SECOND HAND ONLINE STORE

Web Technologies and Applications (IT254) Report

Submitted in partial fulfillment of the requirements for the degree of

BACHELOR OF TECHNOLOGY

IN

INFORMATION TECHNOLOGY

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D E C L A R A T I O N

I hereby *declare* that the *Web Technologies and Applications (IT254) Report* entitled **'Second Hand Online Store'** which is being submitted to the National Institute of Technology Karnataka Surathkal, in partial fulfillment of the requirements for the award of the Degree of Bachelor of Technology in the department of Information Technology, is a ***bonafide report of the work carried out by us***. The material contained in this report has not been submitted to any University or Institution for the award of any degree.

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Place : NITK, Surathkal

Date :

C E R T I F I C A T E

This is to certify that the project entitled "*Second Hand Online Store*" has been presented by Abdullah Mohamed Rafi - 201IT102, Ashwin Choudhary - 201IT204, Durga Supriya HL - 201IT121, Samiksha Kantamneni - 201IT153 students of IV semester B.Tech. (IT), Department of Information Technology, National Institute of Technology Karnataka, Surathkal, on _____, during the even semester of the academic year 2022 - 2023, in partial fulfillment of the requirements for the award of the degree of Bachelor of Technology in Information Technology.

Place: NITK, Surathkal.

Date:

Guide Signature

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1 INTRODUCTION

We as students are well acquainted with the perils that the students of NITK go through every year, nay everyday to come by the basic necessities that are needed to sustain a homely yet economically well managed life. It is for this reason, along with a willingness to carry on the ideology of NITK being nothing but one large family that is here to aid one another, that we have created our website. Second hand runs on the synergy between the buyer and the seller having a sense of relatability as they share the common experience of having the need for a product at one point in their academic life. The diverse range of essentials to luxuries available beautifully compliments the accessibility of the website, making it the final destination for those looking to buy and sell alike.

In this project, we aim to build a website to facilitate our fellow students in NITK in buying and selling second hand goods. In order to accomplish this, we made use of multiple technologies. We have used PHP for backend, MySQL as a database, HTML for structure designing, CSS for web page formatting and Javascript for form validation and animations.

The core idea of our project is to be an easy to use and efficient link between buyers and sellers. We aspire to be the perfect channel for third party sale of any goods.

Our platform aspires to make it convenient and simple for selling and purchasing the goods with zero hassle

2 OBJECTIVE

The primary objective of our website is to generate a basic, well designed website that can sell second hand goods.

We aspire to be able to indulge in this creative and intellectual process and finish it having learnt multiple new techniques as well as having gained new knowledge on the know-how of web development.

We wish our project's final website to be compatible enough to be implemented in our college in the near future.

We initiated this process by creating the home page of our website, followed by respective login / sign up pages for users to be able to fill in details. A student database is built via the student sign up portal.

The students should be able to view a product display page where we will display a wide array of products belonging to a multitude of categories. All our products shall be neatly organized and displayed to the user in a very basic and efficient manner.

We will also create detailed description pages of the products for the buyers to get better information about them followed by cart and checkout pages where we can process the payment and transactions.

All in all, it's a simple idea that will do wonders if implemented in NITK and will prevent a vast amount of products from being disposed of.

3 METHODOLOGY

The work done in this project can be divided into the 5 following phases -

• Identify required pages and design them

• Development of the front-end

• Search and select backend language and database for the project.

• Develop backend and database layer.

• Connecting the front-end to the back-end and testing the website

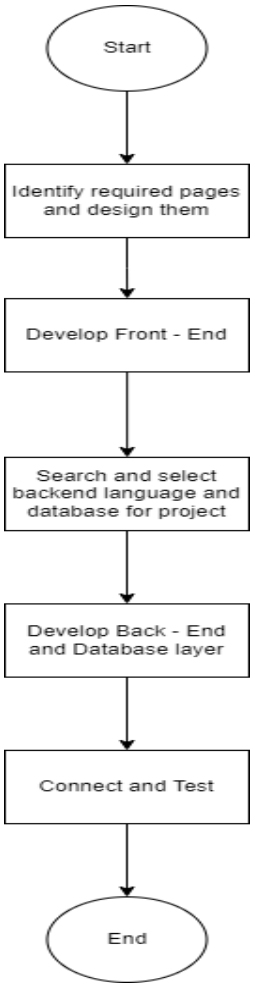

Figure 3.1 Methodology chart

3.1 Content Management System

The CMS will be responsible for managing the product, merchant and customer database (MySQL). The CMS will also handle any changes that must be made to the database as a result of transactions on the e-commerce website. This information would be processed and the database would be updated accordingly using SQL queries.

3.2 The E-Commerce Website/Portal

The e-commerce website portal will provide merchants with a medium through which they will be able to sell their merchandise. It will provide online shoppers with an interface through which they will be able to purchase merchandise from formal and informal merchants. This e-commerce website component will be written in PHP, which is a very popular and versatile e-commerce programming language. The website will provide shoppers with information about the various products that are for sale. The information will include prices, product descriptions, stock availability as well as photographs of the products.

3.3 Product, Merchant and Customer Database

The product, merchant and customer database will store all information about the products that will be sold on the e-commerce portal (prices, product descriptions, photos of products). It will also store merchant information (names, banking details, contact details) as well as customer details (credit card information, shipping address). This database will use the MySQL architecture and will be manipulated using SQL queries via the content management system.

3.4 Front End Technologies

The front end of the website was built using HTML, CSS, Javascript and Bootstrap Bootstrap is an open-source CSS framework designed to come up with mobile-friendly, responsive front-end web development. It consists of enormous versatile and reusable pieces of code written in HTML, JavaScript, and CSS. As a framework, fundamentals are already placed for responsive web development, and developers simply need to position the code in a

premeditated grid system. Therefore, while coming up with a new website or application, Bootstrap is a boon because it waives off the burden of coding from scratch.

3.5 Back End Technologies

3.5.1 Why PHP?

The backend language used for the project is PHP. The name PHP stands for Hypertext Preprocessor and it is a widely used, general-purpose scripting language that was originally designed for web development to produce dynamic web pages. For this purpose, PHP code is embedded into the HTML source document and interpreted by a web server with a PHP processor module, which generates the web page document. As a general-purpose programming language, PHP code is processed by an interpreter application in command-line mode performing desired operating system operations and producing program output on its standard output channel. PHP is available as a processor for most modern web servers and as a standalone interpreter on most operating systems and computing platforms.
PHP is one of the most popular server side scripting languages running today. It is used for creating dynamic Web pages that interact with the user offering customized information. PHP offers many advantages; it is fast, stable, secure, easy to use and open source (free). Other advantages of php include -

- User friendliness
- PHP's built in database connection modules help in connecting to the database easily and reduce trouble and time for development of web applications and content based sites.
- It has powerful library support to use various function modules for data representation.
- It is more stable from a few years with assistance of providing continuous support to various versions.

3.5.2 Why MySQL?

MySQL is the database used for the project. MySQL is the world's most popular open source database software, with over 100 million copies of its software downloaded or distributed throughout its history. With its superior speed, reliability, and ease of use, MySQL has become the preferred choice for Web, Web 2.0, SaaS, ISV, Telecom companies and

forward-thinking corporate IT Managers because it eliminates the major problems associated with downtime, maintenance and administration for modern, online applications.

Many of the world's largest and fastest-growing organizations use MySQL to save time and money powering their high-volume Web sites, critical business systems, and packaged software — including industry leaders such as Yahoo!, Alcatel-Lucent, Google, Nokia, YouTube, Wikipedia, and Booking.com.

MySQL is a key part of WAMP (Windows, Apache, MySQL, PHP), the fast-growing open source enterprise software stack. More and more companies are using WAMP as an alternative to expensive proprietary software stacks because of its lower cost and freedom from platform lock-in.

4. FLOWCHART

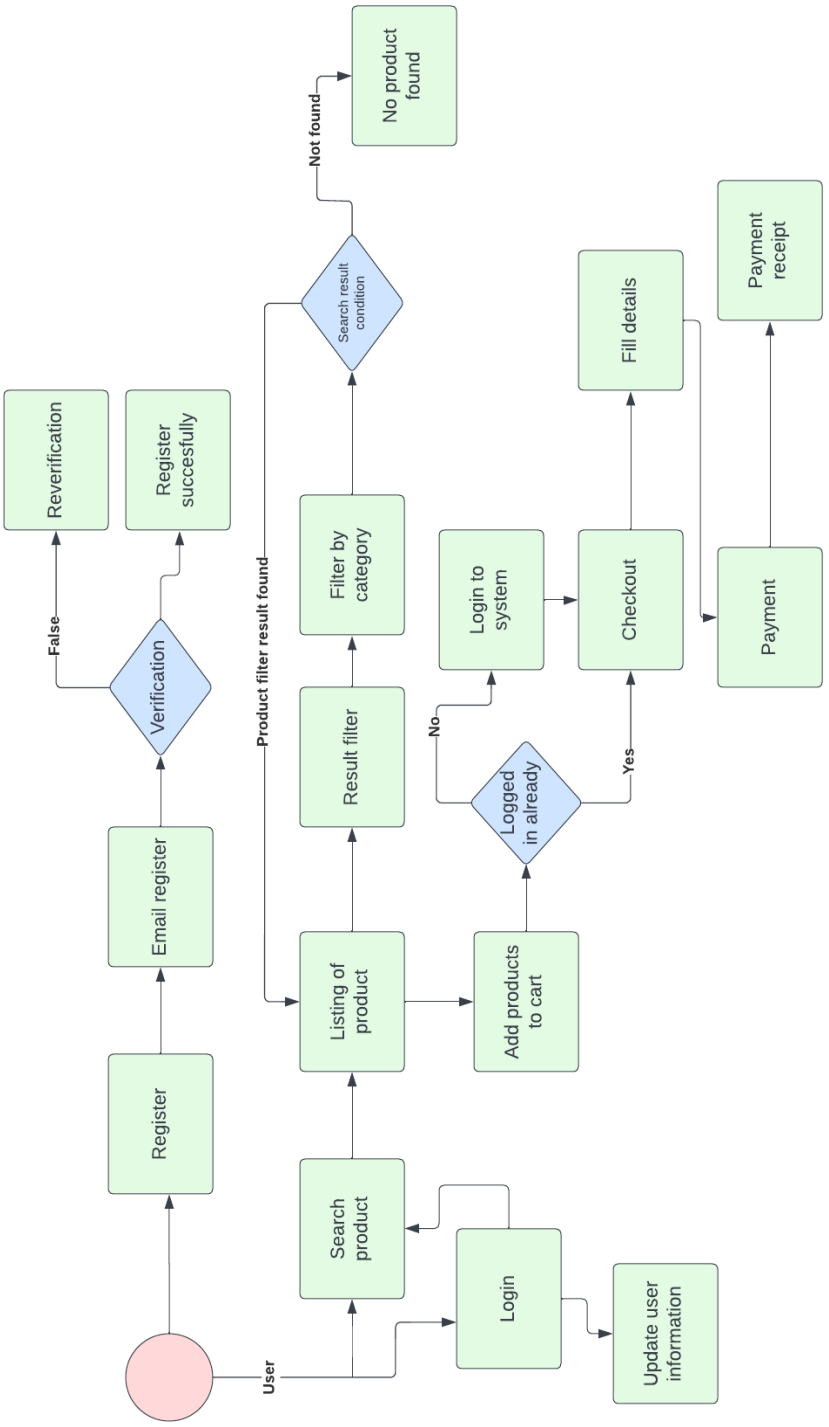

Fig 4.1 Flow chart of Second Hand Online Store

5 IMPLEMENTATION

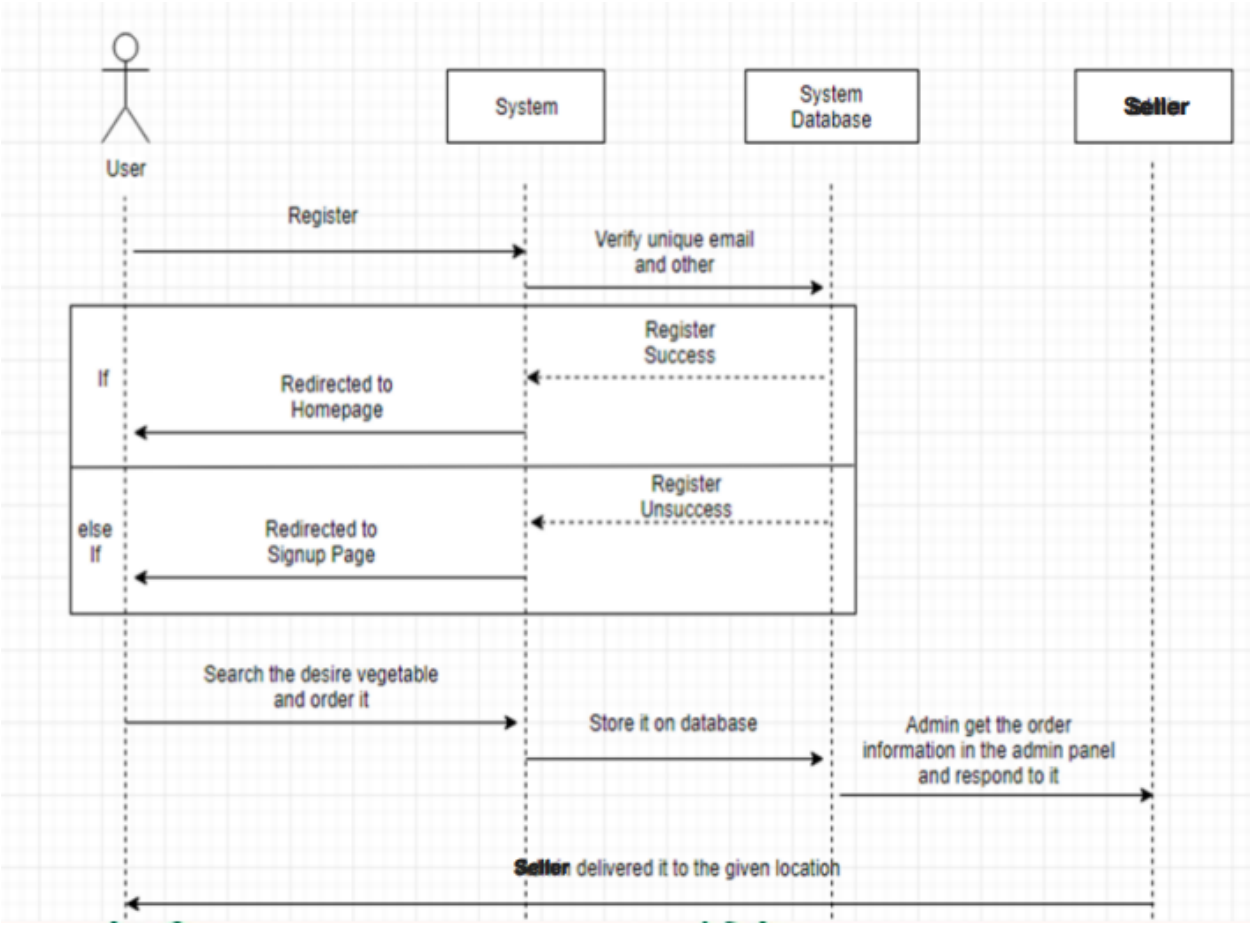

Fig 5.1 Sequence diagram

5.1 Pages Created

As part of the website the following pages were created -

5.1.1 Signup

Lets a user signup to the website to buy / sell goods. On signup the user details are added to a database.

5.1.2 Login Page

Lets a user login to the website. On login, the existence of the given credentials are checked in the database and the login is either authorized or rejected.

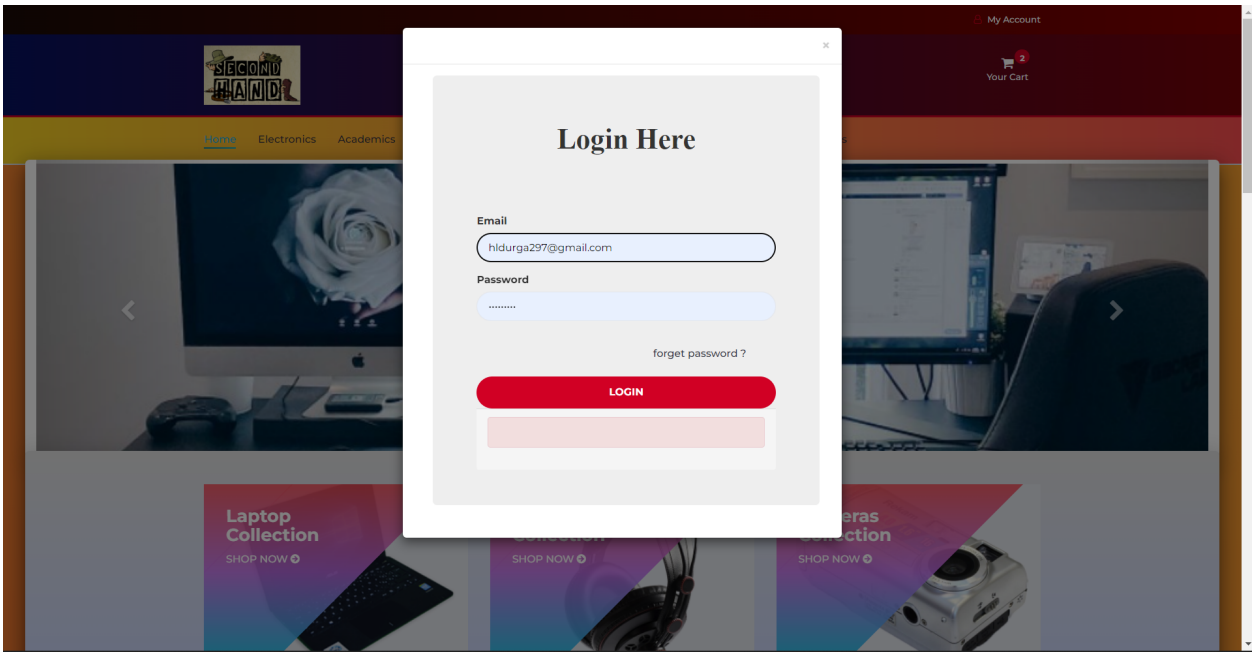

Fig 5.2 Login Page

5.1.3 Home

The home page of the website that displays various products, product categories, offers, links to other pages among other information.

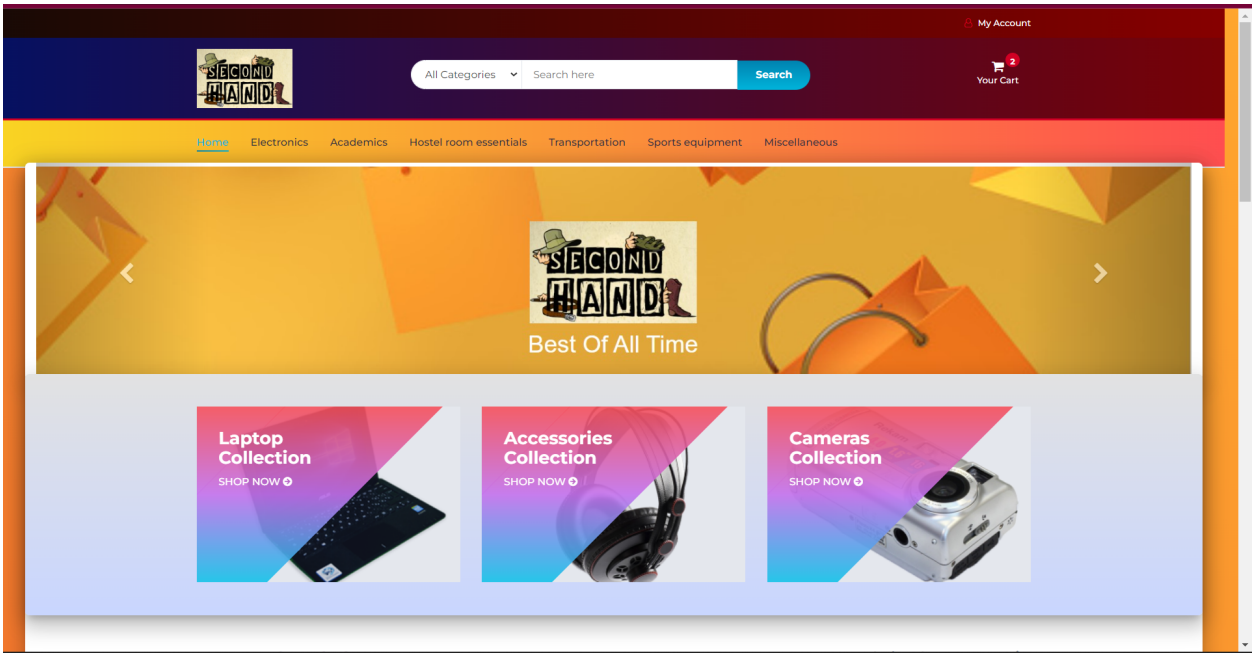

Fig 5.3 Home Page

5.1.4 Product list page

The product list page is displayed when a product is searched for. It contains a list of products that may be related to the search query.

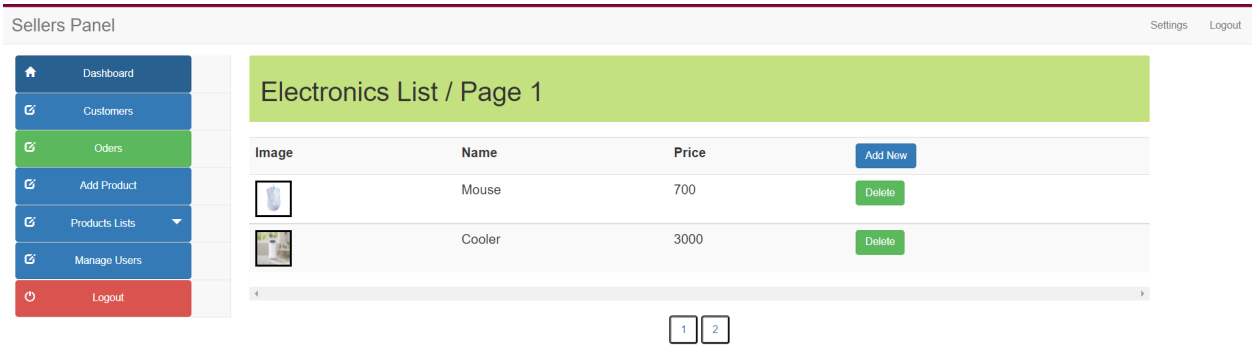

Fig 5.4 Product list page

5.1.5 Add Products page

The add product page lets a seller list a product for selling. The product is added to the database and then displayed on the website.

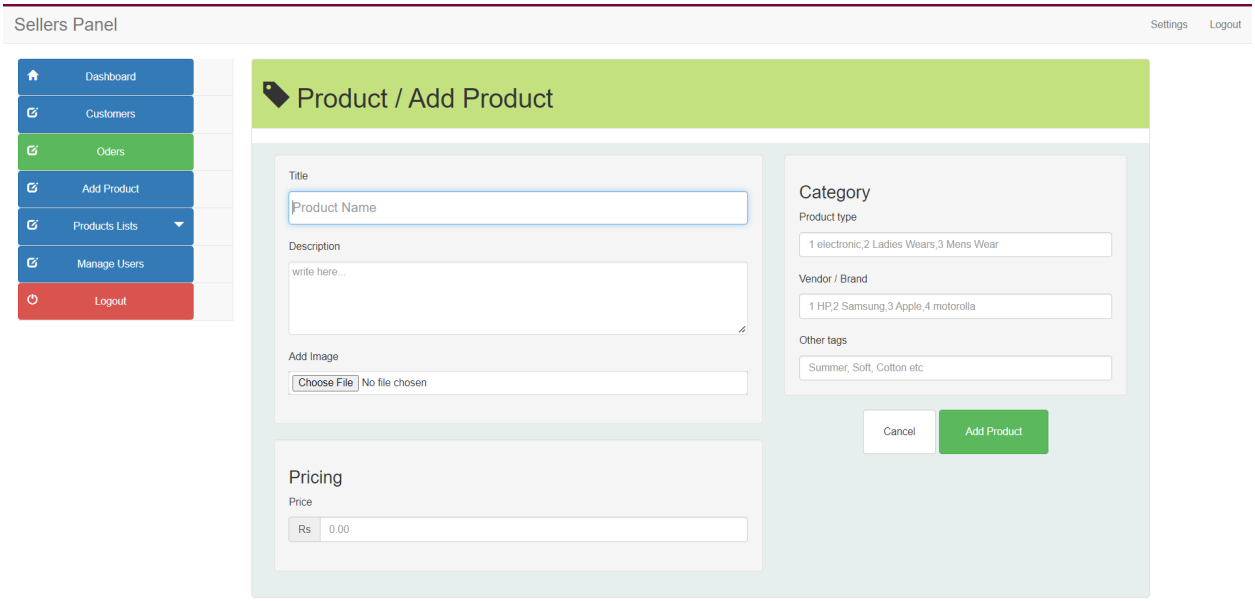

Fig 5.5 Add product page

5.1.6 Users Information Page

The users information page lists information about the users signed up.

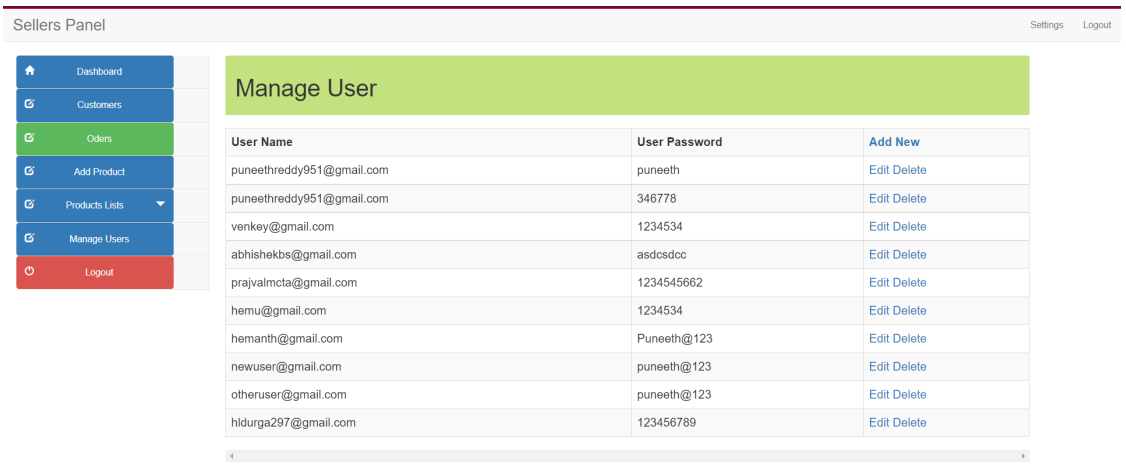

Fig 5.6 Users information page

5.1.7 Payment page

The payment page lets a user see what items have been added to his cart and lets him checkout

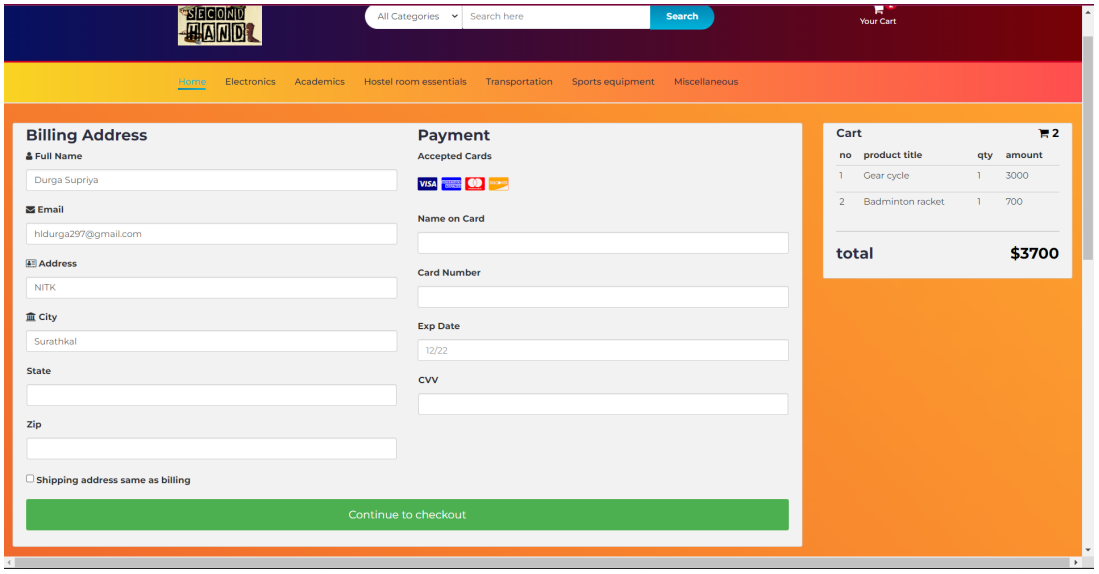

Fig 5.7 Payment page

5.1.8 Cart page

The Cart page shows the final preview before the user checks out of the system. It shows price, quantity and subtotal along with the product name and picture.

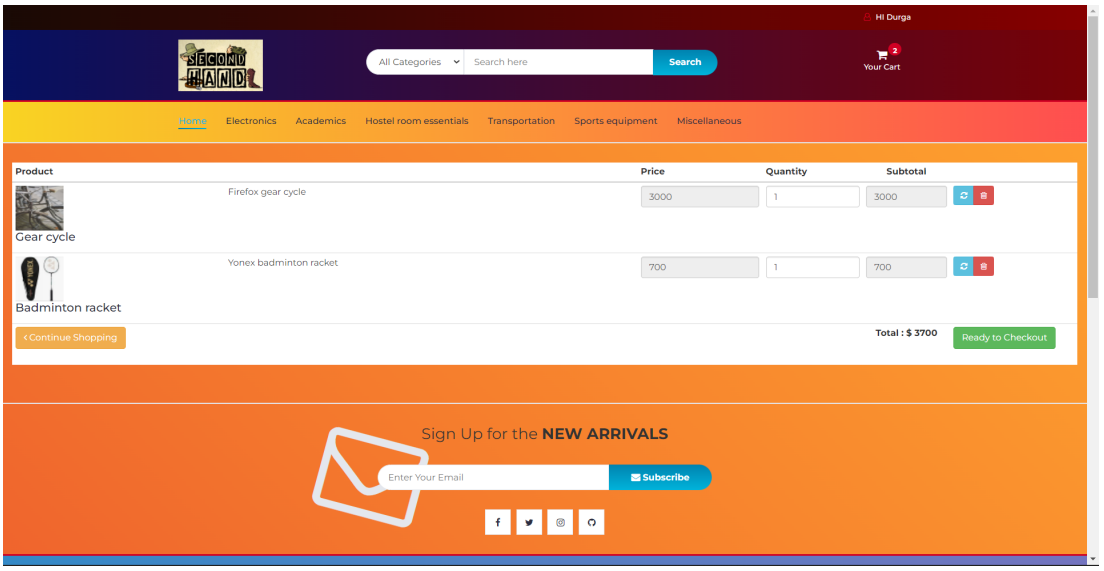

Fig 5.8 Cart page

5.2 Database Tables Created

5.2.1 Table categories

Table containing information about the categories of products..

	cat_id	cat_title
Edit Copy Delete	1	Electronics Gadgets
Edit Copy Delete	2	Academics
Edit Copy Delete	3	Hostel room essentials
Edit Copy Delete	4	Transportation
Edit Copy Delete	5	Sports equipment
Edit Copy Delete	6	Miscellaneous

Fig 5.9 Table categories

5.2.2 Table products

Table containing information about the products in the website.

	product_id	product_cat	product_brand	product_title	product_price	product_desc	product_image	product_keywords
Edit Copy Delete	82	4	7	Gear cycle	3000	Firefox gear cycle	1651992492_card6.png	gear cycle
Edit Copy Delete	83	2	8	Shadow and Bone	500	Novel	1652004248_card1.png	novel
Edit Copy Delete	84	3	9	Ergonomic chair	2000	A comfortable chair for gaming and office work	1652026180_card7.png	chair
Edit Copy Delete	85	1	1	Mouse	700	wired mouse	1652026379_card4.png	mouse
Edit Copy Delete	86	3	10	Mirror	250	half sized mirror	1652026560_card9.png	mirror
Edit Copy Delete	87	1	2	Cooler	3000	cooler	1652026642_card8.png	cooler
Edit Copy Delete	88	5	11	Badminton racket	700	Yonex badminton racket	badminton.jpg	badminton
Edit Copy Delete	89	4	7	Cycle	2500	hczmnc	1652083449_cycle.png	cycle

Fig 5.10 Table products

5.2.3 Table brand

Table containing information about product brands.

			brand_id	brand_title
Edit	Copy	Delete	1	HP
Edit	Copy	Delete	2	Samsung
Edit	Copy	Delete	3	Apple
Edit	Copy	Delete	4	motorolla
Edit	Copy	Delete	5	LG
Edit	Copy	Delete	6	Cloth Brand
Edit	Copy	Delete	7	Firefox
Edit	Copy	Delete	8	New York Times
Edit	Copy	Delete	9	Pepperfry
Edit	Copy	Delete	10	Home center
Edit	Copy	Delete	11	Yonex

Fig 5.11 Table brand

5 Results and Future Work

The project titled **Second Hand Online Store** was completed successfully. The purpose of this project was to develop a web application for selling and purchasing second hand items using a website.

This project helped us gain valuable information and practical knowledge on several topics like designing web pages using HTML and CSS, usage of responsive templates, and management of databases using MYSQL. It also helped us understand about the development phases of a project and software development life cycle. We learned how to test different features of a project.

This project has given us great satisfaction in having designed an application which can be used in NITK for the sale of second hand goods.

There is scope for further development in our project to a great extent. Some features that can be added to the website include -

- Improved search and filter functionalities for the products
- Add support for the website to be viewed in languages other than English like Hindi, Kannada etc.
- Implement a recommendation system to recommend users products based on their purchase and browsing patterns.
- Transition the website into a single page application in order to improve the performance and user experience of the website.
- Add a chat interface to facilitate communication between buyers and sellers.