

**GROCERIES ONLINE STORE,
AN ADVANCED E-COMMERCE SYTEM**

BY

**Maisha Afroz
ID: 171-15-9437**

This Report is presented in Partial Fulfillment of the Requirements for the
Degree of Bachelor of Science in Computer Science and Engineering

Supervised By

Mr. Raja Tariqul Hasan Tusher
Senior Lecturer
Department of CSE
Daffodil International University

Co-Supervised By

Mr. Md. Tarek Habib
Assistant Professor
Department of CSE
Daffodil International University



**DAFFODIL INTERNATIONAL UNIVERSITY
DHAKA, BANGLADESH
JUNE 2021**

APPROVAL

This Project titled “**Groceries online store**”, submitted by **Maisha Afroz, ID:171-15-9437** to the Department of Computer Science and Engineering, Daffodil International University has been accepted as satisfactory for the partially required fulfillments for B.Sc. in Computer Science and Engineering and approved as to its style and contents. The presentation has been held on **02.06.2021**.

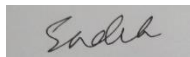
BOARD OF EXAMINERS



Chairman

Dr. Touhid Bhuiyan
Professor and Head

Department of Computer Science and Engineering
Faculty of Science & Information Technology
Daffodil International University



Internal Examiner

Md. Sadekur Rahman
Assistant Professor

Department of Computer Science and Engineering
Faculty of Science & Information Technology
Daffodil International University



Internal Examiner

Dr. Fizar Ahmed
Assistant Professor

Department of Computer Science and Engineering
Faculty of Science & Information Technology
Daffodil International University



External Examiner

Dr. Shamim H Ripon
Professor

Department of Computer Science and Engineering
East West University

DECLARATION

I hereby announce that I completed this project under the guidance of **Mr. Raja Tariqul Hasan Tusher, Lecturer, Department of CSE** Daffodil International University. I further announce that neither this project nor any part of it has been forwarded to any other institution for the purpose of receiving a degree or diploma.

Supervised by:



Mr. Raja Tariqul Hasan Tusher
Senior Lecturer
Department of CSE
Daffodil International University

Co-Supervised by:



Mr. Md. Tarek Habib
Assistant Professor
Department of CSE
Daffodil International University

Submitted by:



Maisha Afroz
ID: 171-15-9437
Department of CSE
Daffodil International University

ACKNOWLEDGEMENT

First, I express my heartiest thanks and gratefulness to The Almighty for His divine blessing that made it possible to complete the final year project successfully. The real spirit of achieving a goal is through the way of excellence and austere discipline.

I'd like to share my heartfelt gratitude to my supervisor, **Mr. Raja Tariqul Hasan Tusher** (Senior Lecturer), supervisor and **Mr. Md Tarek Habib** co-supervisor, BSc in CSE Program, Daffodil International University. His never-ending diligence, scholarly instruction, relentless motivation, continuous and diligent supervision, helpful critique, insightful suggestions, and reading many imperfect drafts and improving them at any point enabled the project to be completed. I am specially grateful to my honorable teachers.

I'd like to share my heartfelt gratitude to Head, **Professor Dr. Touhid Bhuiyan** Department of CSE, for his generous assistance in completing my thesis, and I'd like to express my gratitude to the Daffodil International University (DIU) staff for allowing me access to every type of equipment and archive resources in order to acquire information and clarify my understandings. I must express my gratitude for the advice provided by other supervisors and lecturers, who have assisted me in clarifying my understanding as well as instilling in me the value of properly executing the project report while maintaining good information and consistency.

ABSTRACT

Online application development took off in a big way following the word “WWW” which is known or called as “World Wide Web” which was coined in the year of late 90’s. Dynamic, complex business applications grew out of static HTML pages. The Internet has created a new horizon for exchange and trade, especially in the field of electronic commerce (web-based ventures).

The use of the Internet in the displaying, installation, and the product delivery and businesses are referred to as a web-based business.

There is no shortage of top down research revealing to us that the ecommerce market is huge, growing at a rapid pace, and showing no signs of slowing down. Groceries.com is a web based application. The app is primarily for e-commerce businesses and their clients. The application includes a complete e-commerce platform where consumers can purchase goods by meeting all of the criteria, and after buying or placing an order, they can monitor their order using the app. I have built a dynamic E-commerce website with the help of a modern web development framework, what includes an awesome shopping cart system, client management system, buy various items using an online payment gateway, and a variety of other complex features. The project's goals are to make e-commerce businesses more profitable for customers and to maximize profitability while maintaining customer loyalty. In the entire ordering, fulfillment, and distribution process, an order tracking system helps you to maximize your customer service and satisfy your customers' demands for order accuracy.

TABLE OF CONTENTS

CONTENTS	PAGE
Board of examiners	I
Declaration	II
Acknowledgements	III
Abstract	IV

CHAPTER	PAGE
----------------	-------------

CHAPTER 1: INTRODUCTION	1-7
--------------------------------	------------

1.1 Introduction	1
1.2 Motivation	2
1.3 Aims and Objectives	2
1.4 Feasibility Study	3
1.5 Expected Outcome	4
1.6 Benefits & Beneficiaries	4
1.7 Goals	5
1.8 Stakeholders	5
1.9 Proposed System Model	5
1.9.1 Agile-Model	6
1.9.2 Report Layout	7

CHAPTER 2: SYSTEM STUDY	8-14
--------------------------------	-------------

2.1 Visual Studio Code	8
2.2 Business process Model	9
2.3 Use case diagram	9
2.3.1 Order Product	10

2.3.2 Manage products	11
2.3.3 Manage Orders	12
2.4.Activity Diagram	13
2.4.1 Activity Diagram for Customer	13
2.4.2 Activity for Admin	14

CHAPTER 3: USER INTERFACE AND MANUALS 15-21

3.1 User Interface	15
3.1.1 Home Page	15
3.1.2 Sign up page	16
3.1.3 Sign in Page	17
3.1.4 Cart	17,18
3.1.5 Admin area (Track users)	19
3.1.6 Admin Area (Add Product)	20
3.1.7 Admin Area (Create order)	21

CHAPTER 4: DEVELOPMENT TOOLS & TECHNOLOGIES 22-25

4.1 User Interface Technologies	22
4.2 Implementation Technologies	22
4.2.1 NodeJS	22
4.2.2 NPM	22
4.2.3 ExpressJS	22
4.2.4 MongoDB	22
4.2.5 Reactjs	23
4.2.6 NodeJs	23
4.2.7 NextJs	23

4.2.8 Docker	23
4.2.9 JavaScript	23
4.3 TypeScript	24
4.3.1 CSS	24
4.3.2 SASS	24
4.4 Platform & Environment	25
4.4.1 Hardware	25
4.4.2 Tools	25
4.4.3 Version Control	25
 CHAPTER 5: SYSTEM TESTING	 26-29
5.1 Introduction	26
5.2 Test Plan Strategy	26
5.3 Test Case	26
5.3.1 Test Case of Sign In	27
5.3.2 Test Case of Sign Up	27
5.3.3 Test Case of Cart	28
 CHAPTER 6: PROJECT SUMMARY	 30-31
6.1 GitHub Link	30
6.2 Limitations	30
6.3 Obstacle & Achievements	30
6.4 SWOT Analysis	30
6.4.1 Strengths	30
6.4.2 Weaknesses	30
6.4.3 Opportunities	31
6.4.4 Threats	31
6.5 Conclusion	31
6.6 Future-Work	31

REFERENCES	32
PLAGIARISM REPORT	33

LIST OF TABLES

TABLES	PAGE
Table 2.1: Order Product	10
Table 2.2: Manage Products	11
Table 2.3: Manage Orders	12
Table 5.1: Test cases of sign in	27
Table 5.2: Test case of signup	28
Table 5.3: Test case of cart	29

LIST OF FIGURES

FIGURES	PAGE
Figure 1.1: Agile Model	6
Figure 2.1: Business Process Model	9
Figure 2.2: Use Case Diagram	9
Figure 2.3: Activity for customer	13
Figure 2.4: Activity diagram for admin and staff	14
Figure 3.1: Home Page	15
Figure 3.2: Home page	16
Figure 3.3: Sign up	16
Figure 3.4: Sign in page	17
Figure 3.5: Cart system	17
Figure 3.6: Payment system in shopping	18
Figure 3.7: Billing system in the shopping cart	18
Figure 3.8: User Tracking	19
Figure 3.9: Tracking users	19
Figure 3.10: Add Product (admin)	20
Figure 3.11: Adding new product(admin)	20
Figure 3.12: Admin area (Create order)	21
Figure 3.13: Creating/cancelling order in admin area	21

CHAPTER 1

INTRODUCTION

1.1 Introduction

Nowadays, business of e-commerce has become a multibillionar market. E-commerce is one of the most effective methods for obtaining the desired items for use in the home or workplace.

In the electronic business, it is critical to establish a strong relationship with consumers, as well as their confidence in the e-commerce platform, to determine consumer satisfaction and dissatisfaction levels. It is the exchange of goods and services between companies and clients. It is, in reality, a really dynamic platform. This type of program in our country has the potential to reduce the problem of unemployment. The form of e-Commerce has made our lives much easier because we can get anything we want by buying it online and save time. On the one side, there is less time lost. Reduce unemployment in our own country, on the other hand, by providing services to unemployed youth. I hope that one day, a forum like this will reduce unemployment to zero percent.

Groceries online store is a web-based digital shopping system that is the subject of the project. This system is intended to make shopping for consumers simple and convenient. Buyers and sellers will profit from using the web application.

1.2 Motivation

In this segment, I will address my motivations. My motivations stem from the online marketplace.

Many small and medium-sized business owners in Bangladesh are unaware of the existence of an e-commerce web application. This will assist them in expanding their business. It also necessitates upkeep, security updates, and a plethora of additional features. My goal is to create a stable, easy-to-use, and error-free e-commerce web application or platform that allows business owners to sell their products online.

1. This covid pandemic has made us realize the necessity of such an e-commerce website.
2. People might always not get enough time to shop for necessities. Then such ecommerce site could be their savior.
3. When people get sick they might not have the energy to shop for any necessities like groceries or daily necessities & sickness doesn't come with an invitation.

1.3 Aims and Objectives

The primary objectives of this project are:

- To make everyday life easier.
- To make more time for busy people.
- To make it possible that everyone gets every necessary things whenever needed without going out.
- To make consumers more cautious.
- To make sure that everyone gets to buy necessities even in sickness without any hassle.
- To make sure that consumers get to buy necessities at best available price.
- To make it easier for new sellers to do business.
- To make sure that none needs gets unnoticed due to any work emergency or sickness or even pandemic.
- To create more employment.
- To give hope to the new sellers.

1.4 Feasibility Study

The system's feasibility is put to the test. It assists in determining whether or not the project is feasible. A feasibility study examines the framework and determines whether or not it should be developed. In plain language, it can be viewed as a system's test. In case the test is passed by the system, then the project is reasonable to develop, or, it won't be reasonable; otherwise, to put it another way, a feasibility study determines whether a project is reasonable or not.

Feasibility has mainly four pillars:

- Technology
- Time
- Finance and
- Resources

The feasibility of the system "Groceries.com" is viewed of these four dimensions-

Technology: The system development of groceries.com is designed with very basic & readily available technology. This system was developed by ReactJs, NodeJs & MongoDB for Database.

Finance: This dimension evaluates the system in terms of revenue, or funds. This dimension determines whether spending the requisite amount on the device is feasible or whether it would be a waste. This project has no financial constraints because it employs simple technology that is simple to set up.

Time: This dimension assesses the value of a device in terms of time, which is one of the most critical variables to consider. Since this system is not particularly large, it can be completed in the time allotted. We may say that this framework can be developed within the appropriate time frame because time is a critical factor to consider.

Resources: This dimension considers the resources needed to create the structure. The resources needed for this system are very minimal and that can easily meet the expectation; the resources required for this system are simple hardware and a suitable OS(operating system).

Alongside the assistance of the complete criteria, now we may assess the project's viability and determine whether or not to proceed with the project. We may assume that this method is feasible from all of these dimensions and that it is viable to complete the

project if we consider the dimensions and their roles in this particular system.

1.5 Expected Outcome

People will be able to buy their daily necessities without any hassle of going out or spending time from roaming around shop to shop. It'll help them save energy, money & their most precious time. They will be able to select their favorite products to their required quantity & add it to the cart. They will be able to add or remove products from the cart before finalizing or confirming the order as their wish. They'll be able to select location of where they want delivery & when they want delivery. They'll be able to track their order to see if it's been confirmed or started shipping or have shipped or delivered. Only the admin of the project will be able to add or remove products on the website for consumers or buyers to view & buy. The admin will have the authority to confirm the order or cancel it if anything goes wrong or seems gimmicky. It'll create employment & will also give hope to new sellers who just want to start their business no matter how small or big.

1.6 Benefits & Beneficiaries

Benefits:

- Increase customer loyalty
- Eliminate the need to contact the customer service center again
- Cut down on expensive phone calls
- Boost e-commerce revenues by keeping consumers on the platform.

Beneficiaries:

- Clients who shop online
- Authority in e-commerce

1.7 Goals

When ordering or buying something from a Bangladeshi e-commerce site, customers face a variety of issues, including:

- Uncertain order placement time and date
- Need to call repeatedly to ask about the status of the order
- Time consuming
- Customers should not return after making a purchase.

The first & foremost goal of the project is to address these issues and make e-commerce more dependable, trustworthy, and customer-friendly.

1.8 Stakeholders

A stakeholder is someone who has a part in the business and has the ability to control or be affected by it. Sponsors , employers, consumers, and vendors are examples of stakeholders.

- Customers
- E-commerce authority
- Employees
- Shareholders
- Suppliers

1.9 Proposed System Model

A simplified representation of a software process is called a Software or System Process Model. An unique perspective or viewpoint is depicted by each & every model

1.9.1 Agile-Model

The system model I suggested is an agile model, what is a software development framework that is gradual. On average, each iteration takes one to three weeks. Cross-functional teams are in charge of engineering activities. The power to react to differences in technology, needs, and consumer is referred to as "agile" in software development.

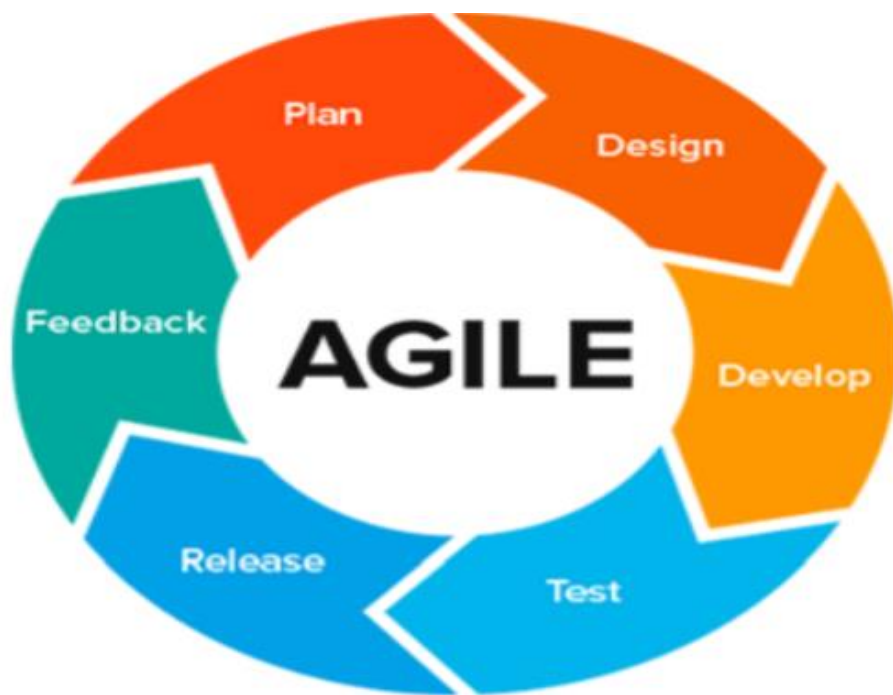


Figure 1.1: Agile Model.

1.9.2 Report Layout

The report layout describes a summary of all the chapters. A summary of all chapters is given:

Chapter 1: Describes an introduction of the smart classroom, Motivation, Aims and Objectives, Feasibility study, Outcome, and the report layout.

Chapter 2: Describes the business process model, Use case diagram, Use case scenario & activity diagram.

Chapter 3: Describes User Interface & manuals.

Chapter 4: Describes Implementation of both Front and back-end or Full-Stack design & system requirements.

Chapter 5: Describes test plan strategy & test cases.

Chapter 6: Describes the conclusion where SWOT analysis & goal, limitation, future scope have been described.

CHAPTER 2

SYSTEM STUDY

2.1 Visual Studio Code

Visual Studio Code is basically an easily accessible code editor for various operating system from Microsoft. Consumers may change the theme, keyboard shortcuts, and preferences, as well as install plugins that provide additional functionality. Built on the Electron platform, which is used to create Node.js Web apps that use the Blink layout engine. It allows consumers to open various files, what could have been memorized in its workspace for using later. As a result, this is used as a code editor that is language-independent.

It supports a variety of programming languages, each with its own set of features. This consists of betterment of editor as well as language assistance.

Users may use the Language Server Protocol to make extensions which endorse unique languages, themes, and debuggers, as well as unchangeable code analysis and linters. This enables it to run on any device, in any place, and with any programming language. The majority of common programming languages have basic support in Visual Studio Code. Bracket matching, Syntax highlighting, configurable snippets and code folding and are all included. IntelliSense for JavaScript, TypeScript, JSON, CSS, and HTML is included in Visual Studio Code, as well as for Node.js, debugging support.

Visual Studio Code comes with source control built-in. Version control settings can be accessed and display changes to the current project via a dedicated tab in the menu bar. for using the function, Visual Studio Code must be linked to a version control system that supports it.

We can use Visual Studio Code to build resources and also make drag & drop applications.

2.2 Business process Model

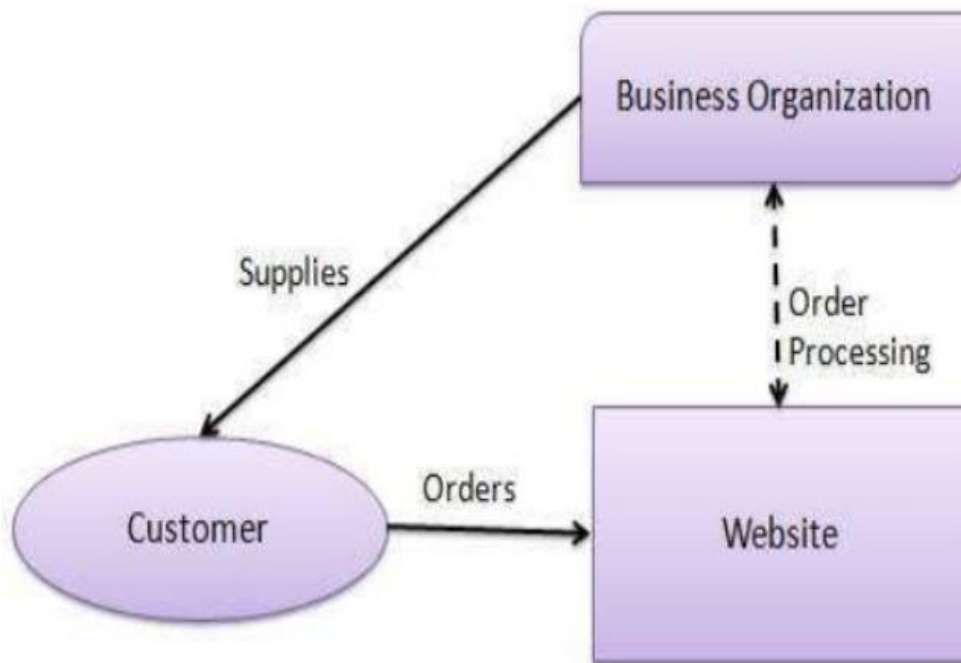


Figure 2.1: Business Process Model.

2.3 Use case diagram

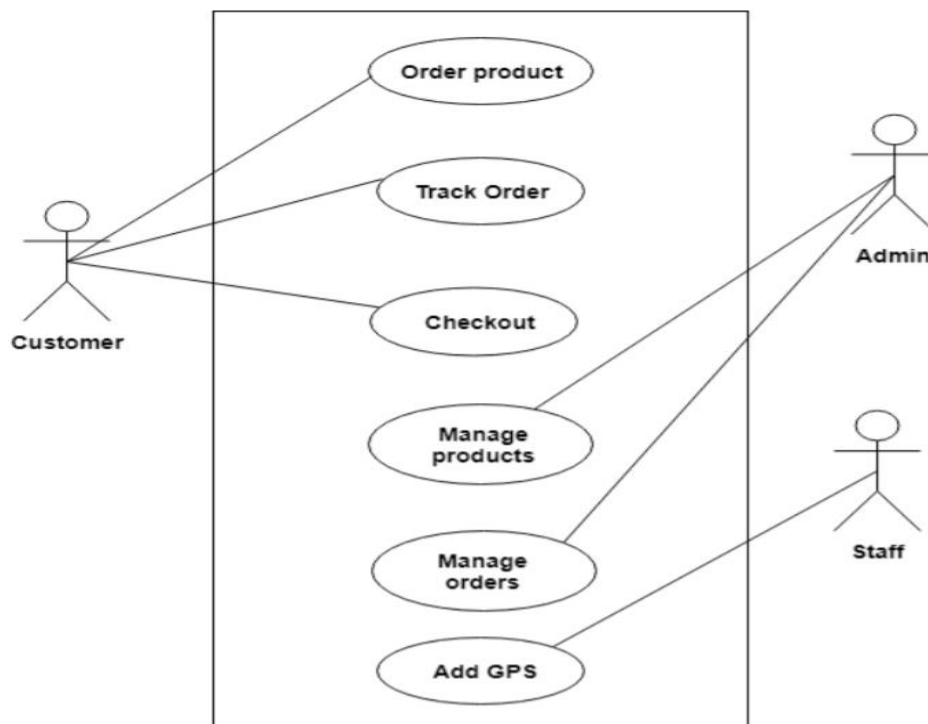


Figure 2.2: Use Case Diagram.

2.3.1 Order Product

Management of e-commerce customer reorder carts. Customers may modify the quantity of their order, put or remove items from their cart, and also continue shopping on my website to make addition of more products to their order from this venue. Customers can find the Customer Reorder feature on this e-commerce website to be quite easy.

Table 2. 1: Order Product

Use Case Name:	Order product
Scenario :	Customers can search and order products.
Brief Description:	Customer selects the product he wants to purchase, adds it to his cart, and then places his order using the appropriate payment system.
Actor:	Customer
Pre-condition:	Customers must register or login, and items must be available in the system.
Post-condition:	They must also choose an appropriate payment method.
Main Success Scenario	1. Products should be readily available. 2. Products must be entered into the system. 3. The consumer can place an order after adding the product to their cart.
Scenario Extensions	1. Customers cannot add goods to their cart or place orders if there are none available. 2. Proper payment selection is required; otherwise, the product cannot be ordered.

2.3.2 Manage products

System administrators have the ability to alter any configuration using a valid username and password, or they do not. He must login in an authentic manner, otherwise he will be unable to do so.

Table 2.2: Manage Products

Use Case Name:	Manage products
Scenario :	Admin will manage products and product categories in this area.
Brief Description:	Admins can add, update, and remove products from this page.
Actor:	Admin
Precondition:	The information that is required should be accessible.
Post condition:	Details about the product must be readily accessible.
Main Success Scenario	1. The system user must have permission. 2. The system administrator will be given an account by the authority.
Scenario Extensions	1. If the device user does not have permissions. 2. If the user has not yet registered. 3. If the product information is not available in the system, the user would be unable to scan.

2.3.3 Manage Orders

Customers' orders are managed by the administrator. They will confirm orders, remove orders if they appear to be fraudulent, process orders, inspect product quality, and finally prepare orders for shipment.

Table 2.3: Manage Orders

Use Case Name:	Manage Orders
Scenario :	Customers can place orders, and the admin can handle them.
Brief Description:	Admins can confirm orders, remove orders, process orders, inspect product quality, and schedule orders for shipment.
Actor:	Admin
Precondition:	The customer is responsible for placing an order.
Postcondition:	Confirming orders is a must.
Scenario Extensions	1. The user must position orders. 2. The order should be confirmed by the administrator.
Scenario Extensions	1. How can the admin handle orders if users do not position orders? So, first and foremost, orders must be put.

2.4 Activity Diagram

2.4.1 Activity Diagram for Customer

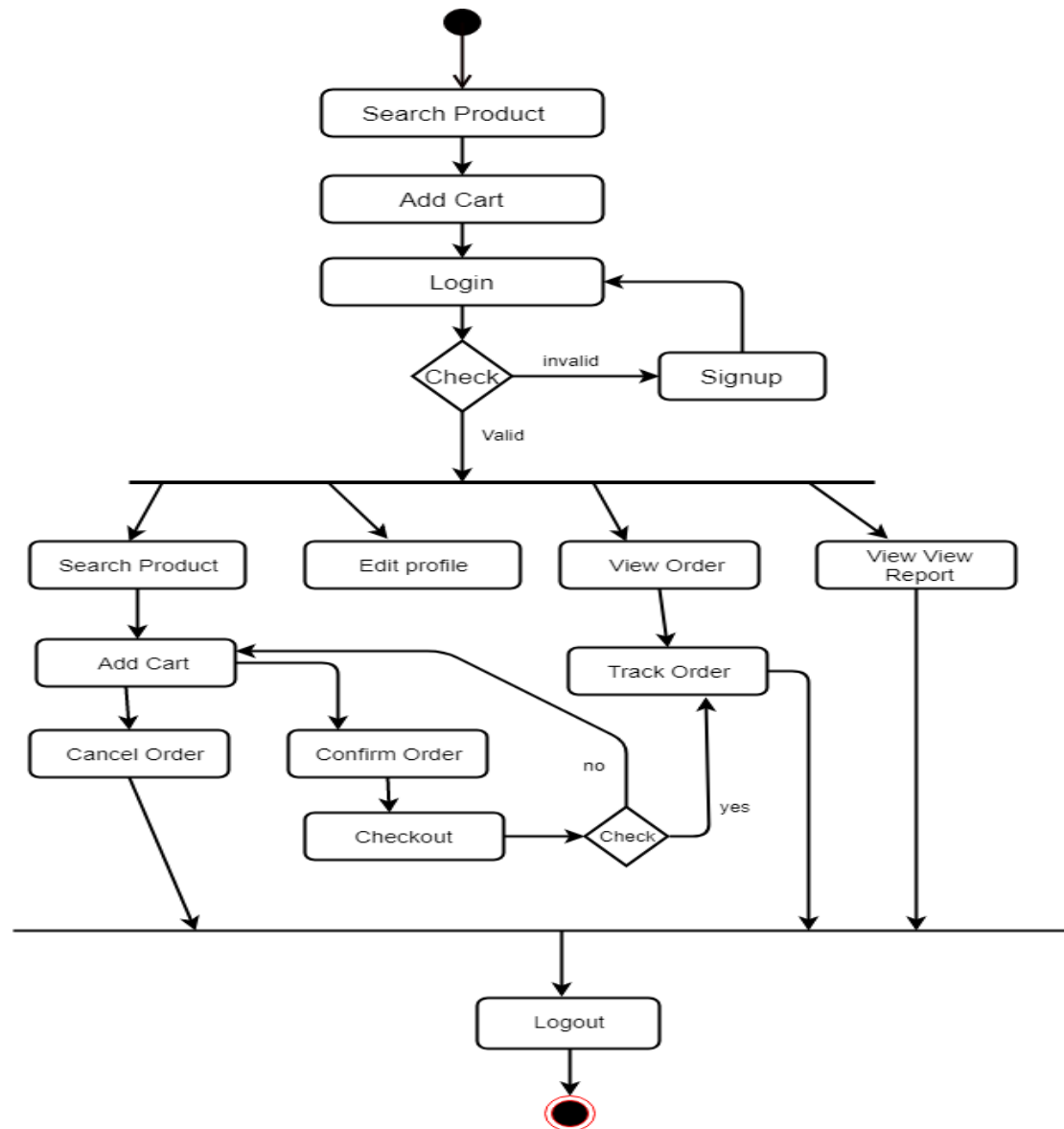


Figure 2.3: Activity for customer.

2.4.2 Activity for Admin

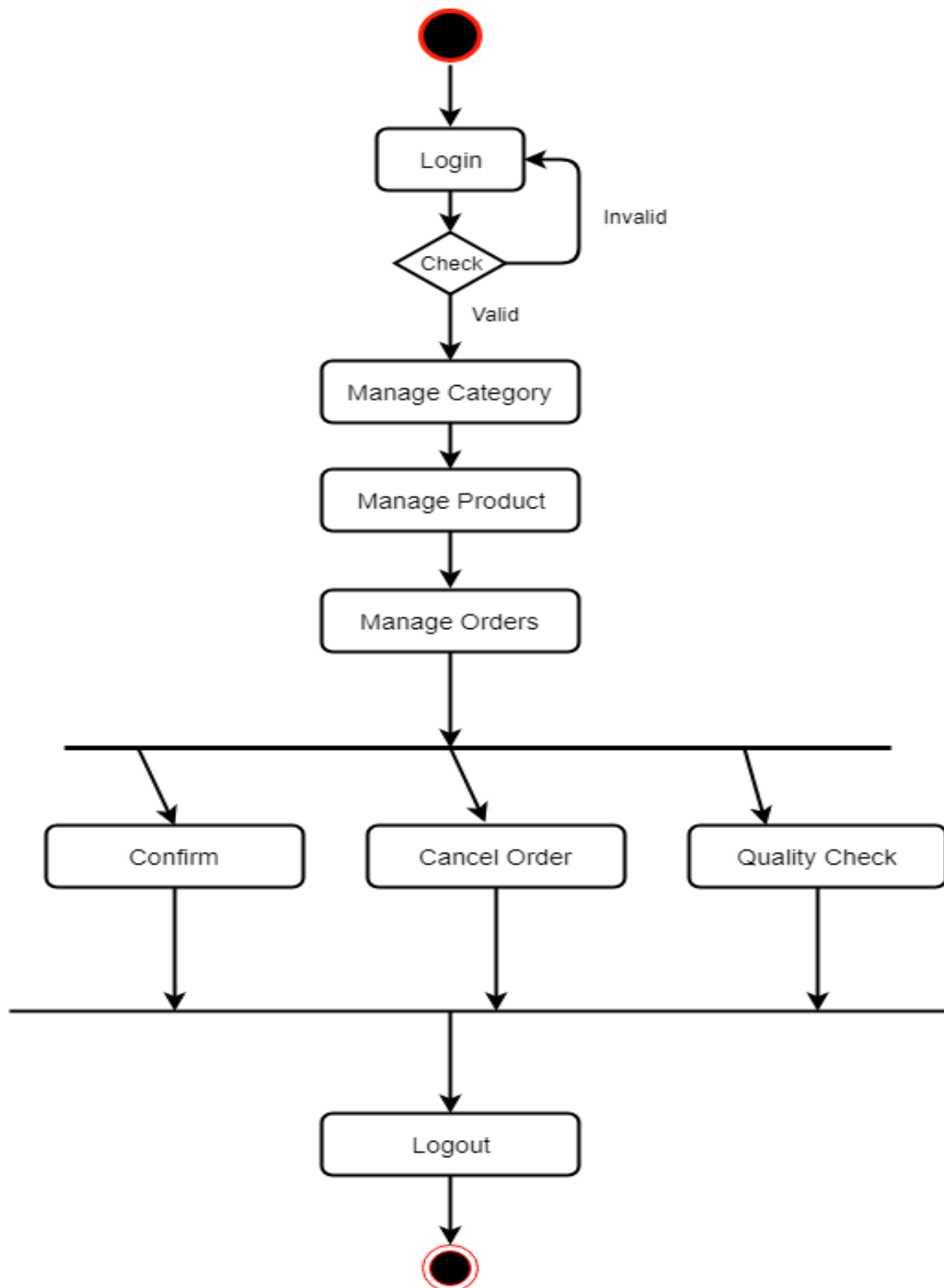


Figure 2.4: Activity diagram for admin and staf.

CHAPTER 3

User Interface and Manuals

3.1 User Interface

3.1.1 Home Page

It is the first page after viewing the website's URL. More items can be found by clicking the Shop Now button, or by searching products by category by clicking Products in the top navigation bar. My Cart, Sign, and Signup are located at the top right of the navigation bar. You can log in to the system if you are an existing user.

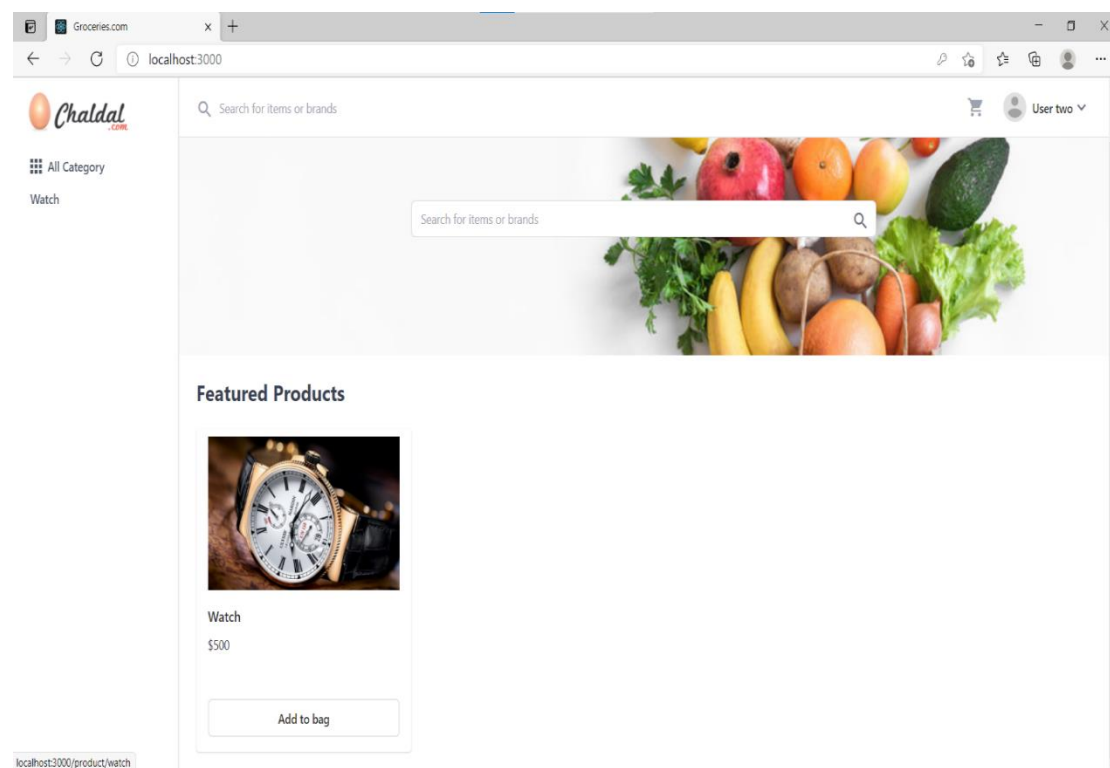


Figure 3.1: Home Page.

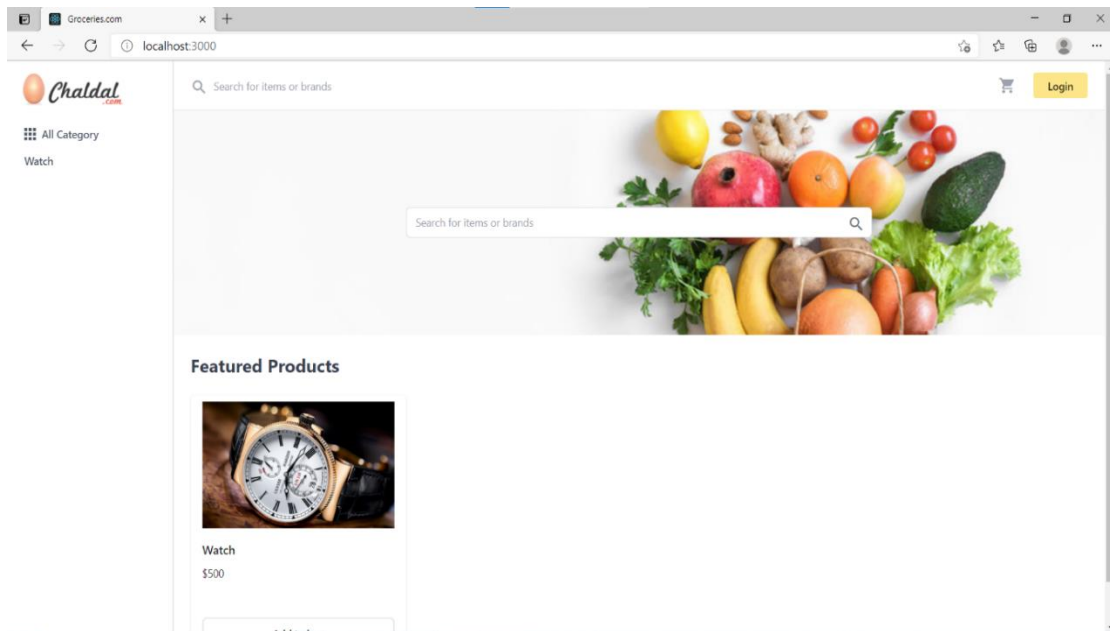


Figure 3.2: Home page.

3.1.2 Sign up page

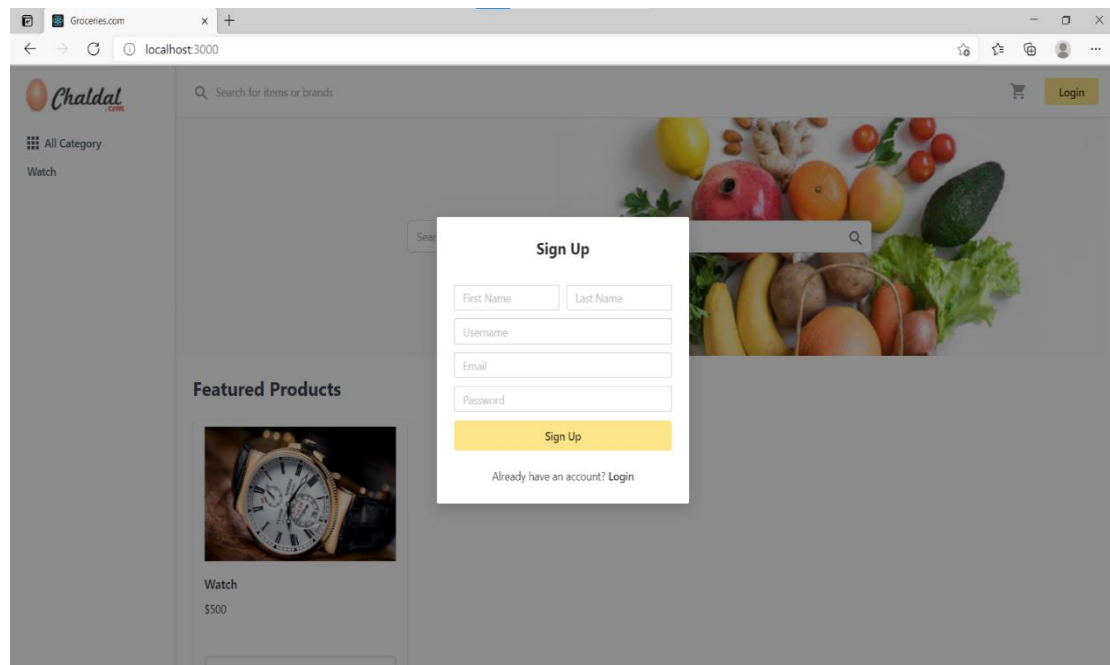


Figure 3.3: Sign up.

3.1.3 Sign in Page

This is the login page for customers. Existing customers can easily log in to the system by entering their email and password in the fields provided.

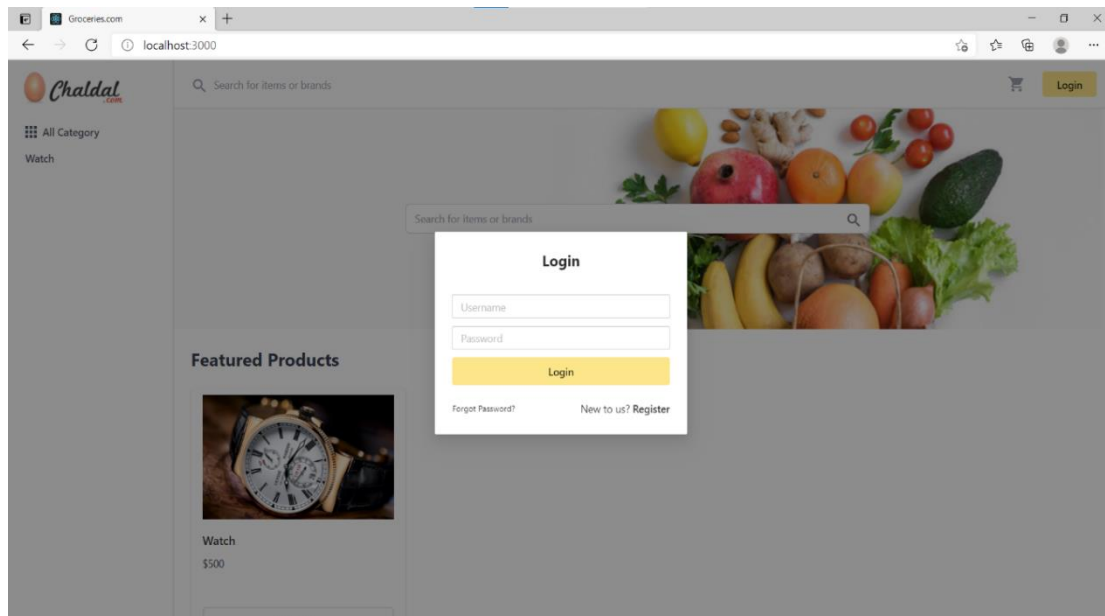


Figure 3.4: Sign in page.

3.1.4 Cart

In this project , people can add or remove products in their cart & confirm their order.

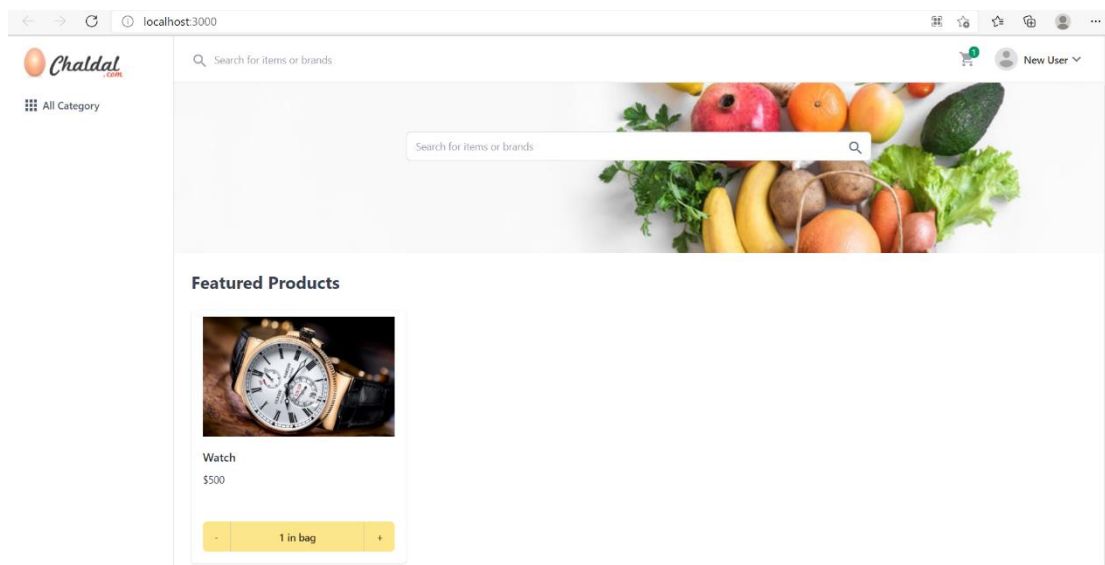


Figure 3.5: Cart system.

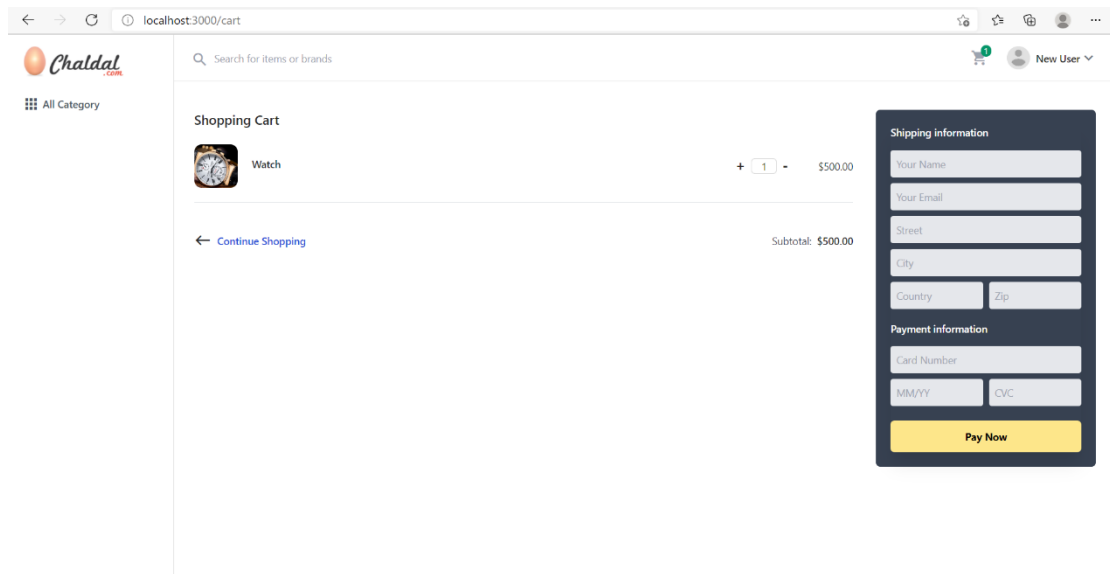


Figure 3.6: Payment system in shopping.

Shipping information

Payment information

Pay Now

Figure 3.7: Billing system in the shopping cart.

3.1.5 Admin area (Track users)

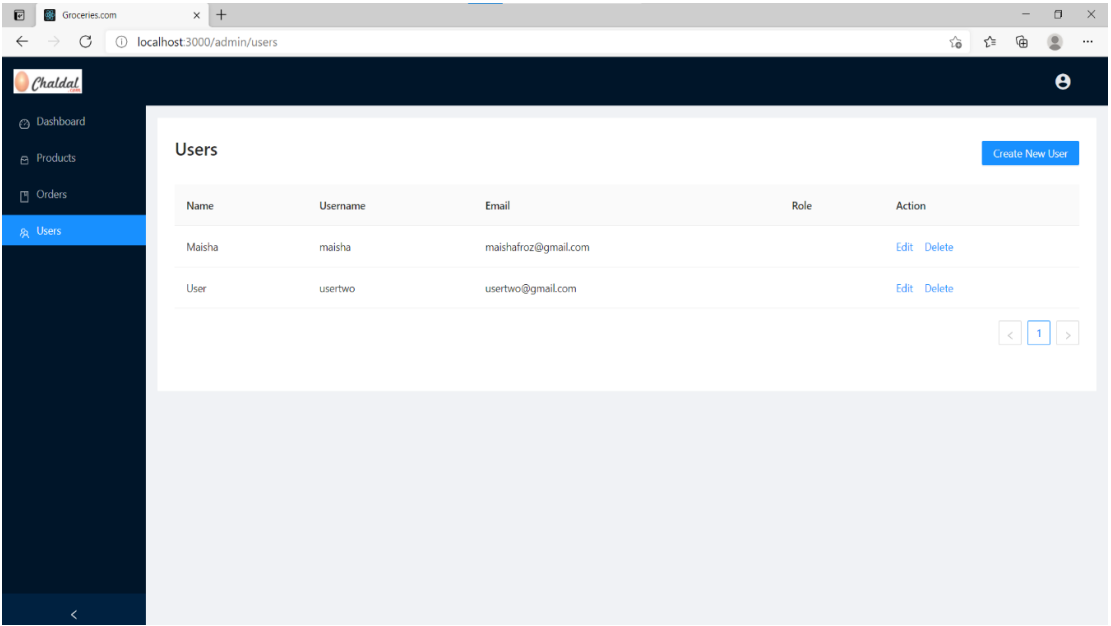


Figure 3.8: User Tracking.

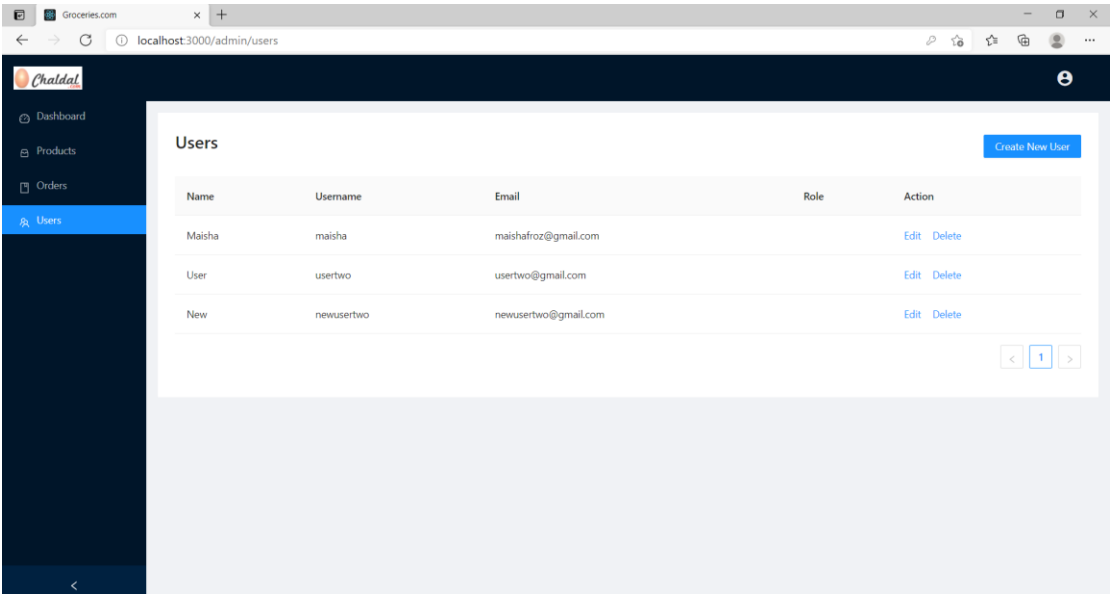


Figure 3.9: Tracking users.

3.1.6 Admin Area (Add Product)

After logging in, the admin may add a new product by clicking the Add New Product button, which will open a form where the admin can fill in the product's information. Admin can also edit and remove records by using the Edit and Delete buttons.

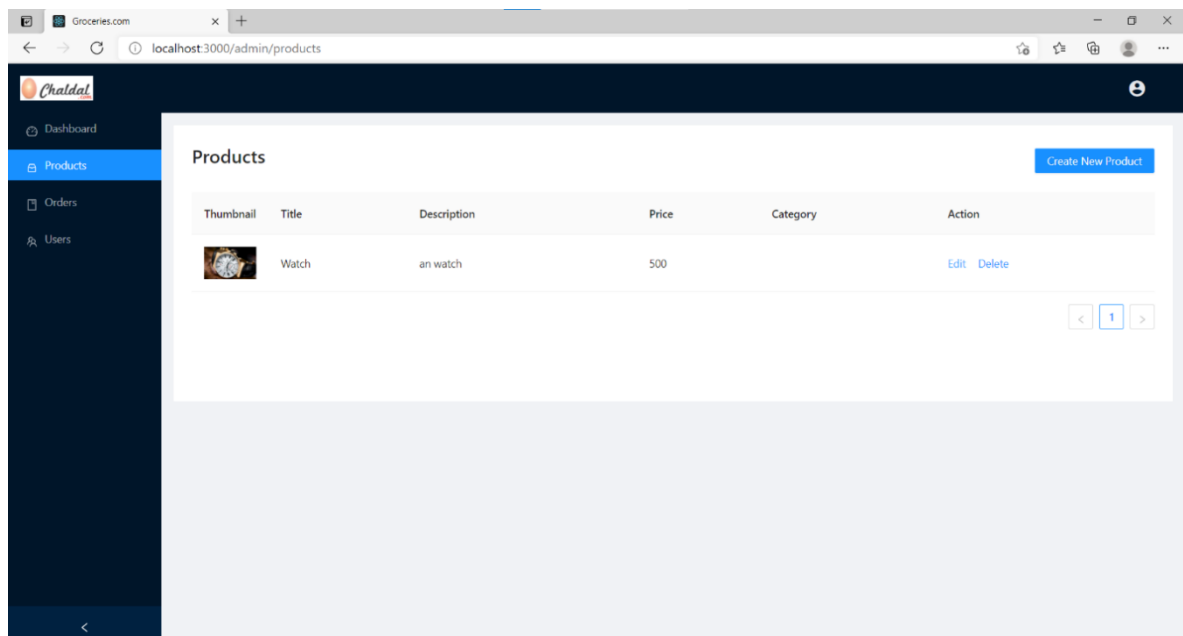


Figure 3.10: Add Product (admin).

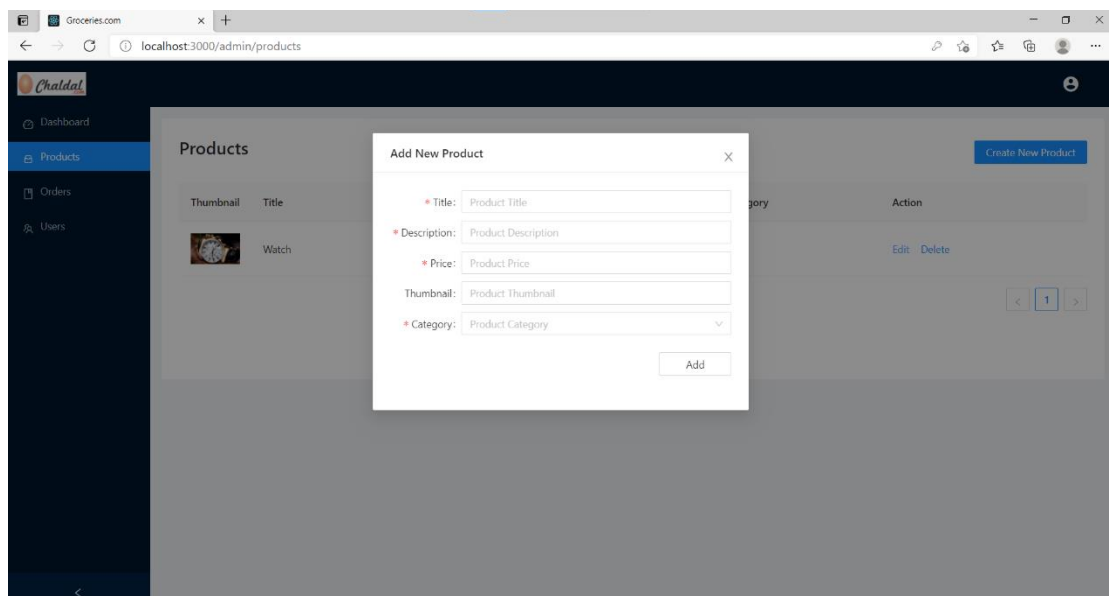


Figure 3.11: Adding new product(admin).

3.1.7 Admin Area (Create order)

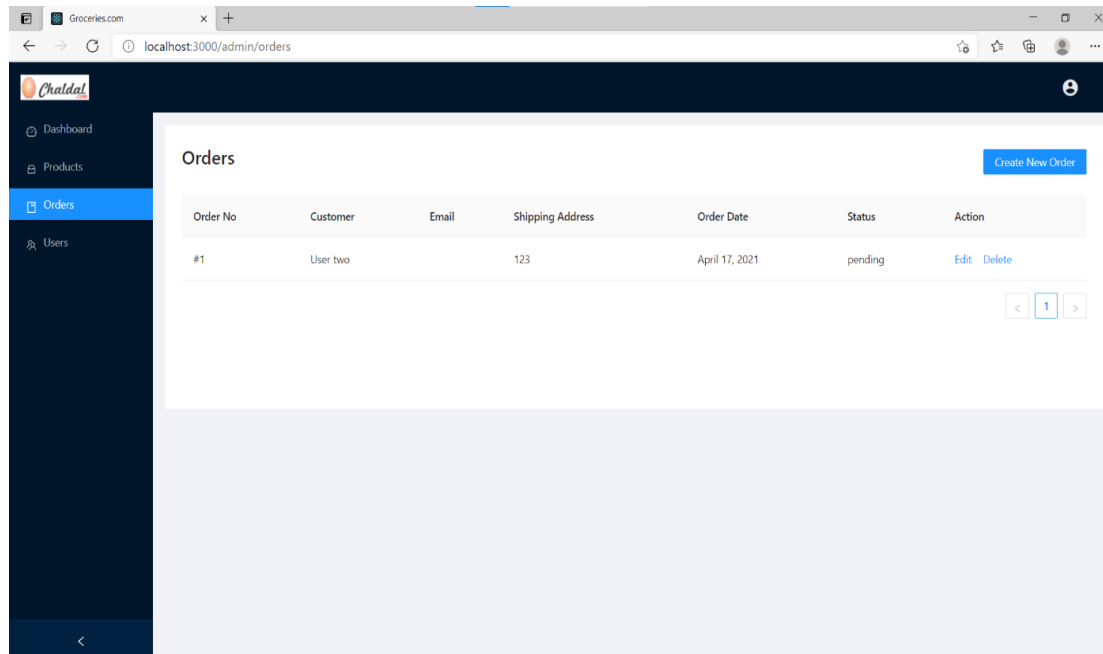


Figure 3.12: Admin area (Create order).

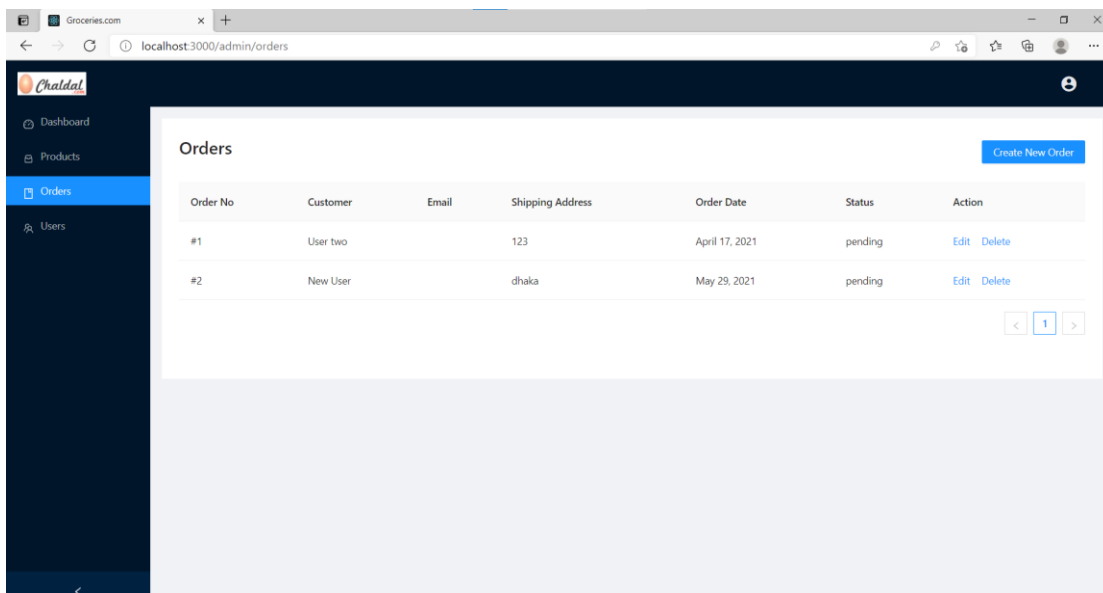


Figure 3.13: Creating/cancelling order in admin area.

CHAPTER 4

Development Tools & Technologies

4.1. User Interface Technologies

- HTML5, CSS3, JavaScript
- JQuery 3.2.1
- EJS (expressJS template engine)

4.2. Implementation Technologies

4.2.1 NodeJS

A JavaScript runtime

4.2.2 NPM

NPM is a JavaScript package manager and the world's largest app registry. Discover reusable code packages and put them together in fresh and powerful ways. It is designed to be used in the development of web apps and APIs.

npm, Inc. is a subsidiary of GitHub that offers Git-based hosting for software creation and version control.

For the JavaScript runtime environment Node.js, the default package manager is npm. It consists of npm, a command-line client.

4.2.3 ExpressJS

Express.js, or simply Express, is a Node.js web application platform that was published under the MIT License as free and open-source software. It is intended for the creation of web applications and APIs. It has been dubbed the "de facto" Node.js server platform.

It is designed to be used in the development of web apps and APIs.

4.2.4 MongoDB

MongoDB is a document-oriented software application that is free (cross-platform). MongoDB uses schemata and JSON-like text. MongoDB is a database developed by MongoDB Inc & database software that is NoSQL. And released under the Apache

License and the Server Side Public License.

4.2.5 Reactjs

React comes as a fully accessible ,front-end JavaScript library for creating user interfaces or UI components. It's managed by Facebook & a consortium of individual developers and companies. It can be used to create single-page or mobile applications.

4.2.6 NodeJs

Node.js is a back-end JavaScript runtime environment which is open-source as well as cross-platform .And runs JavaScript code using the V8 engine outside the web browser.

4.2.7 NextJs

Next.js React front-end software web platform developed by Vercel that permits for server-side rendering and static website creation for web applications that are React-based & is open-source. Many large corporations use it because it is a production-ready platform that enables developers to easily build static and dynamic JAMstack websites.

Next.js is a React application that adds extra features including server-side rendering and static website generation. A JavaScript library, React has historically been used to create web applications that are made using JavaScript in the client's browser.

4.2.8 Docker

Docker is basically A Series of Platform As a ervice (PaaS) products which deliver applications having use of OS-level virtualization. Containers are separated from each another and usually come up with their self set of applications and libraries. They can communicate using clearly-described channel with each another.

4.2.9 JavaScript

JS stands for JavaScript which follows the ECMAScript. It is a multi-paradigm, high-level programming language that is usually compiled in short period of time.

4.3. TypeScript

Microsoft created the TypeScript programming language & also manages it. It's a syntactical superset of JavaScript with the inclusion of static typing as an option. TypeScript is an application development language which transcompiles into JavaScript. Current

JavaScript programs are also legitimate TypeScript programs since TypeScript is basically a superset of JavaScript. TypeScript supports specification files which may include which kind details from old JavaScript libraries. For common libraries like jQuery, MongoDB, and D3.js, third-party header files are available.

4.3.1 CSS

We use CSS to define the look of a text written in a language as HTML & it's known as Cascading Style Sheet. Alongside HTML and JavaScript, CSS has been critical to the Wwww.

CSS lets you to differ presentation from text, including format, colors, and fonts.

This distance will add to more efficiency, offer greater fluctuality as well as access when specifying appearance properties , and will allow various web pages to use formatting by styling by defining similar CSS in a different format.

4.3.2 SASS

The preprocessor scripting language Sass (short for syntactically amazing style sheets) is translated or assembled into Cascading Style Sheets (CSS). The scripting language itself is called SassScript.

There are two syntaxes in Sass.

npm, Inc. is a subsidiary of GitHub offers Git-based hosting for software creation and version control.

Npm is the default package manager for the JavaScript runtime environment Node.js. It consists of npm, a command-line client.

4.4 Platform & Environment

4.4.1 Hardware

- Processor: Intel Core i3.
- RAM: 4GB.
- Hard drive: 1TB.
- Ubuntu 14.04./ Windows 8.1/Windows 10

4.4.2 Tools

- IDE/Editor: Visual Studio Code, Atom, Sublime Text3
- Cmder Terminal
- Robo 3T MongoDB client
- Server: Localhost:3000

4.4.3 Version Control

- Git
- Github (a web based version control hosting for software project)

CHAPTER 5

SYSTEM TESTING

5.1 Introduction

This is for the purpose of detecting and correcting errors. The main goals of this operation are to ensure that the application's method is right and that it meets the organization's goals. The test plan assists in the efficient and systematic testing of the system, with the aim of detecting errors that obstruct the achievement of the goals.

5.2 Test Plan Strategy

The main theme of test plan is demonstrating system evaluation as well as to include specific procedures to follow during the test. The test data, what is being measured, and the expected result, as well as actual feedback, are all described. Many software engineering projects should have a test plan as one of the basic documents. If the project lacks a test plan, it indicates that the system created is of poor quality. This may not be satisfactory to the consumer because it does not meet their requirements. As soon as the specifications have been established, the test plan should be written.

5.3 Test Case

A test case is a aggregation of conditions or variables that a user works with to assess if a testing device fulfills categeory or features & functions with quality properly. The process of creating test cases will help detecting the flaws in an application's specifications or design.

- Work on both real and false sides of all logical decisions.
- Verify that identical partitions and boundary values are contained within their operations limits.
- Test internal data structures to ensure that they are accurate.

5.3.1 Test Case of Sign In

Test Case no:01	Name: Checking the Sign In feature.
System: GROCERIES.com	Sub-system: Sign In
Planned By: Maisha Afroz	Planning date: 25.12.20
Done By: Maisha Afroz	Date of Execution:25.2.21
Short Description: Handles the sign in feature.	
Condition: User have to access http://localhost:3000/signin on the browser.	

Table 5.1: Test cases of sign in

Numbers of step	Taken Action	Outcome	Expected Result	Result
01	Enter correct email and correct password	I got logged in.	Signed in into the system.	Pass
02	Correct email and incorrect password	Not being able to sign in and error message.	Unable to sign in and error message.	Pass
03	Clicking sign in without required data	Pop up of required message	Required pop up	Fail

5.3.2 Test Case of Sign Up

Test Case no:01	Test Case Name: Testing the signup panel.
System: Groceries.com	Sub-system: Login
Planned By: Maisha Afroz	Plan date: 26.12.2020
Done By: Maisha Afroz	Date of Execution:26.3.2021
Short Description: Manges the sign up feature.	
Condition: User need to access http://localhost:3000/signup .	

Table 5.2: Test case of signup

Number of steps	Taken action	Outcome	Expected Result	Result
01	Trying to sign up without providing data	Pop up of required message	Required message	Pass
02	Clicking sign up by partially data	Not being able to sign up & pop up required message.	Not signed up and pop up of required messages.	Pass
03	Clicking sign up with proper data but incorrect password.	Pop up of error message.	No Required message	Fail
04	Providing correct password & email but wrong password while confirmation.	Pop up of error message.	Pop up of error message.	Pass
05	Clicking sign up with proper data	Signed up	Signing up successful	Pass

5.3.3 Test Case of Cart

Test Case no:01	Test Case Name: Testing the cart feature.
System: Groceries.com	Sub-system: Login
Planned By: Maisha Afroz	Plan date: 26.3.2021
Done By: Maisha Afroz	Date of Execution: 26.3.2021
Short Description: Manages cart feature.	
Condition: User has to access to http://localhost:3000/cart .	

Table 5.3: Test case of cart

No of steps	Taken Action	Outcome	Expected Outcome	Result
01	Clicking on add to cart on products.	One product is added to cart ♣ Available for registered user only. ♣ For guest cart Isn't available.	One product is added in cart.	Pass
02	Add/subtract item	Cart gets updated	Cart getting updated	Pass
03	Removing item	Product removed.	Product is removed	Pass

Chapter 6

Project Summary

6.1 GitHub Link

<https://github.com/maisha-afroz/Groceries-online-store>

6.2 Limitations

- The device is only for Bangladeshi e-commerce, and it is not capable of tracking foreign e-commerce orders.
- The device needs a high-speed mobile internet connection.

6.3 Obstacle & Achievements

Obstacle:

- Limited time and budget
- Learning new technologies and the climate

Achievements:

- Successfully built a project for production level
- Learned new technologies

6.4 SWOT Analysis

6.4.1 Strengths

- Products of excellent quality
- There are no distribution fees because of the low inventory rate.
- Supplier links are excellent.

6.4.2 Weaknesses

- User with limited access to the internet.
- Reorganization of the brand is ineffective.
- There can be seen a lack of trustworthiness

6.4.3 Opportunities

- Expansion over Bangladesh.
- Strategic partnerships.
- The number of people using the internet daily is increasingly growing.
- Expansion of the product & product category.

6.4.4 Threats

- Competitors have access to the internet.
- Competitors can be able to deliver a low price.

6.5. Conclusion

Despite the challenges faced in the development process, the technology was created for an e-commerce order tracking system, allowing it to increase its reliability and effectiveness. The system's maintenance and use will be simple since all users will have access to the system's document and user manual. There will still be space for improvement, as this was taken into account during production. Users will be able to purchase products and share their views on the products and processes with greater ease thanks to the system's improved usability.

6.6 Future-Work

Though the framework has been well-developed, future work will require some significant changes. Payment gateways would be incorporated, as well as real-time communication media such as chat and notifications.

REFERENCES

- [1]. Learn about Visual Studio Code, https://en.wikipedia.org/wiki/Visual_Studio_Code
- [2]. Learn about NextJs, https://nextjs.org/learn/basics/create-nextjs-app?utm_source=next-site&utm_medium=nav-cta&utm_campaign=next-website
- [3]. Learn about Reacts, <https://www.tutorialspoint.com/reactjs/index.htm>

PLAGIARISM REPORT

Similarity Index		Similarity by Source	
10%		Internet Sources:	7%
		Publications:	1%
		Student Papers:	4%
exclude quoted exclude bibliography exclude small matches		mode:	
quickview (classic) report		Change mode print refresh download	
3% match (Internet from 05-Jun-2020)			✕
http://dspace.daffodilvarsity.edu.bd:8080			
1% match ()			✕
"Next.js", Wikipedia, en, 2021			
1% match (student papers from 03-May-2021)			✕
Submitted to Aga Khan Academy on 2021-05-03			
1% match (student papers from 17-Apr-2021)			✕
Submitted to European University of Lefke on 2021-04-17			
1% match (student papers from 10-Jan-2021)			✕
Submitted to Higher Education Commission Pakistan on 2021-01-10			
<1% match (Internet from 19-May-2021)			✕
https://en.wikipedia.org/wiki/Npm_(software)			
<1% match (Internet from 10-Jan-2021)			✕
https://en.wikipedia.org/wiki/Visual_Studio_Code			
<1% match (student papers from 19-Apr-2021)			✕
Submitted to University of Stirling on 2021-04-19			
<1% match (student papers from 17-Mar-2021)			✕
Submitted to University of Western Macedonia on 2021-03-17			
<1% match (student papers from 08-Apr-2021)			✕
Submitted to CSU, San Jose State University on 2021-04-08			
<1% match (publications)			✕
Bruce Johnson. "Visual Studio Code", Wiley, 2019			

<1% match (Internet from 05-Mar-2016)	http://dougfinke.com	✖
<1% match (Internet from 20-Dec-2020)	http://blog.debugme.eu	✖
<1% match (Internet from 31-Mar-2019)	https://es.scribd.com/document/298955340/Competitiveness-of-Indian-Printing-Industry	✖
<1% match (Internet from 17-Dec-2020)	https://123dok.com/document/1y9466rg-implementasi-means-clustering-learning-vector-quantization-optimasi-pengenalan.html	✖
<1% match (student papers from 24-Apr-2019)	Submitted to De Montfort University on 2019-04-24	✖
<1% match ()	Salvadorinho, Juliana Pereira, "Sistemas de informação na indústria 4.0 : mecanismos de apoio à transferência de dados para conhecimento em ambientes Lean", 2020	✖
<1% match (publications)	Rui Roriz, José Luis Pereira, "Avoiding Insurance Fraud: A Blockchain-based Solution for the Vehicle Sector", Procedia Computer Science, 2019	✖