Online Book Store

DBS PROJECT

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TEAM ETHEREAL

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Introduction

An online bookstore software project that acts as a central database containing various books in stock along with their title, author and cost. This project is a website that acts as a central book store. This web project is developed using PHP as the front end and SQL as the back-end. The SQL database stores various book-related details. A user visiting the website can see a wide range of books arranged in respective categories. The user may select the desired book and view its price. The user may even search for specific books on the website. Once the user selects a book, he then has to fill in a form and the book is booked for the user. The software has the following three main components:-

1. Implement the new user to register and log in.
2. Implement user to choose any book.
3. Implement the user to buy books.

Problem Definition & Scope

For the project, we propose to build an online bookshop for People. The online bookshop will contain stories, study material, any courses books like computers and be available to everyone. Many students find textbooks too expensive to buy at school bookstores and many courses only use the required textbooks a few days in a semester. This becomes very wasteful and frustrating for students & others people. This online bookstore provides a solution to this. It will provide a service in which students can buy books online without any trouble. There will be free shipping. They do need to register with the site in order to book. Payment information will be requested after adding any number of books to the cart.

Website Name Significance

e·the·re·al

[əˈTHirēəl] *adjective*

extremely delicate, light, not of this world

Specifications

1) A Home page with a product catalogue

This is the page where the user will be navigated after a successful login. It will display the latest books 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 can either be the book title or author name or publisher name.

3) Advanced Search

Advanced search helps the user to search for a book based on Title, Author, Category and Price. 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) Sorting Options

The sorting options- ascending and descending orders are both available using which the user can easily sort the books in any order by Title, Author, or Price.

5) 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.

6) Shopping Cart

The user can manage a shopping cart that 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 the website. User can login using the login page and log out using the logout option.

Software and Hardware Requirements

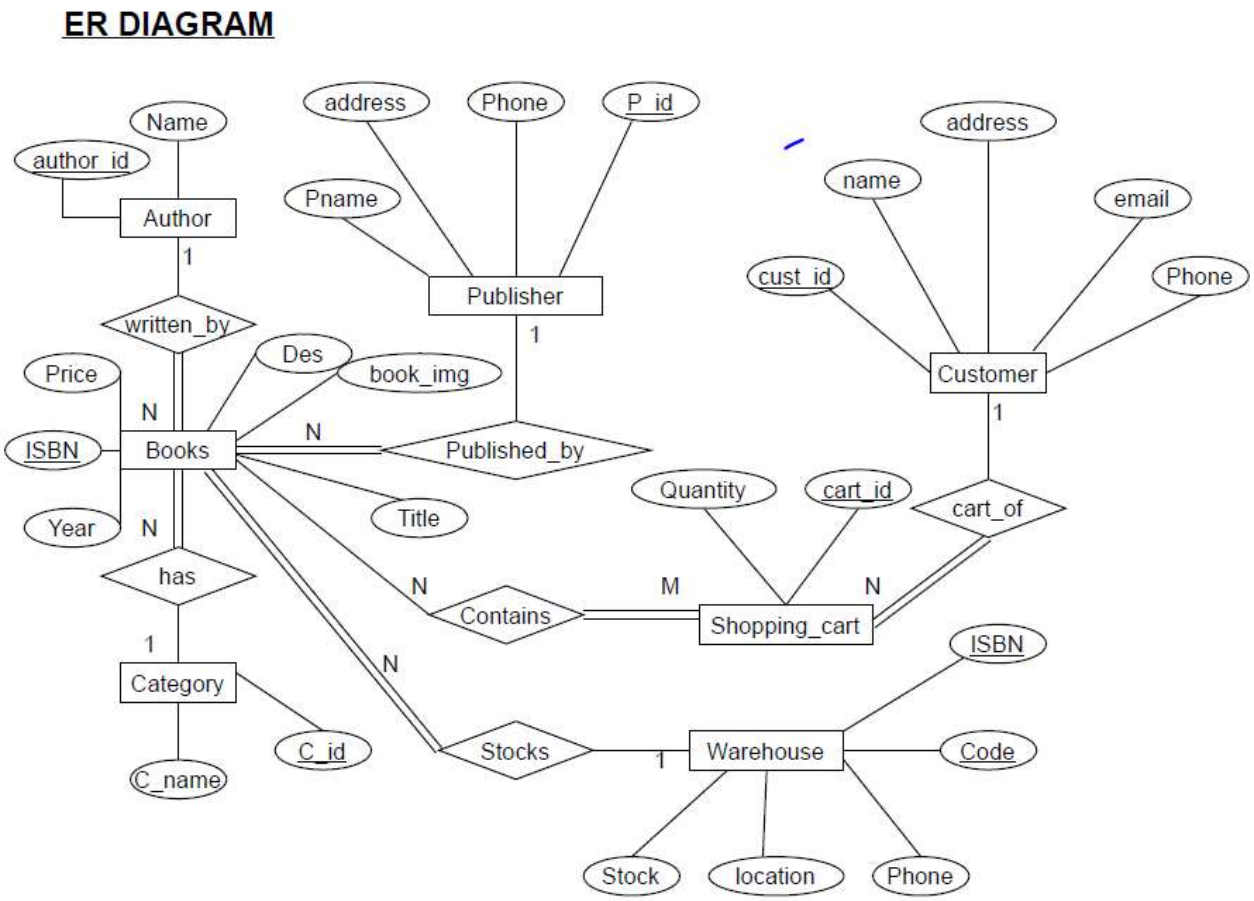
Softwares that were used in this project are Visual Studio Code as the code editor, phpMyAdmin as the tool base, MySQL for creating the database and Lucid charts for making the ER diagram, and a Windows OS. Hardware requirements would be a PC, mouse, keyboard, monitor etc.

The frontend was made using HTML, PHP and the Backend used MySQL database.

Design & Methodology

Application using HTML, CSS and PHP is developed. It has a login page and a home page that allows a user to log in or register (for new users), browse books by searching them by categories or by sorting them in ascending or descending order by their titles or prices, add them to cart, see the current as well as old order details, redeem discounts and offers and buy books. As a bonus feature one can also sort the books according to the Author's name. Thus, it is very easy for a user to navigate and browse the UI. This application must be connected to a MySQL server where we would create tables from the schema after normalization.

ER Diagram


ER DIAGRAM
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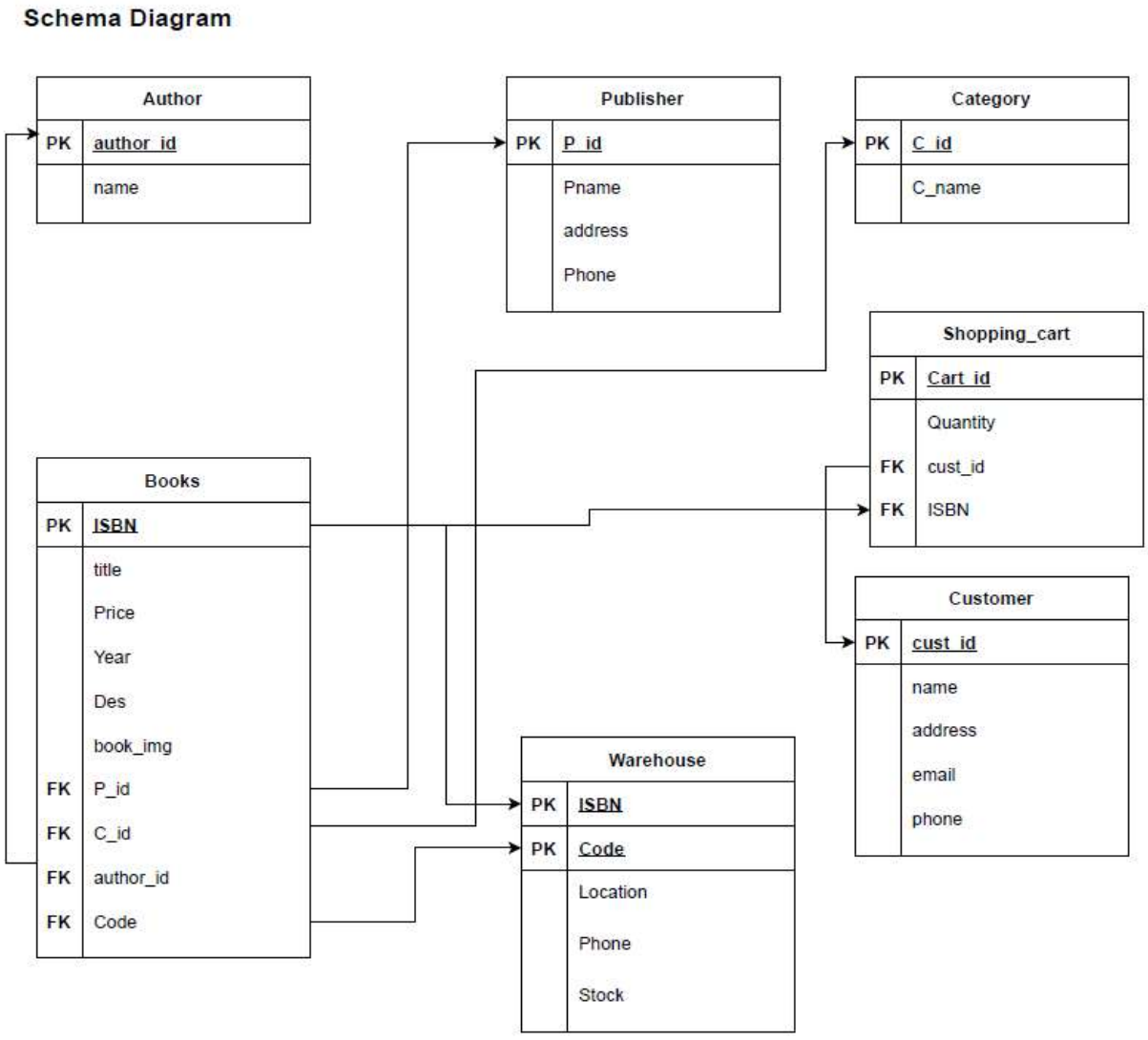
Schema Diagram



Steps to convert ER to Schema :

1) Books and Author are in N to 1 relationship with Books having total participation. So, the primary key in the Author is included as the Foreign key in the Books table.

2) Books and Category are in N to 1 relationship with Books having total participation. So, the primary key in the Category is included as a Foreign key in the Books table.

3) Books and Publisher are in N to 1 relationship with Books having total participation. So, the primary key in the Publisher is included as the Foreign key in the Books table.

4) Shopping_cart and Customer are in N to 1 relationship with Shopping_cart having total participation. So, the primary key in the Customer is included as a Foreign key in the Shopping_cart table.

5) Books and Warehouse are in N to 1 relationship with Books having total participation. So, the primary key in the Warehouse is included as a Foreign key in the Books table.

6) Books and Shopping_cart are in N to M relationship with Shopping_cart having total participation. So, the primary key at Books is included in Shopping_cart.

* where N and M means many

Table Queries

Author

```
CREATE TABLE author(
author_id int,
name varchar(100),
PRIMARY KEY(author_id)
);
insert into author values(1300,'Behrouz A. ForouZan');
insert into author values(1301,'William Stallings');
```

Category

```
CREATE TABLE category (
c_id int,
cname varchar(100),
PRIMARY KEY(c_id)
);
insert into category values(2200, 'Cyber Security');
insert into category values(2201, 'DataBase');
```

Publisher

```
CREATE TABLE publisher(
p_id int,
pname varchar(100),
phone bigint,
address varchar(200),
PRIMARY KEY(p_id)
);
```

insert into publisher values(1800, 'McGraw Hill Education', 18001035875, 'McGraw Hill (India) Private Limited, B-4, SECTOR - 63, NOIDA, Gautam Buddha Nagar, Uttar Pradesh - 201301');

insert into publisher values(1805, 'Prentice Hall', 1143031100, 'Prentice-Hall of India Publications, Rimjhim House, 111 Patparganj Industrial Estate, New Delhi - 110092');

Books

```
CREATE TABLE Books (
  ISBN varchar(100),
  title VARCHAR(100),
  des VARCHAR(500),
  year int,
  author_id int,
  c_id int,
  p_id int,
  price int,
  book_img VARCHAR(100),

PRIMARY KEY(ISBN),
FOREIGN KEY (author_id) REFERENCES author(author_id),
FOREIGN KEY (c_id) REFERENCES category(c_id),
FOREIGN KEY (p_id) REFERENCES publisher(p_id)
);
```

insert into Books values('978-0-07-066046-5', 'Cryptography and Network Security', 'A textbook for beginners in security. A gentle introduction to the fundamentals of number theory is provided in the opening chapters, paving the way for the student to move on to more complex security and cryptography topics.', 2007, 1300, 2200, 1800, 8999, 'https://imgur.com/a/LvcD10M');

insert into Books values('978-0-13-408504-3', 'Security in Computing', 'This book offers complete coverage of all aspects of computer security, including users, software, devices, operating systems, networks, law and ethics.', 2014, 1305, 2200, 1805, 2499, 'https://imgur.com/a/223P8Dv');

Shopping_cart

Create table shopping_cart(

cart_id int,

quantity int,

total_price int,

cust_id int,

items varchar(500),

Primary key(cart_id)

);

- Values dynamically inserted through website using code:

```
$stmt->bind_param("ssss",$quantity,$total_price,$cust_id,$items);
```

Customer

Create table customer(

cust_id int,

name varchar(60),

address varchar(150),

email varchar(50),

phone bigint,

password varchar(100),

Primary Key(cust_id)

);

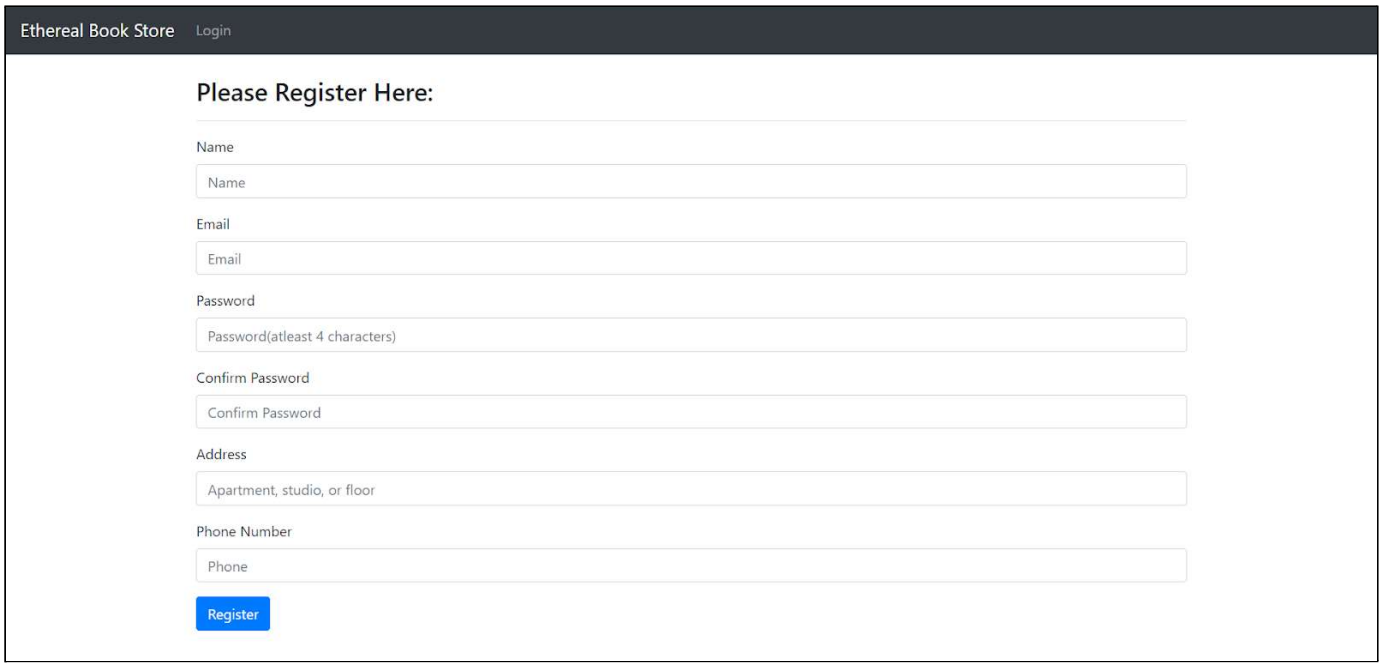
- Values dynamically inserted through website using code:

```
$sql = "INSERT INTO Customer (name, email, password, phone, address)
VALUES (?, ?, ?, ?, ?)";

mysqli_stmt_bind_param($stmt, "sssss", $param_name, $param_email,
$param_password,  $param_phone, $param_address);

$stmt->execute();
```

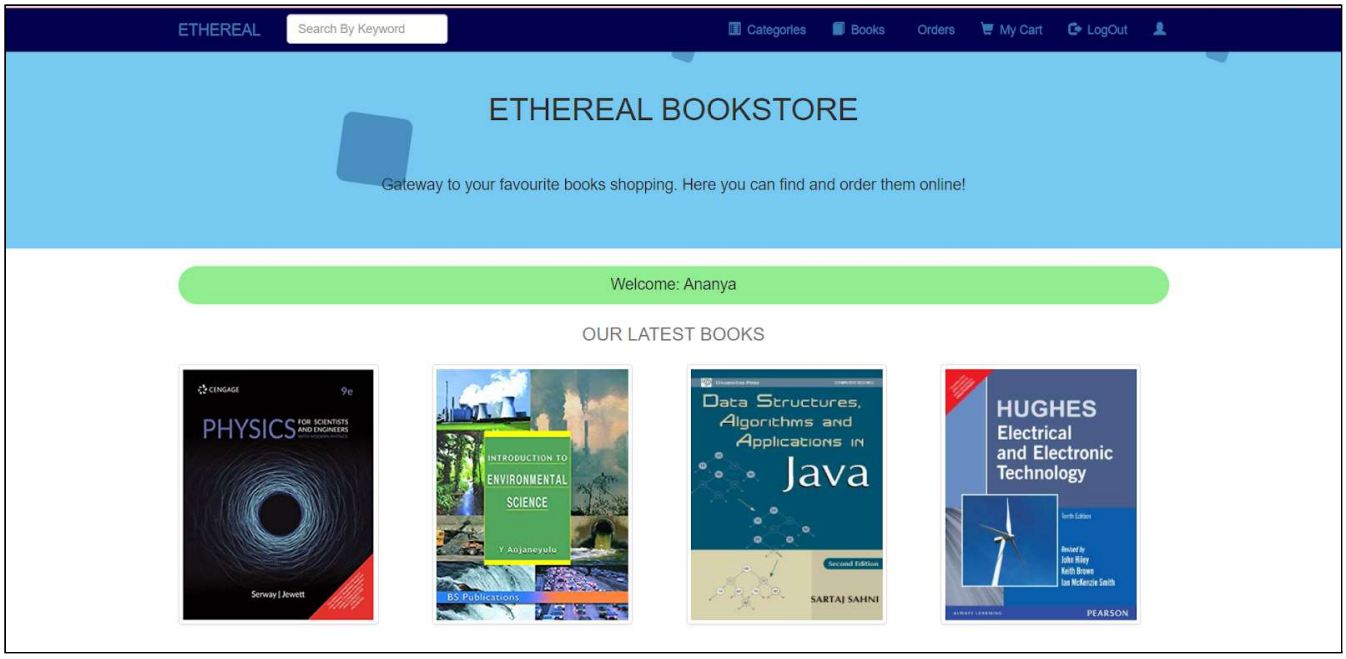
User Interface (UI)

Login Page (For existing users)

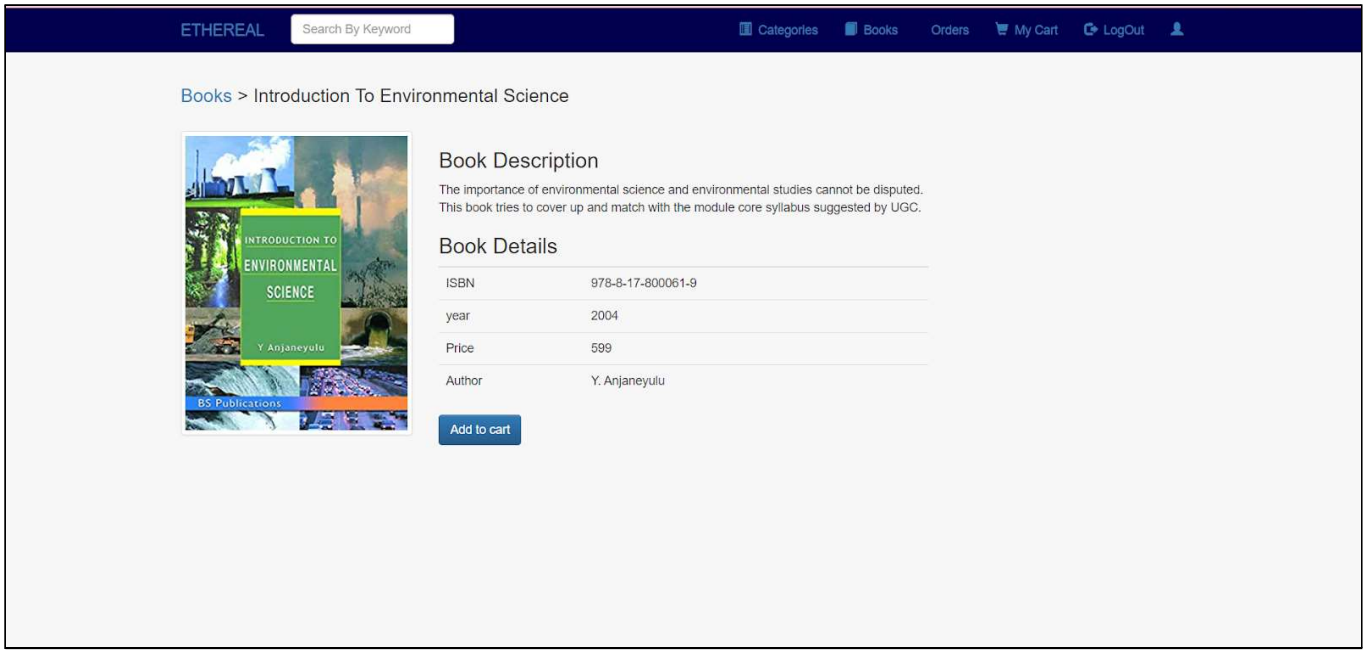
Registration Page (For new users)



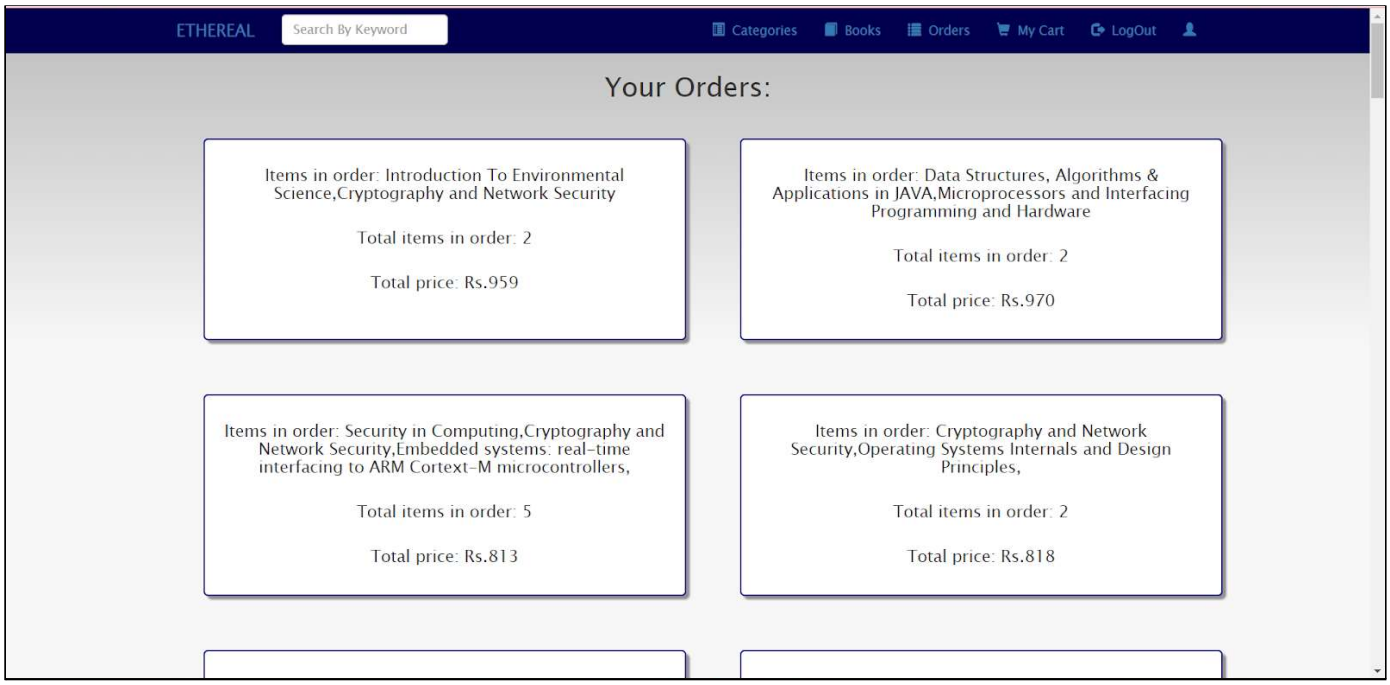
Landing page for the website



Book Description & Details



Order Summary



Here we can see the different orders placed by the customers.

Each order has details such as:-

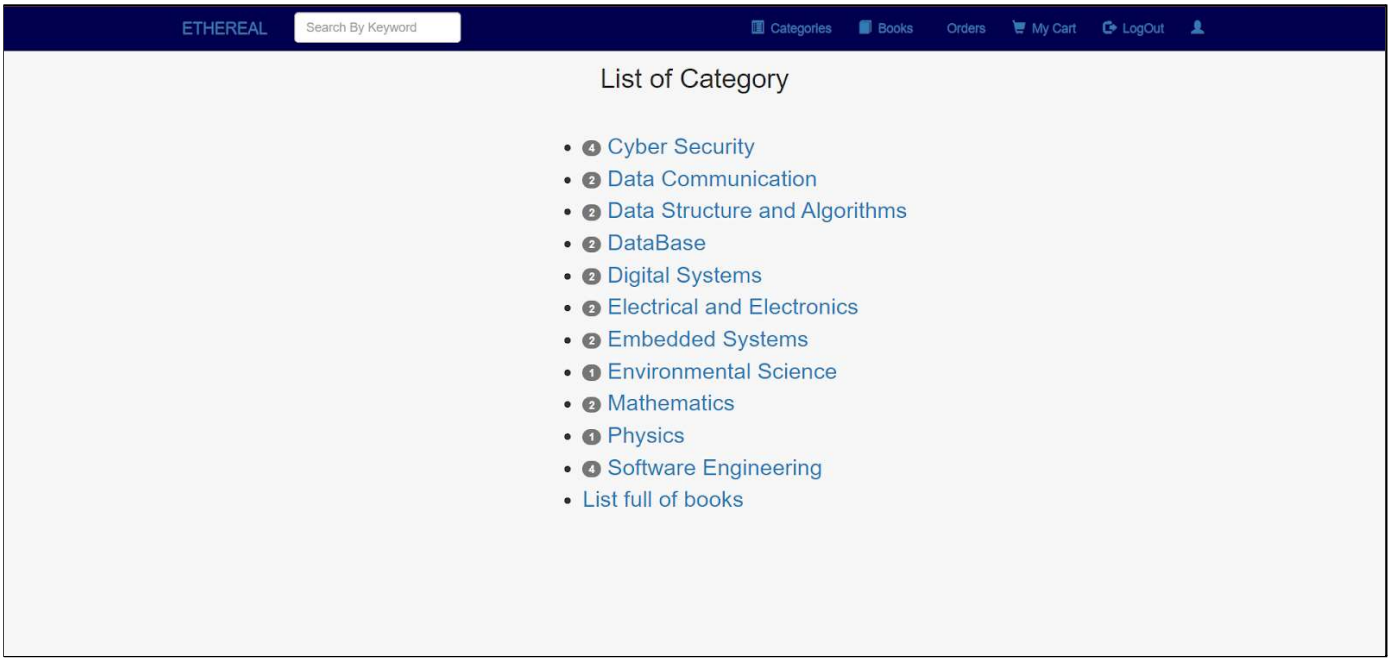
a) Items (Books) in the order

b) Total number of items in the order

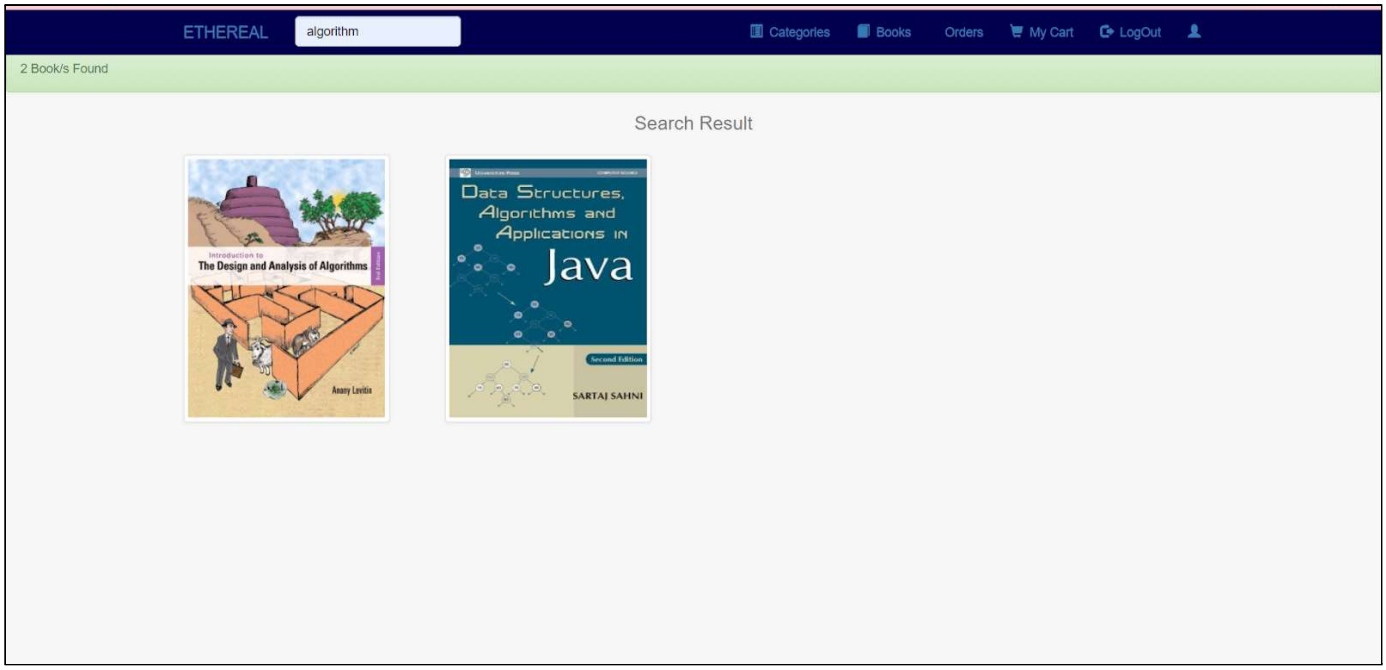
c) Total Price of the order

This makes it easier for the user to keep a track of all his/her existing orders and the old orders.

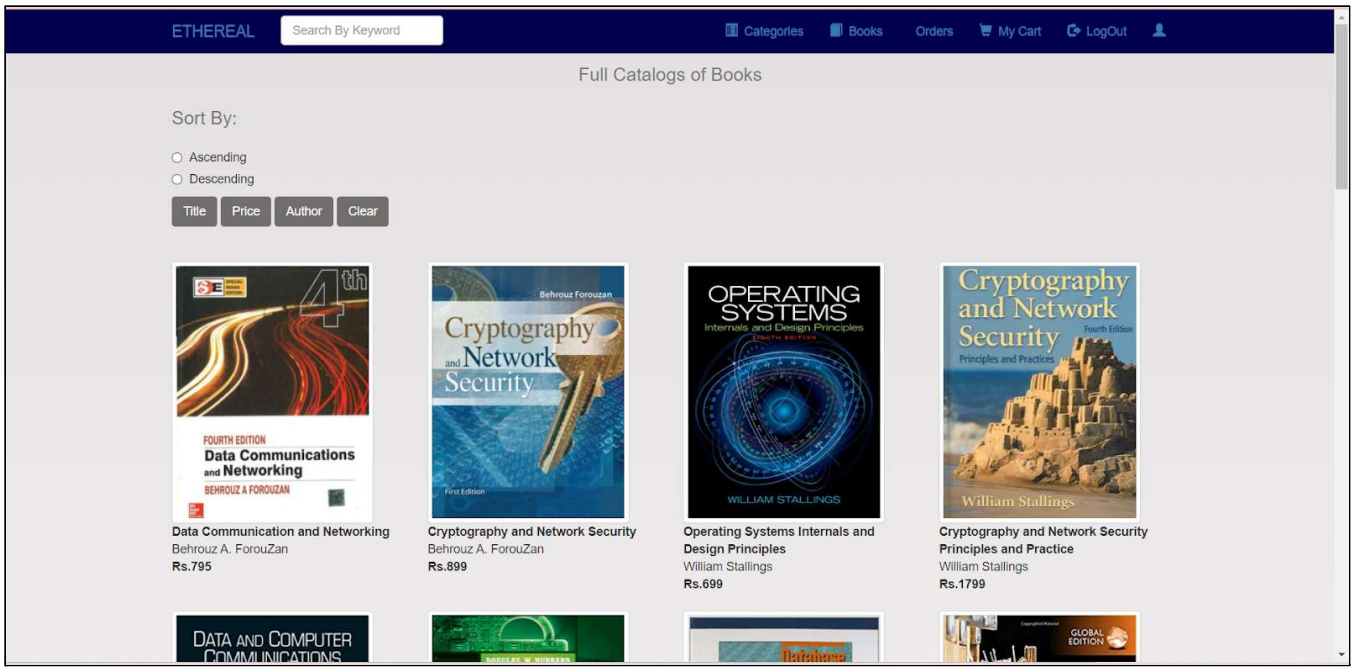
Browsing by: Categories



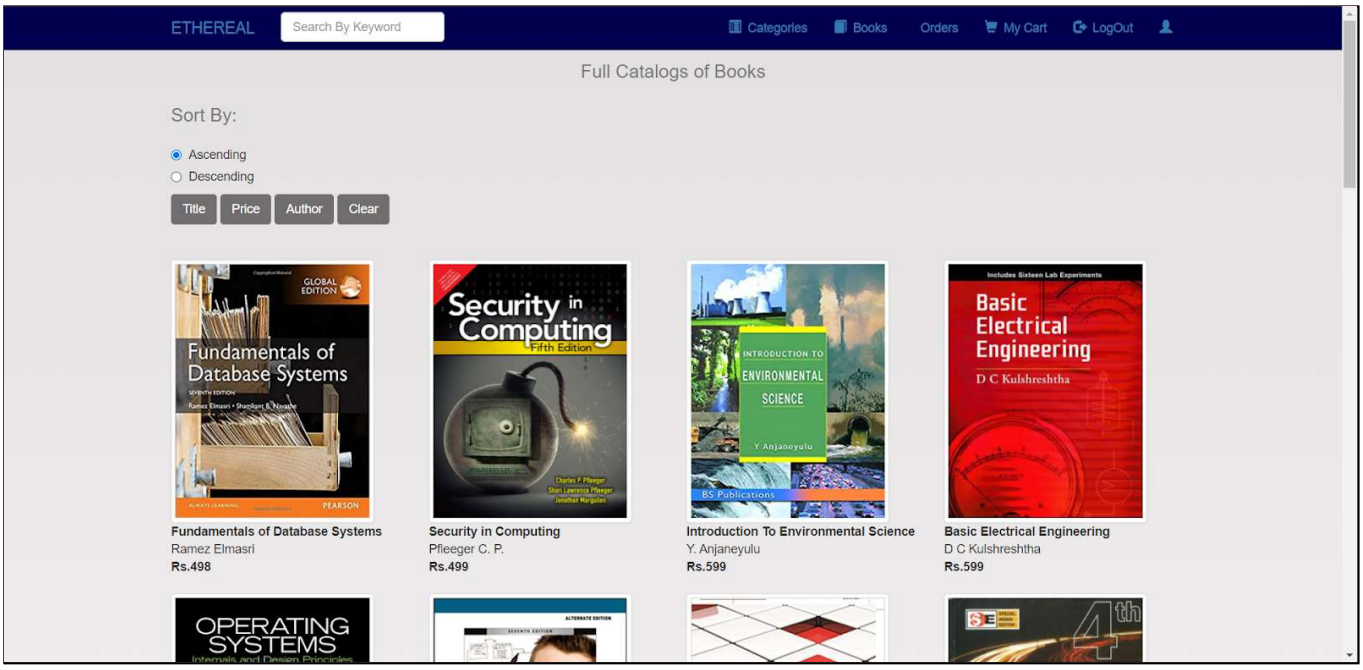
Selecting 'Data Structures And Algorithms' results-



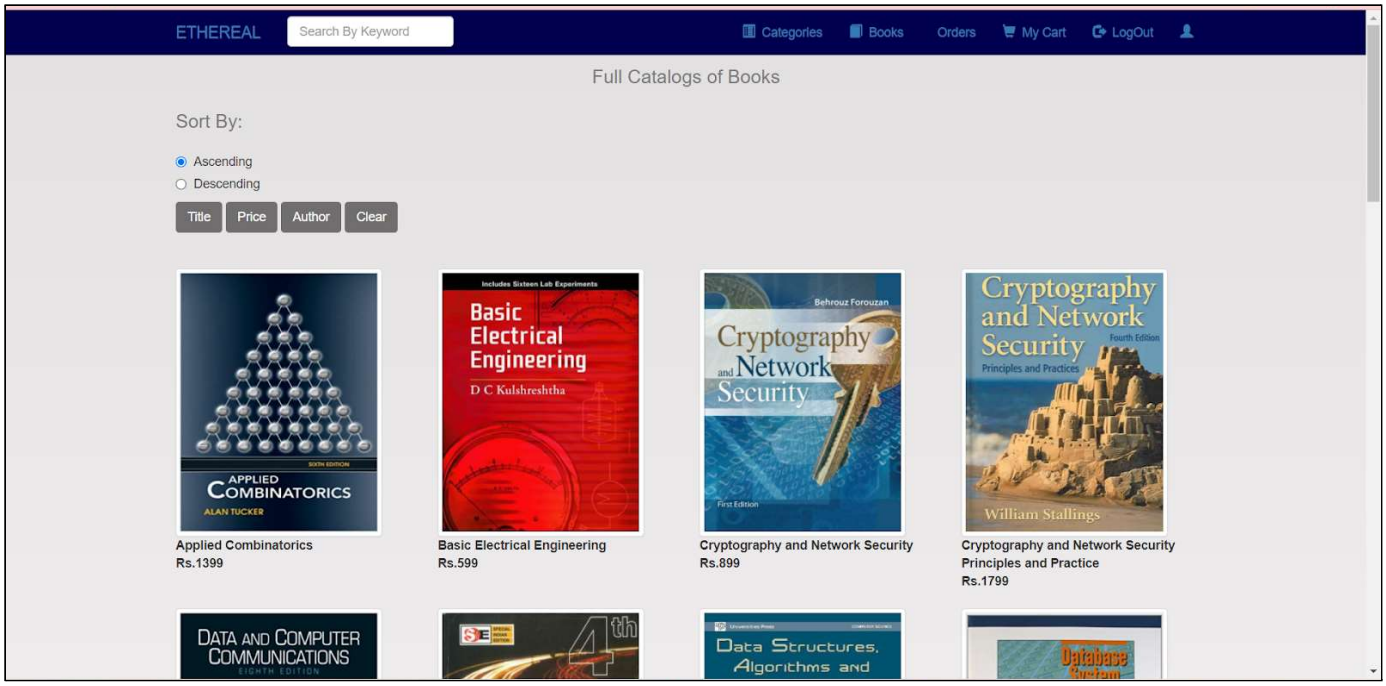
Sorting Descending based on Price:



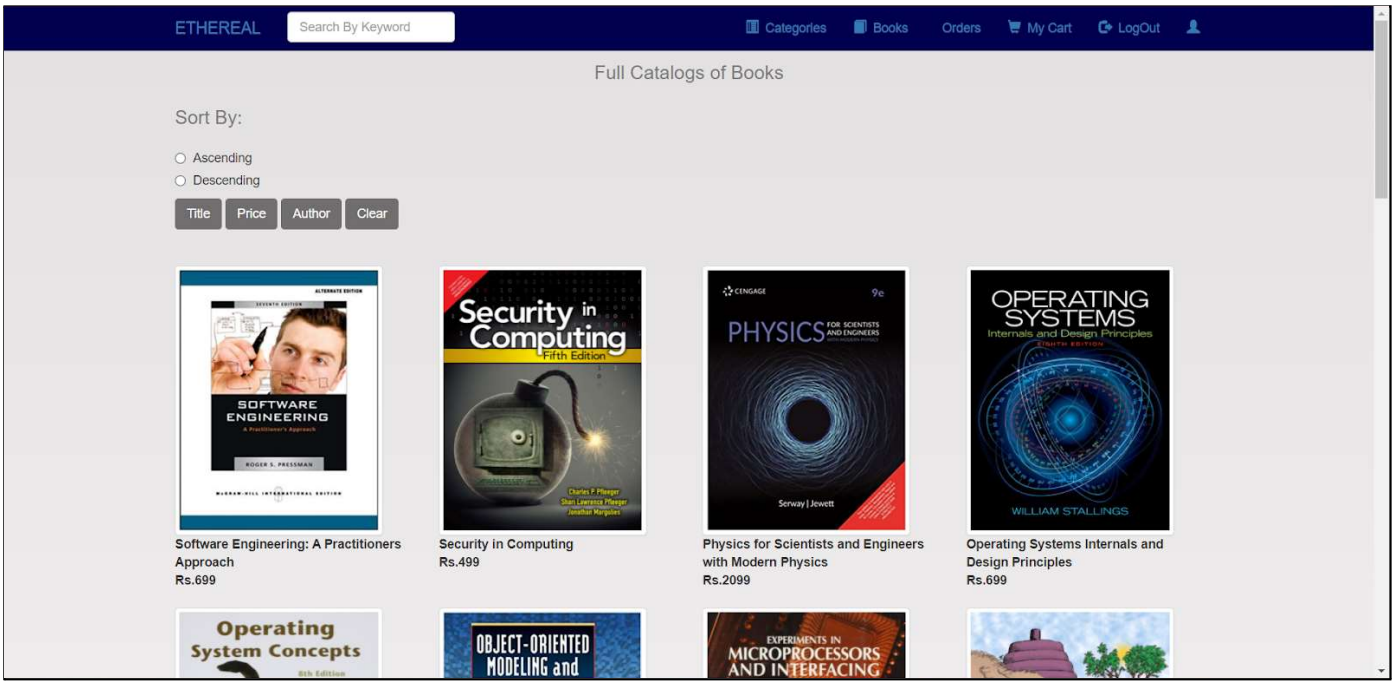
Sorting Ascending based on Price:



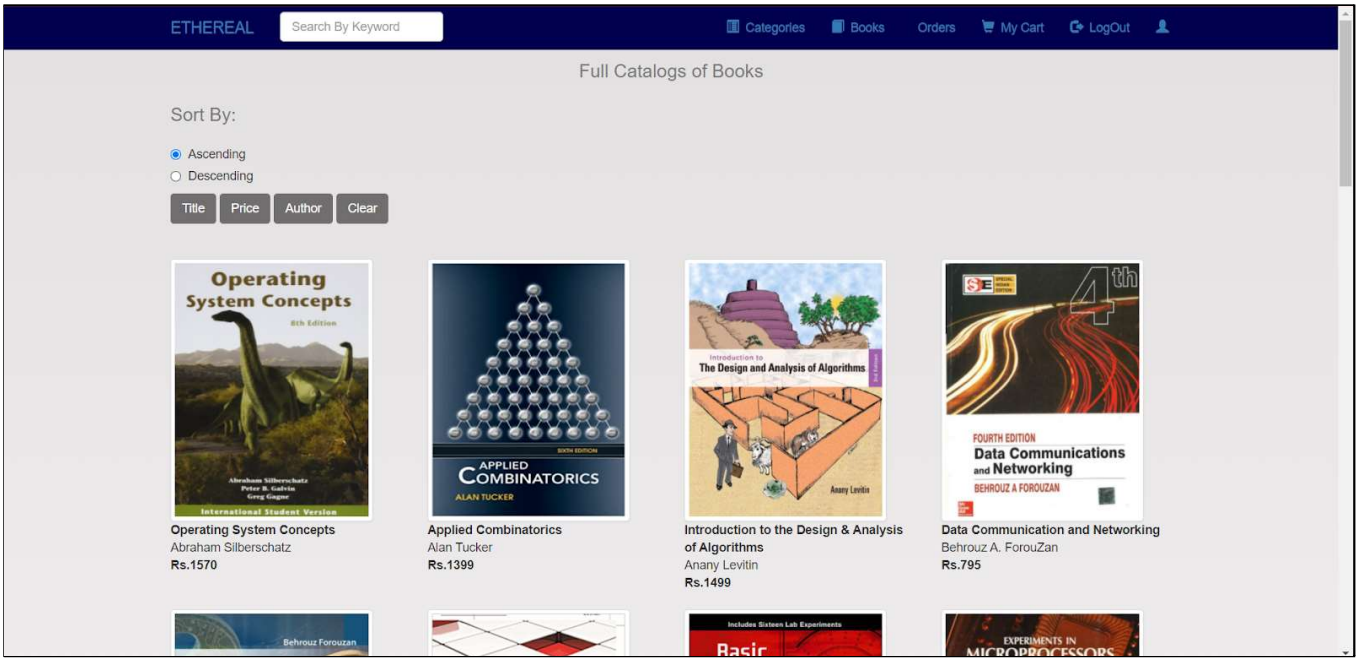
Sorting Ascending based on Title:



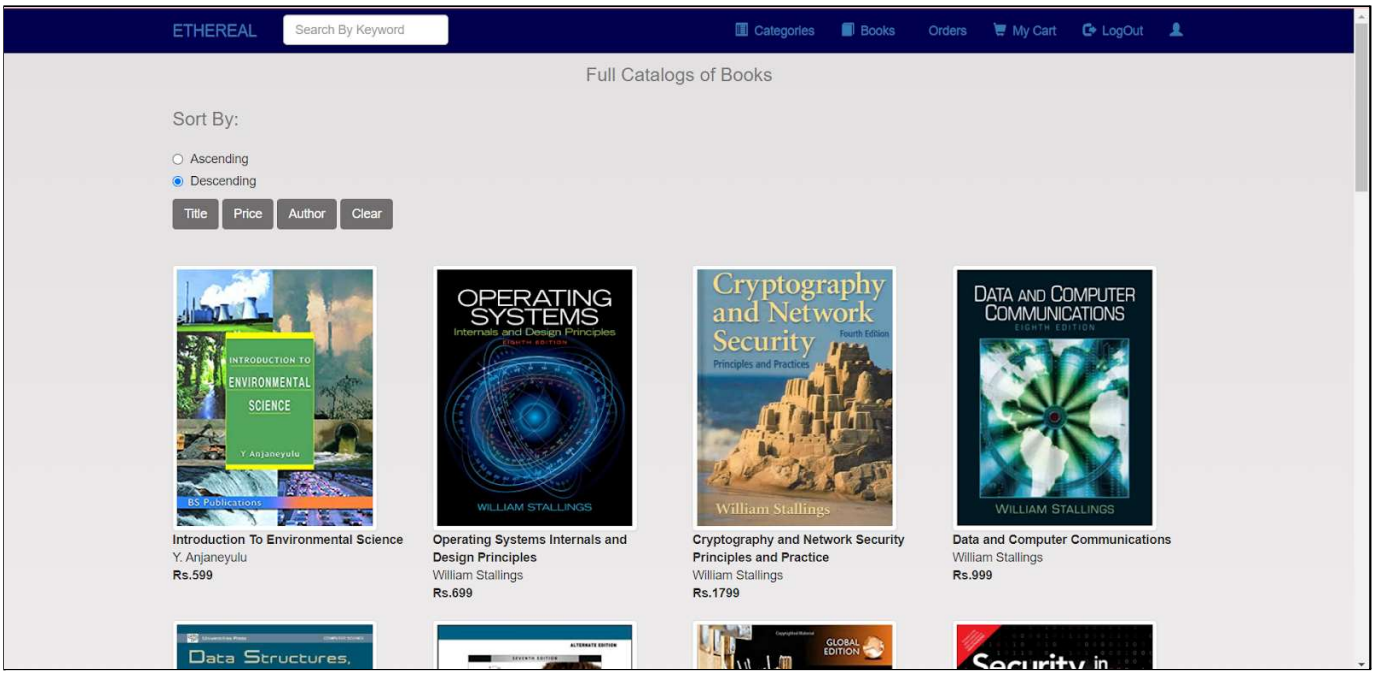
Sorting Descending based on Title:



Sorting Ascending based on Author's Name:



Sorting Descending based on Author's Name:



PL/SQL

Procedure used

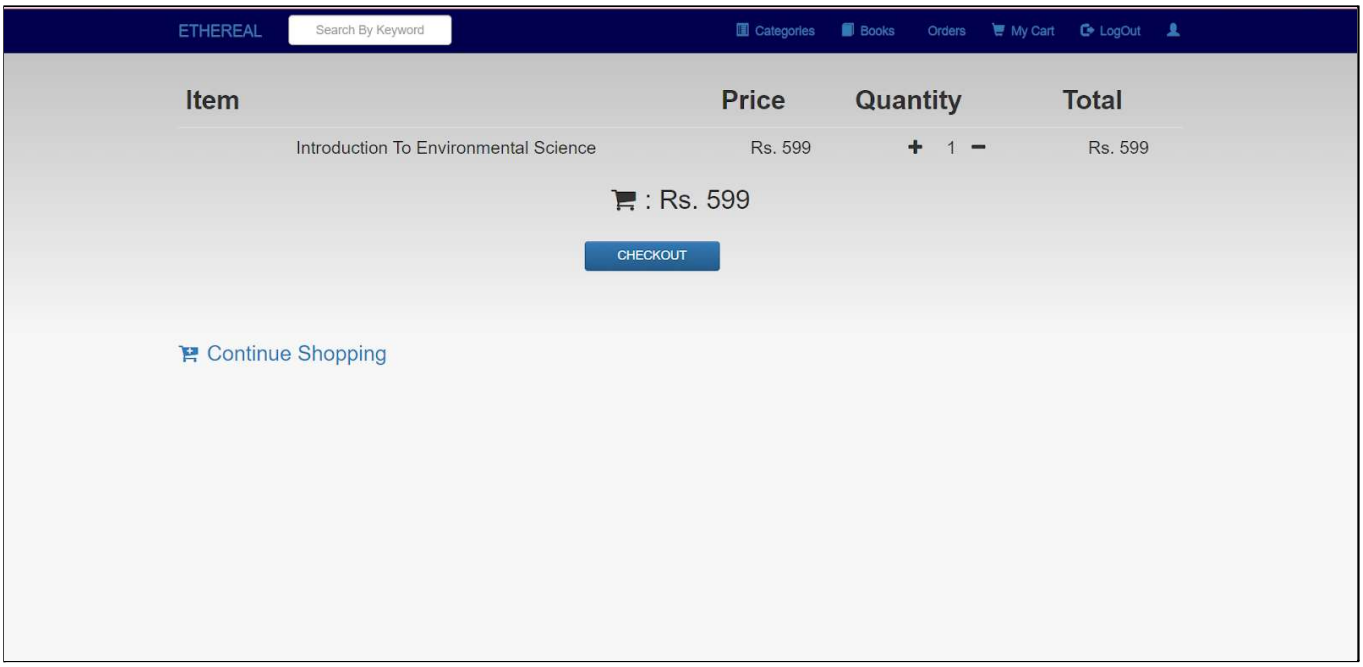
(To give a discount of 20% on the total amount which is more than Rs.1000)

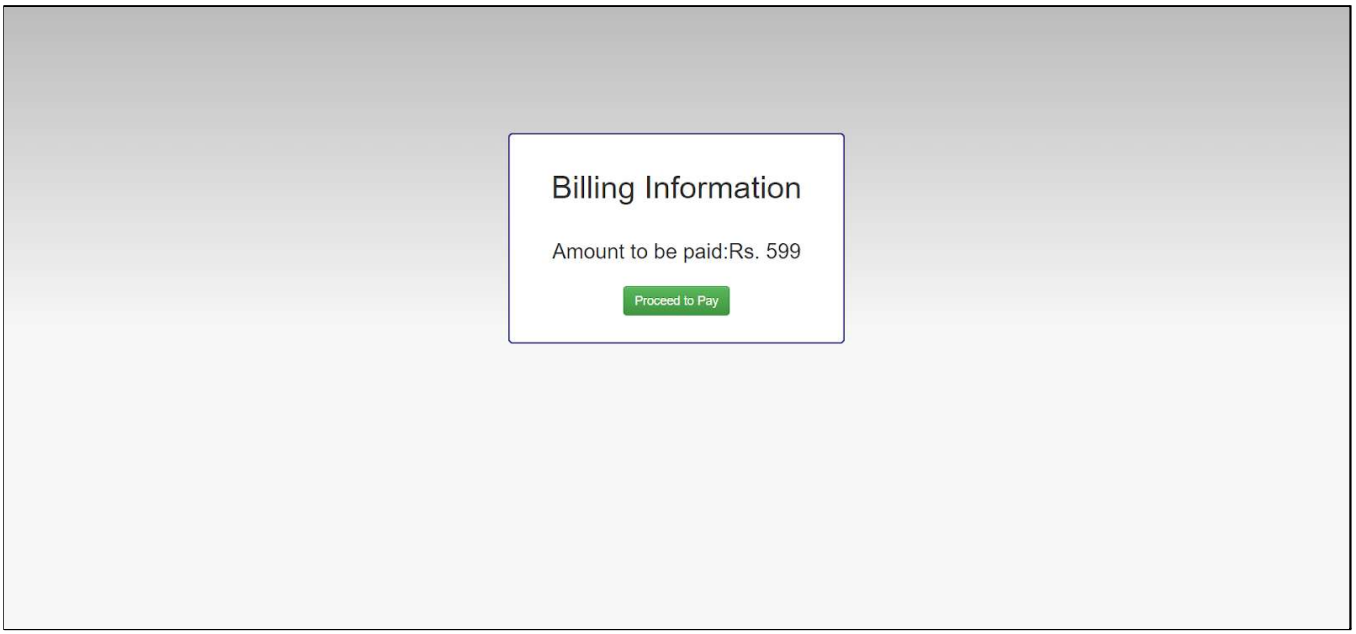
```
CREATE OR REPLACE amt_check
IS
BEGIN
        UPDATE shopping_cart SET total_price=total_price*0.8 WHERE total_price>1000;
END;
```

```
$sql=" CALL 'amt_check' (); ";
```

When Total Amount is less than Rs.1000, No discount is applied

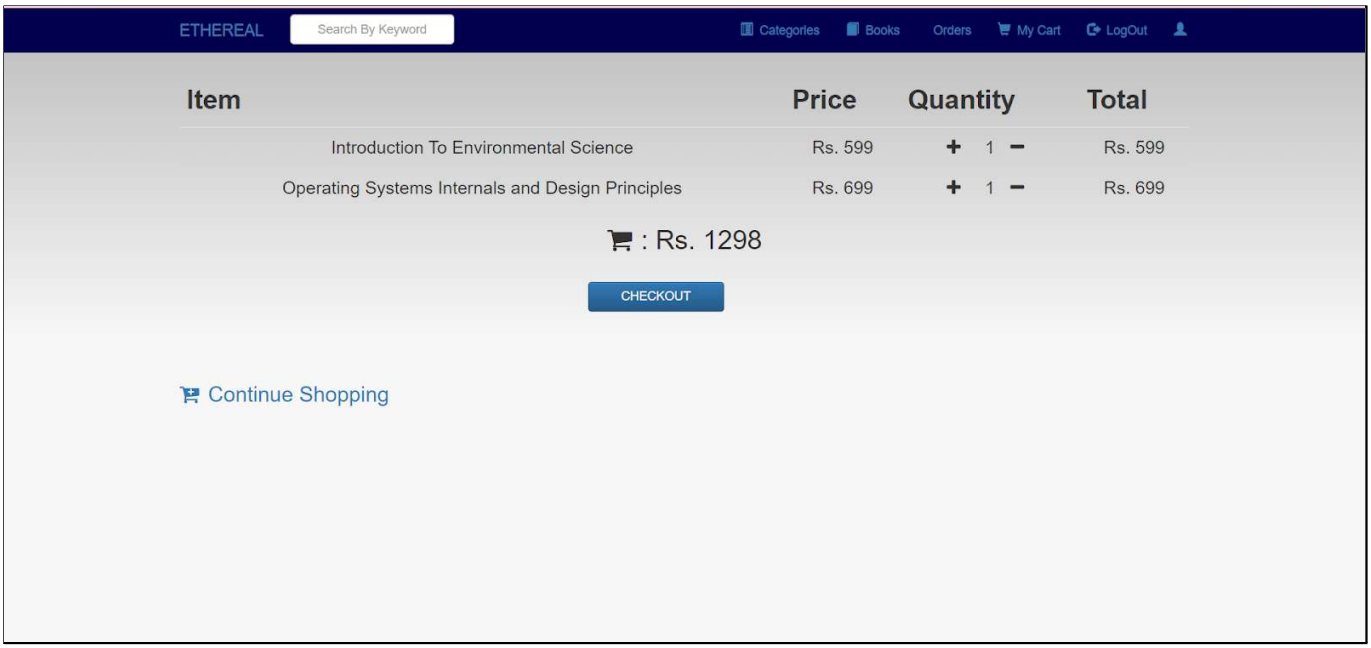
Procedure does not perform any change since billing amount is < Rs.1000

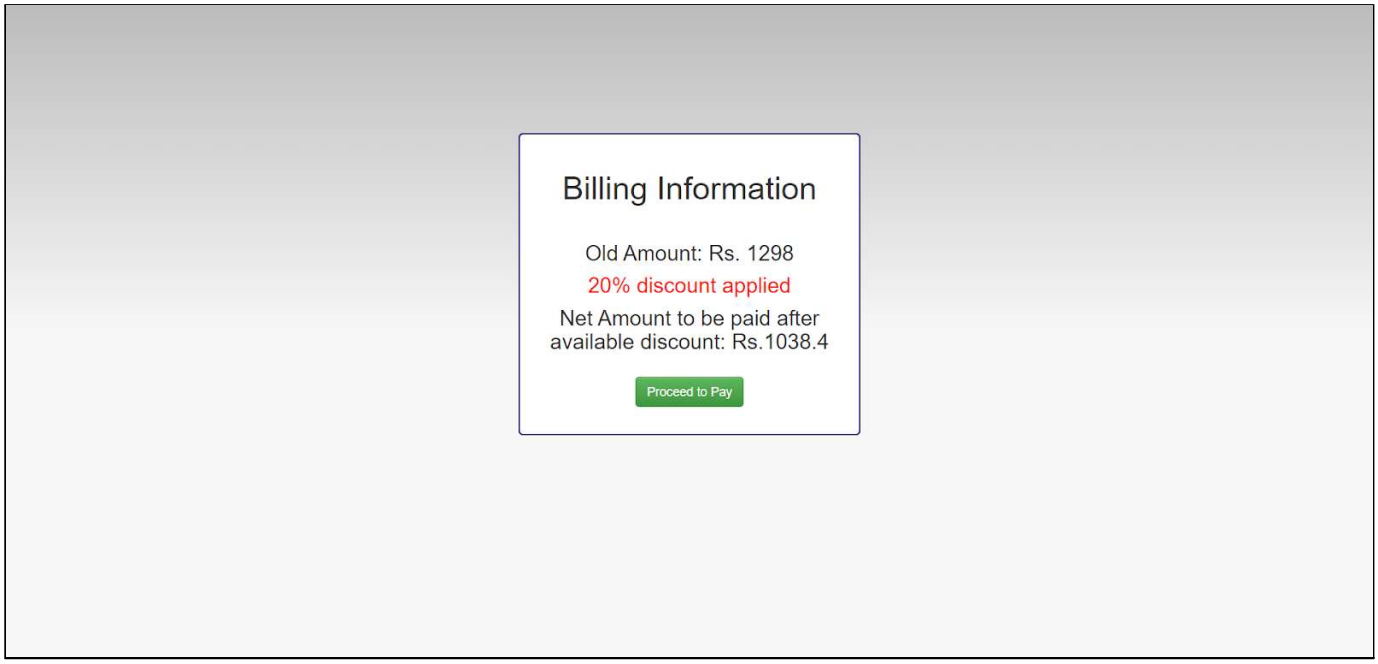




When the Total Amount is more than Rs.1000, a discount of 20% is applied

The discount is applied through the procedure defined above since billing amount is > Rs.1000





Trigger used

(To check whether the phone number entered is 10 digits)

```
CREATE TRIGGER phone_check BEFORE INSERT ON customer
FOR EACH ROW BEGIN
IF length(new.phone) != 10 THEN
SIGNAL SQLSTATE '45000' SET MESSAGE_TEXT='Phone number length should be 10';
END IF;
END;
```

Nested Query used

(To display past orders of a customer logged in with a particular email)

```
SELECT  * FROM shopping_cart WHERE cust_id IN (SELECT cust_id FROM customer WHERE email='$email';
$email=$_SESSION["user"]
```

Where, $_SESSION["user"] defines the email id of the logged-in user

Results

A highly efficient working application compatible with any OS with MySQL installed was created that can perform all the user requirements. This component can be plugged into many other systems.

The fluid and beautiful UI encaptivates users and boosts their experience, especially while browsing.

Conclusion

The Internet has become a major resource in modern business, thus electronic shopping has gained significance not only from the entrepreneur's but also from the customer's point of view. For the entrepreneur, electronic shopping generates new business opportunities and for the customer, it makes comparative shopping possible. Hence we have designed the project to provide the user with easy navigation. In this project, the user is provided with an eCommerce website that can be used to buy books online. To implement this as a web application we used PHP as the Technology. PHP (XAMPP) has several advantages such as enhanced performance, scalability, built-in security and simplicity. MySQL was used as a back-end database since it is one of the most popular open-source databases, and it provides fast data access, easy installation and simplicity.

A good shopping cart design must be accompanied by user-friendly shopping cart application logic. It should be convenient for the customer to view the contents of their cart and to be able to remove or add items to their cart. The shopping cart application described in this project provides a number of features that are designed to make the customer more comfortable. Here, the consumers can search books by their name or e category. He can even sort the results based on price, name or category. The building of the project has given me precise knowledge about how PHP is used to develop a website, how it connects to the database to access the data and how the data and web pages are modified to provide the user with a shopping cart application.