

INDUSTRIAL TRAINING REPORT

TITLE: BOOK PUBLISHER

Submitted in partial fulfillment of the
Requirements for the award of
Degree of Bachelor of Technology in Information Technology



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DECLARATION

I hereby declare that the Industrial Training Report entitled ("Book Publisher") is an authentic record of my own work as requirements of Industrial Training during the period from 20-06-2018 to 01-08-2018 for the award of degree of B.Tech. (Information Technology), Bharati Vidyapeeth's College of Engineering, New Delhi, under the guidance of Mr. Vijay.

(Signature of student)

Sarvottam Kumar Singh
41551203116

Date: 28-08-2018

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I would also like to thank all the other person of Ducat who helped me to get all the needed resources and hardwares.

Atlast, I am really thankful to my parent who stick to me and encouraged throughout this journey.

Welcome To Ducat

Ducat is an ISO 9001:2000 certified company that built a reputation for high quality software development, IT Training and Consulting Services in India. It is one of the nation's largest Corporate Education and Consultancy providers. It is a completely Indian company which understands India's training needs and how they affect our unique place in the global economy.

Ducat's service package includes product quality testing, training, consultation, facilitation and hand holding for the quality initiatives.

It also provide Specialized Project Based 6 Weeks Summer Training based on various courses.

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Chapter 01

Introduction to Project

In today's growing age of cut-throat competition, businesses need to have an edge for the survival of the fittest! The business world is like a malleable alloy, which changes with the environment it is in. Gone are the days of direct sales. Hail the era of indirect sales at the subconscious level. It's high time for a radical makeover.

Digitization, means converting data at machine level analog into a user friendly readable digital format. It may involve integration of old skills and new technologies and trends. But Digitization has revolutionized every arena of the world. Due to coming of Internet, now every person can easily connect to it and share anything they want and also can do their own private work through this medium.

Internet has provide a platform for all small scale to large scale busi^lnesses to showcase their work and connect with the audience and their customers. Now a days, most of the company are web based who only work through internet and able to provide its services to the customer present anywhere in the world.

To grow its business and provide all their services, they make website where every user and customer can freely browse to their all facility and work. Website depicts about company and it's all resources and ventures. Since it is easily accessible and also help to increase their brand product and reach to the marke easily , website thoroughly plays a pivotal role to grow a business in this digitized world.

Website are also made solely for selling their product but having a small business website isn't just about selling your goods and services — it's also about providing something of value to potential customers.

This project is aimed to build a book publishing website which showcase all the product of company. Any person can browse through this website to see the work and quality of company. Apart from showing their product, this website also provide facility to buy it's product directly from the company. It assures customers rights and provide originality of product to them.

Website is purposely made to reach out all the person sitting any corner of the world and making easily accessible its product to them.

In this fully digitized world, where customers are tech-savvy all the time browsing through internet, a website works as a social proof in the world of internet where everyone are connected to each other.

There are so many reasons that make any business company must have website protocol to follow. Gone are the days when people used to asked to their friends and relatives if they need to know about something or to buy anything of any brand, they all asked for advice . But now scenario is quite different , if they have to know about anything they search on google, if they have to buy anything they search on google or e-commerce site. Every person use internet. Hence, if your website is on the internet then it would be very easy for any person to know about you and your product and services as there is your website on the internet which is reflecting about your company.

Having a website now are equivalent to having a certification from a recognized organization. Trust level with customer increases if company have website, as it give them security that company is not fake.

So overall all business no matter small or large, website is needed in this new world if you really wanna grow your business and reach to the maximum of customers.

Chapter 02

Tools & Technology Used

There are various tools and technology available that can be used to develop a website. But the most interesting web development technology that attracted me is JSP(Java Server Pages). It provides a robust and scalable website. It combines the use of Java language and HTML tags to generate dynamic web pages.

2.1 JavaServer Pages (JSP)

JavaServer Pages (JSP) technology provides a simplified, fast way to create web pages that display dynamically-generated content. The JSP specification, developed through an industry-wide initiative led by Sun Microsystems, defines the interaction between the server and the JSP page, and describes the format and syntax of the page.

JSP pages use XML tags and scriptlets written in the Java programming language to encapsulate the logic that generates the content for the page. It passes any formatting (HTML or XML) tags directly back to the response page. In this way, JSP pages separate the page logic from its design and display.

JSP technology is part of the Java technology family. JSP pages are compiled into servlets and may call JavaBeans components (beans) or Enterprise JavaBeans components (enterprise beans) to perform processing on the server. As such, JSP technology is a key component in a highly scalable architecture for web-based applications.

JSP pages are not restricted to any specific platform or web server. The JSP specification represents a broad spectrum of industry input.

Separation of Concerns

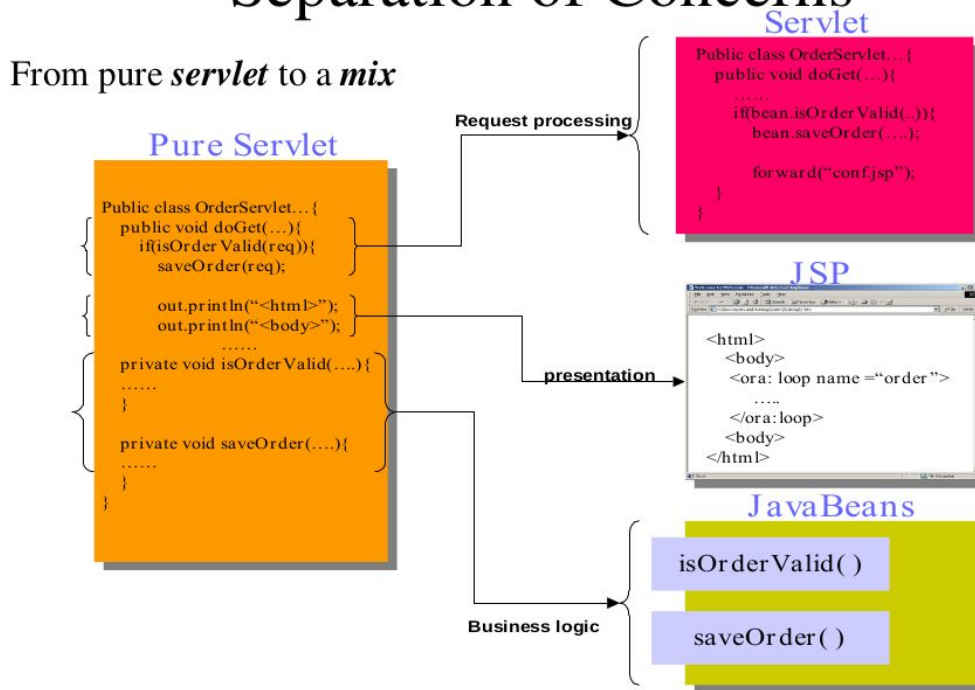


Fig 2.1. JSP and Servlet

4

JSP technology is the result of industry collaboration and is designed to be an open, industry-standard method supporting numerous servers, browsers and tools. JSP technology speeds development with reusable components and tags, instead of relying heavily on scripting within the page itself. All JSP implementations support a Java programming language-based scripting language, which provides inherent scalability and support for complex operations.

2.1.2 JSP Lifecycle

A web application consists of web components, static resource files such as images, and helper classes and libraries. The web container provides many supporting services that enhance the capabilities of web components and make them easier to develop. However, because a web application must take these services into account, the process for creating and running a web application is different from that of traditional stand-alone Java classes.

The process for creating, deploying, and executing a web application can be summarized as follows:

1. Develop the web component code.
2. Develop the web application deployment descriptor.
3. Compile the web application components and helper classes referenced by the components.

4. Optionally package the application into a deployable unit.
5. Deploy the application into a web container.⁵
6. Access a URL that references the web application.

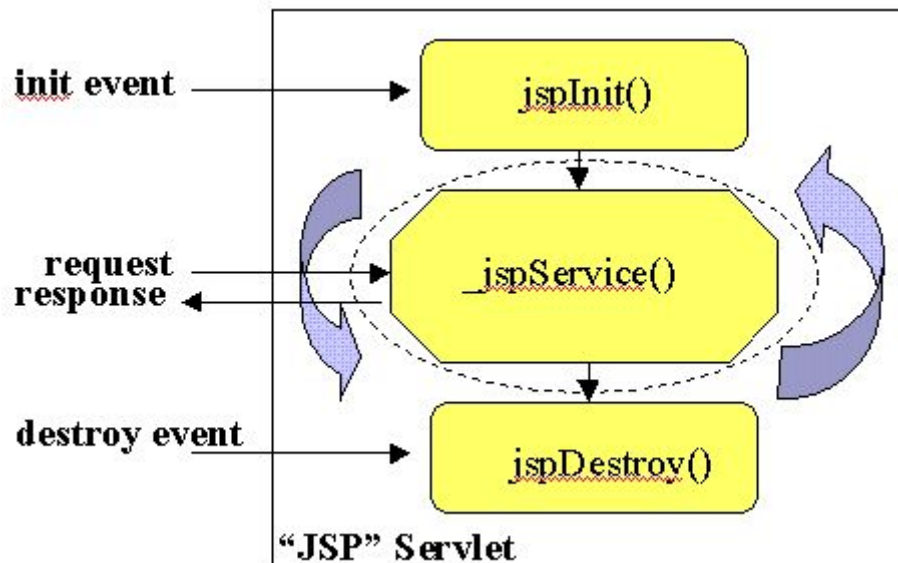


Fig 2.1.2. JSP Lifecycle

2.1.3 JSP File Structure

In the Java EE architecture, web components and static web content files such as images are called **web resources**. A **web module** is the smallest deployable and usable unit of web resources. A Java EE web module corresponds to a web application as defined in the Java Servlet specification. In addition to web components and web resources, a web module can contain other files:

- Server-side utility classes (database beans, shopping carts, and so on). Often these classes conform to the JavaBeans component architecture.
- Client-side classes (applets and utility classes).

A web module has a specific structure. The top-level directory of a web module is the document root of the application. The document root is where JSP pages, client-side classes and archives, and static web resources, such as images, are stored.

The document root contains a subdirectory named WEB-INF, which contains the following files and directories:

- web.xml: The web application deployment descriptor
- Tag library descriptor files (see Tag Library Descriptors)
- classes: A directory that contains server-side classes: servlets, utility classes, and JavaBeans components
- tags: A directory that contains tag files, which are implementations of tag libraries (see Tag File Location)
- lib: A directory that contains JAR archives of libraries called by server-side classes

If your web module does not contain any servlets, filter, or listener components then it does not need a web application deployment descriptor. In other words, if your web module only contains JSP pages and static files then you are not required to include a web.xml file.

You can also create application-specific subdirectories (that is, package directories) in either the document root or the WEB-INF/classes/directory.

A web module can be deployed as an unpacked file structure or can be packaged in a JAR file known as a web archive (WAR) file. Because the contents and use of WAR files differ from those of JAR files, WAR file names use a .war extension. The web module just described is portable; you can deploy it into any web container that conforms to the Java Servlet Specification.

To deploy a WAR on the Application Server, the file must also contain a runtime deployment descriptor. The runtime deployment descriptor is an XML file that contains information such as the context root of the web application and the mapping of the portable names of an application's resources to the Application Server's resources. The Application Server web application runtime DD is named sun-web.xml and is located in the WEB-INF directory along with the web application DD. The structure of a web module that can be deployed on the Application Server is shown in Fig 2.1.3.

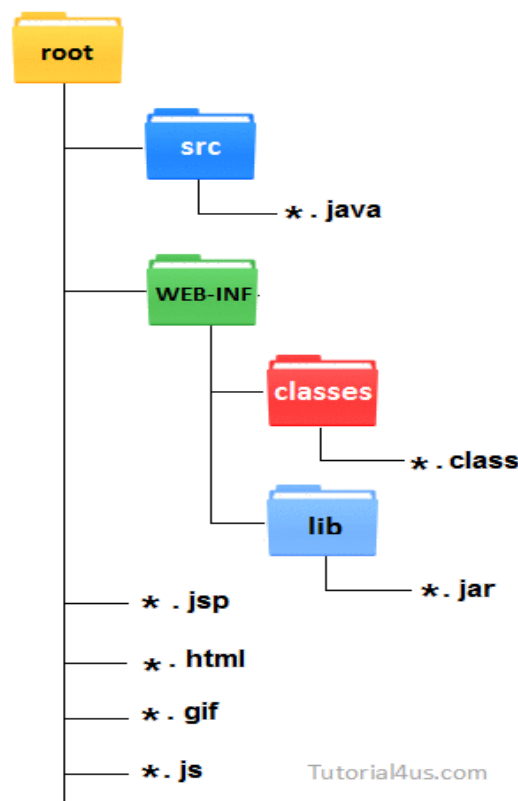


Fig 2.1.3. JSP File Structure

2.1.4 JSP Advantages

Advantages of Java technologies in development of web applications Web applications are applications that are created on request by dynamic web pages, and shall be executed on the platform provided by the Web server. Java is a programming language whose major characteristic is a complete independence from the physical platform on the level of translated code. Java programs, in the form of applets, can be embedded in Web pages and thus distributed to users. The consequence of this is the possibility of automatic distribution and installation of client applications on the network, regardless of the client's actual physical platform - Web browser with support for Java is enough for this.

The combination of WWW and Java technology has enabled the implementation of client-server information systems which, unlike traditional systems, are characterized with the following features:

- simple and widely accepted form of user interface (Web browser)
- automatic distribution and installation of client applications
- simpler maintenance, especially in heterogeneous networks.

2.2 Implementation in Java

The system was implemented in Java using Java Server Pages (JSP) for the views, Java servlets for the controllers and Enterprise Java Beans (EJB) for the models. The Java Server Pages combine Java language and XHTML tags to produce dynamic web pages. The Java servlets are classes that are written Java language to handle HTTP requests. The servlets use either the POST or GET method to respond to client requests. The Enterprise Java Beans are components developed in Java language. These components include session beans, message-driven beans (MDBs) and entities. The session beans can be stateless, stateful, or singleton and they perform business service operations. These services may be declaratively configured to operate in distributed, transactional, and access-controlled contexts. The message-driven beans are invoked asynchronously in response to external events through association with a messaging queue or topic. The Entities are objects that have unique identities and represent persistent business data. They are implemented using the Java Persistence API (JPA).

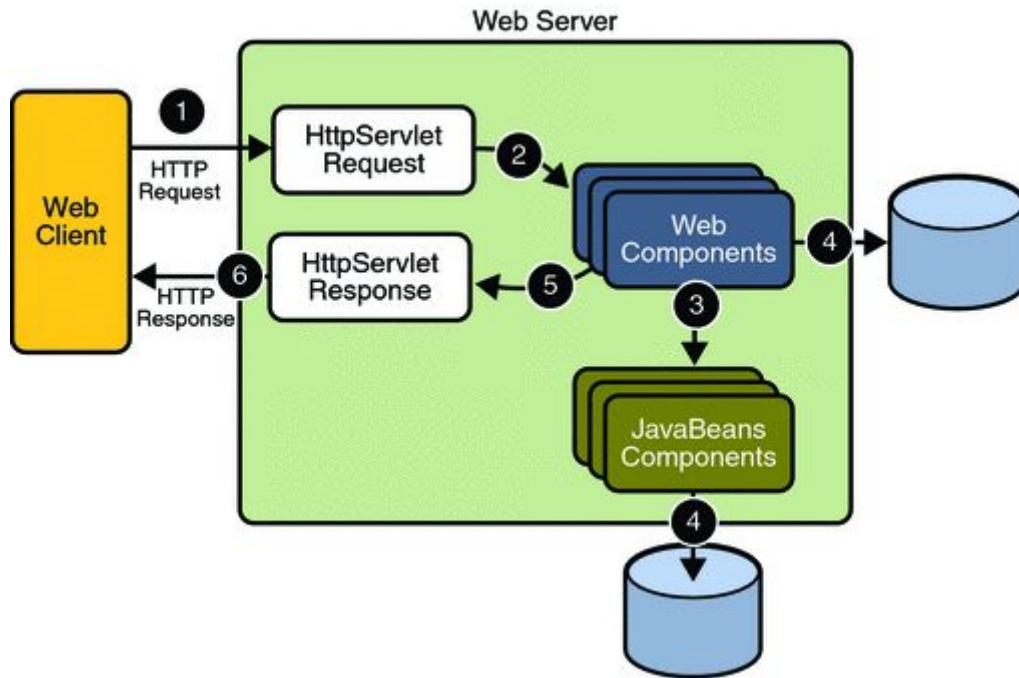


Fig 2.2 Java Web Request Handling

2.3 Implementation Tools

The following tools were used for the implementation in Java:

1. Eclipse Photon IDE was used for the application development.
2. JSP was used for generating the page views.
3. Java programming language was used for the controllers (servlets) and models (Enterprise Java Beans).
4. MySQL Server was used for the database development.
5. Apache Tomcat 9 was used for the web server.
6. HTML, CSS, JAVASCRIPT and JQUERY was used for designing of web pages.

2.4 MySQL Database

In this project, MySQL is used as the backend database. MySQL is an open source database management system. The features of MySQL are given below:

1. MySQL is a relational database management system. A relational database stores information in different tables, rather than in one giant table. These tables can be referenced to each other, to access and maintain data easily.

2. MySQL is open source database system. The database software can be used and modify by anyone according to their needs.

3. It is fast, reliable and easy to use. To improve the performance, MySQL is multithreaded database engine. A multithreaded application performs many tasks at the same time as if multiple instances of that application were running simultaneously.

In being multithreaded MySQL has many advantages. A separate thread handles each incoming connection with an extra thread that is always running to manage the connections. Multiple clients can perform read operations simultaneously, but while writing, only hold⁹ up another client that needs access to the data being updated. Even though the threads share the same process space, they execute individually and because of this separation, multiprocessor machines can spread the thread across many CPUs as long as the host operating system supports multiple CPUs. Multithreading is the key feature to support MySQL's performance design goals. It is the core feature around which MySQL is built. MySQL database is connected to JSP using an ODBC driver. Open Database Connectivity (ODBC) is a widely accepted application-programming interface (API) for database access. The ODBC driver is a library that implements the functions supported by ODBC API. It processes ODBC function calls, submits SQL requests to MySQL server, and returns results back to the application. If necessary, the driver modifies an application's request so that the request conforms to syntax supported by MySQL.

Chapter 03

Project Design

In order to design a web site, the relational database must be designed first. Conceptual design can be divided into two parts: The data model and the process model. The data model focuses on what data should be stored in the database while the process model deals with how the data is processed. To put this in the context of the relational database, the data model is used to design the relational tables. The process model is used to design the queries that will access and perform operations on those tables.

3.1 Data Model

A data model is a conceptual representation of the data structures that are required by a database. The first step in designing a database is to develop an Entity-Relation Diagram (ERD). The ERD serves as a blue print from which a relational database may be deduced. Figure 6.1.1 shows the ERD for the project and later we will show the transformation from ERD to the Relational model. Entity A matches exactly one record in entity B and every record in B matches exactly one record in A. One to many means that every record in A matches zero or more records in B and every record in B matches exactly one record in A. If there is a one to many relationships between two entities, then these entities are represented as Associative Entities. In the Relational Database model, each of the entities will be transformed into a table. The tables are shown below along with the attributes.

3.1.1 Database Design

In this section, the basic structure of the tables composing the database for the project are shown along with information about primary and foreign keys.

```
mysql> show tables;
+-----+
| Tables_in_victorious |
+-----+
| author                |
| book                  |
| customerorders        |
| photo                 |
| subscriber             |
| user                   |
+-----+
```

Table No. 3.1. All table in Database

```
mysql> show fields in author;
```

Field	Type	Null	Key	Default	Extra
id	int(11)	NO	PRI	NULL	auto_increment
authorname	varchar(100)	NO		NULL	
aboutauthor	longtext	YES		NULL	
authorimage	longblob	YES		NULL	

Table No. 3.2. Author table¹¹

```
mysql> show fields in book;
```

Field	Type	Null	Key	Default	Extra
id	int(11)	NO	PRI	NULL	auto_increment
title	varchar(1000)	NO		NULL	
author	varchar(500)	YES		NULL	
isbn	varchar(20)	YES		NULL	
price	varchar(20)	YES		NULL	
language	varchar(20)	YES		NULL	
format	varchar(20)	YES		NULL	
page	varchar(20)	YES		NULL	
category	varchar(200)	YES		NULL	
aboutbook	longtext	YES		NULL	
bookimage	longblob	YES		NULL	

Table No. 3.3. Book table

```
mysql> show fields in subscriber;
```

Field	Type	Null	Key	Default	Extra
id	int(11)	NO	PRI	NULL	auto_increment
email	varchar(20)	NO		NULL	

Table No. 3.4. Subscriber table

```
mysql> show fields in user;
```

Field	Type	Null	Key	Default	Extra
id	int(11)	NO	PRI	NULL	auto_increment
firstname	varchar(20)	NO		NULL	
lastname	varchar(20)	NO		NULL	
username	varchar(20)	NO		NULL	
email	varchar(30)	NO		NULL	
phonenumber	varchar(15)	NO		NULL	
password	varchar(30)	NO		NULL	
confirmpassword	varchar(30)	NO		NULL	

Table No. 3.5. User table¹²

```
mysql> show fields in customerorders;
```

Field	Type	Null	Key	Default	Extra
id	int(11)	NO	PRI	NULL	auto_increment
cid	int(11)	NO		NULL	
bid	int(11)	NO		NULL	
address	varchar(1000)	YES		NULL	

Table No. 3.6. Customer Order table

3.2 Process Model

A Process Model tells us about how the data is processed and how the data flows from one table to another to gather the required information. This model consists of the Functional Decomposition Diagram and Data Flow Diagram.

3.2.1 Data Flow Diagram (DFD)

Data Flow Diagrams show the flow of data from external entities into the system, and from one process to another within the system. There are four symbols for drawing a DFD:

1. Rectangles representing external entities, which are sources or destinations of data.
2. Ellipses representing processes, which take data as input, validate and process it and output it.
3. Arrows representing the data flows, which can either, be electronic data or physical items.
4. Open-ended rectangles or a Disk symbol representing data stores, including electronic stores such as databases or XML files and physical stores such as filing cabinets or stacks of paper.

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 data¹³ stores. The Detailed DFD provides a more detailed and comprehensive view of the interaction among the sub-processes within the system.

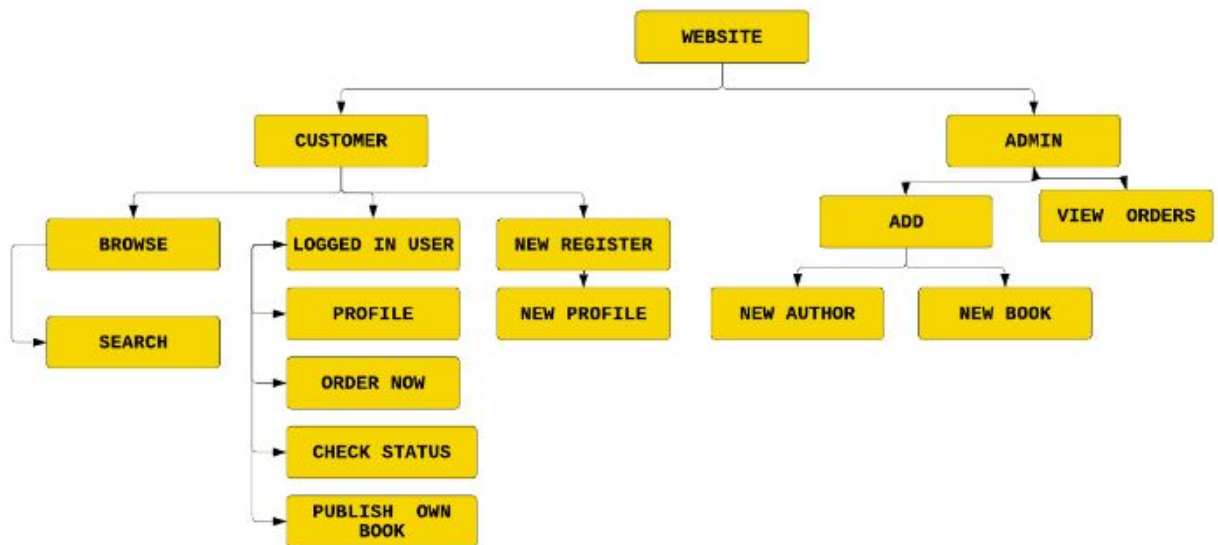


Fig 3.2.1. Functional Decomposition Diagram

Chapter 04

Snapshots of the Project¹⁴

These are the live snapshots of the running project.

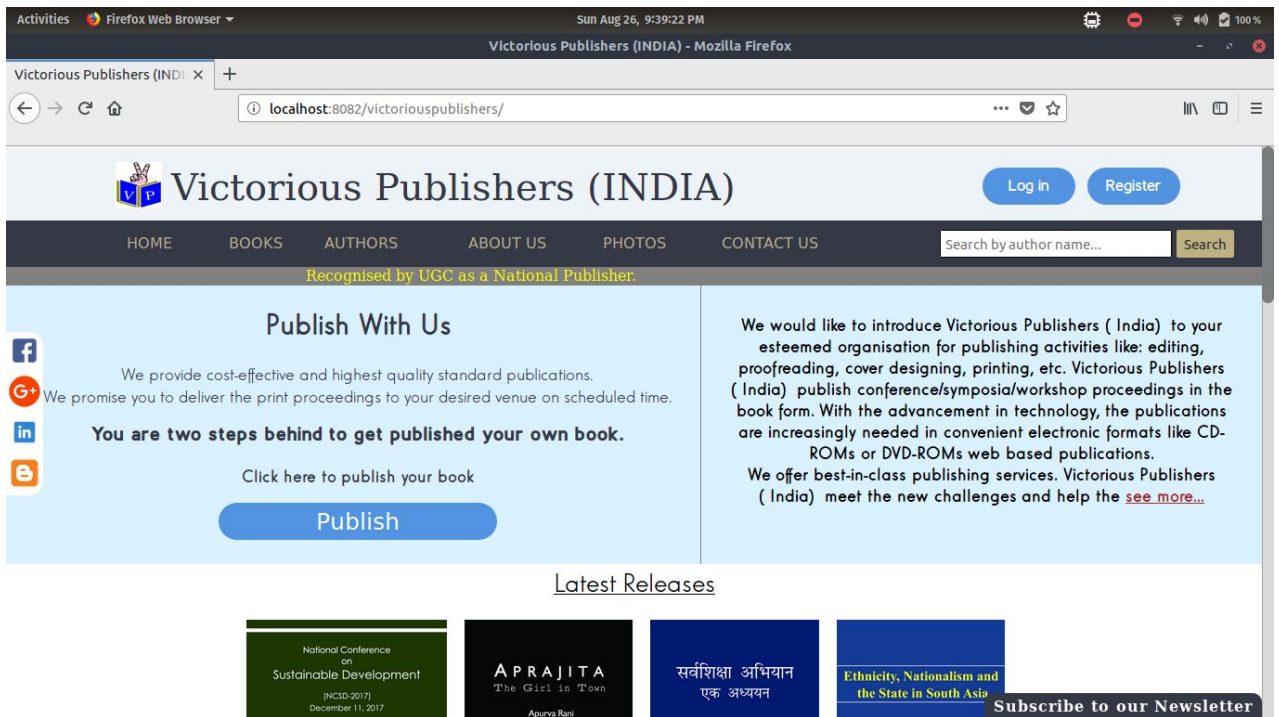


Fig 4.1. Home page upper section

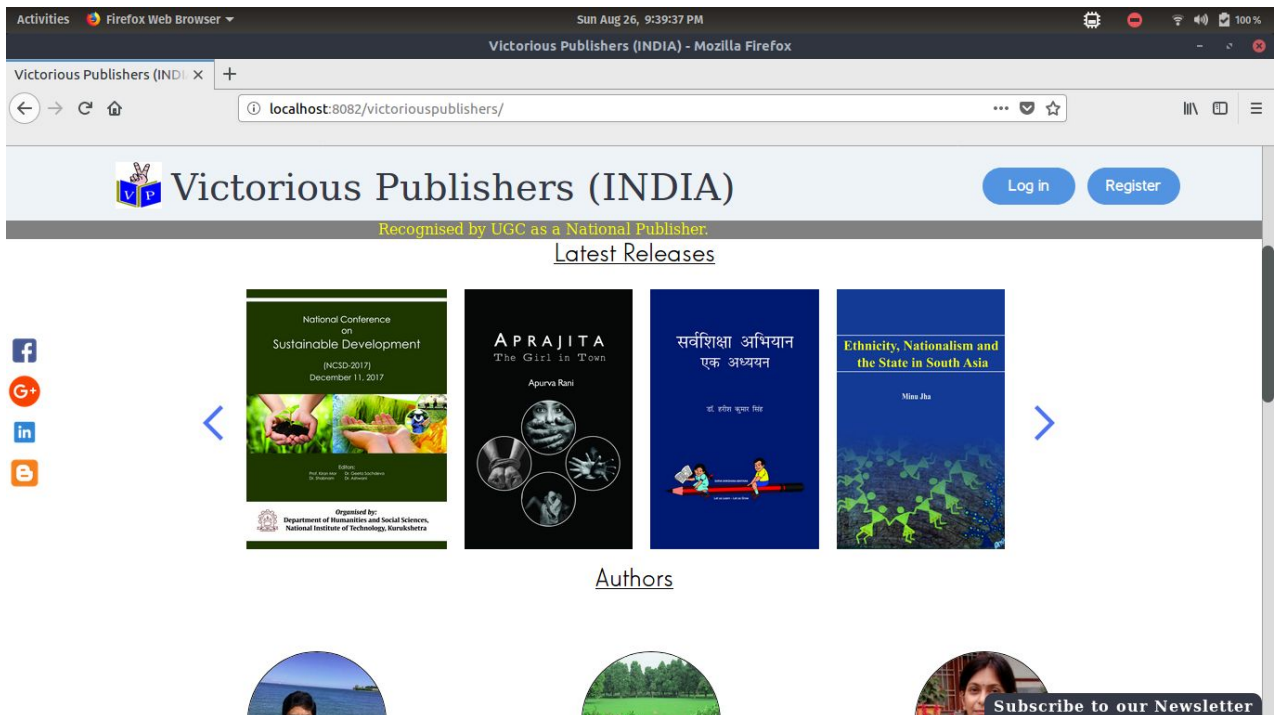


Fig 4.2. Home pager middle section

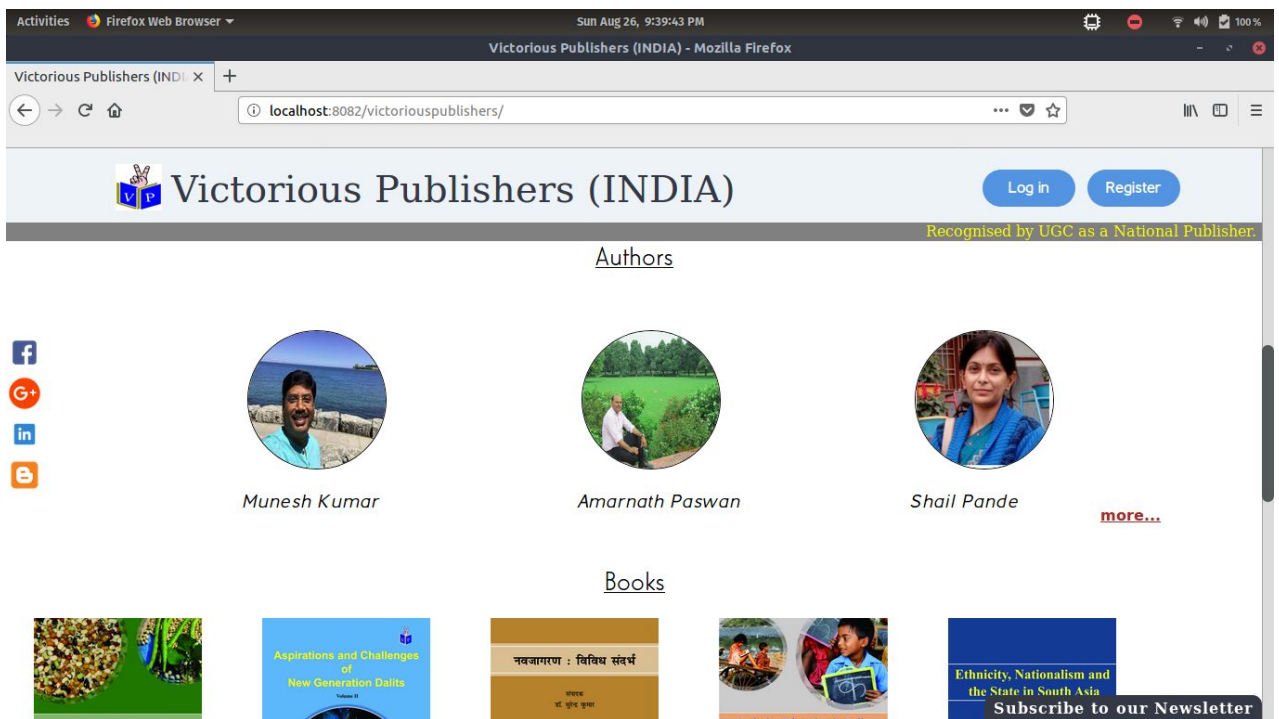


Fig 4.3. Home page lower middle section¹⁵



Fig 4.4. Home page lower section



Fig 4.5. Home page lower section with newsletter open¹⁶

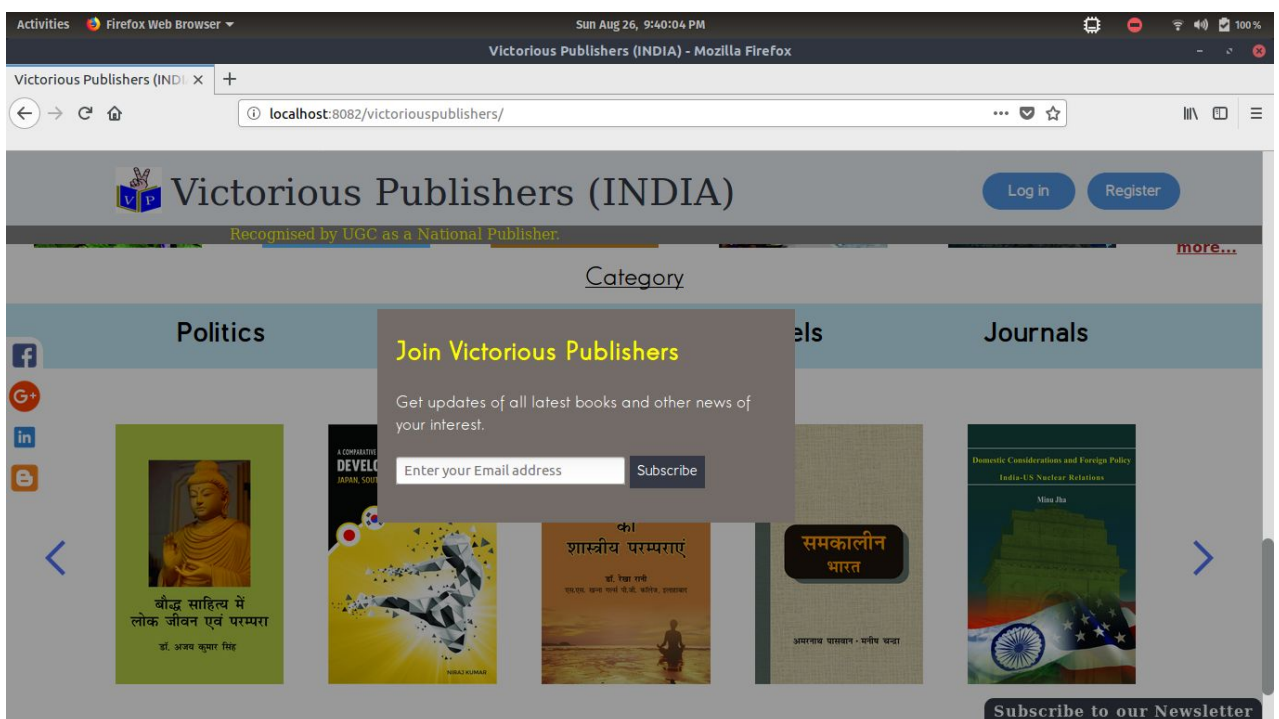


Fig 4.6. Newsletter



Fig 4.7. Social Link highlighted(left side)¹⁷

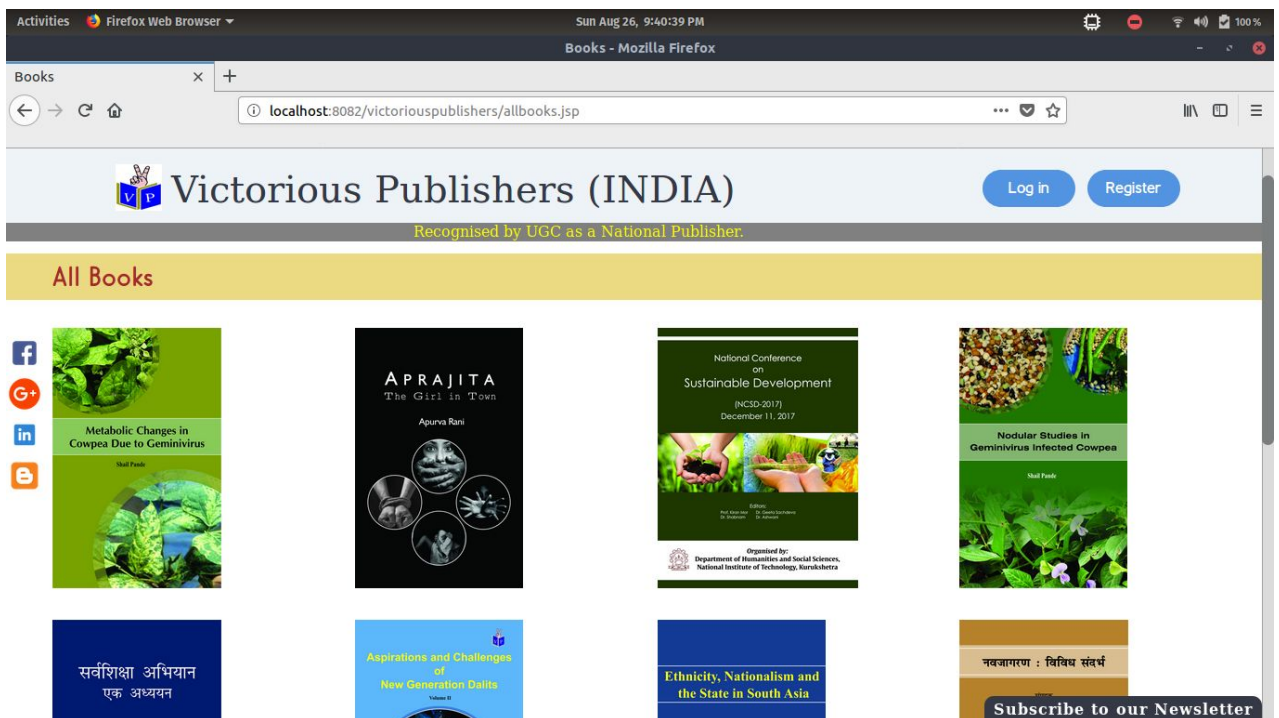


Fig 4.8. All Books

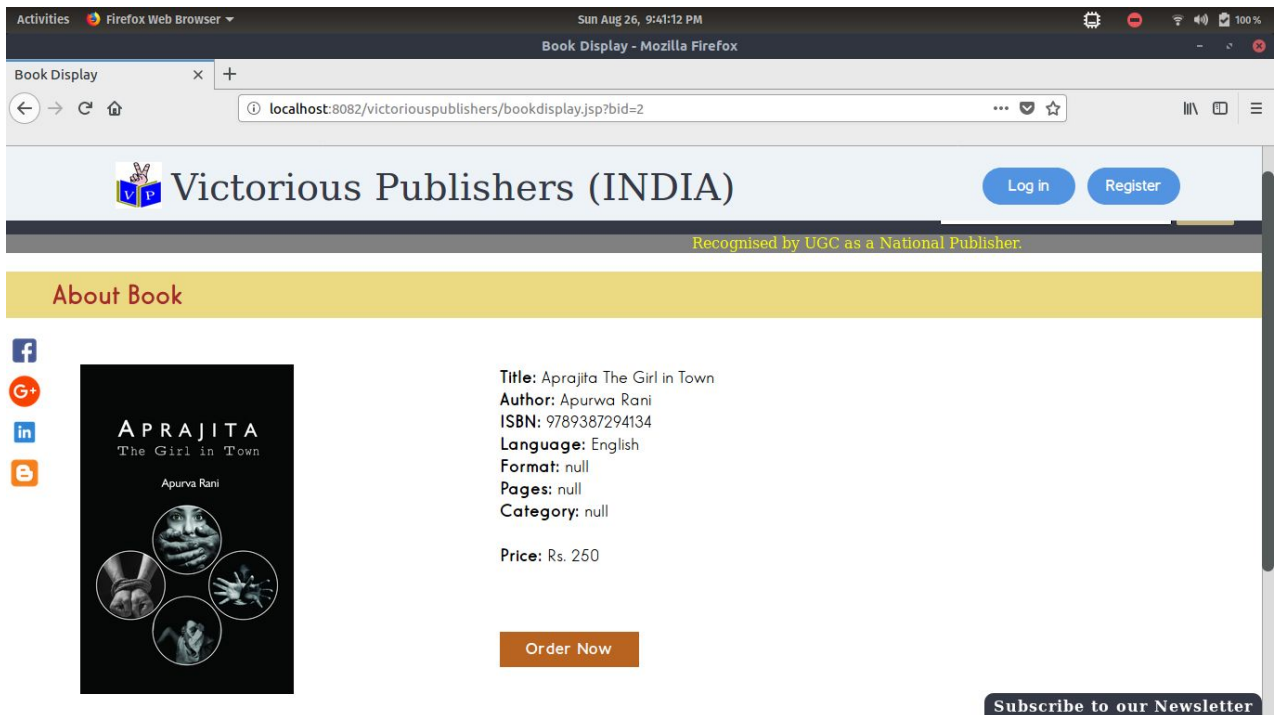


Fig 4.9 Book Detail¹⁸

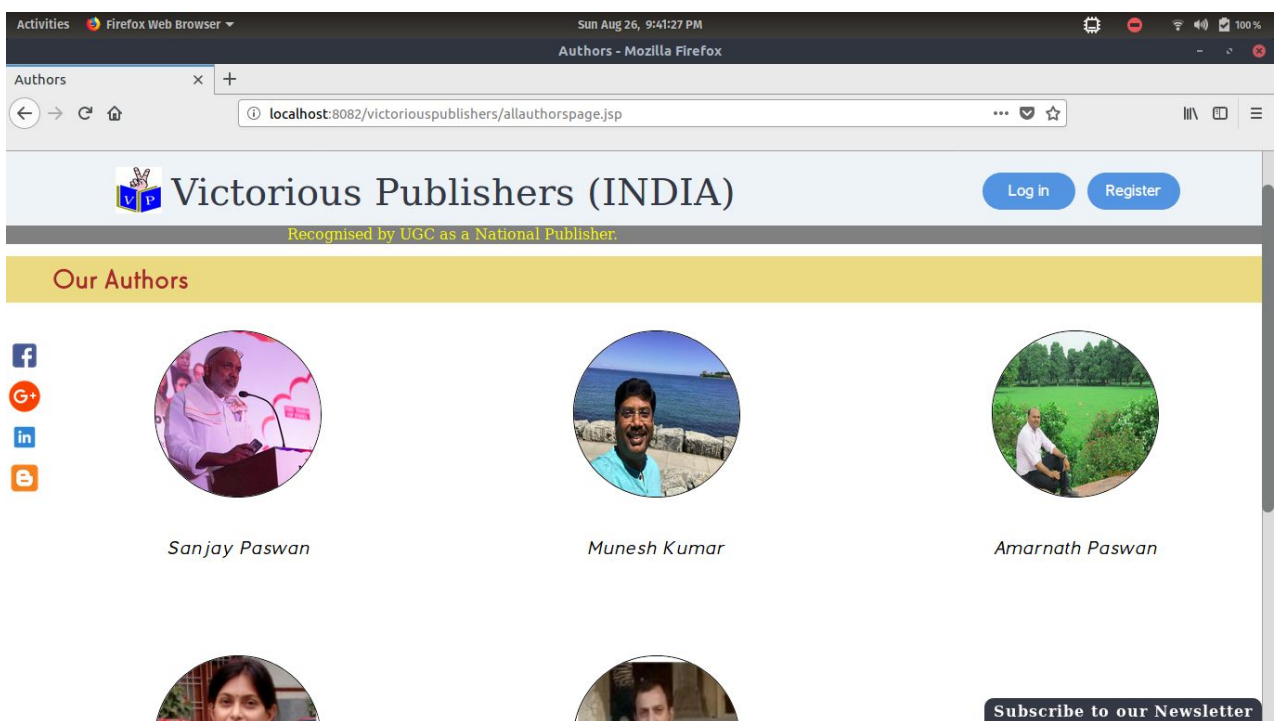


Fig 4.10. All Authors



Fig 4.11. Author Detail¹⁹

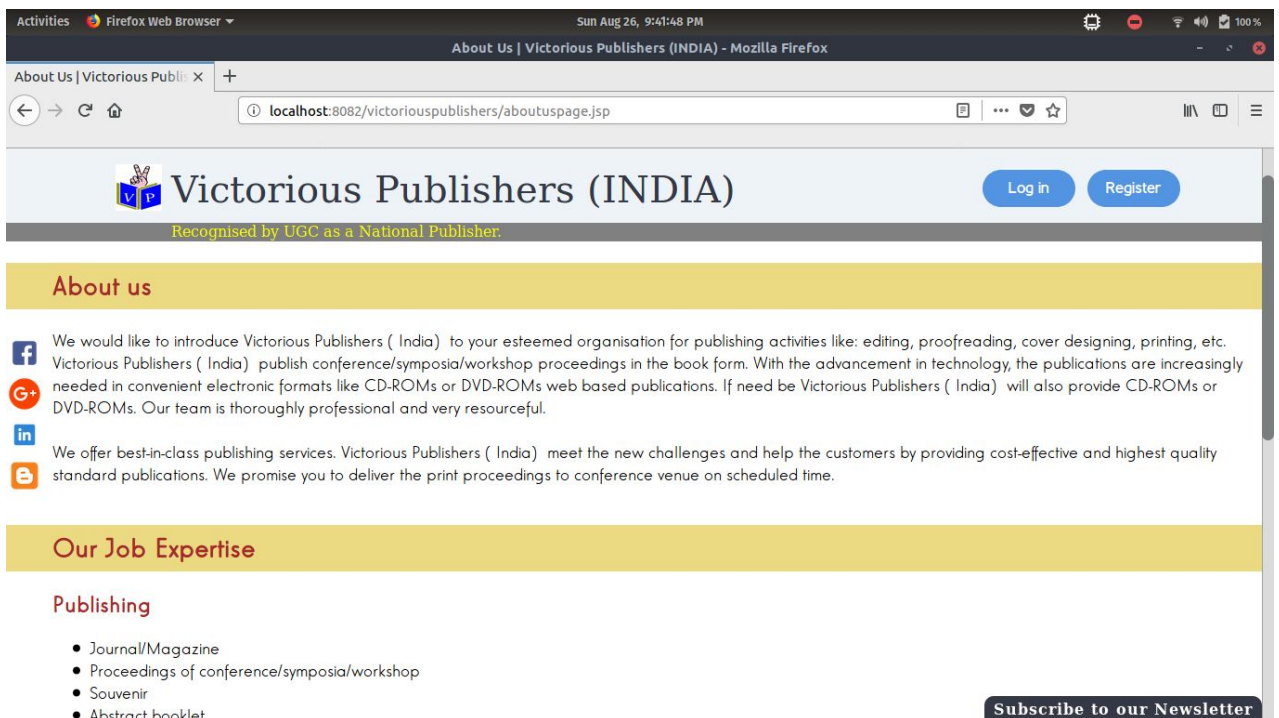


Fig 4.12. About us

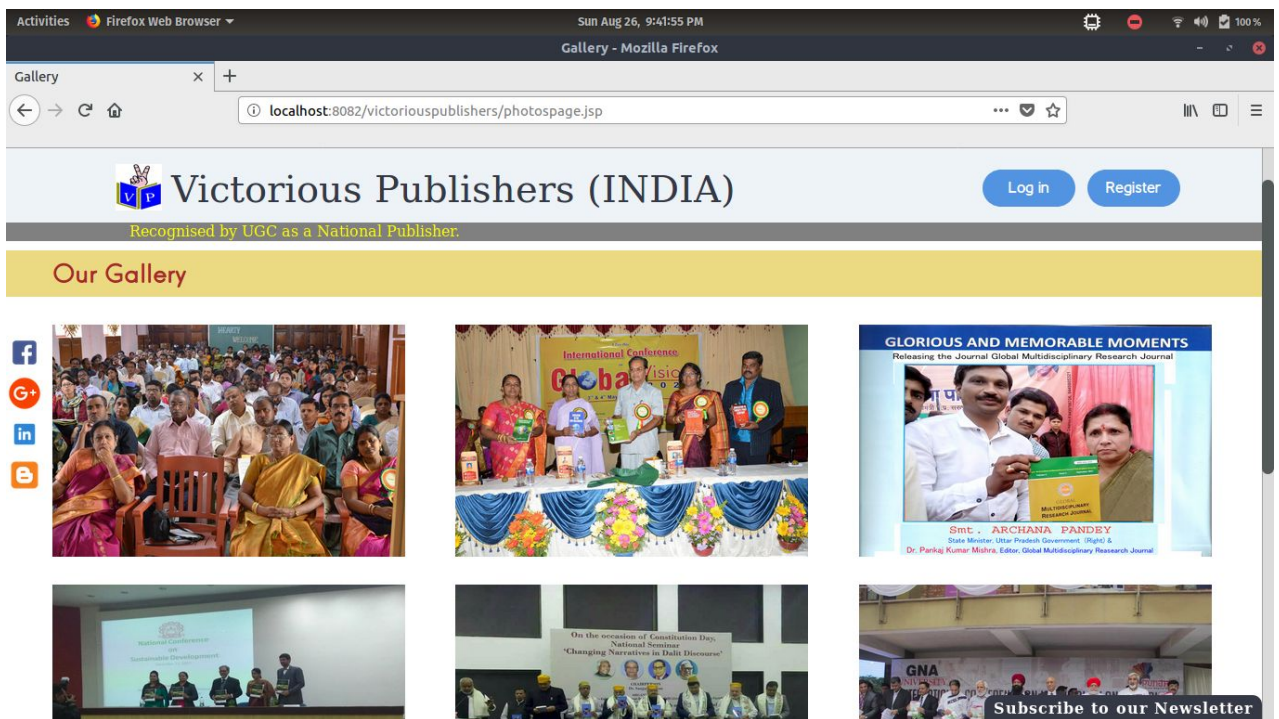


Fig 4.13. Gallery

20

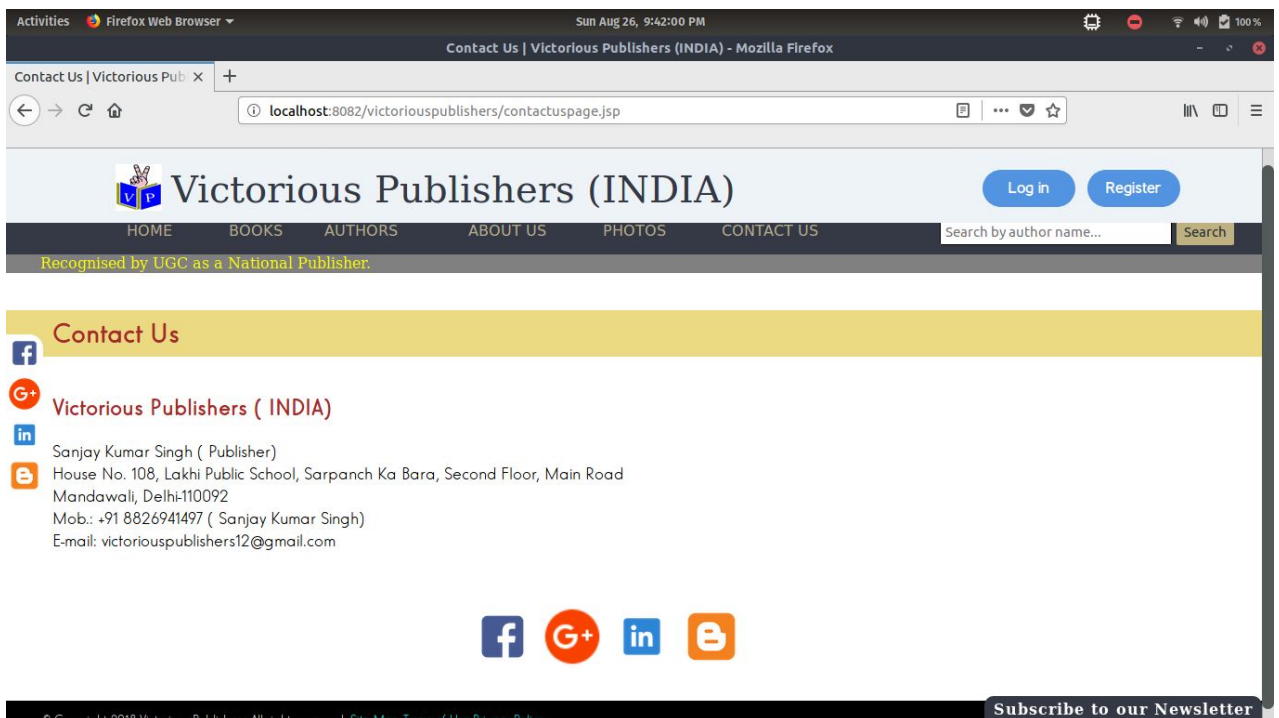
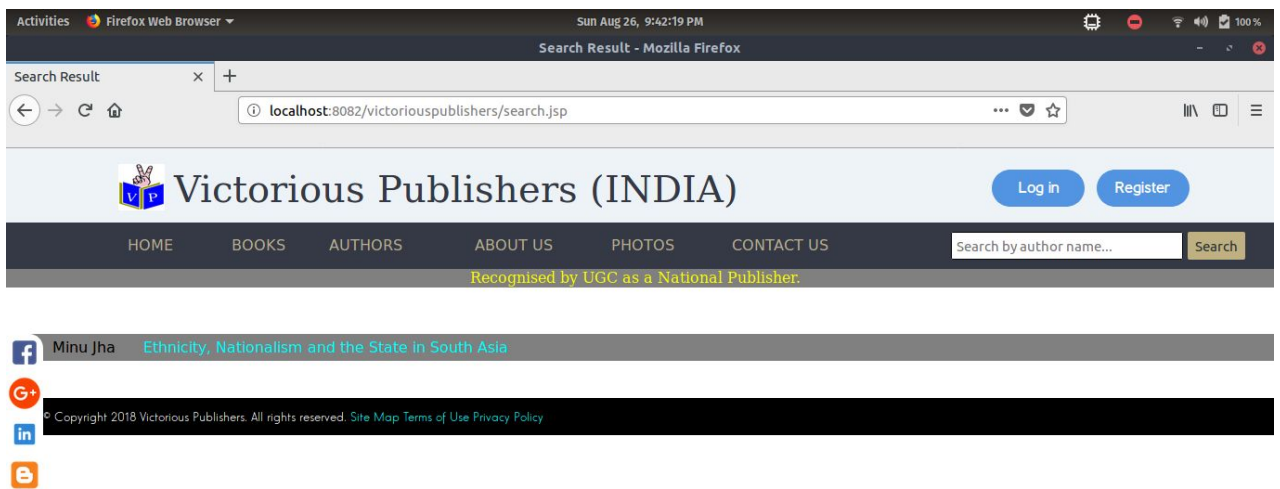
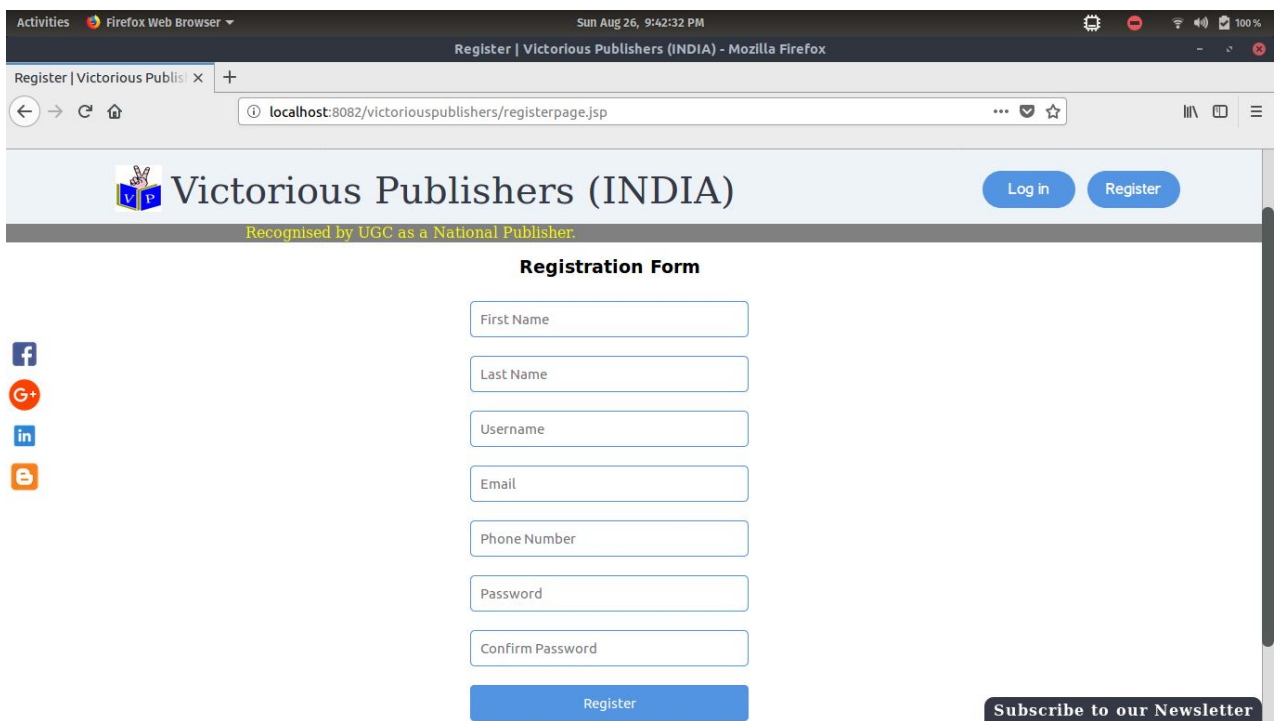


Fig 4.14. Contact us



Subscribe to our Newsletter

Fig 4.15. Search Result²¹



Subscribe to our Newsletter

Fig 4.16. Registration form

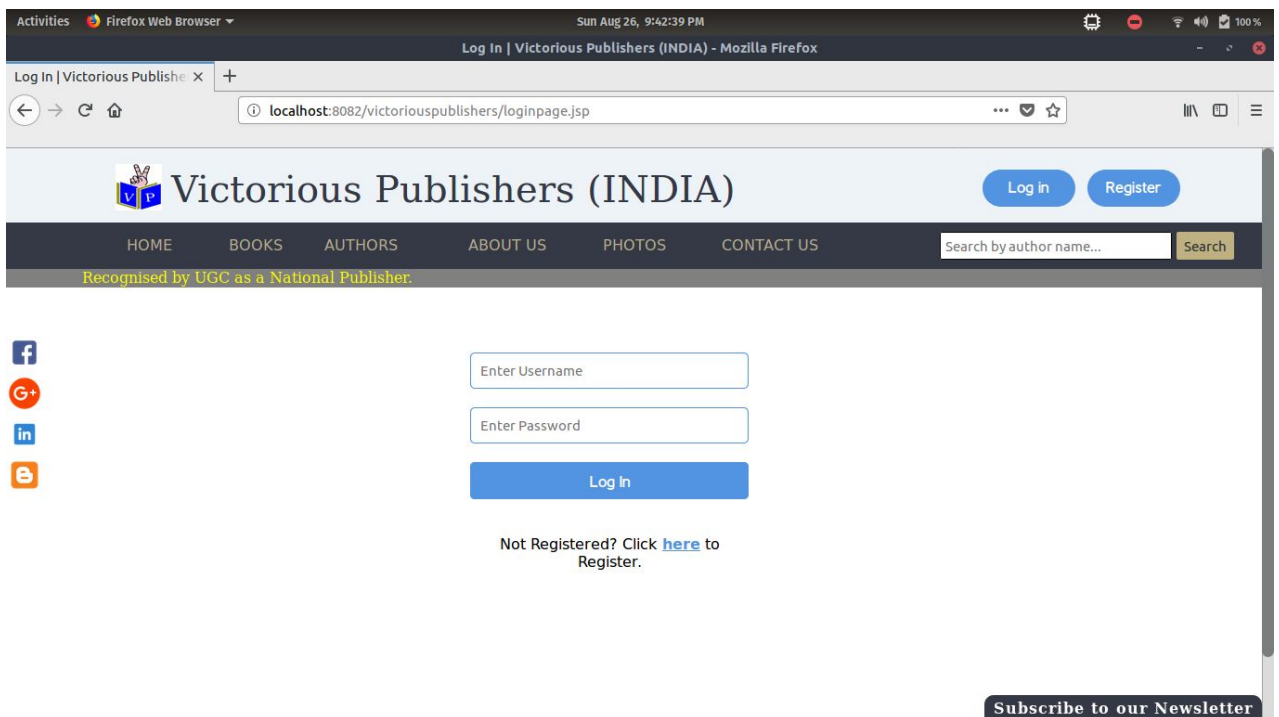


Fig 4.17 Login page

22

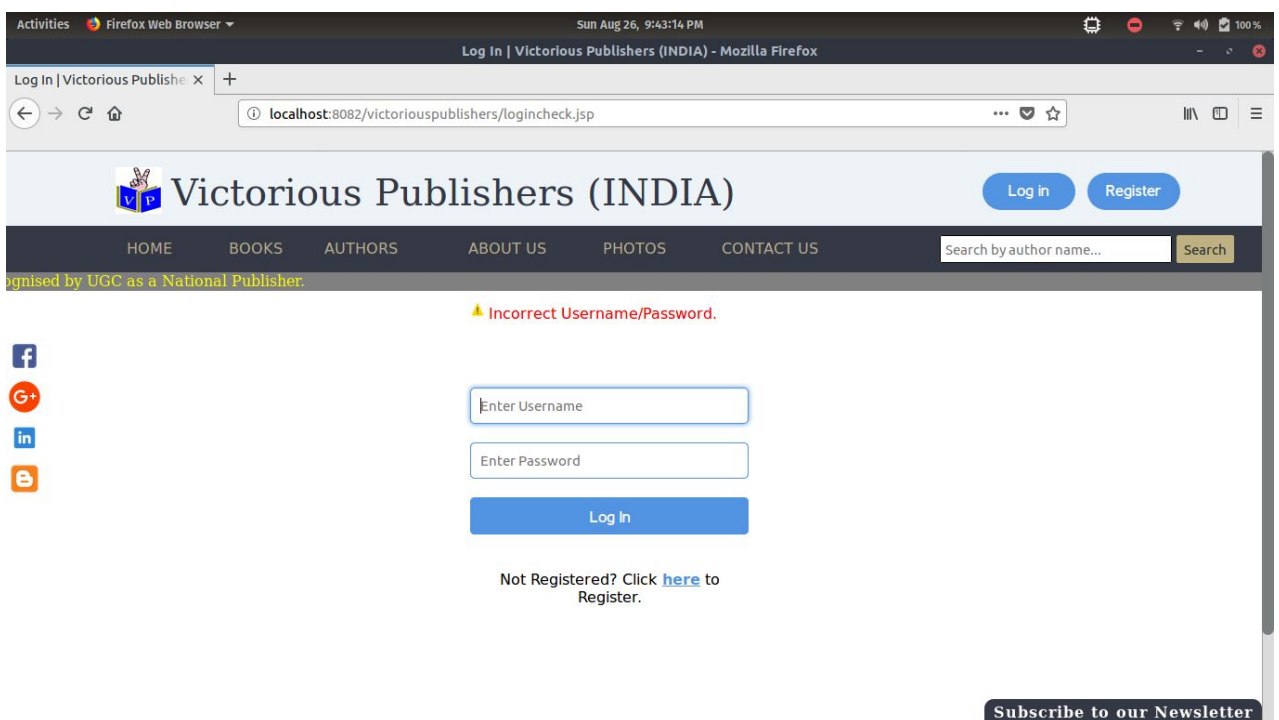


Fig 4.18. When login is incorrect

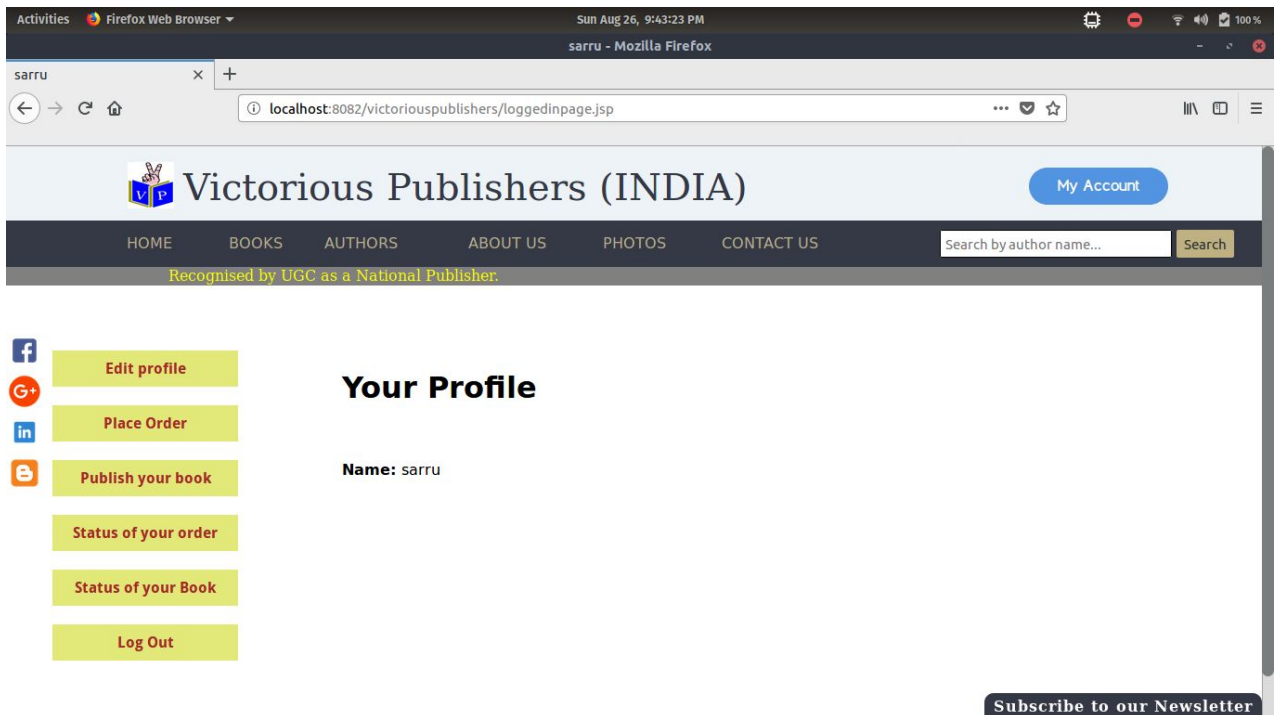


Fig 4.19. User Account loggedin profile²³

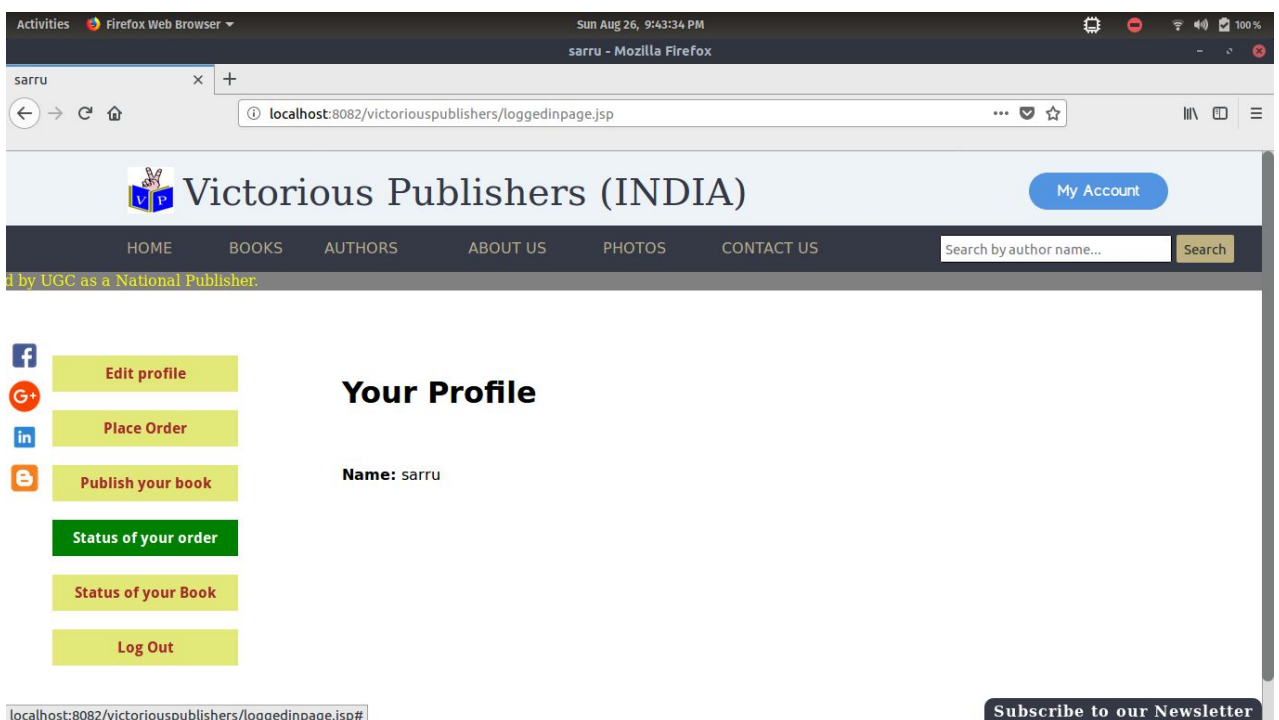


Fig 4.20. User account with all Available options(left side)

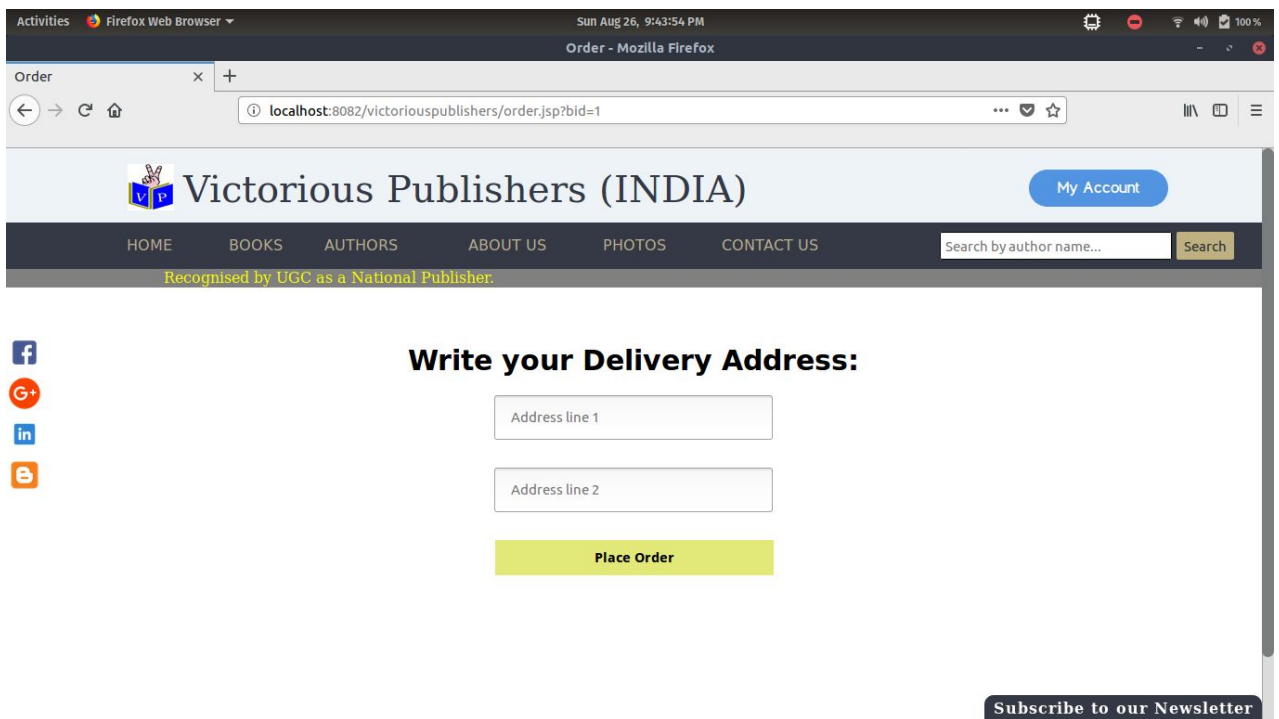


Fig 4.21. Placing order²⁴

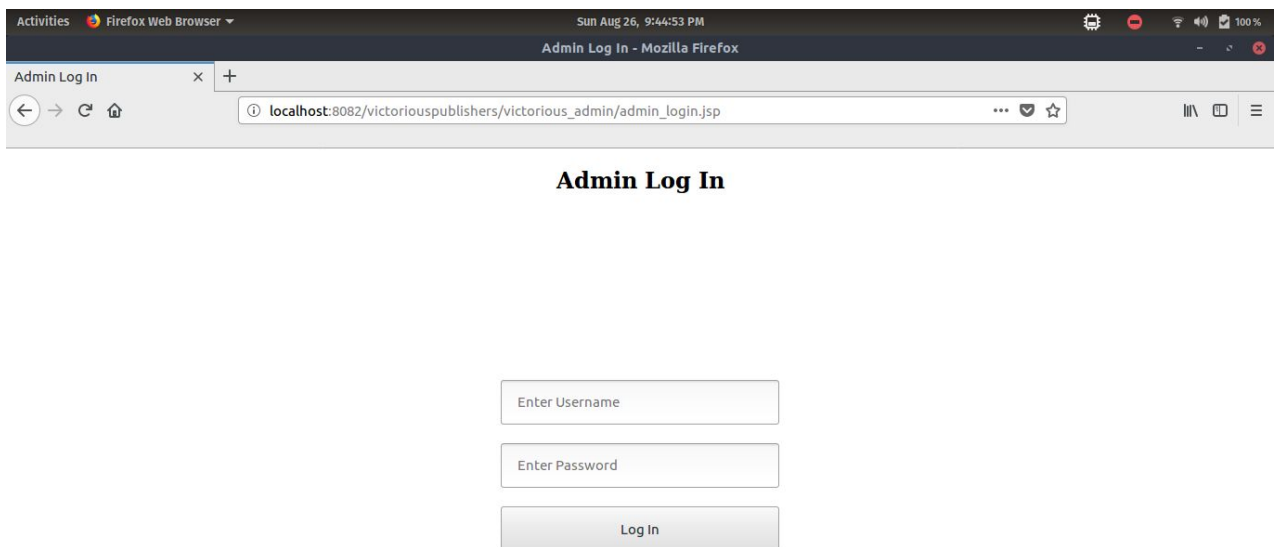


Fig 4.22. Admin Login In page

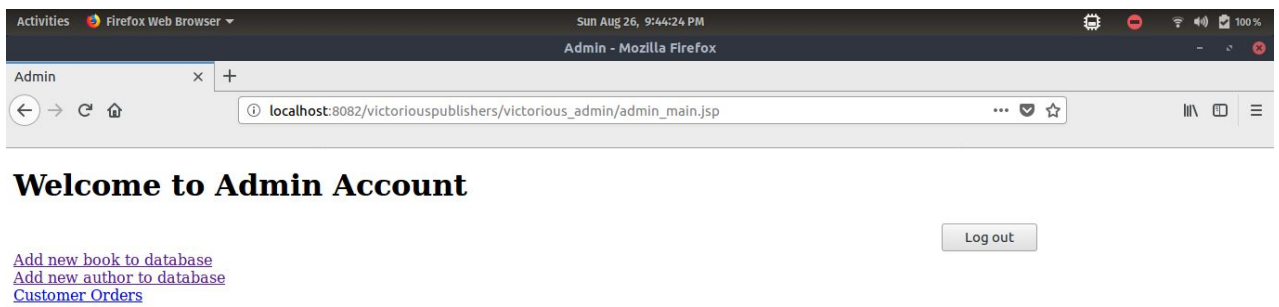


Fig 4.23.Admin account²⁵

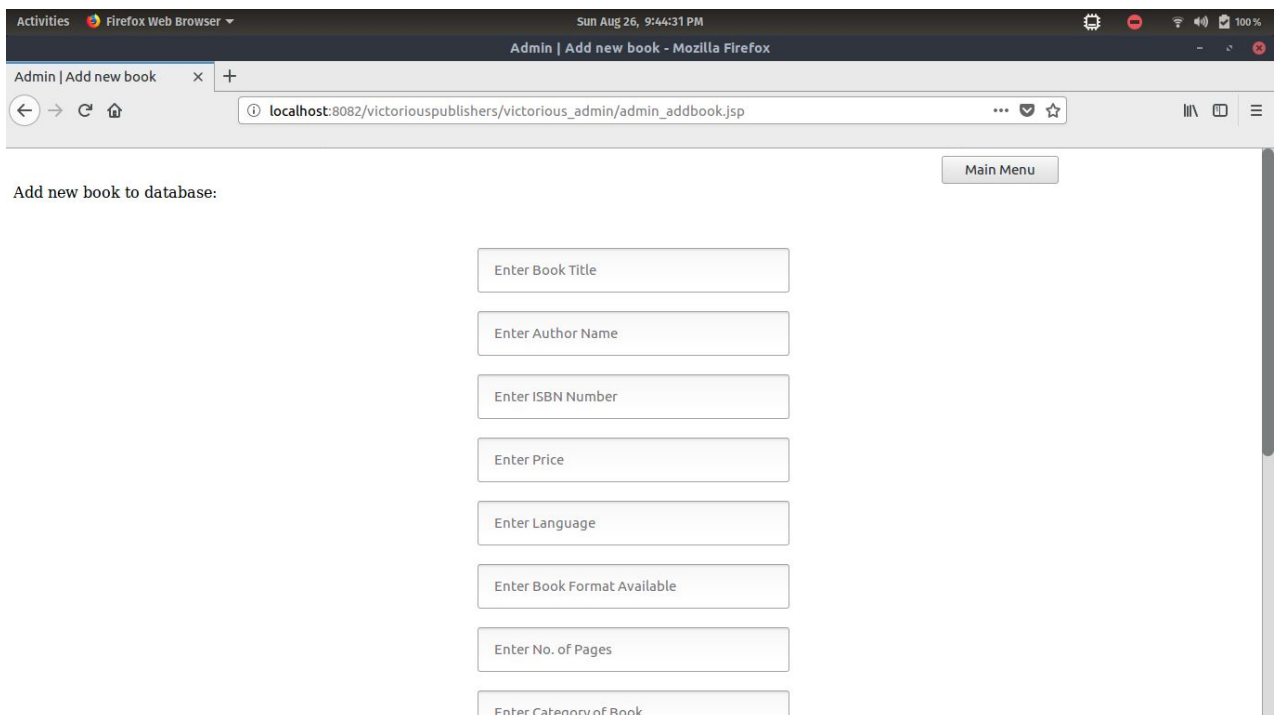


Fig 4.24. New book Adding Page for admin

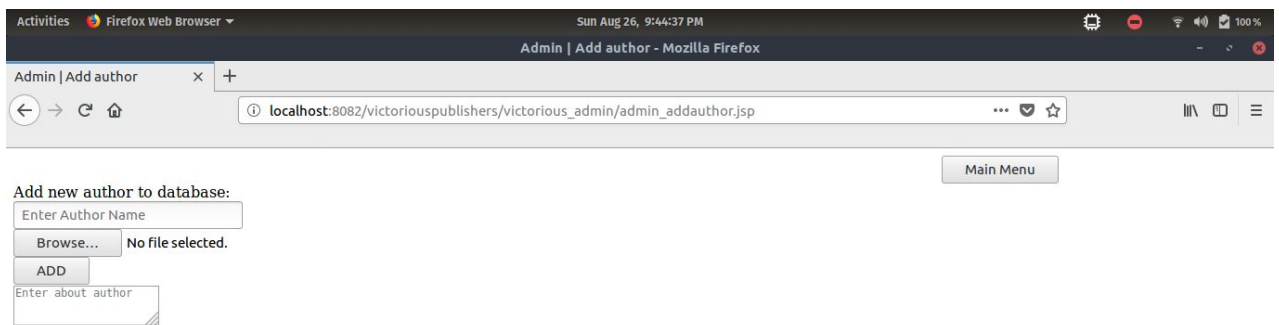


Fig 4.25. New author adding page for admin²⁶

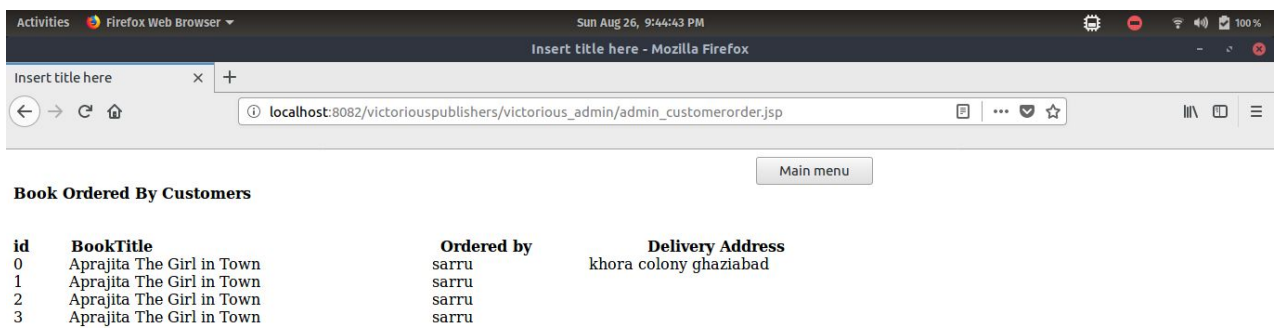


Fig 4.26. All Customer Orders

Chapter 05

Results and Discussion²⁷

The Internet has become a major resource in modern business, thus a website 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. As per a survey, most consumers of online stores are impulsive and usually make a decision to stay on a site within the first few seconds. "Website design is like a shop interior. If the shop looks poor or like hundreds of other shops the customer is most likely to skip to the other site". Hence we have designed the project to provide the user with easy navigation, retrieval of data and necessary feedback as much as possible. In this project, the user is provided with a web site and that can be used to buy books online. To implement this as a web application we used JSP as the Technology. JSP has several advantages such as enhanced performance, scalability, built-in security and simplicity. To build any web application using JSP we need a programming language such as JAVA, HTML and so on. JAVA was the language used to build this application. For the client browser to connect to the JSP engine we used J2EE 1.4 Application Server as the Web Server. JSP uses sql driver to interact with the database as it provides in-memory caching that eliminates the need to contact the database server frequently and it can easily deploy and maintain an JSP application. MySQL was used as 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 with 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. This project helps in understanding the creation of an interactive web page and the technologies used to implement it. The design of the project which includes Data Model and Process Model illustrates how the database is built with different tables, how the data is accessed and processed from the tables. The building of the project has given me a precise knowledge about how JSP 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.

Chapter 06

Conclusions and Future Scope²⁸

After using various technology, a well established website is builded up. Combinedly Java and other technology works as a beast for developing any web based applications. It help a lot to build a robust, secure and scalable website and applications. This technology can be used to scale up any business or any other firm who wants to reach out masses and work worldwide.

Since with time every technology evolve and new technology is invented which help to make more much better product than before. Like that this project has a great future scope. There is still lot of functionality can be added to this website to make it much better and more options for users. As Java Language and other technology like sql, html, css, javascript are also developing and adding more APIs for making availability of adding new functions to applications made using the technology. This website can also be developed in future.

Like we can also add shopping cart application in this website which would increase the customer experience and also would help them to add and remove product according to their own choice. Shopping cart can make user shopping to our website more flexible and optionble.

A large scaled functionality can be added for the complete status of book ordered by customer to increase the satisfaction level of customer and also the trust. Minute to minute detail of book process will keep our customer up-to-date to their to their order and satisfy them goodily.

Direct Chatting functionality with publishing employee can be added to this project. This would take the website to higher level as now customer can directly deal with the publisher and be satisfied and updated of our services. This would also increase the relationship between them.

There are so many ways by which this project can be scaled up to high level and increase the growth of business rapidly. It will help to grow our business worldwide by reaching to the customer of every city and country.

Chapter 07

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