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I confirm that I understand my coursework needs to be submitted online via Google Classroom under the relevant module page before the deadline in order for my assignment to be accepted and marked. I am fully aware that late submissions will be treated as non-submission and a mark of zero will be awarded.

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Final Year Project

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Introduction

The Happy Reader is a concept for an online retailer that gives customers the choice to explore and purchase their preferred books. The user of this web application can browse their preferred book in the store and make an online purchase.

To gain a better idea of the app's functionality and how it runs and performs, it is essential to read reviews of related apps. Websites like https://www.barnesandnoble.com and https://www.powells.com, among others, offer these services. E-commerce has significantly impacted the world of retail in recent years. Since the advent of the internet, the retail industry, like other industries, has undergone significant transformation. As a result of the ongoing digitalization of modern life, consumers from almost every nation today enjoy the benefits of online shopping. (Statista, 2022)

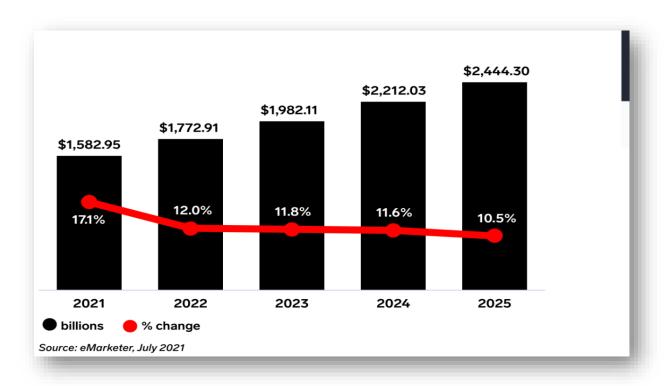


Figure 1: Showing Sales of Amazon

(eMarketer, 2022)

E-Commerce in Nepal is growing in popularity, just as it is around the world, according to a recent report. According to the report of 2019, there are 31 private ISPs in Nepal, serving about 16.67 million people. About 40 percent of these accounts are commercial, according to export.gov There is a large concentration of online E-Commerce activities in Kathmandu Valley and some other important towns in Nepal but as the number of internet users grows in rural regions, so does the number of mobile users and the number of online activities as well. Online shopping in Nepal is now available through numerous websites. The famous ecommerce sites in Nepal are Daraz, HamroBazar, NepBay etc. (Gautam, 2022)

It is where my project fits in. In my ecommerce site the user can buy their favorite book via online and will get the book delivered into their address. Only registered user can order the book by the help of bookworm. The application will have different category differentiated for every genre of books so that the customer can browse the available books according to their favorite category. User can either do online payment through the means of Khalti or can-do cash on delivery while buying the product.

Problem Statement

Commerce facilitates the sale of goods to a large number of people. However, there is a lot of competition among e-commerce companies. When users visit an e-commerce site, they expect to find what they're looking for quickly and easily. Furthermore, users are unsure of which brands or products to purchase. They have a general idea of what they want to buy. Rather than visiting specific e-commerce sites, many shoppers are increasingly searching Google for their purchases. They anticipate that Google will direct them to e-commerce sites that sell their products. Another problem is that we don't know what the customer is looking for. When a customer enters something into search, the site should be able to tell whether the buyer entered the author's name or the title of the book. Identifying the input would help to increase the relevancy of the result set by increasing the precision of the search results. Most e-commerce sites provide category-based search suggestions to help customers find the right category during their search.

Aims and Objectives Aims

Throughout the development of this web application, I have several goals. Local businesses will benefit from this project by transitioning from offline to internet business. By remaining in their homes, people can purchase the goods of their choice. As their interactions grow, this endeavor will forge strong bonds between the business and their clients. This project frees up business owners' time so they may focus it on other tasks instead of marketing, which lowers management costs. Users will find their desired products more easily when conducting an internet search. People will utilize comparable websites as a result of this project, which will boost the potential for e-commerce in Nepal.

Objective

Various measures must be taken to achieve the project's goals. We need to gather all of the requirements for the project. A vital task is also to design a beautiful user interface for the application. Coding the application in a different language after designing the user interface is an important step. The application's functionality must then be thoroughly tested. Our priority should be to visit nearby local stores and educate them on the importance and benefits of ecommerce. We should allow users to log in and access various product information, allowing them to purchase a suitable product with price and specifications, quality comparison. We should also hire manpower to help deliver goods to the respective customer.

Structure of the report Introduction

In Introduction, small introduction of the project is done along with aims and objectives of the project.

Background

In Background, the background of the project is given along with features elaboration of the project. Similar project is compared, and the features of my project are compared to them.

Development

In Development, the selected methodology is explained along with listing the considered methodology.

Progress

In progress, the progress of the project is listed in tabular form along with completion date of the tasks.

Remaining Tasks

Here remaining task and their deadline are shown in a tabular form.

Progress till Date

SN	Tasks	Status	Completion date	Reasons for incomplete task (if deadline crossed)
1	Project Planning	Complete	10/2/22	
2	Proposal Submission	Complete	11/28/22	
3	Requirement gathering	Complete	11/12/22	
4	First Increment	In progress	1/14/23	
I	Design	complete	12/1/22	
II	Development	In progress	12/27/22	

Table 1: Progress Till Date

In project planning phase I decided on the project which I will develop during the final year project.

In proposal submission I proposed the system I will develop during the final year project along with some features and tools which I will use during my final year project. The proposal which I submitted is present in the appendix.

During requirement gathering I gathered all the requirements that were necessary for my project by the means of similar system, interview and asking questions. The similar systems from which I took reference are present in the Background section.

In design of first increment, I have completed designation of system through different means like ERD for database design, Use Case design to show interaction of user with the system, collaboration, and sequence diagram, DFD0 and DFD1 for showing the data flow in the system.

The diagrams which I completed during my design phase are present in the proofs of appendix.

In development of first increment which is still in progress I have developed responsive pages for signup, login, contact us and about us of the project page along with header footer of the project. The pages which I completed during my development phase are present in the proofs of appendix.

Future Work/ Remaining Tasks

S. N	Tasks	Competition Date
1	First Incremental	1/14/23
I	Testing	1/4/23
II	Deployment	1/14/23
2	Second Incremental	3/8/23
I	Design	1/23/23
II	Development	2/27/23
III	Testing	3/4/23
IV	Deployment	3/8/23

Table 2 : Future Work / Remaining Work

In Testing of first Increment different feature which I implemented during development of First Increment will be tested out.

In Design of second increment class diagram will be designed.

In development of second increment remaining features which weren't developed in development phase of first increment like implement online payment and so on will be implemented.

In Testing of second increment the functionalities developed in second increment will be tested along with retesting of functionality of first increment.

Background

Elaboration of project features

The Happy Reader is an ecommerce store that allows users to purchase books from the comfort of their own homes. The user can view all of the available books on this website and order them online from us. On the website, users can view the details of the book they are attempting to purchase. We have search functionality here to help users find the book of their choice more quickly. The user can register on our website and use all of the available features. The user can add their desired item to their cart and order books. The user can also order the product without first adding it to the cart. Our website is also mobile friendly, allowing users to access it on smaller screens. We've also divided the items into different categories so that the user can find the book they're looking for in that section. Users can also contact us via email if they have any questions. Users can also connect with us through social media platforms such as Facebook and Instagram. Users can pay online via Khalti or cash on delivery, whichever they prefer.

The features of the website can be seen with the help of wireframes below:

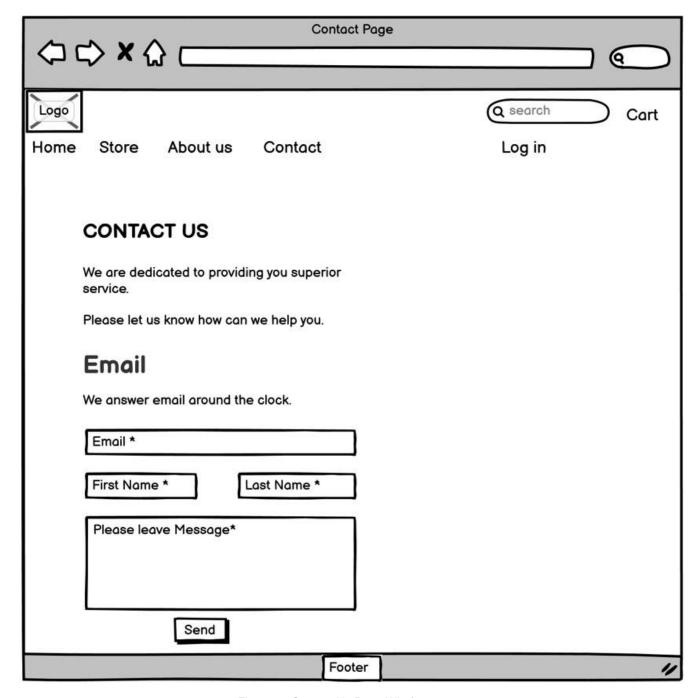


Figure 2 : Contact Us Page Wireframe

This is the contact us page wireframe. After visiting this page, the customer can contact us through email.

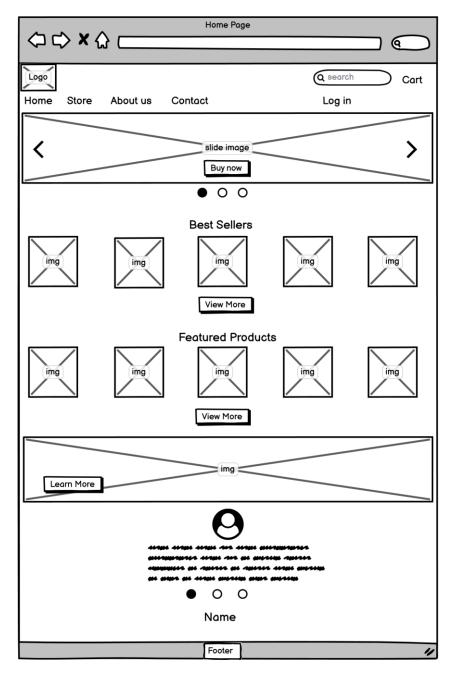


Figure 3 : Home page Wireframe

This is the home page of our website. In this page customer can view different products and also browse to other pages.

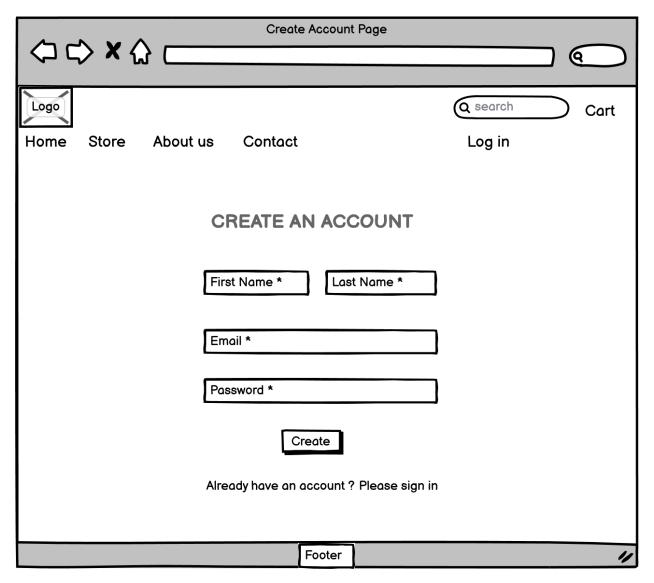


Figure 4: Create Account Wireframe

In create account page the user can create a new id and register him/herself to the system.

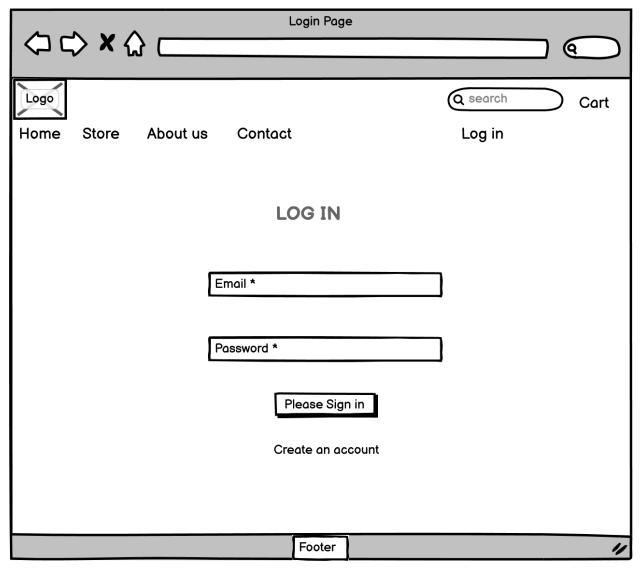


Figure 5 : Login Page Wireframe

In login, the user can login to the system with help of email and password they registered earlier.

A logged in user can add product to cart and buy the product.

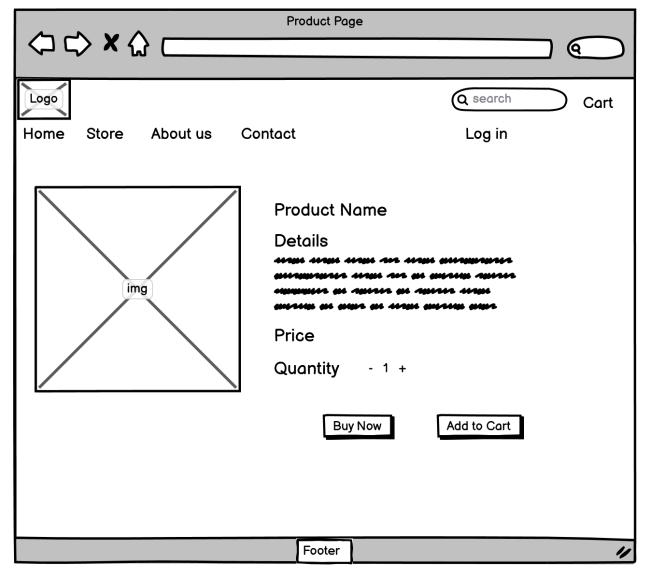


Figure 6 : Product page Wireframe

In product page, the user can see the details of product they want to buy. User can also add item to the cart or can proceed to buy the product.

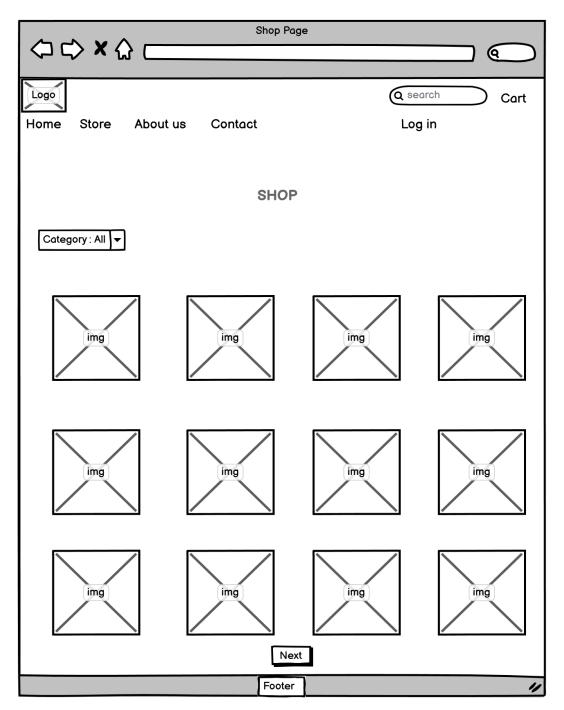


Figure 7: Shop page Wireframe

In shop page, the user can see all the available items and buy them according to their needs. User can also sort the products based on category to get books based on category they need.

Review on similar journal and Article

Journal 1

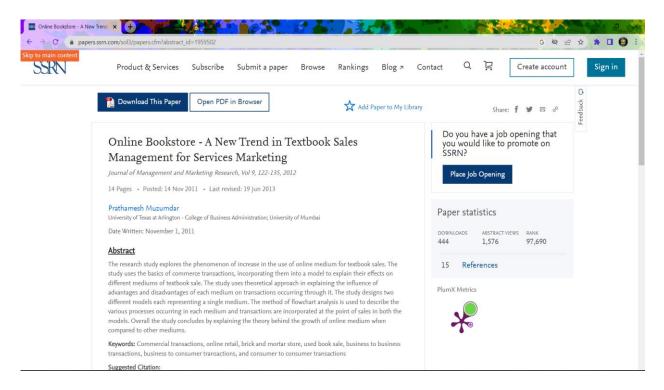


Figure 8: Research Journal 1 about online bookstore

This is journal written by Prathamesh Muzumdar. It was published on 14th November of 2011. It has total of 14 pages. It falls on volume 9. In this journal he has written about how the online medium are being used for text sales and how that have affected the number of sales in textbooks. (Muzumdar, 2013)

Journal 2

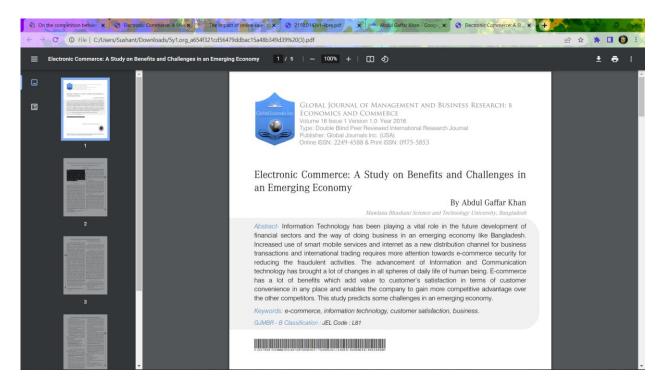


Figure 9: Research Journal 2 about Electronic E-commerce

This is a journal written by Abdul Gaffar Khan. It was published on year 2016. The main aim of this journal to develop and distribute long-term knowledge for the rapidly changing e-commerce environment. How to strike a balance between the currency and the life span of knowledge is a fundamental problem in e-commerce research.

On the competition between an online bookstore and a physical bookstore. (Khan, 2016)

Journal 3



Published: 06 December 2012

On the competition between an online bookstore and a physical bookstore

Chih-Peng Chu, Wen-Chung Guo & Fu-Chuan Lai □

NETNOMICS: Economic Research and Electronic Networking 13, 141–154 (2012) | Cite this article 2143 Accesses | 2 Citations | Metrics

Abstract

This study examines the relative competitiveness of online and physical bookstores. Online bookstores have the advantage of being able to provide a wide range of books while minimizing inventory costs, but customers must wait several days for their books. Physical bookstores allow consumers to immediately obtain their books, but consumers must pay a transportation cost to visit the store. We can find the condition such that online bookstores charge a lower price than physical bookstores and take a larger market share, and attract a higher proportion of consumers who prefer variety. The implication of the welfare analysis is also discussed.

Figure 10: Research Journal 3 about online bookstore and a physical bookstore

This is a journal written by Chih-Peng Chu, Wen-Chung Guo and Fu-Chuan Lai. This journal was published on 14 November 2012. This journal lies between page 141–154. This journal shows the comparison between online bookstore and Physical bookstore and shows how online bookstore have upper hand against physical bookstore. (Chih-Peng, 2012)

Journal 4



Figure 11: Research Journal 4 about impact on online sales

This is a journal written by Néstor Duch-Brown, Lukasz Grzybowski, André Romahn and Frank Verboven. This journal was published in February of 2012. It lies in page number between 30-62 In this journal authors have tried to estimate a differentiated products demand model to ask three questions regarding the introduction of e-commerce. (NéstorDuch-Brown, 2017)

Journal 5

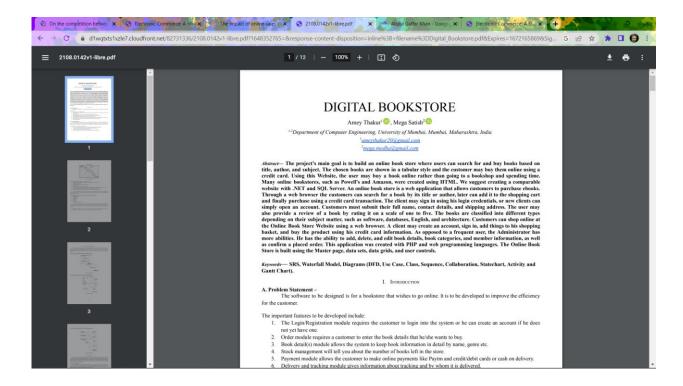


Figure 12: Research Journal 1 about Digital bookstore

This is an article written by Amey Thakur and Mega Satish. It falls between pages 1326-1337. It was published in 2021. The main purpose of the project is to create an online bookstore where users can search for and purchase books by title, author, or subject. The chosen books are shown in a tabular format, and the consumer can purchase them using a credit card online. (Amey Thakur, 2022)

There are different similar systems from which I took reference while making my website. Some of the websites are:

Some Website References

https://www.barnesandnoble.com



Figure 13: Barnes&Noble website

https://www.powells.com

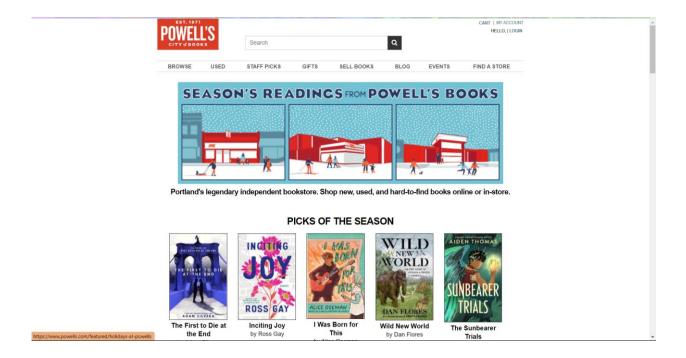


Figure 14: Powells Website

https://shopboxhill.com

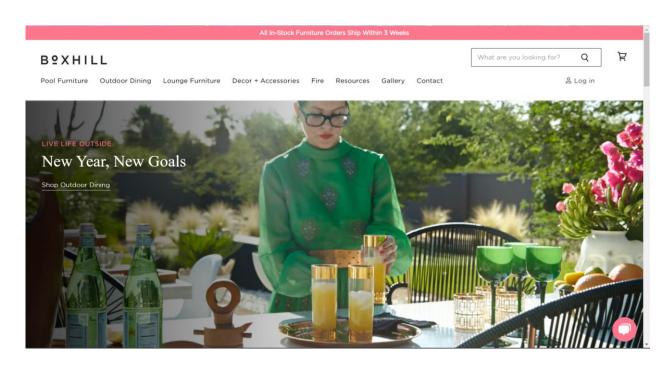


Figure 15: Boxhill Website

https://www.daraz.com.np/#

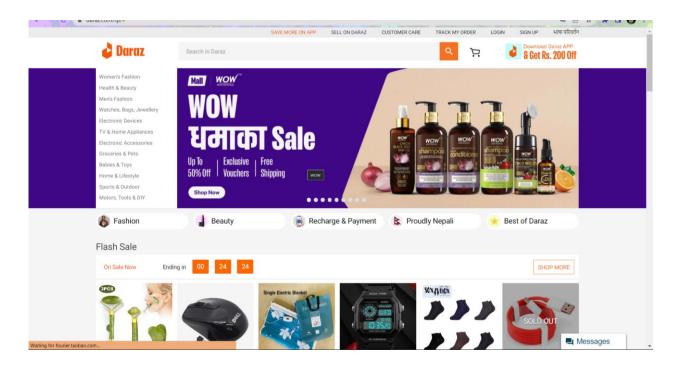


Figure 16: Daraz Website

https://thulo.com

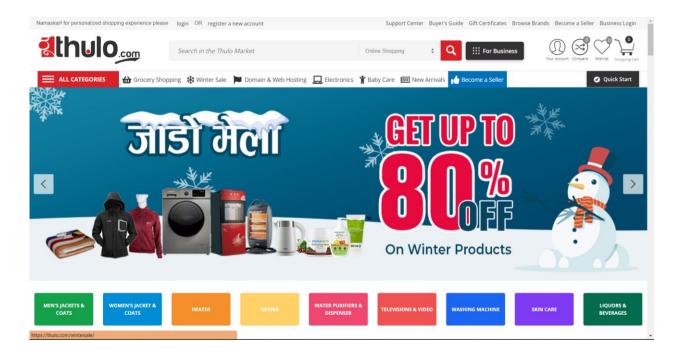


Figure 17: Thulo website

Comparison of my website With Similar Systems

Feature	My System	Box Hill	Daraz	Thulo
Shopping Cart	✓	✓	✓	√
Online Payment	✓	√	✓	√
Login	✓	✓	✓	✓
Image Slider	✓			✓
Search Product	✓	✓	✓	✓

Table 3: Comparision of my website with similar system

Conclusion of comparison

As this project was from academic point of view, I tried to implement some of the most widely used features in a website which helped me to increase by knowledge in programming rather than adding extra features.

Development

Methodology Considered

Selecting a methodology is an important and must do task while doing a software development. Selecting a methodology helps us to guide our project forward based on the steps of that methodology and can make it easier while developing a software. While selecting a methodology for by project different methodology came in my mind.

Iterative Modal

The iterative approach begins with a basic implementation of a portion of the software requirements and progresses through iteratively improving the evolving versions until the entire system is completed. Design changes are made, and new functional capabilities are added with each iteration.

Evolutionary Modal

The evolutionary model proposes breaking down work into smaller chunks, prioritizing them, and then providing those chunks one by one to the customer. The key benefit is that the customer's confidence grows since he is regularly provided with quantifiable goods or services to check and confirm his requirements from the start of the project.

Selected Methodology - Incremental

The incremental model is a software development process that divides requirements into numerous separate modules during the software development cycle. Each module in this paradigm goes through the processes of requirements, design, implementation, and testing. Every release of the module after then adds functionality to the preceding iteration. The procedure is repeated until the entire system is completed.

In my project I will have up to 2 increments. In first Increment I will complete some features like designation of pages in the frontend by keeping static data. Database connection of react and node will be completed. Login and sign-up verification by using backend will be completed.

In second increment remaining features of the project like fetching products and other data from database will be done, online payment using Khalti will be implemented and so on.

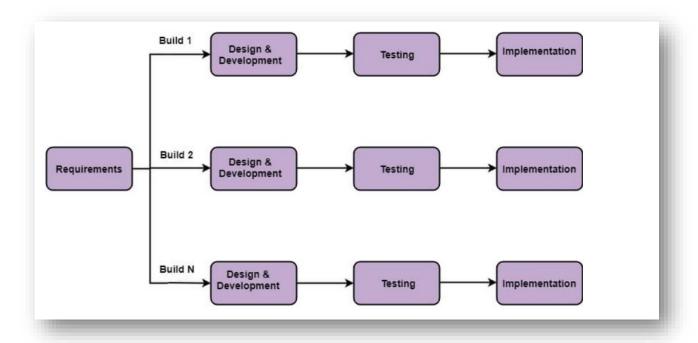


Figure 18: Work Break Down Structure

The various phases of incremental model are as follows:

Requirement analysis:

The requirements are identified in the first phase of the incremental model by the product analysis expertise. The requirement analysis team also understands the system's functional requirements.

This phase is critical in developing software using the incremental model.

Design & Development:

The design of the system functionality and the development technique are completed successfully in this phase of the Incremental model of SDLC. The incremental model involves style and development phase when software develops new functionality.

Testing:

The testing phase in the incremental model examines the performance of each current function as well as new functionality. Various approaches are utilized to test the behavior of each task throughout the testing phase.

Implementation:

The system's coding phase is enabled by the implementation phase. It includes the final coding that was done during the designing and development phases, as well as the testing of the functionality. After this phase is completed, the number of working products is increased and upgraded to the final system product.

Advantage of Incremental Model

- Errors are easily identifiable.
- It's a lot easier to test and debug.
- More adaptable.
- Risk is easy to manage because it was handled at the iteration.
- Important functionality is delivered to the client early.

Disadvantage of Incremental Model

- · Good planning is required.
- The total cost is quite expensive.
- Module interfaces must be clearly defined.

Reasons for using Incremental Model

- My project had a lengthy development schedule.
- The requirement was clear for my project.
- I was not much skilled in start of the project.

Gantt chart

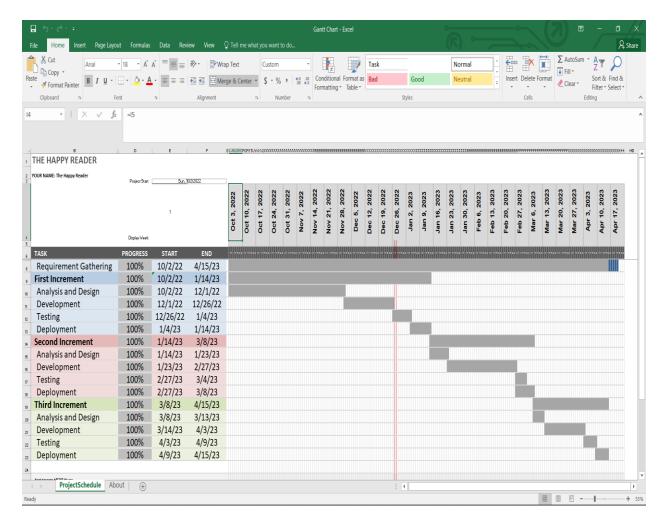


Figure 19: Gantt Chart

Analysis of progress

Progress Review

Completion of use case

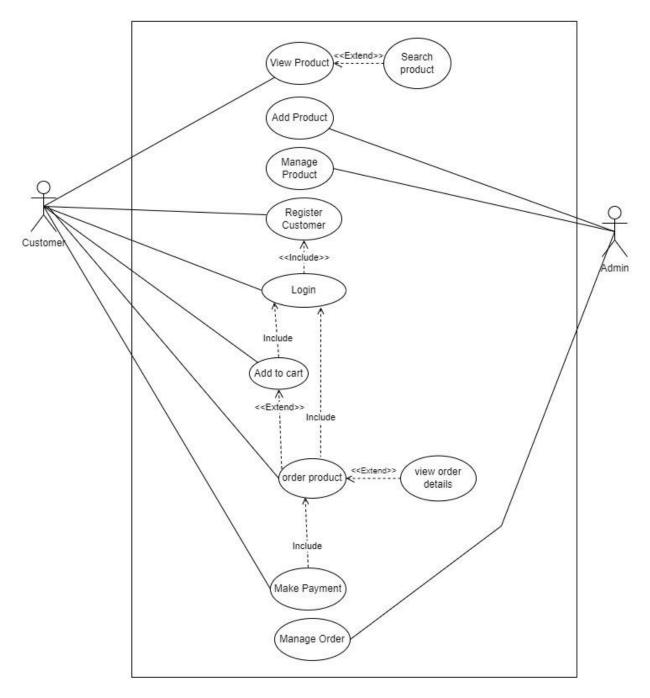


Figure 20 : Use Case

Completion of dfd level 0

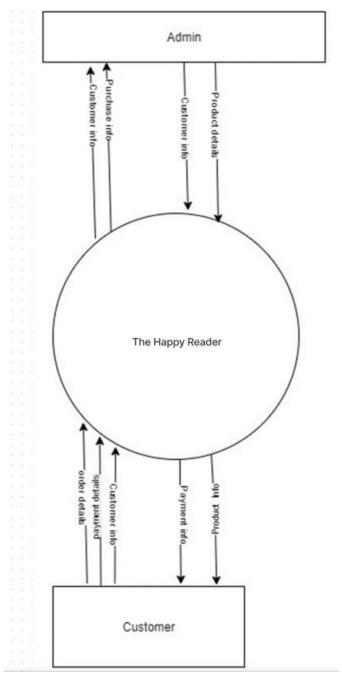


Figure 21: DFD level 0

Completion of DFD1

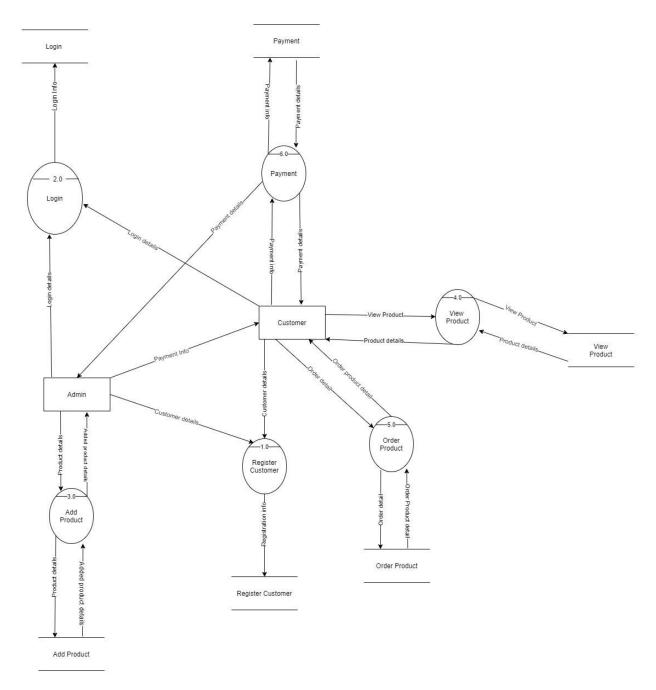


Figure 22 : DFD 1

Completion of Collaboration diagram

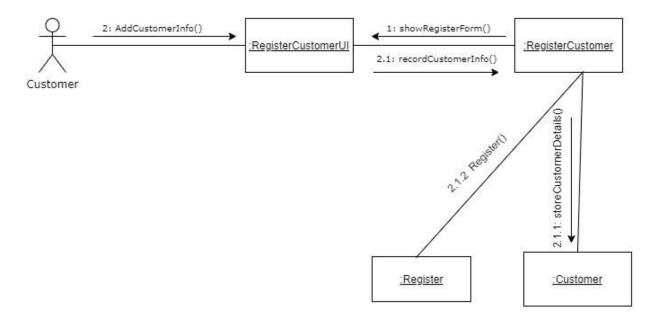


Figure 23: Collaboration Diagram for Customer info(1)

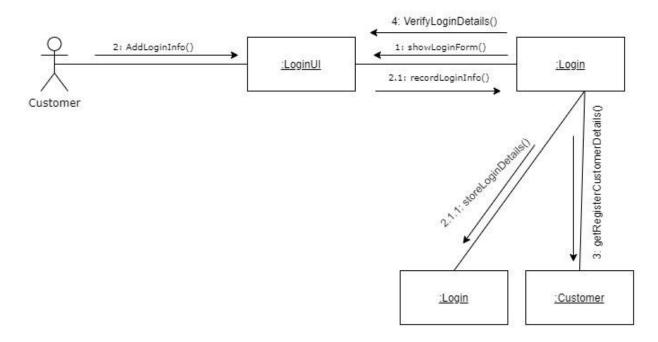


Figure 24: Colalboration Diagram for login info (2)

Collaboration diagram for Login

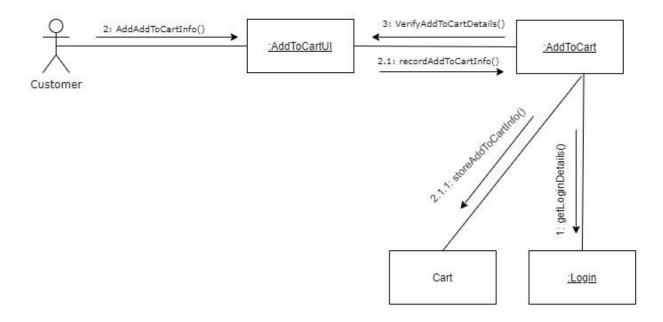


Figure 25: Colalboration Diagram for Add to Cart

Collaboration diagram for Add to Cart

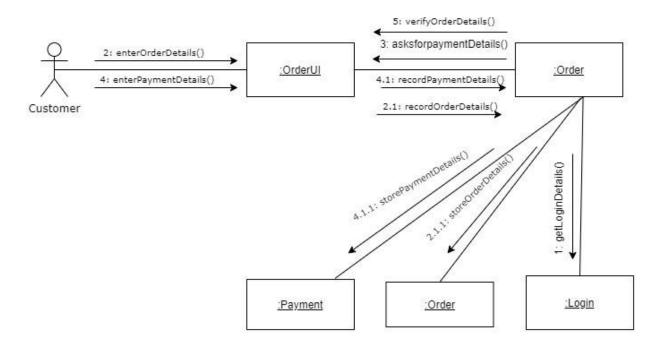


Figure 26: Collaboration Diagram for orderdetails

Completion of Sequence Diagram

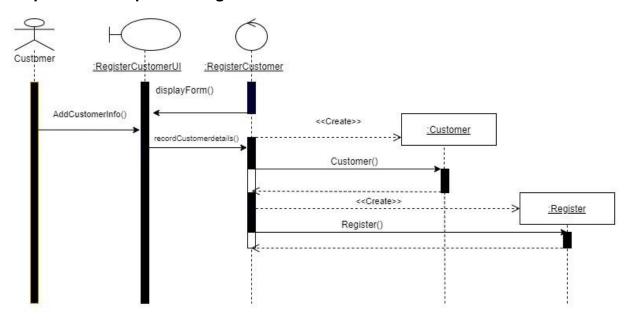


Figure 27: Sequence Diagram for register customer

Sequence diagram of register customer

Sequence Diagram for Login

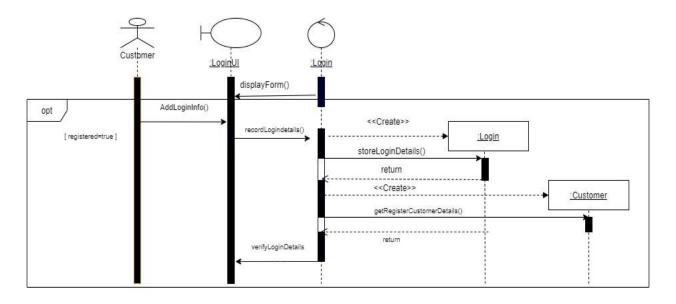


Figure 28: Sequence Diagram for login

Sequence diagram for add product to cart

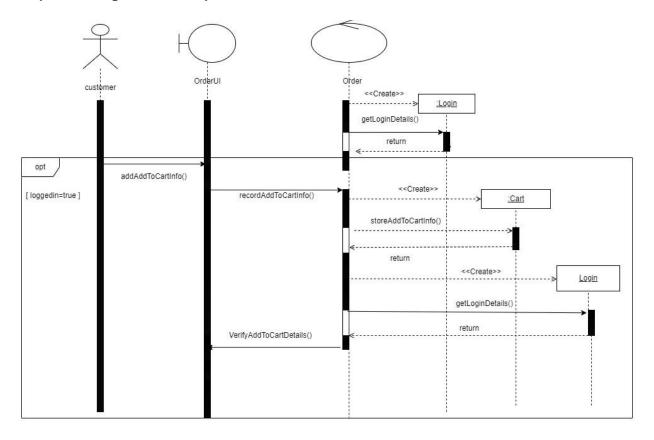


Figure 29 : Sequence Diagram for add product to cart

Sequence Diagram for orderdetails

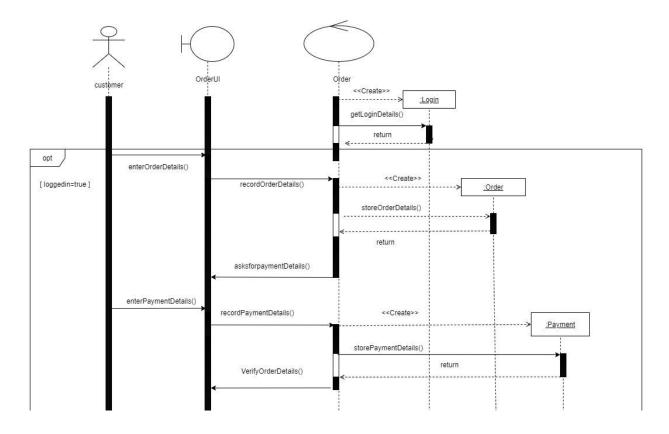


Figure 30 : Sequence diagram for order details

Completion of Activity Diagram

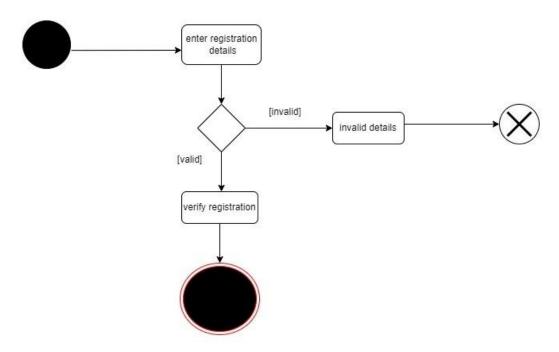


Figure 31: Activity Diagram for register Customer

Activity diagram for register customer

Activity Diagram for Product Order

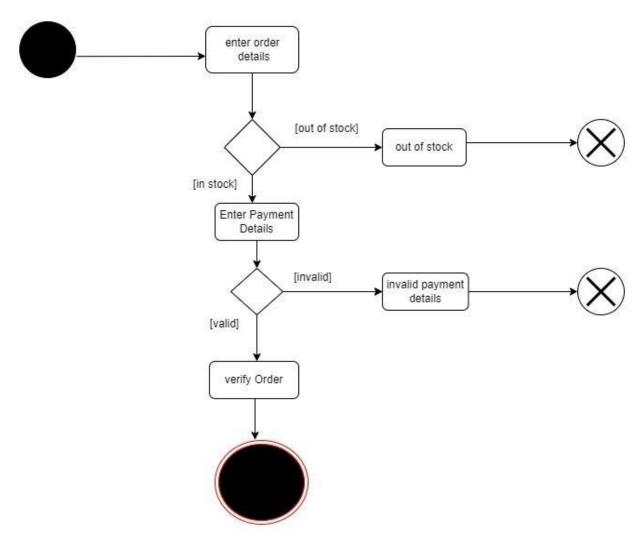


Figure 32 : Activity Diagram for Product Order

Activity Diagram for Login

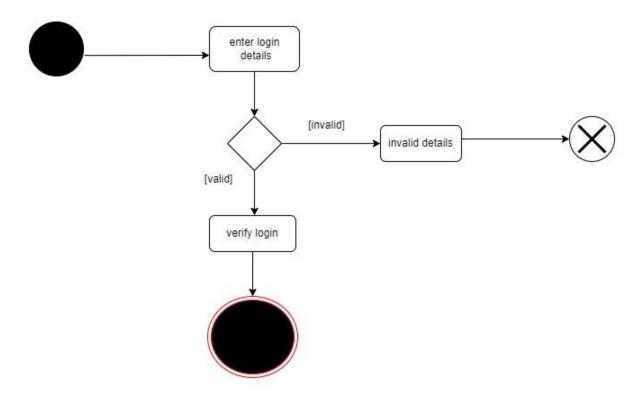


Figure 33 : Activity Diagram For login

Activity Diagram for Add to Cart

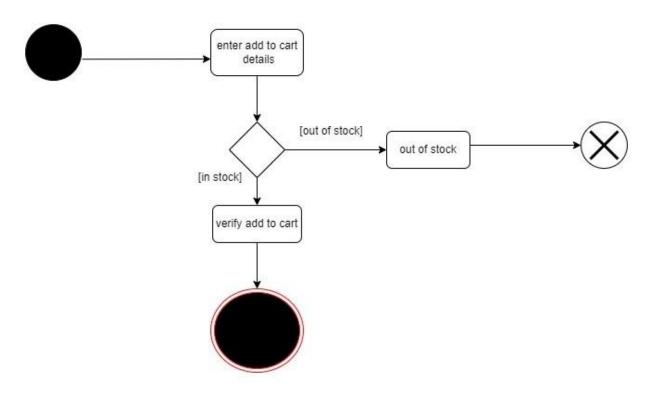


Figure 34 : Activity Diagram for Add to Cart

Completion of database design

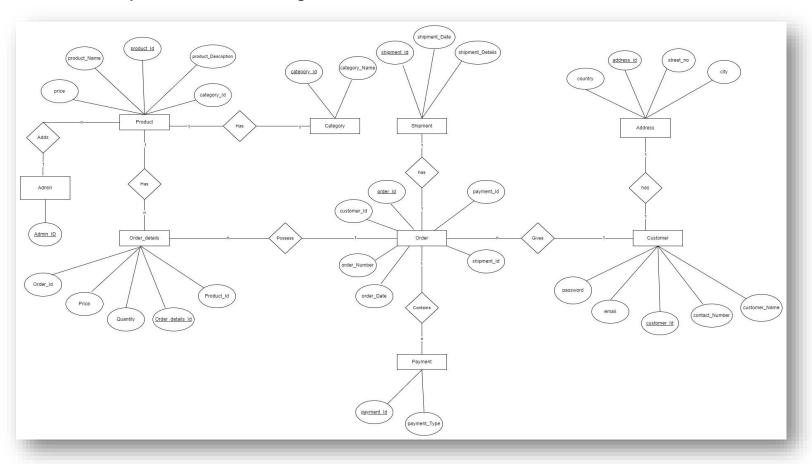


Figure 35: Databse Design

Proofs for Development Contact US

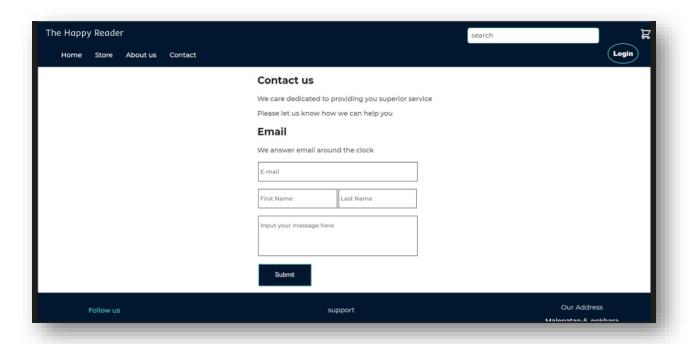


Figure 36: Contact us page UI

Login page

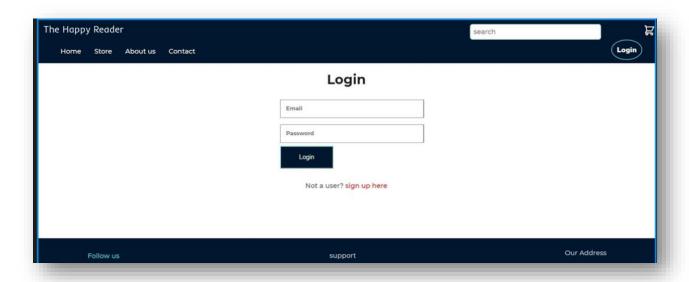


Figure 37 : Login Page UI

Sign Up page

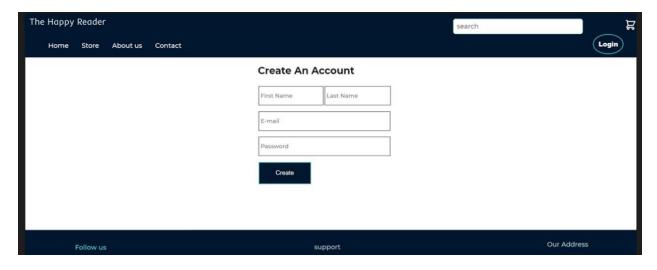


Figure 38 : SIgn Up page UI

About Us

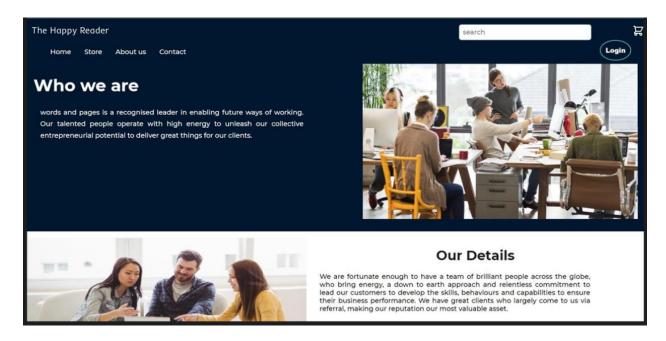


Figure 39 : About Us page UI

Bibliography

Amey Thakur, M. S., 2022. DIGITAL BOOKSTORE. [Online]

Available at: https://d1wqtxts1xzle7.cloudfront.net/82731336/2108.0142v1-

libre.pdf?1648352765=&response-content-

<u>disposition=inline%3B+filename%3DDigital_Bookstore.pdf&Expires=1672165869&Signature=ZdKOmDkNt2bCcNRgPZeQiwtC8r03jguhuGX8cuutDAMRonpWnJfwYw4255rrlTtwXPVyQzu6V</u>

[Accessed 15 12 2022].

Chih-Peng, W.-C. G. &. F.-C. L., 2012. On the competition between an online bookstore and a physical bookstore. [Online]

Available at: https://link.springer.com/article/10.1007/s11066-012-9068-y [Accessed 15 12 2022].

eMarketer, 2022. *Ecommerce Statistics: Industry benchmarks & growth.* [Online] Available at: https://www.insiderintelligence.com/insights/ecommerce-industry-statistics/ [Accessed 12 November 2022].

Gautam, Y., 2022. *Status of E-Commerce In Nepal.* [Online] Available at: https://www.everestparked.com/post/status-of-e-commerce-in-nepal# [Accessed 12 November 2022].

Khan, A. G., 2016. Electronic Commerce: A Study on Benefits and Challenges in. *Global Journal of Management and Business Research*, 16(1), p. 5.

Muzumdar, P., 2013. Online Bookstore - A New Trend in Textbook Sales Management for Services Marketing. *Journal of Management and Marketing Research*, 9(122-135, 2012), p. 14.

NéstorDuch-Brown, L., 2017. The impact of online sales on consumers and firms. Evidence from consumer electronics. *International Journal of Industrial Organization*, Volume 52, pp. 30-62.

Statista, 2022. *E-Commerce worldwide-statistics & facts.* [Online]
Available at: https://www.statista.com/topics/871/online-shopping/#dossier-chapter1