

**PROJECT REPORT ON**

***“Online Book Store”***

Submitted in partial fulfillment of the requirements for Enterprise Computing Project Lab for 4th Semester

Master of Computer Applications

Submitted by

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**CERTIFICATE**

This is to certify that the project titled ***“Online Book Store”*** has been satisfactorily completed by **Mr.** with **Regno**, in partial fulfillment of the requirements for ***Enterprise Computing Project Lab*** with course code **MCA2P2A41,** for the 4th Semester MCA course during the academic semester from November 2019 to March 2020 as prescribed by Bangalore University.

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**ACKNOWLEDGEMENT**

First of all, we would like to thank the God Almighty for all the blessings he has showered on us. Our spiritual quotient gave us more strength and motivation that helped immensely.

We would like to thank **Rev.** **Dr. Augustine George,** our Principal, for providing us his constant guidance and support. I would also like to thank **Rev. Fr. Lijo P Thomas,** our Financial Administrator, for providing us with the best facilities.

We are extremely thankful to our **Dr. R. Kumar**, Head, Department of Computer Science (PG) for giving us the essential support in the form of allocating comfortable lab hours and necessary resources.

We would like to extend our heartfelt thanks to **Dr. Velmurugan R**, our project guide for providing us the necessary details related to project development and process identification enabling us to finish the project within the stipulated time.

We thank all other faculty members who helped us a lot in completing this project. The computer lab was always open for us. We thank the lab administrator and other technical staff for their help and support.

We thank our class mates, who have pointed out errors and guided us a lot and we thank each and every one who has helped us.

**Synopsis**

**Title of the Project:** Online Book Store

**Introduction**

During the time of COVID 19 pandemic, unpredicted advancements have happened in the platform of online learning. Huge volumes of educational content have been uploaded and accessed across the globe. In India, tons of government examinations are conducted every year. Majority of the people who prepare for these exams, tend to buy the respective subject guides and preparation books. These books are being bought from vendors who sell and resell these books. Once the exam is cleared, these books are sold or thrown away. Our web-based application focuses of buying, renting and selling of the exam preparation books. In this pandemic situation it would be highly convenient for people to rent or buy these books at reasonable rates.

**Definition of the System**

The system will help the customers to buy used exam preparation and guides books of their choice. They can sell their used book at a reasonable price. The system will help the user to identify and choose the book from a variety of choices.

**List of Modules**

Admin

* Account Management – Managing User Accounts.
* Book Management – Managing books, book inventory and details.
* Rent Management – Managing renting system of the books.
* Check books selling request – Check books to be sold by user.
* Request for Books – request for non-available for books.

Users

* Buying - Buying book of their choice.
* Selling – Selling used books by the user.

**Technology**

* FrontEnd
  + HTML
  + CSS
  + JavaScript
* BackEnd
  + JSP
  + MySQL

**CONTENTS**

|  |  |  |
| --- | --- | --- |
| **SI.NO**  **1.**  **2.**  **3.**  **4.**  **5.**  **6.**  **7.**  **8.**  **9.**  **10.**  **11.** | **Description**  **Introduction**   * **Problem Definition** * **Project Description**   **System Study**  **2.1 Existing System**  **2.2 Proposed System**  **2.3 Use Case Diagram**  **2.4 Activity Diagram**  **System Configuration**  **3.1 Hardware Configuration**  **3.2 Software Configuration**  **Details of Software**  **4.1 Overview of Front End**  **4.2 Overview of Back End**  **System Design**  **5.1 Architectural Design**  **5.2 Input Design**  **5.3 Output Design**  **5.4 Database Design**  **Source Code**  **Testing**  **Implementation**  **Screen Shot**  **Conclusion**  **Bibliography** | **Pg. No** |

**Introduction**

**Problem Definition**

During the time of COVID 19 pandemic, unpredicted advancements have happened in the platform of online learning. Huge volumes of educational content have been uploaded and accessed across the globe. In India, tons of government examinations are conducted every year. Majority of the people who prepare for these exams, tend to buy the respective subject guides and preparation books. These books are being bought from vendors who sell and resell these books. Once the exam is cleared, these books are sold or thrown away. Since, due to this pandemic this system is no more functionally available and we feel this system is needed very much since many students prepare for their exams every year.

**Project Description**

In this project, we create an online system where the students can buy used books and can also sell their used book in reasonable prices. The system will help the customers to buy used exam preparation and guides books of their choice. The system will help the user to identify and choose the book from a variety of choices. The user can also send selling requests to admin and the admin can negotiate and buy the book from user and put it to sale in his own price. The online system can help to make the process much easier for others and also to reach the students on a large number scale.

**System Study**

**Existing System**

The existing system contains an offline system which of buying and selling the books. Its simply buying the used books of your own choice from the vendor and selling it if not required. But this system has its own flaws. First, it doesn’t reach out to a bigger audience. Second, searching the books and knowing its availability takes a lot of time. Third, getting access to books are not easy. There are many online websites which allow products and books to be sold and bought second hand like eBay and Amazon. But there is no specific site for exam preparation books. And that’s what we are trying to achieve through our proposed project.

**Proposed System**

In our proposed system, we act as a vendor (admin) and the user can sell the exam preparation books which they are not using, at a reasonable price to the vendor and the vendor can put into the buying section for people to buy. The system also come with the searching module where the user can search for books on the basis of their title, author, publisher, genre, subject and ISBN to access and know the availability of books even faster. This module also belongs in the admin side. The system will contain almost all the features which an ecommerce site provides it.

**Use Case Diagram**

**Activity Diagram**

**System Configuration**

**Hardware Configuration**

|  |  |
| --- | --- |
| **RAM** |  |
| **Hard Disk** |  |
| **Processor** |  |
| **Keyboard** |  |
| **Mouse** |  |

**Software Configuration**

|  |  |
| --- | --- |
| **Operating System** |  |
| **Front-End** |  |
| **Back-End** |  |
| **Tools** |  |
| **Documentation Tool** |  |

**Details of Software**

**Overview of Front End**

For the front-end design, we used **HTML, CSS, JavaScript** to build our view of the system. We used many types of tags with their attributes and CSS attached to them each for our many different views. We used: -

* **<h1> to <h6>** - To displaying headings
* **<p>** - To display the text
* **<a>** - To put a hyperlink
* **<form>** - To create user forms
* **<input type = text, number, date, email, submit>** - To display various inputs each with a type of input.
* **<div>** - To divide and create partitions
* **<img>** - To display images
* **<li>** - To display list
* **<hr>** - To display a horizontal line

And many more tags and attributes which can which can make the view of the system more and more user friendly.

**Overview of Back End**

When we completed the work on frontend it was time to put some actions and make the system working by working on its back-end. We used **JSP (Java Server Pages)** as the the language to make the system into a working system. We thought that JSP can be a better language to interact with the server and get the job done. We also needed a database to store the data and to fetch the necessary data when required. So, we used **MySQL** as a tool for storing the data and fetching it.

In JSP, we used many class which can help with fetching and inserting the data. We imported the java.sql package for all the connection needed to be made with the database. We used classes like: -

* **Connection** – To make the connection with the database.
* **Statement** – To execute the SQL statement required.
* **ResultSet** – To store the data in the model which is coming from the database.

We also used methods like: -

* **Statement.executeQuery()** – To execute the given SQL statement
* **Statement.executeUpdate()** - To execute the given update SQL statement
* **ResultSet.next()** – To fetch the next data in the result set.
* **ResultSet.ToString(ColumnIndex)** – To fetch the data in the given column of the resultset in a string format.
* **ResultSet.ToInt(ColumnIndex)** – To fetch the data in the given column of the resultset in an integer format.

And we also used **HttpSessions** to keep track of the records.

**System Design**

**Architectural Design**

Our system architecture is a very simple JSP architecture model 1 which contains a web browser which displayed the view of the system, an J2EE Application Server which contains the model and the view of the system and a datastore which stores the data. The model contains the data which was fetched from the database and the view contains the user interface of how the system should look.

**Input Design**

The inputs taken in this system is a way to know the actions required and requested by the user or the admin. The inputs taken in this system are: -

***Registration***

Customers can register to the website and create an account for themselves by sharing some of the personal information like name, address, pincode, email, phone number, password, etc. This information is provided to the system in a form. Also, validations are added in the form so that form be filled in correct format and also if the account exist or not by the email given.

***Login Customer/Admin***

If a customer already has an account in the system, he/she could login to the system by providing the email and password. This information is provided to the system in a form. Validations are set up to check if an account exists or to check the password and email are correct or not.

***Search Books***

This input takes information and helps user to find books based on their names, authors, publishers, genre, subject, ISBN, etc. This information is provided to the system in the form of a input textbox and a button.

***Add to Cart***

This input takes information about if the user is interested to buy the book and adds it up in his cart. This information is provided to the system in the form of a button. Validations are set up to check if the book is already been put into the cart by the customer or not.

***Place Order***

This input takes information about if the user is interested to proceed about buying the book which he added it in the cart. This information is provided to the system in the form of a button.

***Payment***

This input takes information about payment method the user is going to use for placing the order. This information is provided to the system in a form.

***Return Books***

This input takes information about whether a customer wants to return the book or not. This information is provided to the system in a form.

***Sell Requests***

This input takes information about what book a user wants to sell by providing title, author, publisher, genre, subject and its expected price from the admin. This information is provided to the system in a form.

***Book Display Active***

This input takes information from the admin to ask whether to display the book to the customer or not. This information is provided to the system in the form of a link.

***Delete Customer***

This input takes information from the admin to delete a particular customer’s account from the system. This information is provided to the system in the form of a link.

***Change to In Progress***

This input takes information from the admin to notify customers that their delivery is on their way. This information is provided to the system in the form of a link.

***Change to Delivered***

This input takes information from the admin to notify customers that their book has been delivered. This information is provided to the system in the form of a link.

***Change to Returned***

This input takes information from the admin to notify customers that their book has been returned back. This information is provided to the system in the form of a link.

***Accept/Decline Selling Request***

This input takes information from the admin to notify customers that their offer to sell their book has been accepted or declined. This information is provided to the system in the form of a link.

***Add Books***

This input takes information from the admin to add the books in the inventory and to make it available for user. This information is provided to the system in the form of a link.

**Output Design**

The outputs shown in the system is a way of showing the results which is generated by the inputs given by the user. The outputs shown in the system are: -

***Books to Buy***

This output shows the user about all the books which are available for users to buy. This output shows the book title, book image and price. This output is shown in a form a list.

***Book Details***

This output shows the user, all the information of the book which the user clicked and wanted to see. This output shows the book title, book image, price, author, publisher, genre, added to cart or not, etc. This output is shown in a form a list.

***Search Result***

This output shows the user the results of the search they made based on title, author, genre, publisher, ISBN, etc. The display shows the book title, book image and price. This output is shown in a form a list.

***Cart***

This output shows the user the results of books the user added in the cart. The display shows the book title, book image, price and total amount cost. This output is shown in a form a list.

***My Orders***

This output shows the user the results of the purchase they made by the system. The display shows the book title, book image, price, order date and expected delivery date. It also shows the delivered books and date of delivery. This also shows the status if a book is returning or returned. This output is shown in a form a list.

***Recent Orders***

This output shows the admin, all the recently made orders and their status like order confirmed, delivered, etc. This output shows the book title, price and status of delivery or return. This output is shown in a form a list.

***Recent Customers***

This output shows the admin, all the recently joined customers in the order of their joining. This output shows the customer name, city and state. This output is shown in a form a list.

***Admin Cards***

This output is shown in the form of a card and it displays the total number of customers, total number of orders, Selling requests available and total earning from the orders.

***Book List***

This output shows the admin, all the books in the inventory. This output shows every detail available in the database. This output is shown in a form a list.

***Customers List***

This output shows the admin, all the customers in the inventory. This output shows every detail available in the database. This output is shown in a form a list.

***Selling Requests List***

This output shows the admin, all the requests made in the system from the database. This output shows every detail available in the database. This output is shown in a form a list.

**Database Design**

Database is used to store the data and records. A good and normalized database database design can help the system and the developer to understand, insert and fetch the data or records in an easy and efficient manner. The databases used in this system are: -

***Books Database*** – This data base is used to store all the details required for the system related to books.

***Customers Database*** - This data base is used to store all the details required for the system related to the customers.

***Cart Database*** - This data base is used to store all the order details required for the system.

***Selling Database*** - This data base is used to store all the details required for the system related to the selling of books from customer side.

**Source Code**

**Testing**

We tested our system with some types of testing and made sure that our system passes each and every test that we tested for. The types of testing we performed are:

***Unit Testing*** - We performed unit testing every time after developing a small unit of a module just to check if the result is coming as we expected or not and we can say that each and every unit is working properly and generating expected results.

***Integration Testing*** - We combined each and every working and tested unit and then tested it as a whole module to see if it is working correctly with integrity. And as a combination of unit the system is working fine.

***Regression Testing*** - Sometimes we added new ideas or way to make system more efficient. So, after adding we tested that the newly added code does not affect the working tested code. And all are working fine.

***System Testing*** - This test was conducted to see if our system can work properly as a whole, in different browsers and also flexible to different screen size. And it passed our test since it is working properly as expected and also can work in any browser at any screen size.

***Performance Testing -*** This test was performed to see if our system can work effectively and efficiently at run time without affecting other modules. And it is working fine in all that aspects.

**Implementation**

Implementation is done by combining the fully tested system and see if the whole system is working efficiently or not. In theory, the working of a system is something like this: -

The first thing when a user enters into our website it sees, is our homepage.

[Index.jsp]

The books which are available to the customer can be seen by the user and can also be searched by the user but cannot be bought until and unless the user has an account and logs in into it.

[Login/registration]

After the user logs into the the user is able to see all available books.

[products]

The user can also click on any book and see more details about the book.

[product details]

If the user likes that book, he/she can add that book into the cart. The user can add as many books as he wants to the cart.

[cart]

After adding all the books needed into the cart the user can proceed conforming order by providing the payment option.

[payment]

After the payment is done a bill will be generated which can be printed. After the bill, you can continue shopping. You can also see that the books being bought by one user will not be shown to the other user.

[product]

The users can also offer a book to be sold from their side to the admin at their expected price. They just have to fill a request form and an offer request will be sent to the admin.

[Sell Request]

When you click on the orders page you can see the orders which are made by the user, the orders which have been delivered and the returned books.

[orders]

Finally, a user can logout of the system when done. It will return to the login page again.

[logout]

From the admin side, the admin has to first login to enter into the admin dashboard.

[admin login]

An admin dashboard will be displayed where admin can see information related to the system like orders, customers, sell requests, etc.

[admin dashboard]

The admin can change the status of a user’s order whether it is been delivered, returned or in progress.

[admin orders]

The admin can also be able to add books from his side to make it available for the user.

[add books]

The admin can be able to accept or decline a selling offer made by the user.

[admin selling request]

The admin can also be able to see the recent orders made and the recent customers which joined the system.

[admin recent orders]

Finally, the admin can logout of the system when done.

[logout]

**Screen Shot**

**Conclusion**

This project helped us in understanding the creation of an interactive web page and technologies user to implement it. During the course of the project, we have across the wide variety of problems and difficulties. We have learned the appropriate intricate working behind the dynamic website. All possible error in the program have been eliminated. Necessary validation techniques have been used and normal, abnormal and extremely data was used to test the system. However, doing this project has been a good boost to our confidence as the future IT member.

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