Tribhuvan University

Faculty of Humanities and Social Sciences

A PROJECT REPORT ON

"THULOPANA"

Submitted to

Department of Computer Application

Aadim National SS/College

In partial fulfillment of the requirements for the Bachelors in Computer Application

Submitted by

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2078/01/10

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Supervisor's Recommendation

I hereby recommend that this project prepared under my supervision by **Sajan K.C.** and **Ngima Sherpa** entitled "**ThuloPana"** in partial fulfillment of the requirements for the degree of Bachelor of Computer Application is recommended for the final evaluation.

……

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LETTER OF APPROVAL

This is to certify that this project prepared by **Sajan K.C.** and **Ngima Sherpa** entitled "**ThuloPana**" in partial fulfillment of the requirements for the degree of Bachelor's in Computer Application has been evaluated. In our opinion it is satisfactory in the scope and quality as a project for the required degree.

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…… **Internal Examiner**	…… **External Examiner**

Abstract

Students have many course-based literature text books that they have stopped reading and these books are laying on their book shelves unused. These books can be sold and the proceeds can be used to buy another book the student currently needs. This website will not only serve students but can also serve the entire population or anybody who wants to buy second hand books or wants to empty their book shelves and make financial gain from it. These books can just be simply be uploaded to the website and another student or person can have access to buy the book by just visiting the website. Students also have lesser incomes compared to the rest of the working population. Hence any reasonable resource for getting income is always welcomed. All these will be achieved by creating a user friendly complete online shopping system for buying and selling secondhand books.

Acknowledgements

Presentation, inspiration and motivation have always played a key role in the success of any venture.

we sincerely acknowledge and thank those who have contributed their valuable time in helping us to achieve success in our project work.

we would like to express our gratitude to all those who gave us the possibility to complete this project. We want to thank **Aadim National SS/College** for giving us the opportunity for doing this project.

We are indebted and thankful to our Project Guide **Er. Lokesh Gupta** to whom we owe his piece of knowledge for his valuable and timely guidance, co-operation, encouragement and time spent for doing this project work. We would also like to thank our coordinator **Mr. Navraj Bhattrai** and project supervisor **Er. Lokesh Gupta** for their assistance and insightful comments, and who willingly shared their expertise with us.

Our sincere thanks to all the IT staff for providing us sufficient information which helped us to complete our project successfully. We are immensely obliged to our friends for their elevating inspiration, encouraging guidance and kind supervision in the completion of our project.

Last, but not the least, our parents are also an important inspiration for us. So, with due regards, we express our gratitude to them.

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Chapter 1: Introduction

1.1. Introduction

The internet plays a very important role in today's society. Nearly all windows-based applications have a web-based equivalent. For example, Microsoft Word has an online version of the same application called Office Web Apps and Adobe Photoshop has its own online version called Photoshop express. The list is very long and it shows one trend that is happening this century in software. The internet is becoming more and more important in software development especially as it makes it possible for millions all over the world to access and use that application directly. The internet has produced and enhanced the growth of some popular brands like Google, Yahoo, Twitter and Facebook.

Sometimes people want services directly without necessarily going to a shopping mall or stores. They will want to have the same service by just accessing the internet and making their purchases. This reduces transportation cost; traffic jams and time can be spent instead on other important activities and it's environmentally friendly. This is an increase in online usage and consequently an increase in online e–commerce. There is available technology to build such sites and provide secure and reliable services to customers.

In this case, the ThuloPana is just one of them trying to use the power of the internet and technology to develop a website that can make book recycling and sales easier. Students need many different types of books in their studies. As they go through the educational process they move gradually to the next level and other students move to that level they were previously in. It can be described as a circular pattern and text books used in this cycle can easily be accessible to another student in that cycle using the internet as the main meeting place.

They are not only students that need books. Books are very essential for each and every one of us in order to increase our knowledge. It may be academic related books or general books. Everybody needs books or has a book or wants to buy or sell a book. Hence, this project focusing on books that come a long way to make accessibility to new or used books just a click away at a good and reasonable price from the comfort of their home.

1.2. Problem Statement

There are numerous of bookshops that exist today. People can buy any selections of books there. However, today's books that are sold in the traditional bookstore are pricey. For one brand new fictional novel, a customer has to pay quite some price for it. This is because physical bookstore has the overhead and other costs to pay. Furthermore, there is no bookstore yet that sells a second-hand book. By logic, by buying the second-hand book the price might get slightly cheaper. When a student purchases a used book, he easily saves more than half the money that he would have spent to purchase a completely new one. There are also problems where the bookstore is far away and most of the bookstores are only located in shopping malls. For some part of the country, there is no place that book buyer can get to book shopping easily. Their place may be far from the home and that makes them have to go far to search for a bookstore in malls in order to buy a book.

For sellers who used to sell their used books, there are some problems that they have to endure. They may face customer's negotiation when dealing face to face. The chances for them to find possible buyers are also small. It also takes a lot of their time meeting the customers. Some of them maybe are not interested in selling their used books. It is just that they have so many books that take their space.

Students don’t have many options with their secondhand books and hence we decided to build this project to help all the students as well as other people. Presently, people have limited option with some very rare old book stores within a city where they live. This idea will be helpful for all students, to easily buy and sell secondhand books.

1.3. Objectives

The main objective of this project is as follows.

- To provide a secondhand book at a convenient price,
- To provide a better way to recycle textbooks,
- To save the time of the users by providing books online,
- To provide service to distant areas,
- To reduce the traffic jams

1.4. Scope and Limitation

1.4.1. Scope

- It provides users to purchase book online,
- Add/delete user, manage their accounts,
- It reduces user's searching time,
- It provides great discount over purchasing,
- It provides wide collection of book ranges,
- It provides user friendly environment.

1.4.2. Limitation

- Customer have to buy books even without seeing actually how it looks like,
- Second hand books are not updated as per latest data,
- It may contain some error as compared to latest edition,
- The project does not store transaction So the buyer will not able to make any references to past transactions,
- Online payment is not present.

1.5. Report Organization

This report document contains five chapters including this chapter. Chapter two defines and describes Background Study and Overview of related existing systems and their pros and cons. Chapter three presents the System Analysis and Design including Requirement Analysis and Feasibility Analysis. Chapter four presents the Implementation, Testing and debugging are explained. In chapter five, Conclusion, Limitations and Future Enhancement are briefly explained.

Chapter 2: Background Study and Literature Review

2.1. Background Study

The internet has been favored by more and more people for its high efficiency and richness, and e-commerce has emerged. The online bookstore is a form of e-commerce and book sales industry in one form, it has many advantages, such as: bookstore size is relatively small, cost saving, transaction activities can be anytime, anywhere, improve service efficiency, The information is complete, more convenient retrieval, the new book information on the new, consumers can see in a timely manner, trading activities can be launched immediately, so online bookstore in today's era of development is extremely rapid. Online bookstore system is the main function of trading platform for the site, consumers can connect to the internet through the computer into the online bookstore and then check the book information, if you need to purchase should be registered landing, select their own books, submit orders and pay Operation to complete the entire book ordering process.

2.2. Literature Review

Current Websites providing services on second hand books

They are many websites out there on the web that provide services on second hand books. Our goal is to provide a better, faster and user-friendly website with services that other websites might be lacking or not well developed. The ThuloPana website will be only focus on used books.

To get more ideas on how to implement the system in our business, we reviewed some available websites that have the same type of services, and their descriptions can be seen below.

hamrobazaar.com

hamrobazar.com is FREE online classified which enables individuals as well as companies to list wide variety of new or used product online. It is a popular portal to buy second items including books. Figure below shows the screenshot of hamrobazaar.com [1] website homepage.

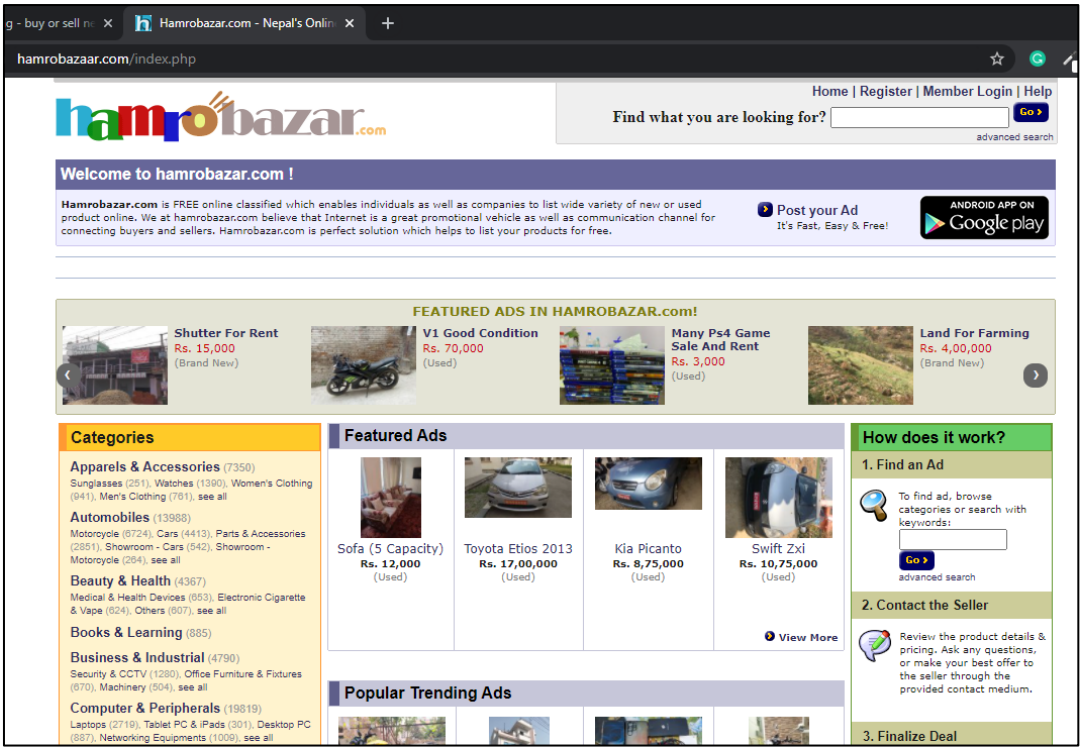

Figure 1: Homepage of Hamrobazar

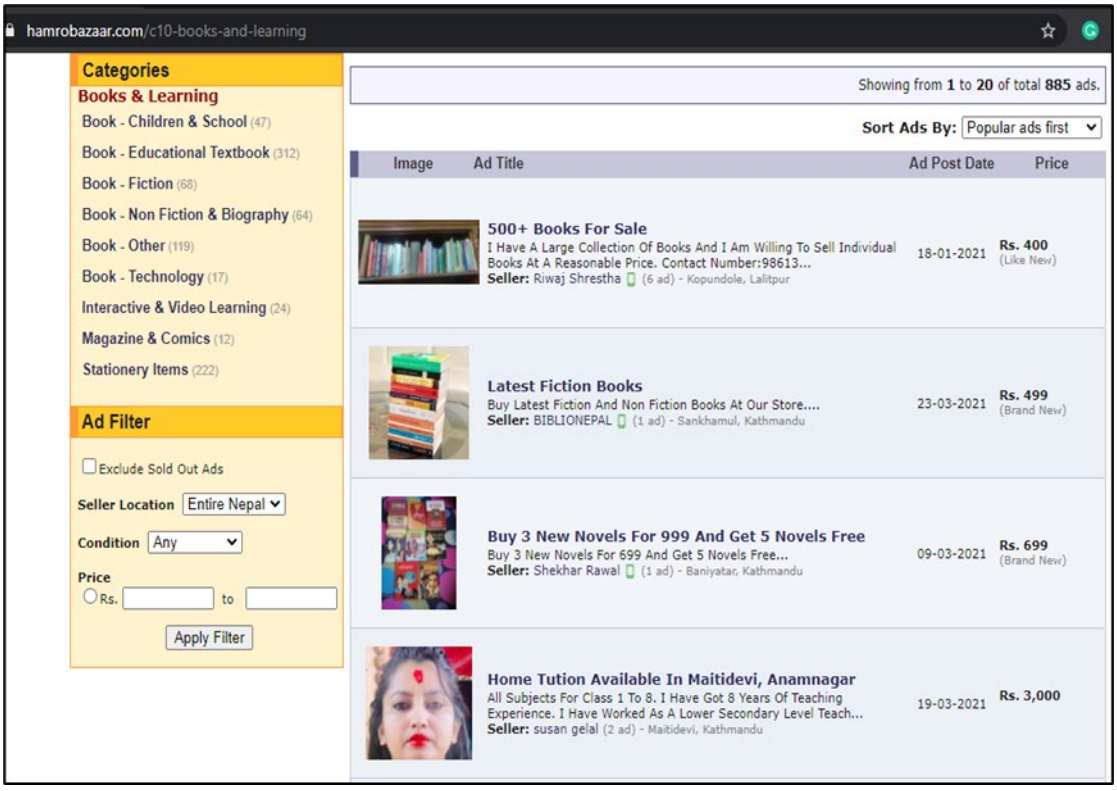

Figure 2: Book and Category Page of Hamrobazar

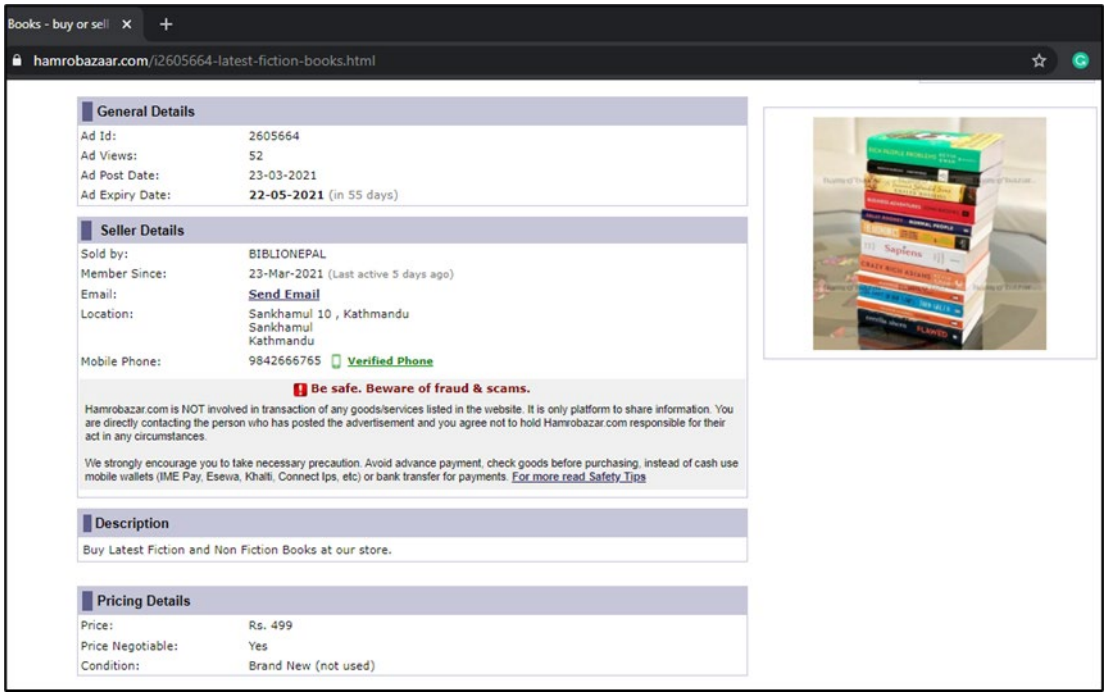

Figure 3: Book Details Page of Hamrobazar

As you can see above figure, this is an auction site. They sale everything through auction. Their focus is not only books. They do not have single focus compared to the ThuloPana that will focus on used books and hence provide better information and details on books.

Cons of hamrobazaar.com

- It just a contact portal for a buyer and the seller. The parties involved make their terms of sales and purchase.
- As a seller if you want to sell book in hamrobazaar.com you can only place an image of jpg or gif type. There is also upper limit of 8 MB per images. If your image is larger than you cannot place image.
- Its moderators may monitor your content as it appears on the site and may delete your content at any time and for any or no reason without your permission.
- It does not deliver nor does accept payment from users for any product or services listed.

Pros of hamrobazaar.com

- Unlimited potential customers.
- 24/7 market place for your products and services.
- Cheap way of advertising your product and services.
- Add, edit & delete your ads immediately with minimum time and effort.
- View ads traffic and hits to know how your products affect the customers.
- You can know about the condition of book and its price.

Sajhakitab.com

Sajha Kitab is an online platform which connects buyer and seller directly for buying and selling used as well as new books. Basically, this site is bridge for connecting those two kinds of persons. If you have any old books which are of no use to it then you can post it in this website. Figure below shows the screenshot of sajhakitab.com

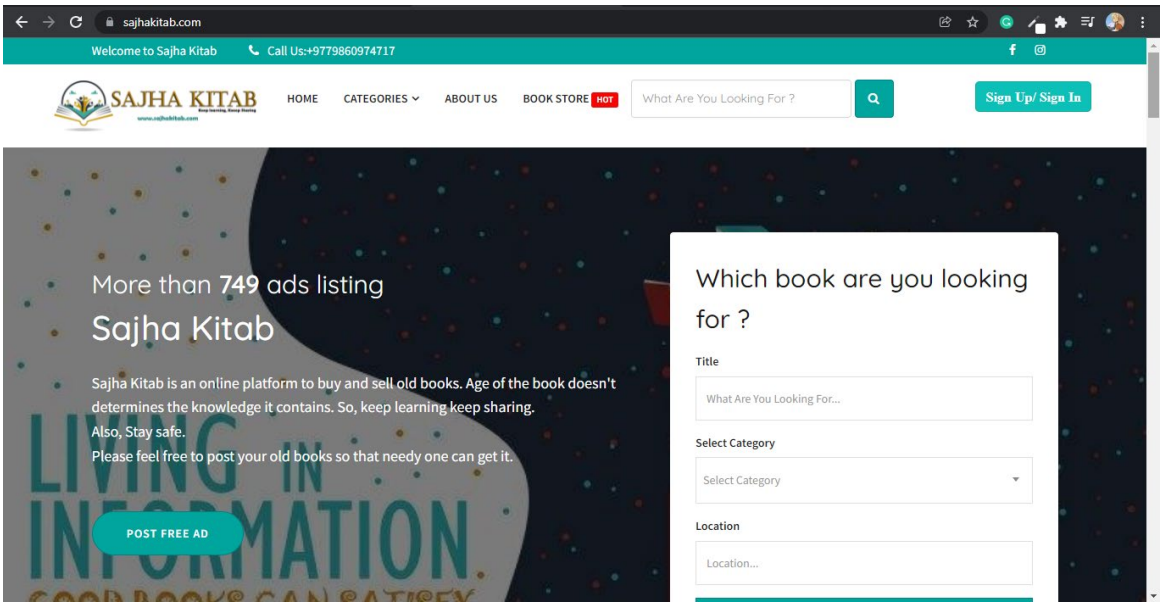

Figure 4: Homepage of Sajha Kitab

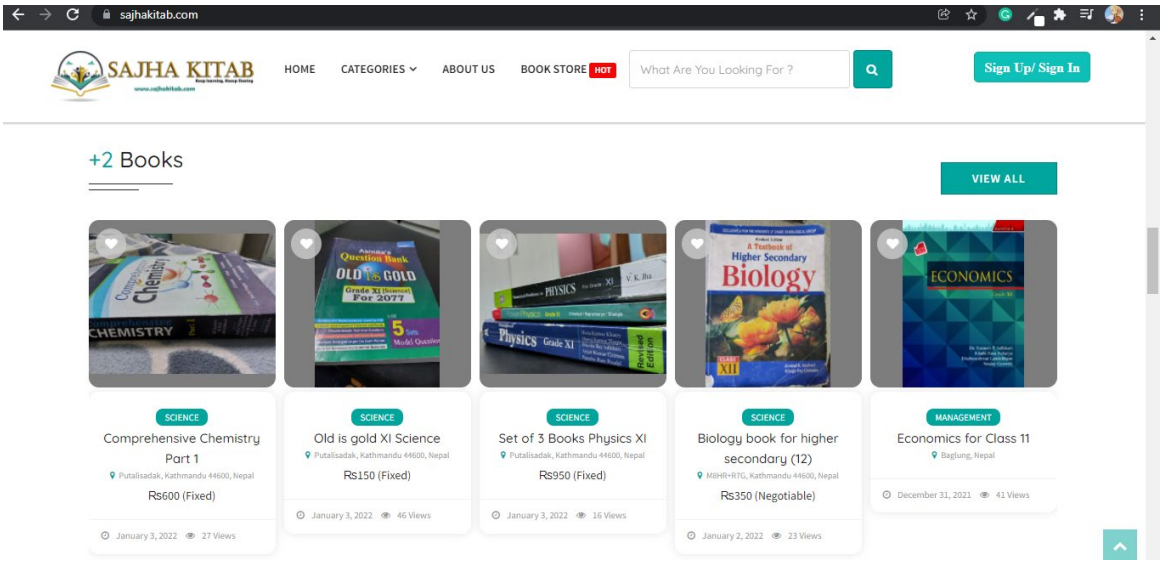

Figure 5: Book and Category Page of Shaja Kitab

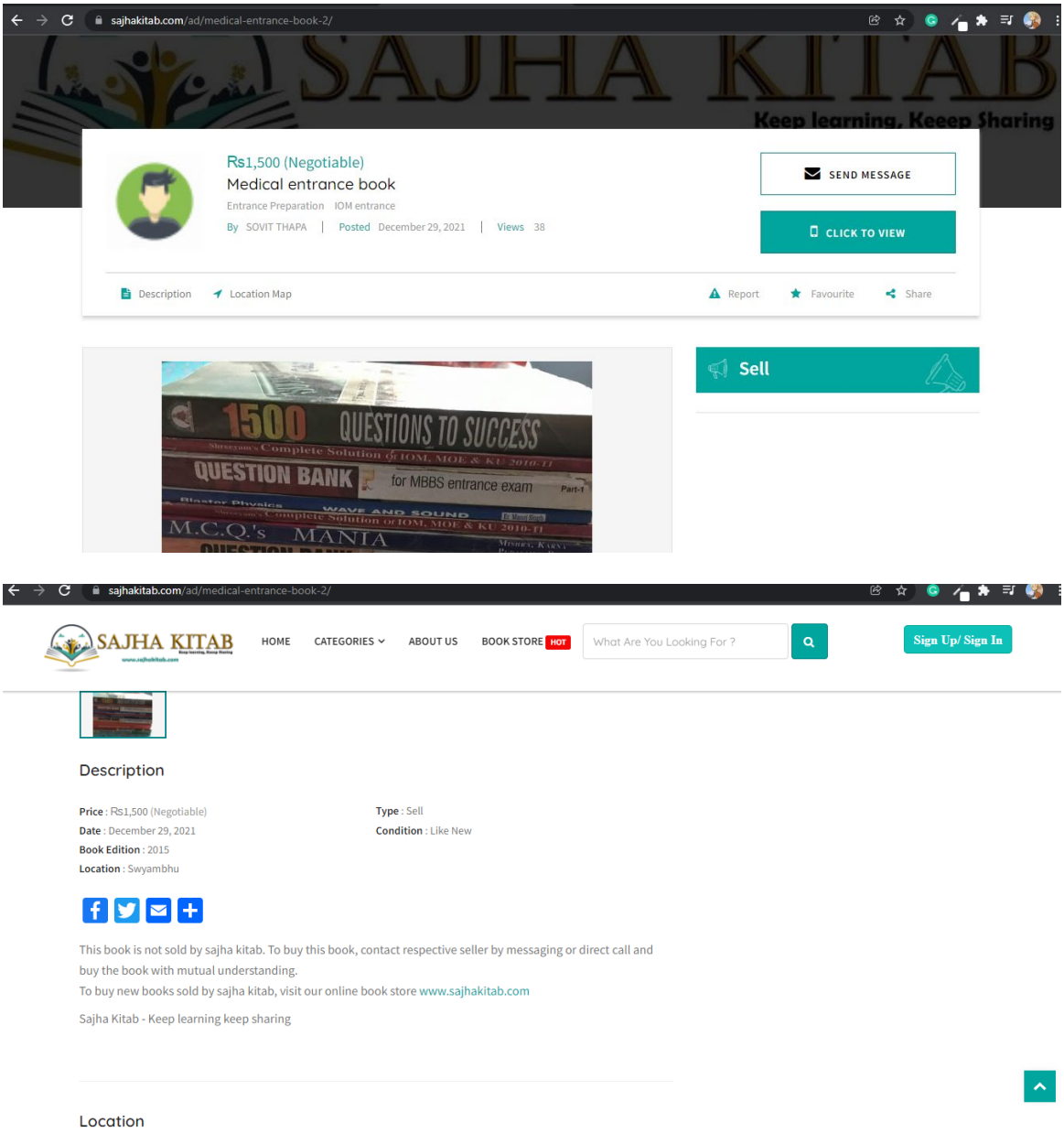

Figure 6: Book Details Page of Sajha Kitab

As you can see above figure, there is not enough information or description about book, and they sell both new and used books. Even the price of used books are so expensive. Whereas ThuloPana will focus on used books and hence provide better information and details on books and sell at minimum price.

Cons of sajhakitab.com

- As a seller if you want to sell book in sajhakitab.com you can only place an image of jpg or gif type. There is also upper limit of 10 MB per images. If your image is larger than you cannot place image.
- Customer have to buy books even without seeing actually how it looks like,
- Online payment is not present.

- Its moderators may monitor your content as it appears on the site and may delete your content at any time and for any or no reason without your permission.
- It's only open Mon-Fri 12:00pm - 12:00am
- It just a contact portal for a buyer and the seller. The parties involved make their terms of sales and purchase.
- It does not deliver nor does accept payment from users for any product or services listed.

Pros of sajhakitab.com

- Do not take any kind of commissions from customer
- Can get book at affordable price.
- Can Add, edit & delete your book details immediately with minimum time and effort. View ads traffic and hits to know how your products affect the customers.
- You can know about the condition of book and its price.
- It reduces user's searching time,
- It provides wide collection of book ranges,
- It provides user friendly environment.

Chapter 3: System Analysis and Design

3.1. System Analysis

Since this project involves design and implementation of a software system regardless that it is web-based, it will be important to mention and consider some models used in software development and deployment. some general models of software development are namely.

- **The Waterfall approach:**

  It represents activities in requirements, specifications, design, implementation, and testing. All these as separate processes.

- **Evolutionary / Incremental Development:**

  It involves a rapid development of the specifications and then refined later for the customer.

- **Agile model:**

  It refers to a software development approach based on iterative development. Agile methods break tasks into smaller iterations, or parts do not directly involve long term planning. The project scope and requirements are laid down at the beginning of the development process.

- **System assembly from reusable components:**

  This approach assumes that part of the system already exists. This model is focused on integration.

After reading though all these models. The Evolutionary / incremental model fits the development of this website. It had very clear iterations and considering the fact that we are just two developers for a project. So, we can focus on each part of the model during development and come back to it if needed to be. The project can easily de broken down into different parts based on this model.

The Evolutionary / Incremental Development model for software development

This is the model that will be used to develop the ThuloPana. However, feedback loops will be allowed during the whole software development process. The model chosen for this project has to favors two developers for a project. Because we are the only ones who are going to implement this project. We find this model suitable for us to follow.

The evolutionary / incremental model recommends software construction are interleaved. Feedback from the user is used as throughout to the entire process. The software product is refined through many versions. It requires that software development follows the following stages

1. Analyses of the problem is made and requirements to be meet are proposed,

2. The specifications of the project are put in place after the problem has been analyzed and the requirement to be meet are made clear,

3. A design for the software system is made,

4. After the design is completed the process of implementation and debugging starts,

5. The program is tested and integration of the system is made,

6. The developed software is in its final stage and operation and maintenance can then be made continuously.

This process has been illustrated below on figure showing top-down development. The main stage description is in the boxes the model looks like a waterfall. For this model to work efficiently feedback loops are added to create a coordination of the whole process development.

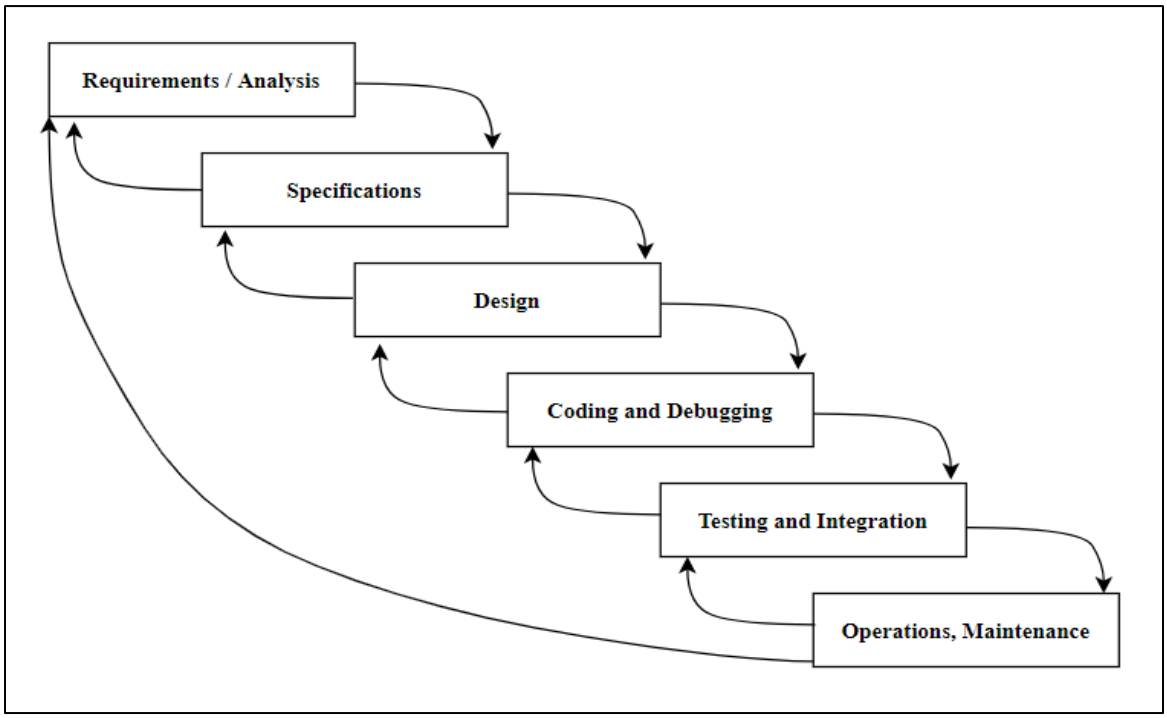

Figure 7: Evolutionary / Incremental Development model [2]

Deals constantly with changes provides quickly and initial version of the system. Involves all development teams in the software development life cycle. When there are some high-risk features and goals.

On the other hands this model also has its flaws. The system's structure can be corrupted by continuous change, Special tools and technique may be necessary and "invisible" process, not well-supported by documentation.

3.1.1. Requirement Analysis

Before creating any website or a mobile App, it is necessary to visualize the layout, design and all features intended to be incorporated. In addition, how users will interact with each page and icon and how the website/App should perform (behavior, load time etc.). Requirements are the necessary attributes in the system, a statement that identifies a capability, characteristic or quality factor of the system in order to have value and utility to the users. Once the requirements are set, developers can initiate the other technical work including system design, development, testing, implementation, and operation.

For any system, there are functional and non-functional requirements to be considered while determining the requirements of the system. The functional requirements are user "visible" features that are typically initiated by stakeholders of the system, such as generate report, login, and signup. On the other hand, nonfunctional requirements are requirements that describe how the system will do what it is supposed to do, for example, Usability, Reliability & Availability, Performance, Security and maintainability.

Functional Requirement

Admin

- Can add, edit, delete and view all users
- Can add, edit, delete and view all books

Seller

- Can register/login
- Can upload details of books
- Request for password recovery

Buyer

- Can register/login
- Can buy books
- Can search books by Title, Author, ISBN,
- Request for password recovery

Guest

- Can view all the books
- Can search all the books

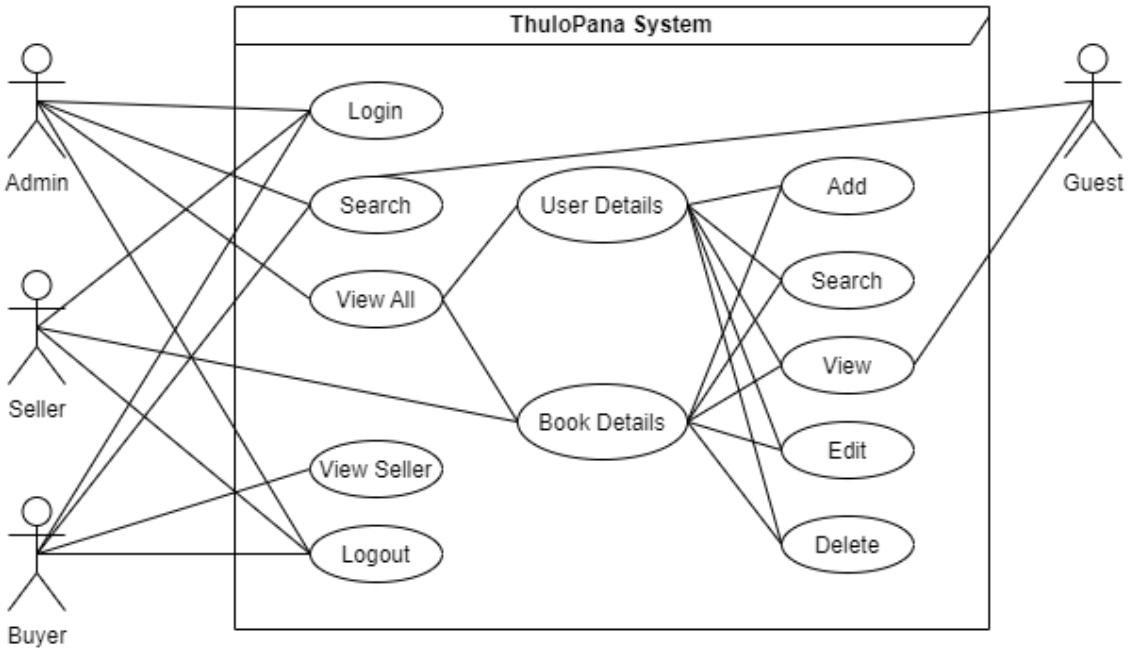

Figure 8: Use case Diagram

In the above use case diagram, there are four actors named Admin, Seller, Buyer and Guest. There are a total of five use cases that represent the specific functionality of a ThuloPana. Each actor interacts with a particular use case. A Guest actor can only search and view books. Buyer can do login, search book, view book details and logout whereas Seller can do all activities as buyer except view seller and seller also can do add, search, delete and edit books on the application or a system. This actor can perform only these interactions with the system even though other use cases are remaining in the system.

It is not necessary that each actor should interact with all the use cases, but it can happen.

The last actor named admin can interact with all the functionalities or use cases of the system. This actor can also add, edit and delete user as well as book. These interactions of all actor together sum up the entire ThuloPana application.

Non-Functional Requirement

Security

This system has accounts for its users and only authorized users can access the system with username and password. The passwords are encrypted using a PHP function md5 ().

Availability

This system is available to users anytime, anywhere, just need a PC or Mobile and Internet Connection. Also, the system work in multiple web browsers like (Chrome, Mozilla and Opera).

Reliability

The system has to be 100% reliable due to the importance of data and the damages that can be caused by incorrect or incomplete data. The system will run 7 days a week, 24 hours a day.

Maintainability

The system will be easily maintained by the developer or other authorized trained person and Backup for database are available.

3.1.2. Feasibility Analysis

Feasibility study assesses the operational, technical and economic merits of the proposed project. The feasibility study is intended to be a preliminary review of the facts to see if it is worthy of proceeding to the analysis phase. From the systems analyst perspective, the feasibility analysis is the primary tool for recommending whether to proceed to the next phase or to discontinue the project.

Feasibility studies undergo four major analyses to predict the system to be success and they are as follows

- Operational Feasibility
- Technical Feasibility

- Schedule Feasibility
- Economic Feasibility

Economic Feasibility

This study is carried out to check the economic impact will have on the system and on the organization. The amount of fund that the company can pour into the research and development of the system is limited. The expenditures must be justified. Thus, this project is economically feasible as the only cost involved is having a computer with the minimum requirements. For the users to access the application, the only cost involved will be in getting access to the Internet.

Technical Feasibility

This study is carried out to check the technical feasibility, that is, the technical requirements of the system. Any system developed must not have a high demand on the available technical resources. This will lead to high demands being placed on the client. The developed system must have a modest requirement, as only minimal or null changes for the implementing this system. In order to design this system, it uses off-shelf and existing technologies, software and hardware so there is no technological hurdle to build this system

ThuloPana deals with the modern technology system that needs the well efficient technical system to run this project. All the resource constrains must be in the favors of the better influence of the system. Keeping all these facts in mind we had selected the favorable hardware and software utilities to make it more feasible.

Operational Feasibility

The aspect of study is to check the level of acceptance of the system by the user. This includes the process of training the user to use the system efficiently. The user must not feel threatened by the system, instead must accept it as a necessity. This system uses simple technologies to design. So, it is user friendly.

Schedule Feasibility

This assessment is the most important for project success; after all, a project will fail if not completed on time. In scheduling feasibility, an organization estimates how much time the project will take to complete.

To calculate and continually reexamine whether it is possible to complete all amount and scope of work lying ahead, utilizing the given number of resources, within required period of time. In our project we used Gantt Chart for Schedule feasibility study.

Gantt Chart

Gantt chart is a bar chart that provides a visual view of tasks scheduled over time. A Gantt chart is used for planning projects of all sizes, and it is a useful way of showing what work is scheduled to be done on a specific day. It can also help you view the start and end dates of a project in one simple chart. In our project, we used Ms. Excel for developing the Gantt chart which is shown below in the figure.

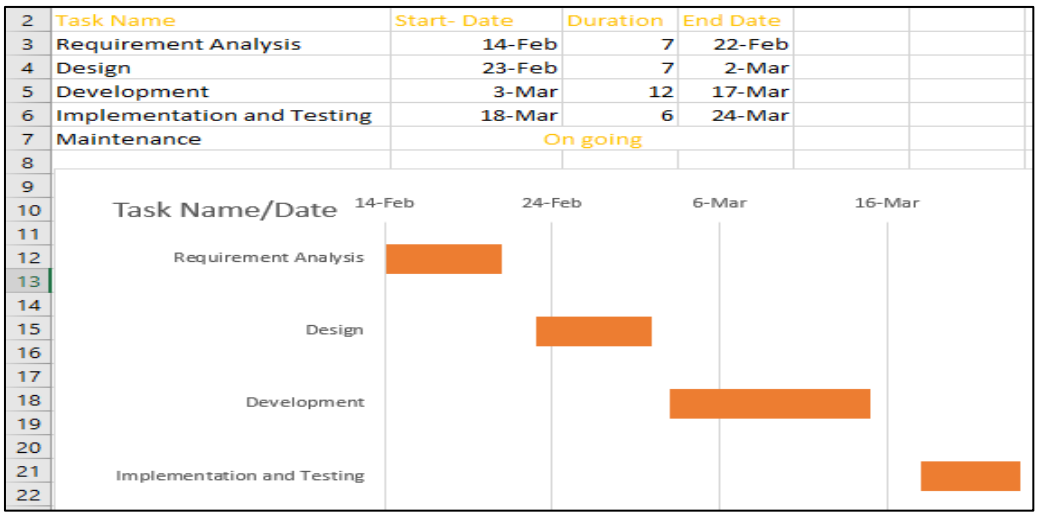

Figure 9: Gantt Chart

In the above Gantt chart showing the start and finish dates of a project's elements such as requirement analysis, planning, design, development & testing, and maintenance. It clearly shows that our project started at feb-14, and took 7 days for requirement analysis and so on till mar -18 we had finished design, development and testing. As we all know maintenance is ongoing process, so it has no time limit. Gantt chart helps in scheduling, managing, and monitoring specific tasks and resources in a project.

3.1.3. Data Modeling (ER-Diagram)

This ER (Entity Relationship) diagram represent the model of this project (ThuloPana). The entity-relationship diagram of project shows all the visual instrument of database table and the relations between user, books and admin etc. It used structure data and to define the relationship between structured data group of ThuloPana functionalities. The main entities of this project are user, books, role and category.

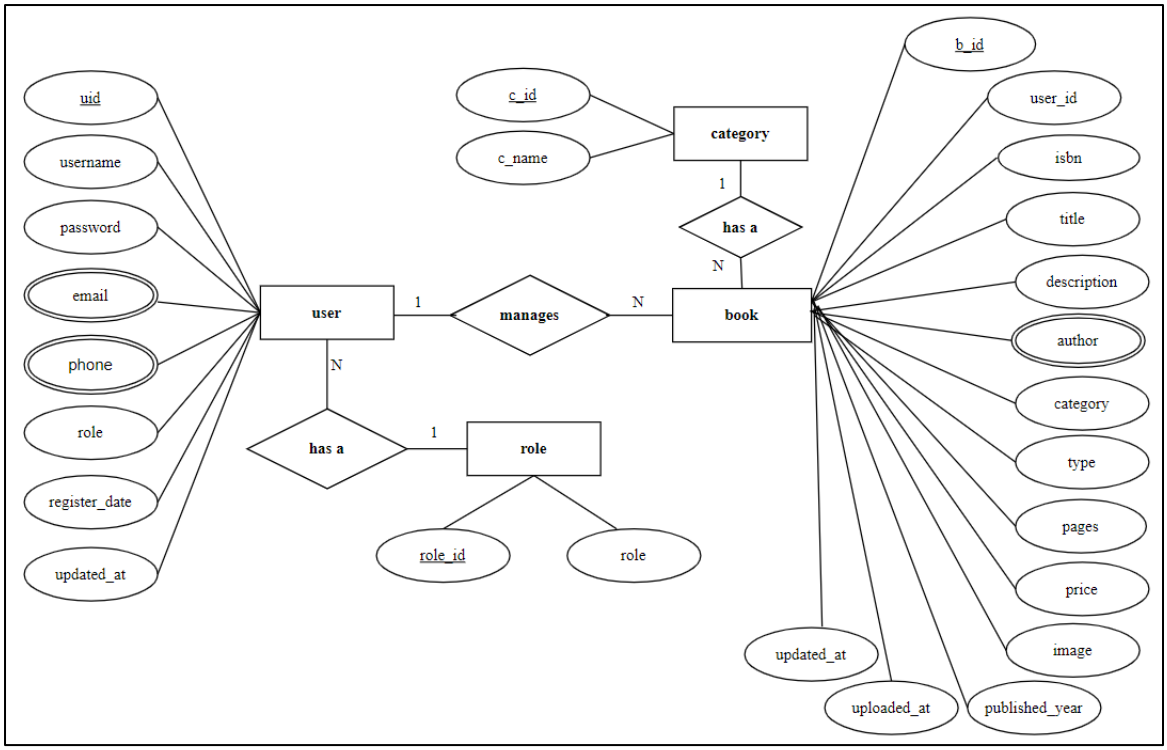

Figure 10: ER-diagram of ThuloPana

In the above er-diagram there are four entity such as user, role, book and category each entity has its own attribute and primary key.

The figure simply shows entity user has role and it manage book and book has category. Each user has its own role which is separate by its id, according to that id user can performed different action. This figure shows that many user has one role, one user can manage many book and many books has one category.

3.1.4. Process Modeling (DFD)

Data Flow Diagrams show the flow of data from external entities into the system, and from one process to another within the system. Following are the Data Flow Diagrams for the current system. Each process within the system is first shown as a Context Level DFD and later as a Detailed DFD. The Context Level DFD provides a conceptual view of the process and its surrounding input, output and data stores. The Detailed DFD provides a more detailed and comprehensive view of the interaction among the subprocesses within the system. Which is explain below in figure.

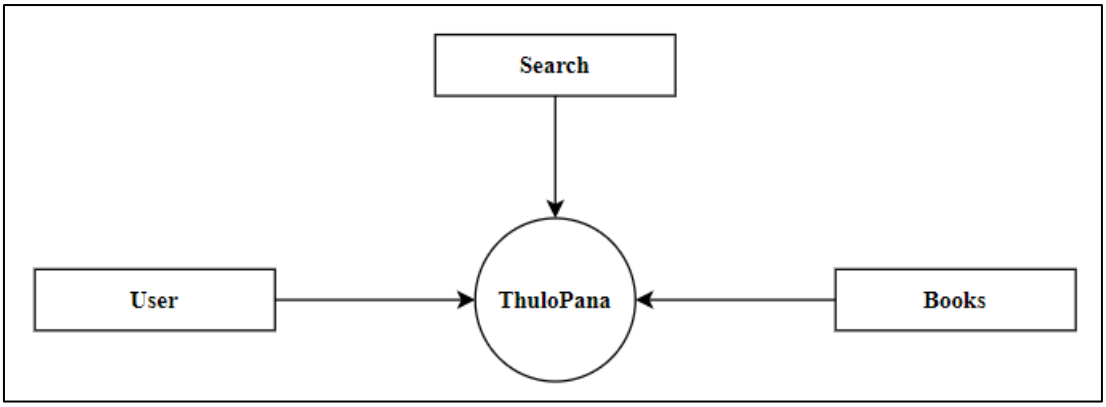

Figure 11: Context diagram of ThuloPana

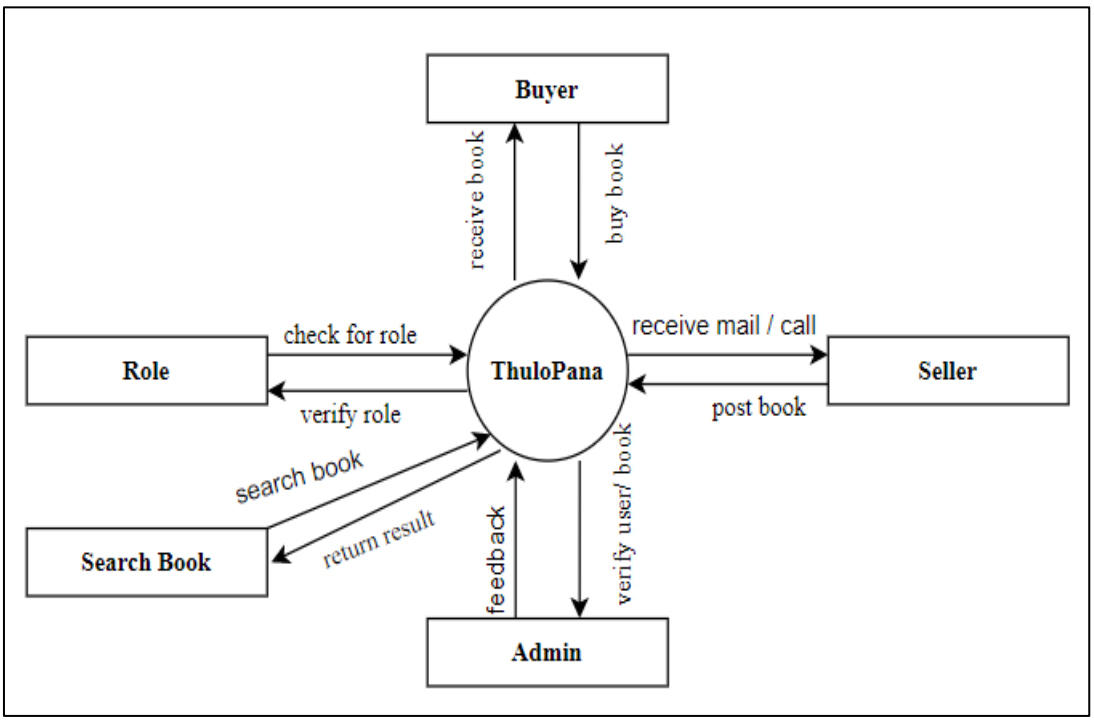

Figure 12: Level 1 DFD of ThuloPana

3.2. System Design

3.2.1. Architectural Design

The next phase of design will be planning the architecture of the application. There will be in some cases a separation of the user interface and data. The business layer will be totally independent and not embedded in the views of the website. Data will be stored in an SQL database. To query the database and code behind for server-side scripting will be in PHP. The other business objects will have their own layer. The architecture of the application is shown below in figure:

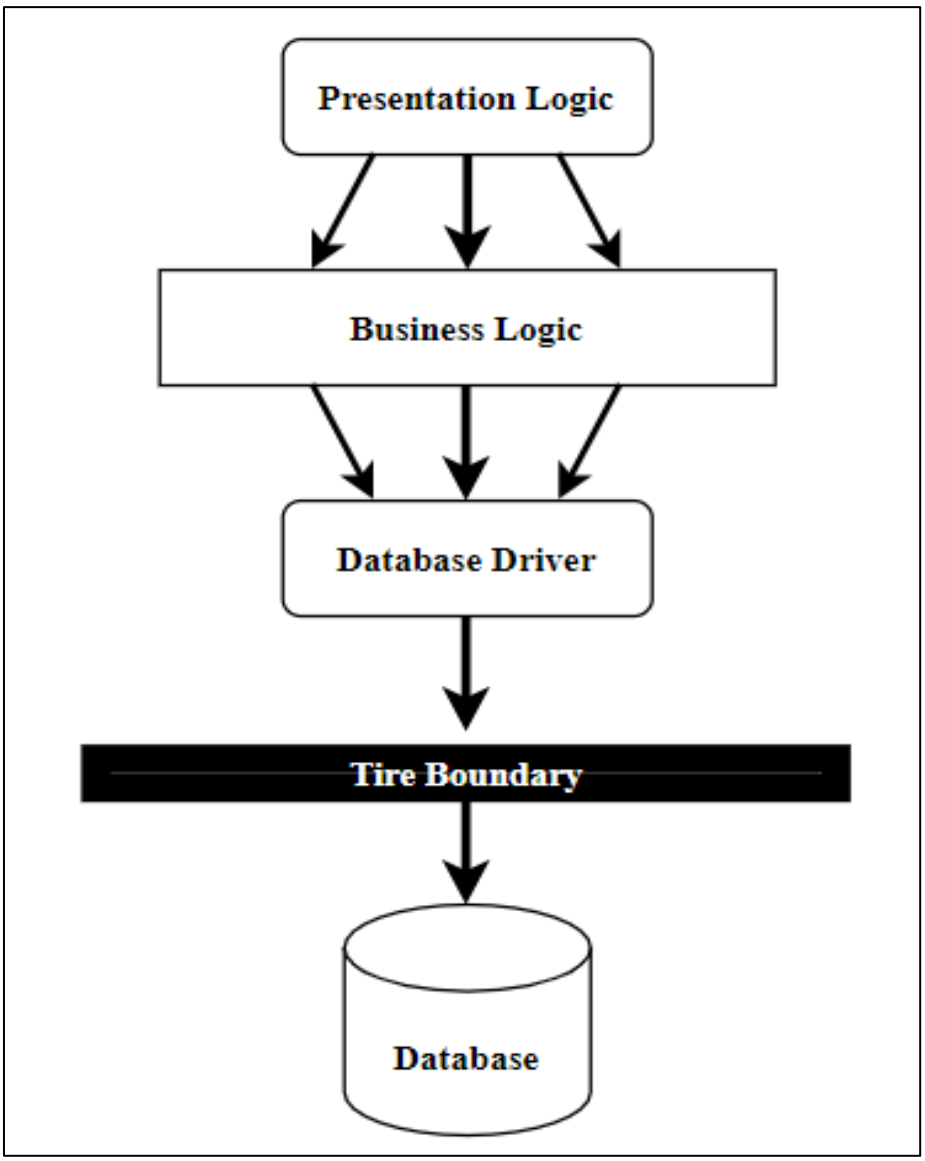

Figure 13: Two Tier Architecture

3.2.2. Database Schema Design

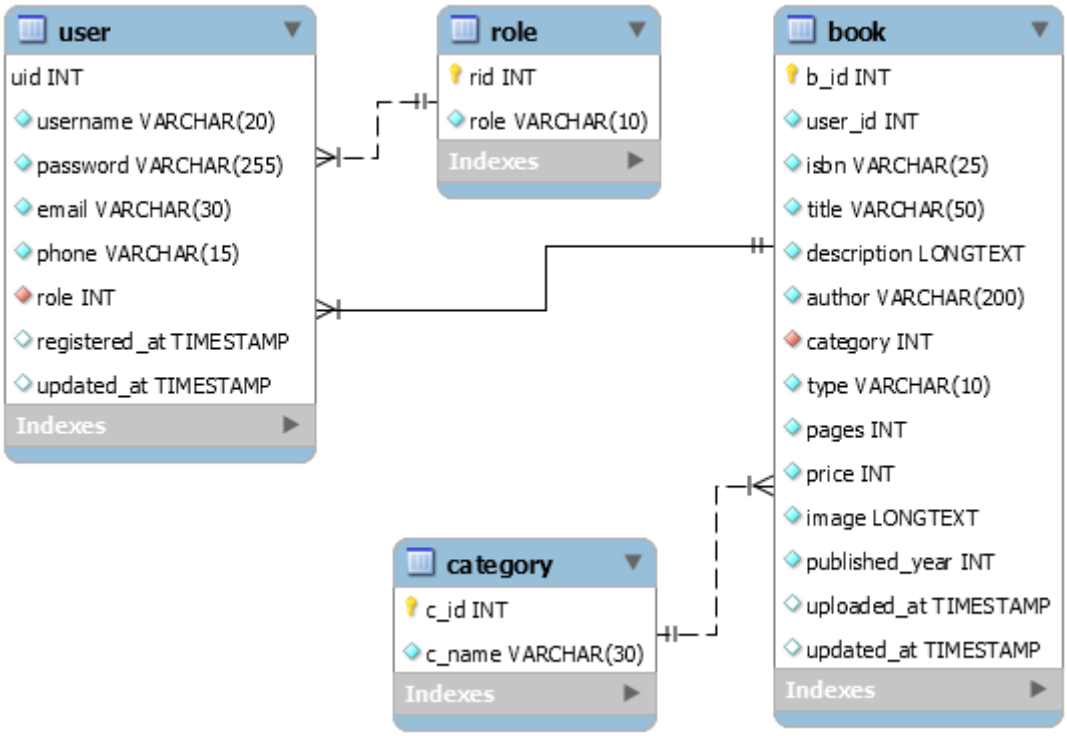

Figure 14: Database Schema Design of ThuloPana

The design of the database is called a schema. This tells us about the structural view of the database. It gives us an overall description of the database. A database schema defines how the data is organized using the schema diagram.

In the above database schema design, we have four tables Book, User, Role and Category. So, we can represent the schema of these four tables using the schema diagram as above. In this schema diagram, user and role table are related, rid connect these two table and user and book table are related and book table is related with category table where foreign key category of book table is references to category table which link these two tables.

3.2.3. Interface Design

Before implementing the actual design of the project, a few user interface designs were constructed to visualize the user interaction with the system as they browse for books, search, registration, login and purchase books. The user interface design will closely follow our Functional Decomposition Diagram show the initial designs of the web pages.

Figure 15: Home Page of Thulopana (Interface Design) [3]

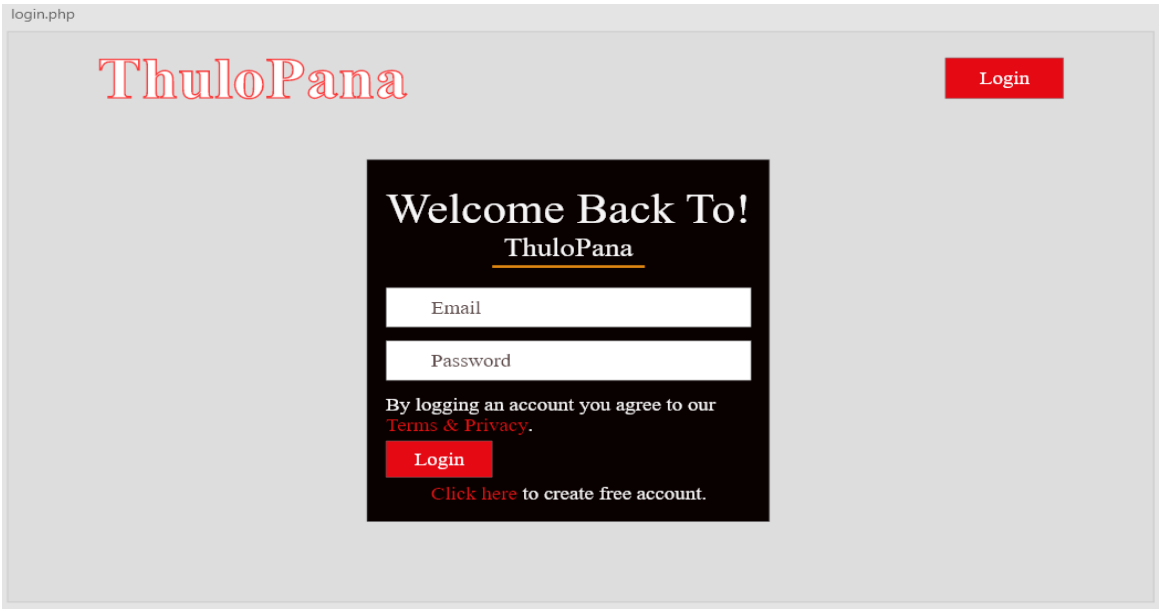

Figure 16: Login Page of ThuloPana (Interface Design)

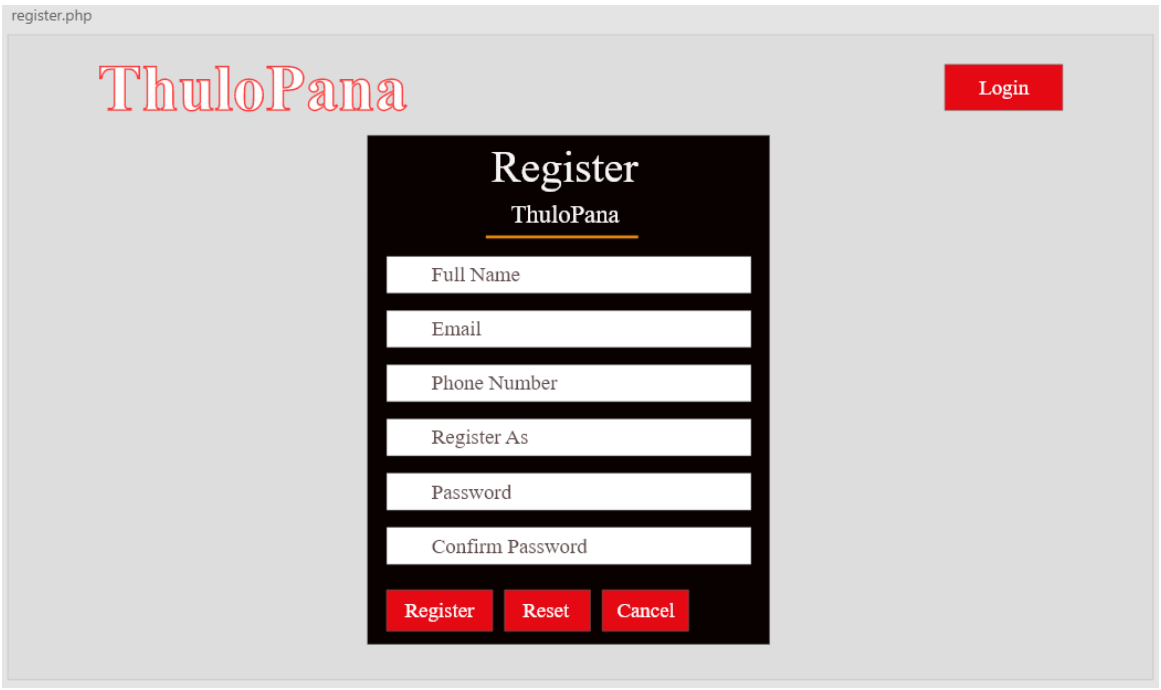

Figure 17: Register Page of ThuloPana (Interface Design)

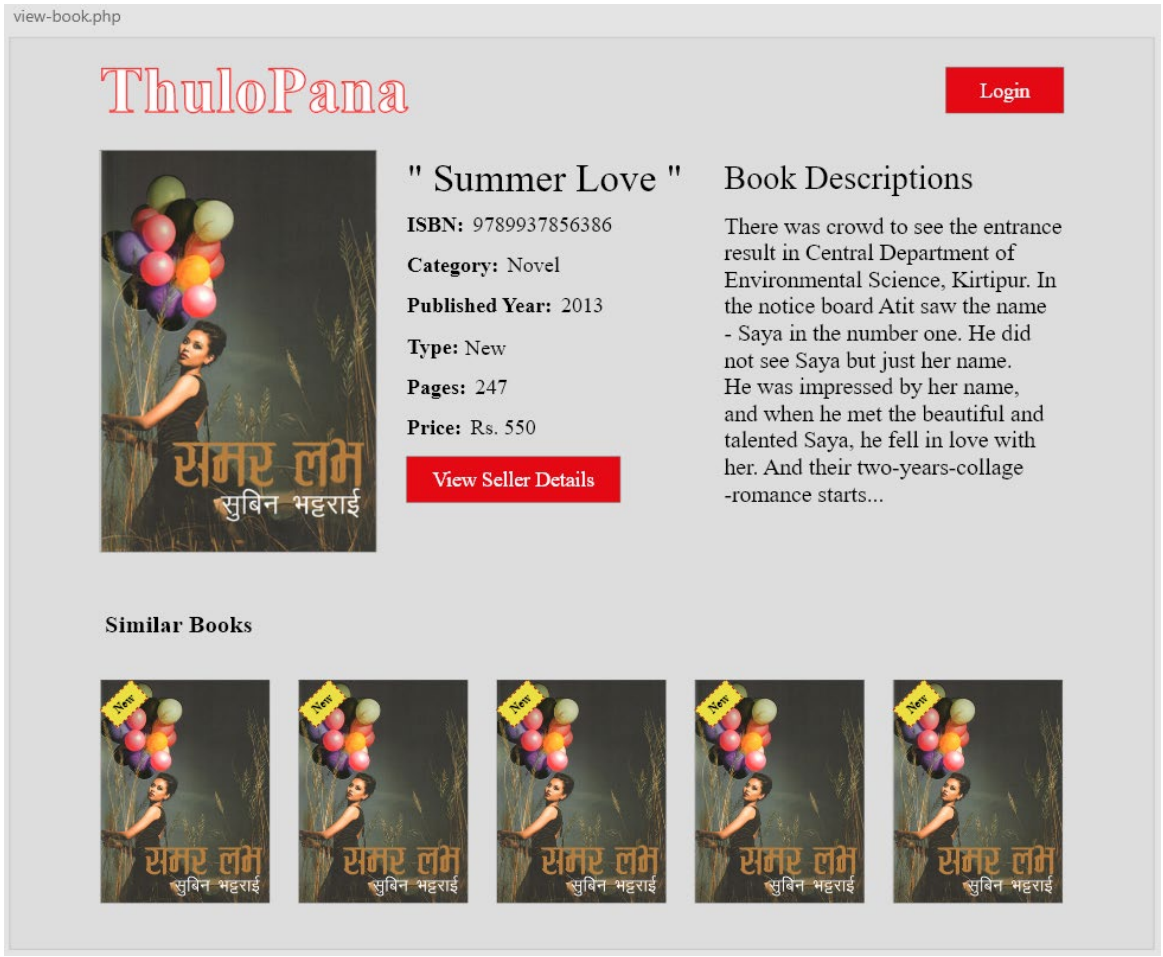

Figure 18: View-Book Page of ThuloPana (Interface Design) [3]

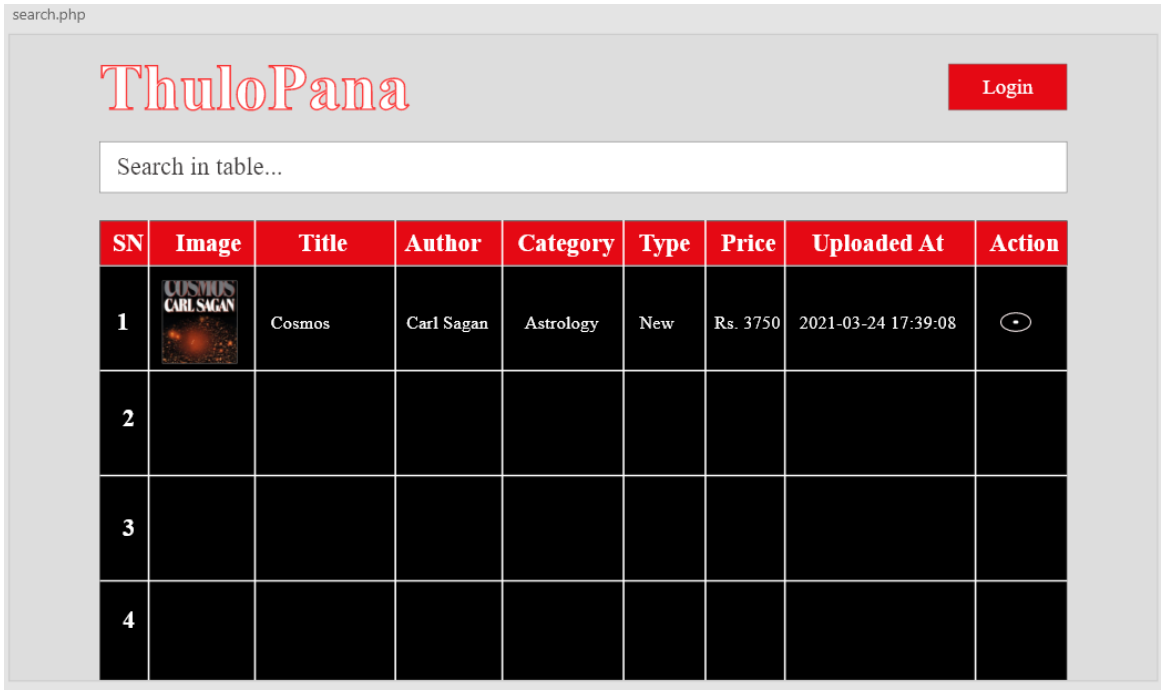

Figure 19: Search Page of ThuloPana (Interface Design)

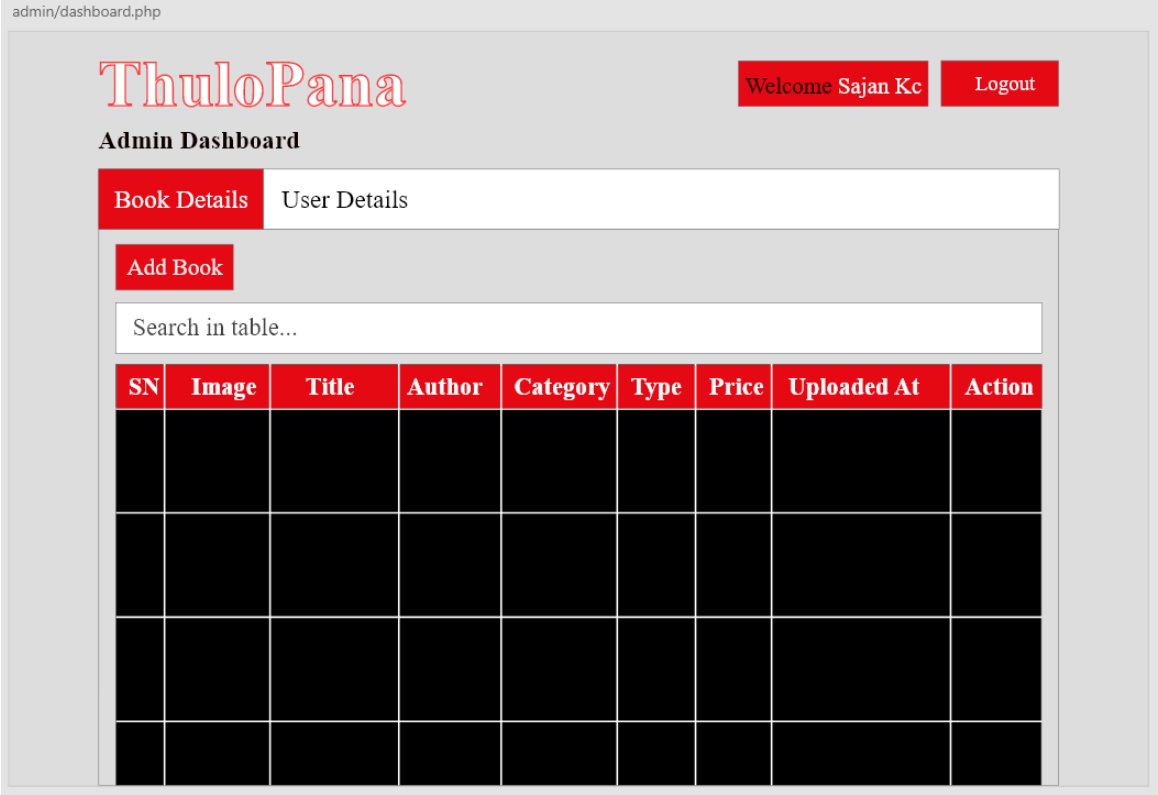

Figure 20: Admin Dashboard Page of ThuloPana (Interface Design)

3.2.4. Physical DFD

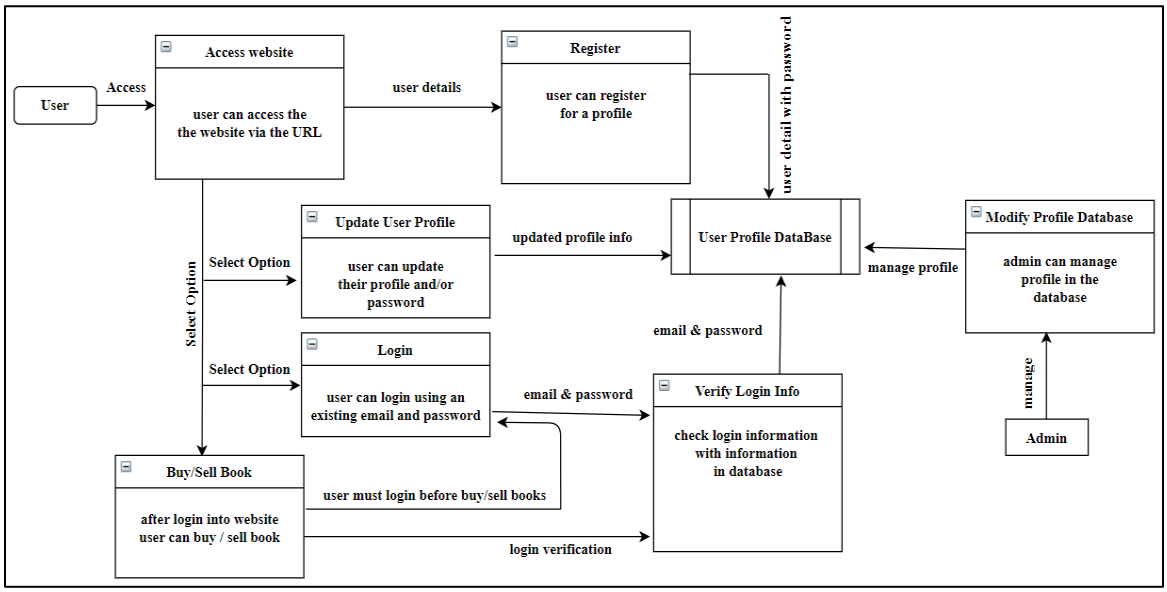

Figure 21: Physical DFD of ThuloPana

Physical data flow diagram shows how the data flow is implemented in the system. Physical DFD is more specific and closer to implementation. Figure illustrated above shows a physical DFD of ThuloPana**.**

Chapter 4: Implementation and Testing

4.1. Implementation

4.1.1. Tools Used

The various system tools that have been used in developing both the frontend and the backend of the project are being discussed in this chapter.

FRONT END

Adobe XD, HTML, CSS, JavaScript, and PHP are utilized to implement the frontend.

Adobe XD 37.0.32.10 (Starter)

Adobe XD is used to design over all layout of the project.

HTML5 (Hyper Text Markup Language)

HTML5 is a syntax used to format a text document on the web. It is used to create overall structure of the project.

CSS3 (Cascading Style Sheets)

CSS3 is a style sheet language used for describing the look and formatting of a document written in a markup language. It is used to give the looks to the project.

Java Script V8 8.9.255.25

Java Script is a dynamic computer programming language. It is most commonly used as part of web browsers, whose implementations allow client-side scripts to interact with the user, control the browser, communicate asynchronously, and alter the document content that is displayed. Java Script is used to create popup windows displaying different alerts in the system like “Are you sure want to delete this user?”,” search functionality” etc.

PHP 7.4.11

PHP is a server-side scripting language designed for web development but also used as a general-purpose programming language. It is used to dynamically display pages in the project and interact with database.

BACKEND

The back end is implemented using MySQL which is used to design the databases.

MySQL 8.0.22

MySQL is the world's second most widely used open-source relational database management system (RDBMS). The SQL phrase stands for Structured Query Language. MySQL is used to store all the data of project.

Other Tools used

Git and GitHub

Git and GitHub are used for version control and as a code repository. We also used GitHub project features to track the project.

4.1.2. Implementation Details of Modules

Implementation

After the design was made and the problems arising from the design process where clarified and dealt with, it was time to start implementing the application. Implementing application of this scale requires lots of resources and explaining the whole implantation process will not be clarified in this paper. However major important aspects in the implementation will be described.

The website designs.

Adobe XD is used to design over all layout of the project. and every other implementation like HTML and CSS tagging was done using Visual Studio. There are only one style sheets for whole website. The CSS style sheets are all linked to the master pages hence there is less or no presence of inline styling. The actual implementation has been done using PHP. PHP has been used to interact with the backend database. In this implementation, My SQL Server has been used as the backend RDBMS. PHP processes the inputs or commands given by the user and translates them in the commands understandable to the backend database. The output produced by the backend database is also handled by PHP which then displayed on the browser screen. Since every page will be attached to the Master Page at runtime the website has keeps a constant look and feel. It

serves like a template for the website design and views. After the design here is how the final home page looked like:

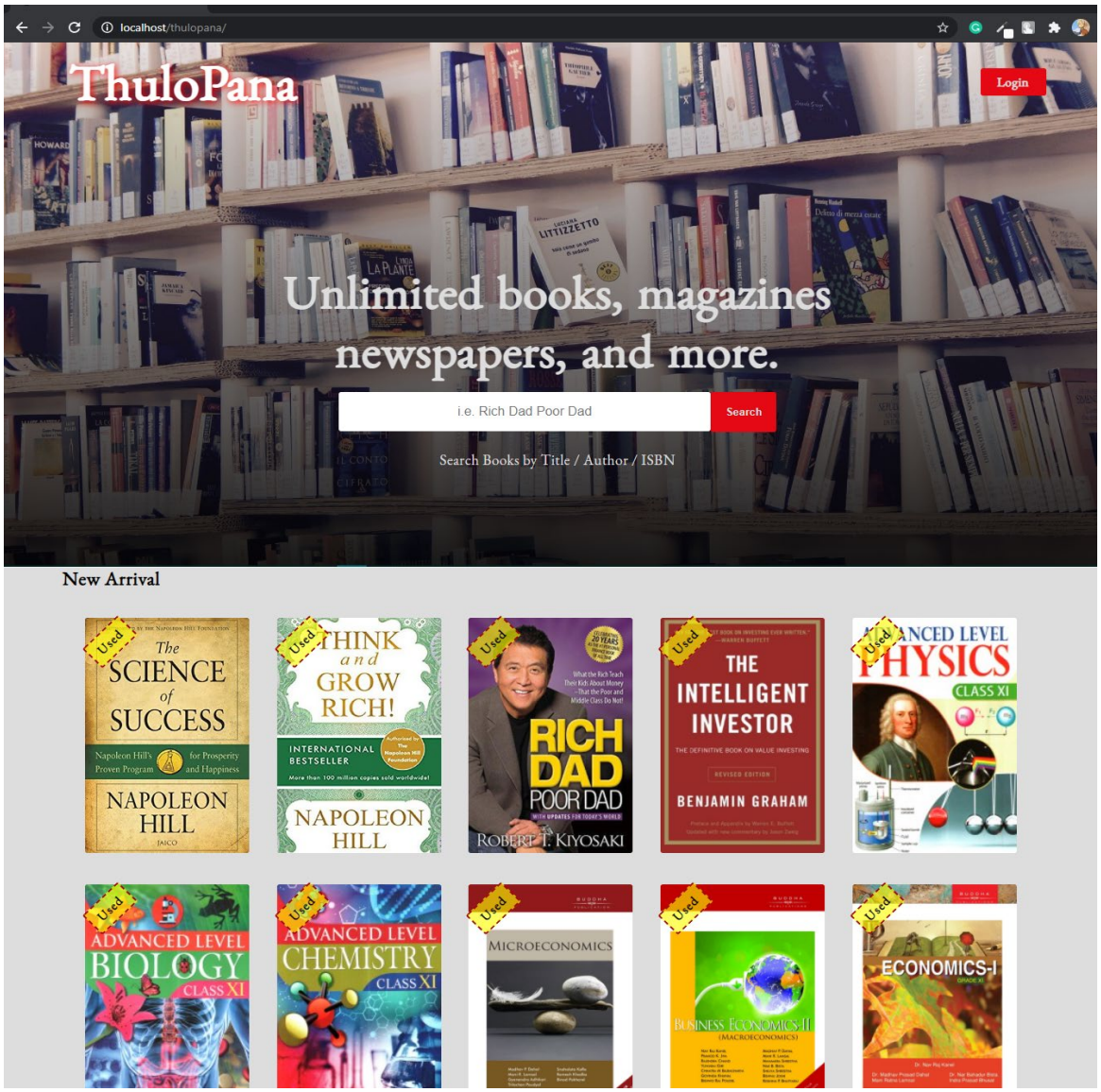

Figure 22: Home Page of ThuloPana

Home page

The Home page is made up of search box login and view books. It's the main template of the website. At runtime it combines with another page that becomes like a child to it. There is a login button on top right corner which is used to login into system. If a user is not register in system, there is hyperlinks controls "Click here to create free account" from which he/she can register in system. There is also search button and textbox control in home page to get input of book titles or ISBN or author to search for books in the database. The results are will be shown in another page.

Below the search box there is another section which has a latest book label that shows newly uploaded books. It contains a list view control to view books and book images are part of the template field. The list view gets all its information from the database. On the list view control there are hyperlinks controls to view details of each book on click. The user is sent to another page showing the more information about that book.

Sell books

To sell books on the website you have to be a registered member. After the process you will be able to see a link on the menu that links you to a page to upload new books. On this page the Details View control is used as the main input interface for all relevant information needed to sell a book on the website. When a book is uploaded it is automatically viewable by everybody who visits the website. The buying process can start immediately on that book. On inserting we store the User's information into the database so that we can know the owner of the book.

Buy books

To buy books on the website you have to be a registered member. After the process you will be able to see the details of seller. Otherwise, you cannot see the details of seller, but you can see the details of books.

Searching

To Search books on the website you have not to be a registered member. There is a search box button and textbox control in home page to get input of book titles or ISBN or author to search for books in the database. The results are will be shown in another page.

4.2. Testing

For the application or website to be deployed it has to be tested. Hence test cases will be written to test this application. They are many types of tests to be carried out on a web application from performance, functionality, database loading time, response time, server time handling, user's actions, and many others. We will not carry out all types of tests for the application considering the time scale to present this project. Hence performance check related to upload time, memory usage will be part of a future test. We will focus the test cases on functionality, security and performance.

The later test on the website will make sure that the website provides the right results and outcome. The test will help reduce unpredictability on the website. We will run test on various browsers making sure that the application produces the same result and is stable on the major popular browsers.

Finally, the last test will be the checking of all input source such as query strings, web services and textboxes. This will help prevent cross-side scripting attacks and SQL injection.

4.2.1. Test Cases for Unit Testing (Manual Testing)

Table 1: User Registration

ID	Test Case Description	Test Data	Expected Result	Actual Result	Pass/Fail
U_REG_1	User forgets to enter a particular required field	full name: Ngima Sherpa email: phone: 9842868111 register as: Buyer password :1234@n password confirm:1234@n	Display message that Please fill out this field.	As expected	Pass
U_REG_2	User enters The Invalid Email Formats	full name: Ngima Sherpa email: ngaim phone: 9842868111 register as: Buyer password :1234@n password confirm:1234@n	Display message that Please include an '@' in the email address. 'ngima' is missing an '@'.	As expected	Pass
U_REG_3	User enters different password in password confirm field	full name: Ngima Sherpa email:ngima99@gmail.com register as: Buyer phone: 9842868111 password: 1234@n password confirm: 1234@ns	Display message that password did not matched. Try Again!!!	As expected	Pass

U_REG_4	User enters all the details successfully	full name: Ngima Sherpa email:ngima99@gmail.com register as: Buyer phone: 9842868111 password: 1234@n password confirm: 1234@n	User account created	As expected	Pass

Table 2: Admin Login

ID	Test Case Description	Test Data	Expected Result	Actual Result	Pass/Fail
A_LOG_1	Admin enters a wrong email	email: sazankce99@gmail.com password: 1234	Display message Invalid Email or password !!! Try again !!!	As expected	Pass
A_LOG_2	Admin enters correct email and password	email: sazankce@gmail.com password: 1234	Admin log in successfully	As expected	Pass

Table 3: User Login

ID	Test Case Description	Test Data	Expected Result	Actual Result	Pass/Fail
U_LOG_1	User enters a wrong email id	email: ngima@gmail.com password: 1234@n	Display message Login or Password is incorrect.	As expected	Pass
U_LOG_2	User enters correct username and password	email: ngima99@gmail.com password: 1234	User logs in successfully	As expected	Pass

Table 4: Add, Update and Delete a Book

ID	Test Case Description	Test Data	Expected Result	Actual Result	Pass/Fail
AUD_B_1	Admin/User forgets to enter a particular required field to adds a new book	isbn: title: php book description: Get started in web development using PHP. Even if you've never programmed before author: Ram karki category: computer programming type: used page:320 price: 380 published:2020	Display message the value in field is required	As expected	Pass
AUD_B_2	Admin/User enters correct details to add a new book	isbn: 881115569 title: php book description: Get started in web development using PHP. Even if you've never programmed before. author: Ram Karki category: computer programming type: used page: 320 price: 380 published: 2020	Book should be added in list	As expected	Pass
AUD_B_3	Admin/ User update a book in list	isbn: 881115569 title: php book description: Create web content with version 5.3 of PHP - Learn good coding practices from the very beginning - Learn how systems like WordPress work author: Hari Gupta category: computer programming type: used	Book should be updated categories list	As expected	Pass

		page: 320 price: 480 published: 2020			
AUD_B_4	Admin/User deletes a book from list	delete	Are you sure you want to delete this book ?	As expected	Pass

Table 5: Search Book

ID	Test Case Description	Test Data	Expected Result	Actual Result	Pass/Fail
U_SER_1	User enter book title/author/ISBN	Java	Display book's details	As expected	Pass
U_SER_2	User did not enter book title/author/ISBN	Rs 500	No data found !!!	As expected	Pass

Chapter 5: Conclusion and Future Recommendations

5.1. Lesson Learnt / Outcome

When the project is completed, the users will be able to search their favorite books by its title or author or price or ISBN. After register the application form, they can buy secondhand books online Through a web browser. They also will be able to upload their used book and sell them. In this way user can save and make money from this website.

5.2. Conclusion

Our goal was to create an application where people will upload books and be able to sell them online. The current application has fulfilled these goals. We followed the specifications strictly but enhanced some of the features when there was need for it to be done. With the goals achieved the basis of the application and this project has been achieved. Building this web application has been challenging and enriching because throughout the project we learnt a lot about PHP, JavaScript and understand what it takes to build a fully functional website. There have been challenges especially when it came to backend and making sure that the application responses in a predictable. Careful planning made our job easier because we had to carefully think about the type of architecture, the design, the database types to use and what type of business objects to create. When this was done, we proceeded with implementation.

Choosing the Php for this project is because it is very simple and easy to use, compared to another scripting language, this is widely used all over the world. it is Open source; we can freely download and use. And it is Platform Independent as well.

As we came to the end of the project, we realized that there are many enhancements that can be made on the application. Some of these ideas came from those who tested the application and some of them from both of us. we decided to follow the specification because there were realistic to achieve in this given amount of time. Any other enhancements to the application can be done in future development of the application.

5.3. Future Recommendations

Here is what can be added in the future on this website to increase its usability, user experience and portability of the website. There is a lot to be done hence this application can be considered as a starting point for something big to come. It will need more time and resources for all these to be done but it is still very realistic and possible to achieve.

- Add payment gateways,
- Add multiple categories for books,
- Adding a better order management portal,
- Addition of themes,
- Possibility to save orders and confirming it later,
- Reservation of books,
- Add forums and videos,
- Access the applications on a small device (mobile app),
- Add E-Book formats like PDF and others in the selling portal,
- Add a preview page after adding books,
- Greater user experience,
- Possibility for the buyer to bargain

References

[1] Hamrobazar, "Hamrobazar," Hamrobazar, 2021. [Online]. Available: https://hamrobazaar.com/.

[2] S. Patel, "SlideShare," SlideShare, 2021. [Online]. Available: https://www.slideshare.net/smitpatel10192/online-book-store-30152507.

[3] Netflix, "Netflix," Netflix, 2021. [Online]. Available: https://www.netflix.com/np/.

Appendix

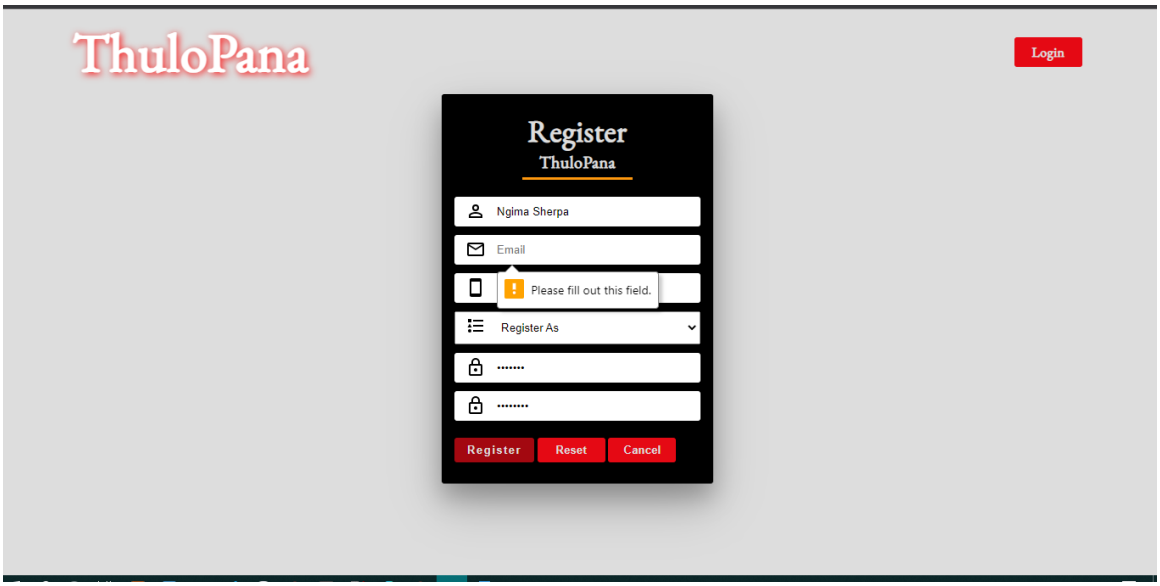

Figure 1: Register Page

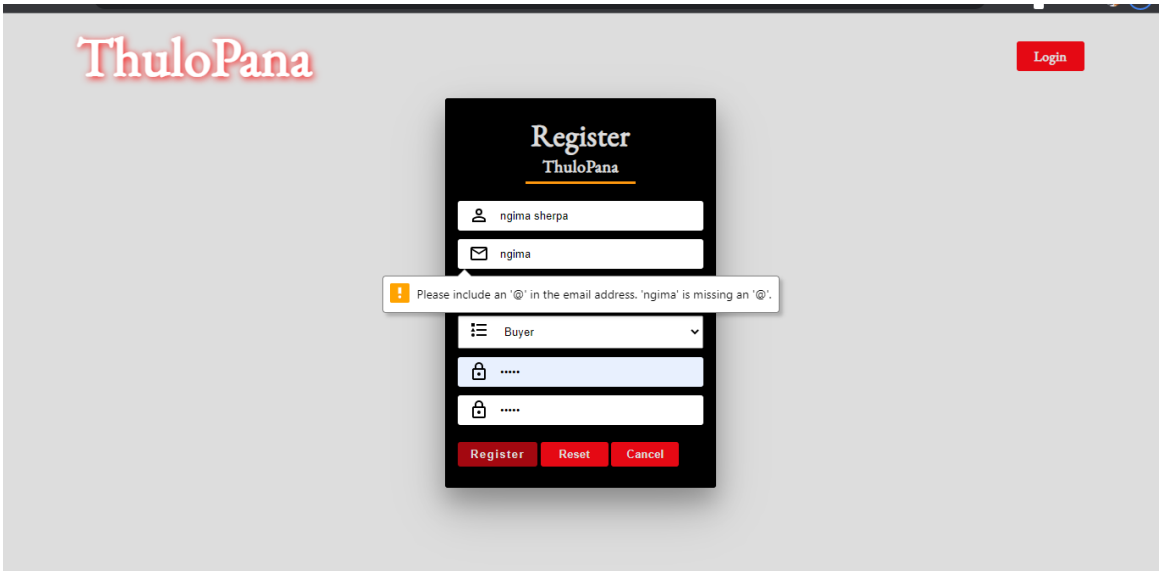

Figure 2: Register Page

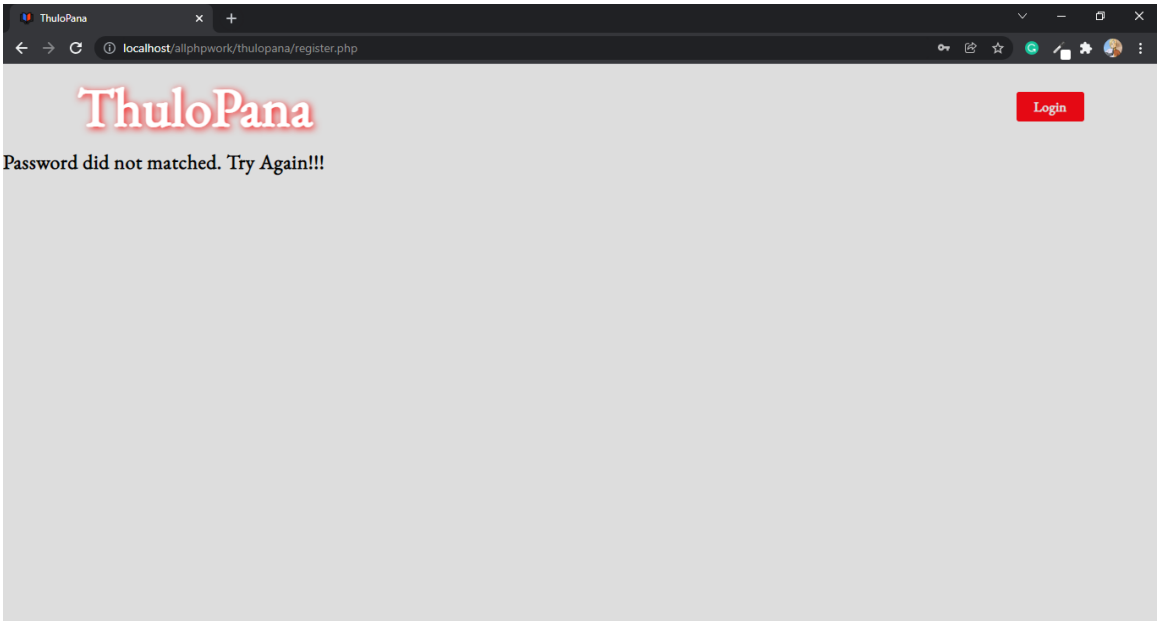

Figure 3: Register Error Page

Figure 4: Login Error Page

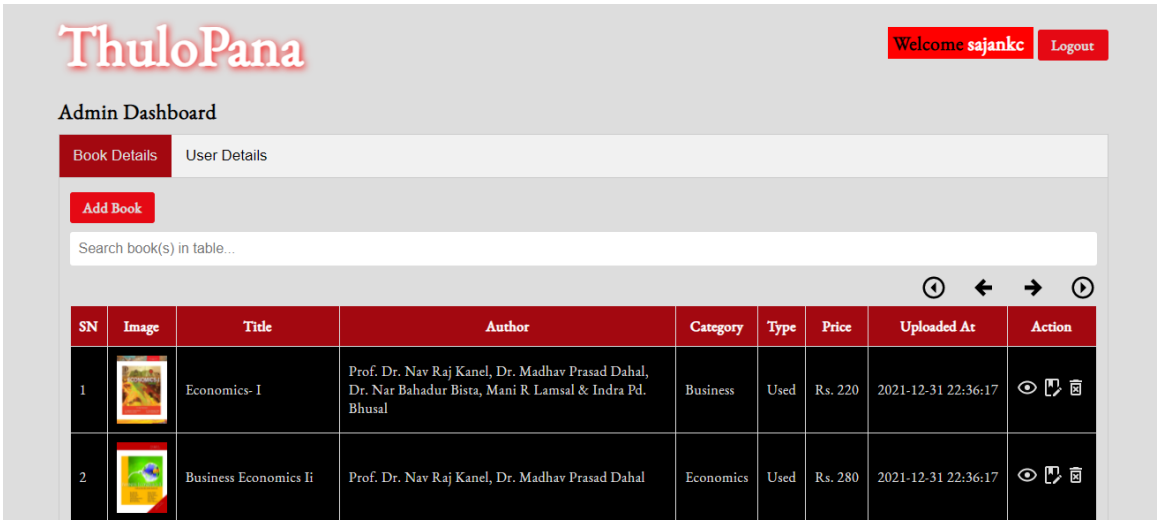

Figure 5: Admin Dashboard Page

Figure 6: Admin Login Error Page

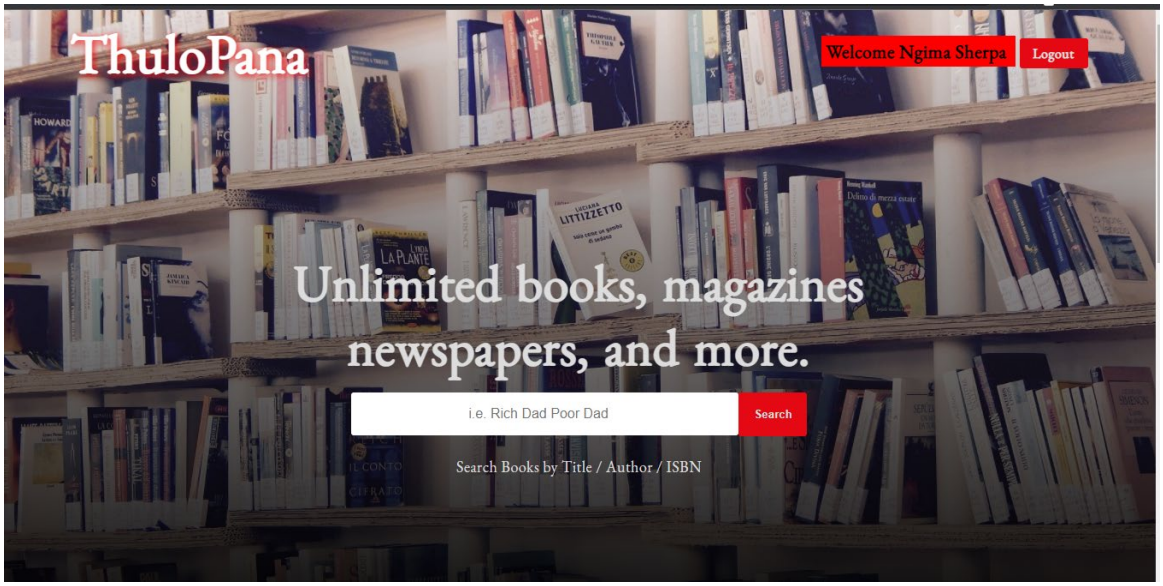

Figure 7: User Home Page

Figure 8: Add Book Page

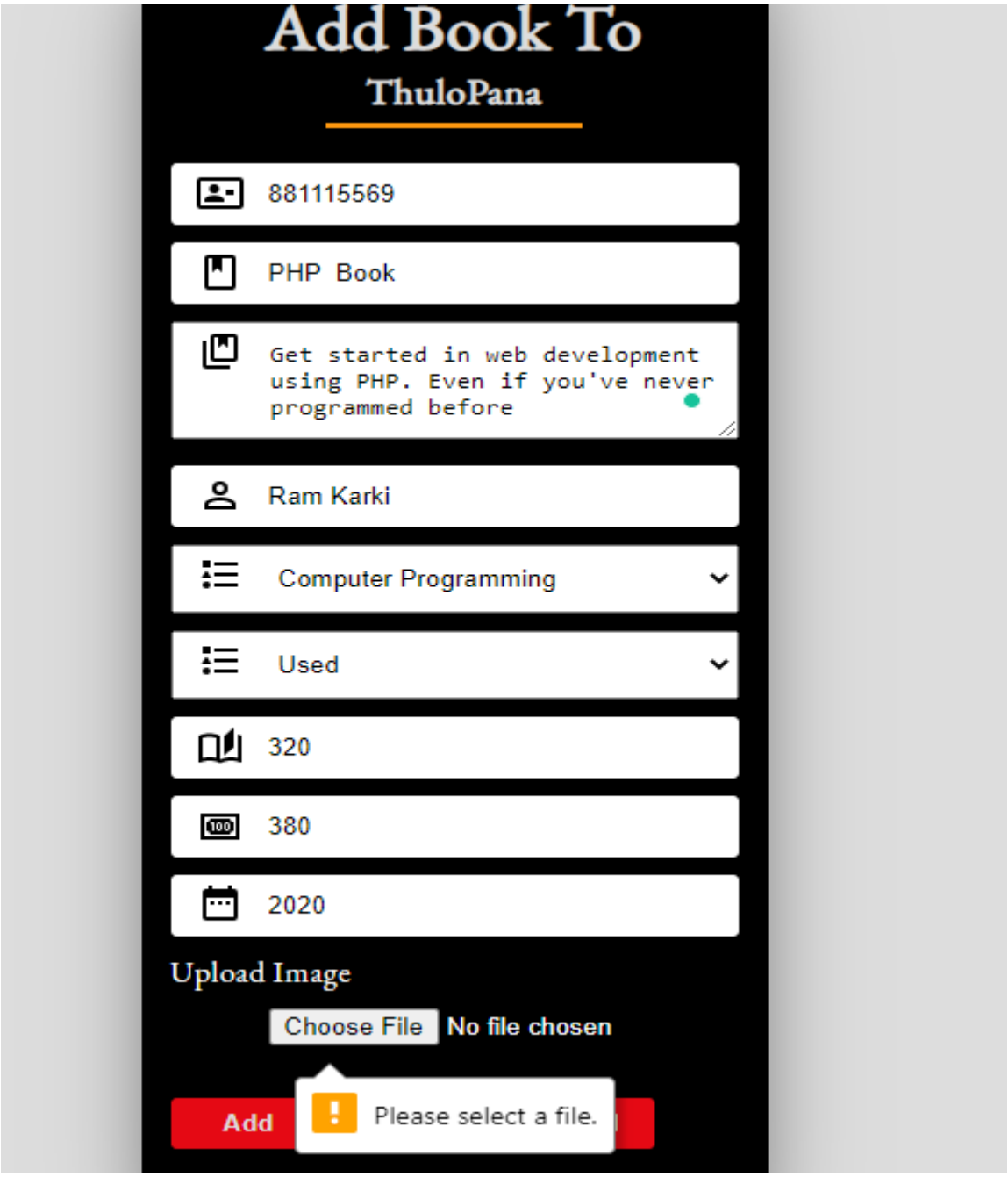

Figure 9: Add Book Page

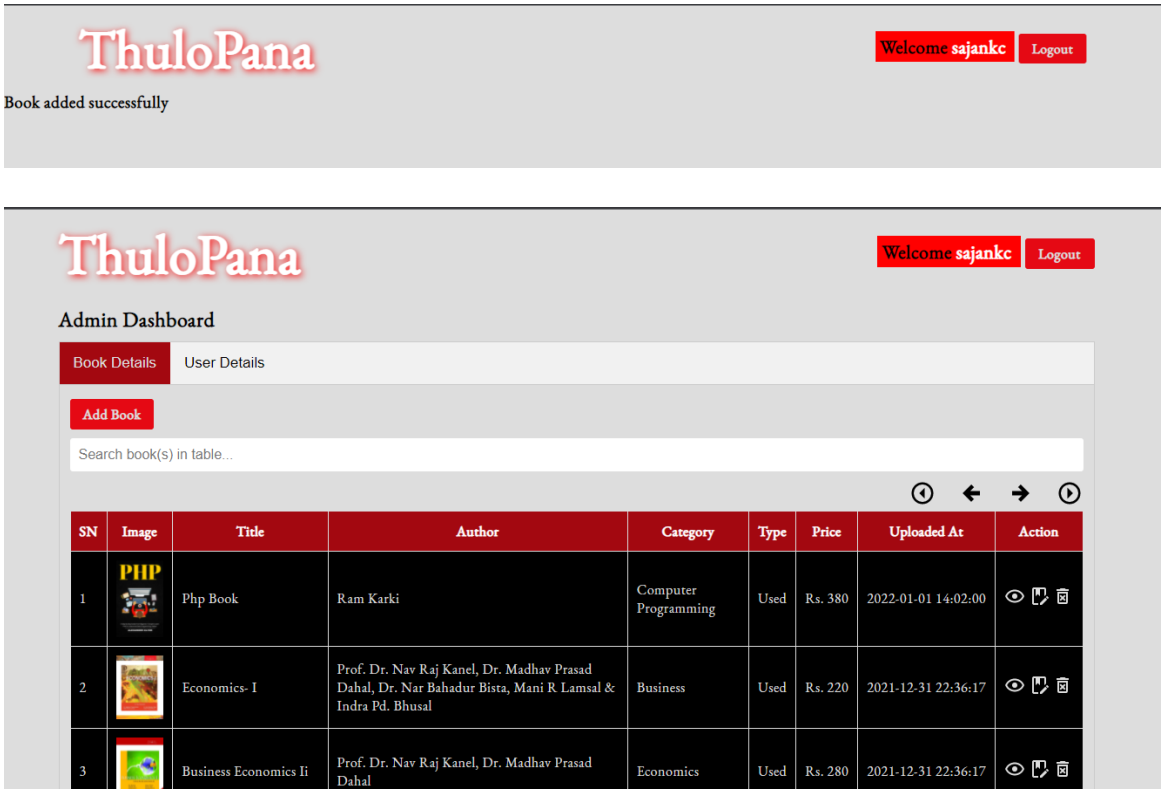

Figure 10: Add Book Success Page

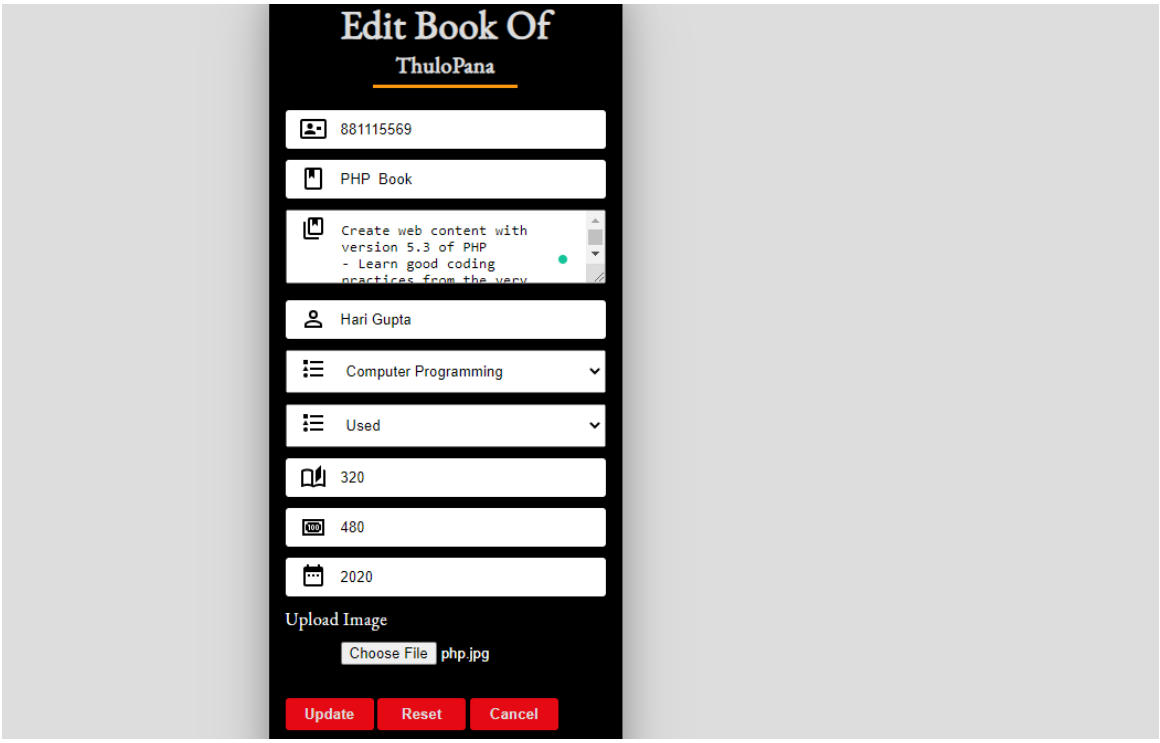

Figure 11: Edit Book Page

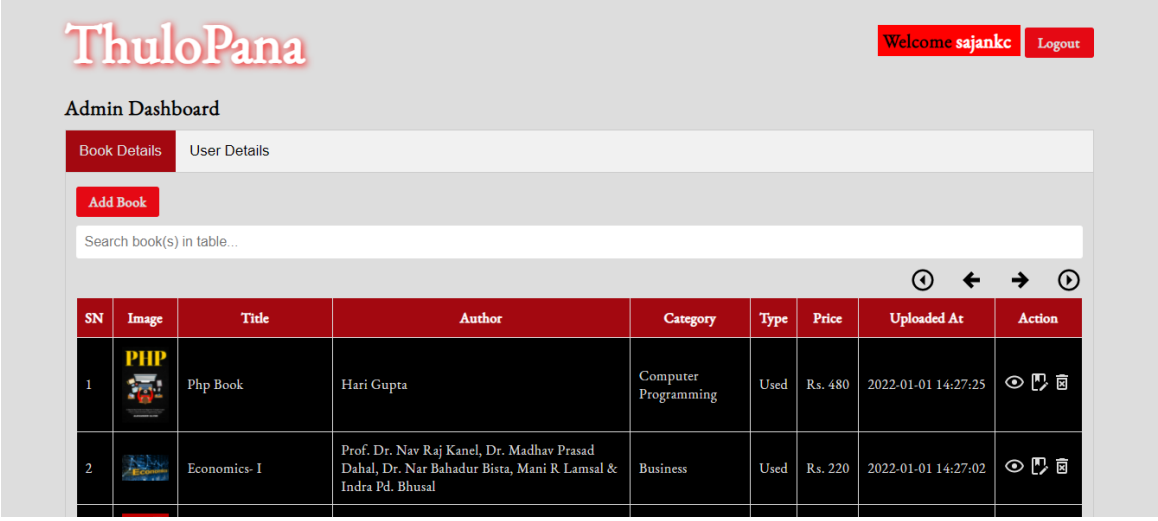

Figure 12: Update Success Page

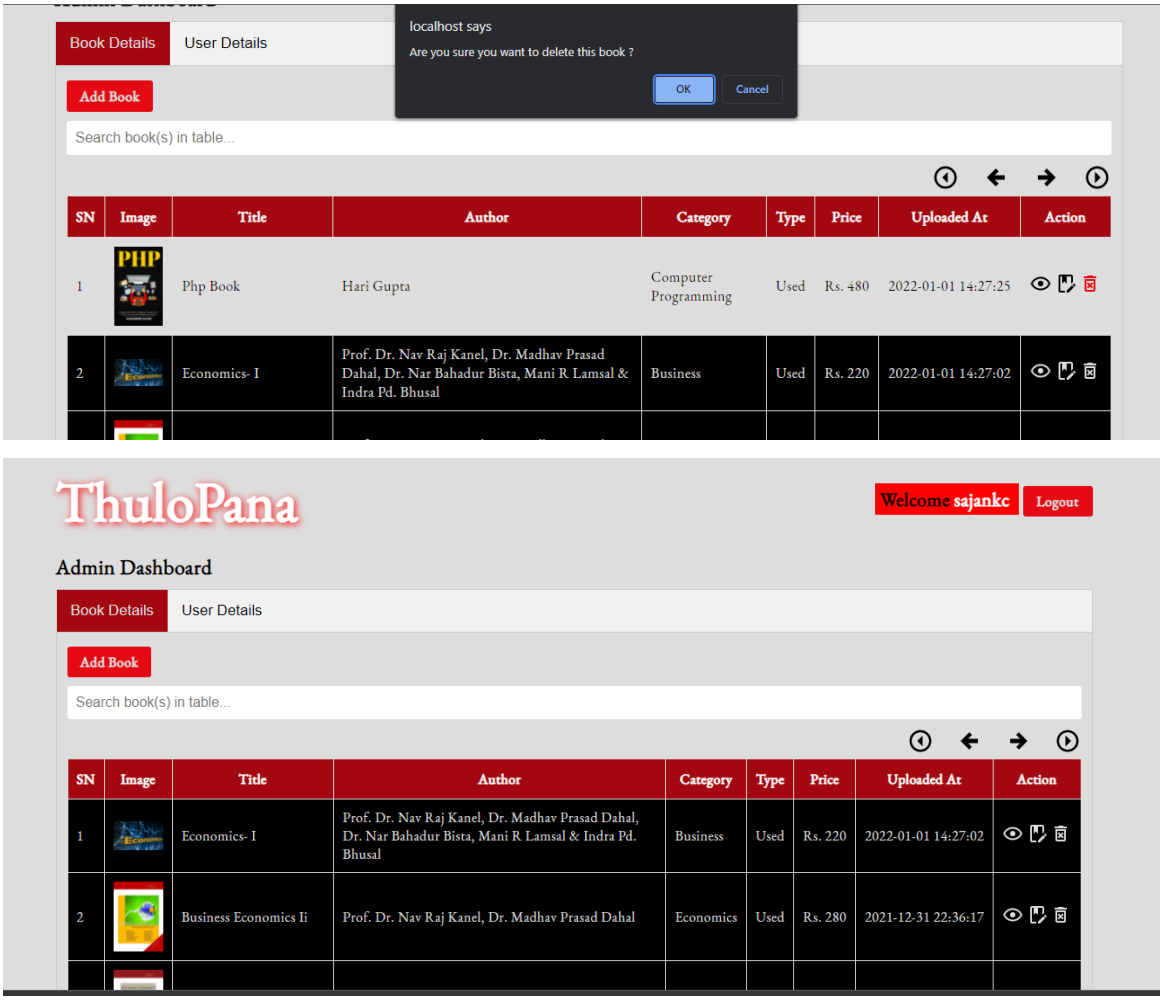

Figure 13: Delete Book Page

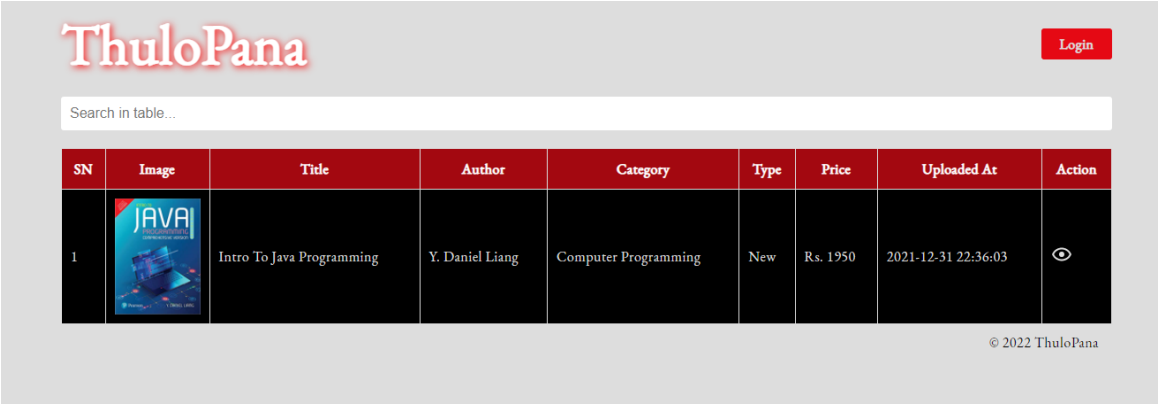

Figure 14: Search Result Page

Figure 15: Search No Result Page