat
Price: TK 500/-

UpdateDelete



Future Work

- **AI-Based Book Recommendations**

Personalized suggestions based on user activity.

- **Real-Time Inventory Updates**

Instant stock synchronization across all nodes.

- **Mobile App Development**

Cross-platform apps for Android and iOS users.

- **Chatbot for Customer Support**

24/7 automated help for quick issue resolution.

- **Integration with E-Payment Gateways**

Smooth and secure online transactions.

- **Add More Branches**

Expand system architecture by adding more server nodes to increase availability and scalability.



References

- 1) Guclu, M., Bakir, C., & Hakkoymaz, V. (2020). A New Scalable And Expandable Access Control Model For Distributed Database Systems In Data Security. Scientific Programming, 2020.
- 2) Dheeba, J., Singh, N. A., & Selvi, S. T. (2014). Computer-aided Detection Of Breast Cancer On Mammograms: A Swarm Intelligence Optimized Wavelet Neural Network Approach. Journal Of Biomedical Informatics, 49, 45–52.
- 3) Shen, R., Yan, K., Tian, K., Jiang, C., & Zhou, K. (2019). Breast Mass Detection From The Digitized X-ray Mammograms Based On The Combination Of Deep Active Learning And Self-paced Learning. Future Generation Computer Systems, 101, 668–679.
- 4) Qi, X., Zhang, L., Chen, Y., Pi, Y., Chen, Y., Lv, Q., & Yi, Z. (2019). Automated Diagnosis Of Breast Ultrasonography Images Using Deep Neural Networks. Medical Image Analysis, 52, 185–198.
- 5) Wilkinson, I., & Graves, M. (). Magnetic Resonance Imaging: In: Adam A, Dixon Ak, Gillard Jh, Schaeferprokop Cm, Eds. Grainger & Allison's Diagnostic Radiology: A Textbook Of Medical Imaging.
- 6) Hossam, A., Harb, H. M., & Abd El Kader, H. M. (2018). Automatic Image Segmentation Method For Breast Cancer Analysis Using Thermography. Journal Of Engineering Sciences, 46, 12–32.

A stylized, dark grey leaf graphic with several pointed, elongated shapes, positioned in the upper left corner of the slide.

Thank You

Two thin, white, curved lines that sweep across the bottom left of the slide, partially overlapping the grey and beige background areas.

Do You Have Any Question???