FULLSTACK PROJECT

(2021-22)

"CAFFEINE ERA"

Project Report

Department of Computer Engineering & Applications

Institute of Engineering & Technology

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Declaration

We hereby declare that the work which is being presented in the Bachelor of technology. Project **"CAFFEINE ERA"**, in partial fulfilment of the requirements for the award of the ***Bachelor of Technology*** in Computer Science and Engineering and submitted to the Department of Computer Engineering and Applications of GLA University, Mathura, is an authentic record of my/our own work carried under the supervision of **Mr. Mandeep Singh, Dept. of CEA,GLA University.**

The contents of this project report, in full or in parts, have not been submitted to any other Institute or University for the award of any degree.

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Certificate

This is to certify that the project entitled "CAFFEINE ERA", carried out in FullStack Project, is a Bonafede work by Astha Chauhan, Shruti Sharma, Prachi Singh and Yashi Mishra is submitted in partial fulfilment of the requirements for the award of the degree Bachelor of Technology (Computer Science & Engineering).

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ACKNOWLEDGEMENT

Presenting the ascribed project paper report in this very simple and official form, we would like to place our deep gratitude to GLA University for providing us the instructor Mr. Mandeep Sir, our supervisor.

He has been helping us since Day 1 in this project. He provided us with the improvements we can do in our project, the basic guidelines explaining on how to work on the project. He has been conducting regular meeting to check the progress of the project and providing us with the resources related to the project. Without his help, we wouldn't have been able to complete this project.

And at last, but not the least we would like to thank our dear parents for helping us to grab this opportunity to get trained and also my colleagues who helped me find resources during the training.

Thanking You!

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ABSTRACT

This project is based on a coffee shop to reach worldwide customers via website by offering a world-class coffee experience at affordable-price. The project: “Caffeine Era” is a MERN website. In This website User can Order any flavour of coffee of their choice. There are many such applications available on internet. But are a few which provides better understanding between customer and the applications like, providing proper overview, generating faster results etc. This application provides many functionalities which is helpful for the Customer. It provides ease to the customer by reducing their efforts. They can easily Order whenever and wherever they want without any Difficulty.

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LIST OF FIGURES

CHAPTER-1

INTRODUCTION

1.1 CONTEXT

Based on MERN Stack, “Caffeine Era” has been submitted in partial fulfilment of the requirements for the award of the degree of Bachelor of Technology in Computer Science and Engineering at GLA University, Mathura supervised by Mr. Mandeep Singh. This project has been completed approximately in one month and has been executed in modules, meetings have been organized to check the progress of the work and for further instructions and guidelines.

1.2 MOTIVATION

Coffee has been around India since the 17th century. And 80% of the population likes coffee. We all know that Cafés are one of the popular hangout places. The coffee is very famous among youngsters. Coffee is one of the favourite beverages and has become more appealing because of its variety.

Our Motivation is to be the best website by offering a world class coffee experience at affordable prices.

The offering is designed in such a manner that one cannot be spelt without the other, there are the hot coffee and te cold coffee combinations with delectable desserts and special coffee and eats combinations for even a group of friends.

1.3 OBJECTIVE

Caffeine Era is a MERN stack project based on a coffee shop that offers a world class coffee to our lovely customers. The application provides very simple steps in which a customer cannot find any difficulty to order for himself. The Application designed in such a manner that one cannot be spelt without the other, there are the hot coffee or cold coffee combinations with delectable desserts and special coffee and eats combinations for even a group of friends.

This project is user-friendly and requires minimum human intervention.

Individuals just have to Create an account to our website and then you can simply select what flavour of coffee you would like to order and then place your order and enjoy your coffee. And if you face any problem regarding our website, you can leave a message in the message section.

1.4 EXISTING SYSTEM

At present traders maintain their day-to-day transactions where a waiter goes to each table and take the order. And give to the chef and then must be passed to the cashier. During this process it takes lots of tie and customer must wait till the process. Only single system is used during this process.

1.5 SOURCES

The source of our project (including all the project work, documentations and presentations) will is available at the following
https://asthachauhan45.github.io/Caffeine-Era/

CHAPTER -2
SOFTWARE REQUIREMENT ANALYSIS

2.1 IMPACT DESIGN

Analysis is the focus of system developing and is the stage when system designers have to work at two levels of definition regarding the study of situational issues and possible solutions in terms of “what to do” and “how to do”.

2.2 DEFINITION OF THE SYSTEM

A system is an orderly grouping of independent components linked together according to a plan to achieve a specific objective. Its main characteristics are organization, interaction, independent, integration and central objective a system does not necessarily mean to a computer system. It may be a manual system or any other names.

2.3 HARDWARE AND SOFTWARE REQUIREMENTS

Hardware Requirement

- Processor: intel i5
- Operating System: Any Operating System
- RAM: 6 GB (or higher)
- Hard disk: 256GB

Software Requirement

- Software used: Visual Studio Code
- Language used: ReactJS
- User Interface Design: HTML, CSS

2.4 MODULES AND FUNCTIONALITIES

1. **User Register:**

→ Check the new username or email address if it's already registered to the system using AJAX

2.Form validation:

→ Check if all mandatory fields are filled out.

3. **Form validation:**

→ Password need to be more than 6 character and need to have alphanumeric and special characters

4. **Hard Delete:**

→ Permanently remove item from database.

5. **Soft Delete:**

→ Remove the item from showing in listing and search.

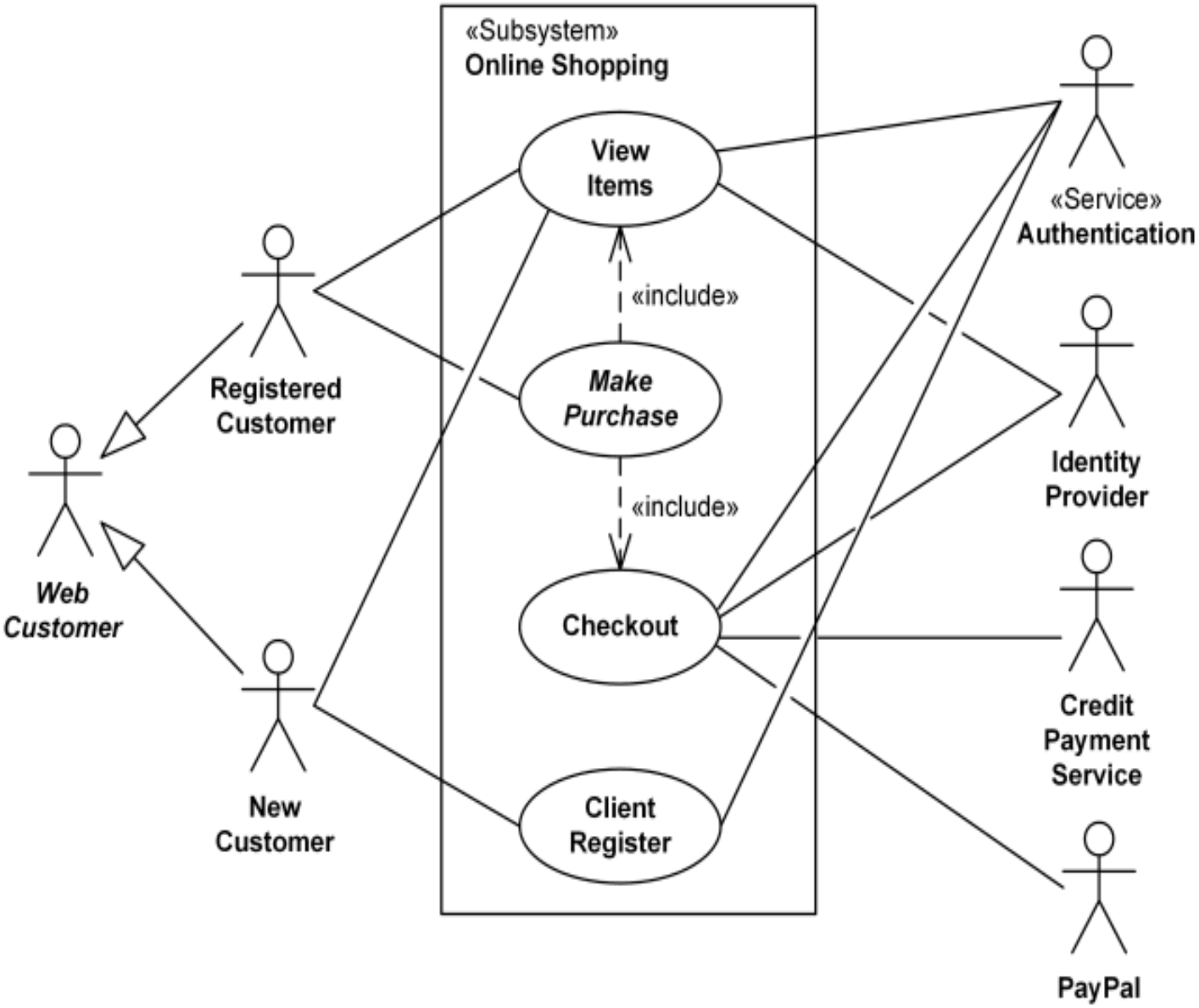
6. **Soft Delete:**

→ Can be accessed by checking the check box in Update Item.

Chapter 3

SOFTWARE DESIGN

3.1 USE-CASE DIAGRAM:



Use Case Model is an approach that is a combination of text
and pictures in order to improve the understanding of requirements. A use case model is describe s the complete functionality of a system by identifying how everything that is outside the system interacts with it.A Use Case Diagram is given below that relates to this application.

Description

This project is a web application in which you can order your favourite coffee.

Actors –

It has 3 actors:
1)Web Customer
2)New Customer
3)Registered Customer

3.2 DATA FLOW DIAGRAM

The data flow diagram enables the software engineer to develop models of the information domain and functional domain at the same time. As the DFD is refined into greater level of detail, the analyst performs an implicit functional decomposition of the system. At the same time, the DFD refinement results in corresponding refinement of data as it moves through the processes that embody the application.

Figure-3: Data Flow Diagram

CHAPTER-4
TECHNOLOGY USED

4.1 HTML

HTML stands for Hyper Text Markup Language. It is used to design web pages using a markup language. HTML is the combination of Hypertext and Markup language. Hypertext defines the link between the web pages. A markup language is used to design the text document within tag which defines the structure of web pages. This language is used to annotate (make notes for the computer) text so that a machine can understand it and manipulate text accordingly. Most markup languages (e.g. HTML) are human-readable. The language uses tags to define what manipulation has to be done on the text.

HTML is a markup language used by the browser to manipulate text, images, and other content, in order to display it in the required format. HTML was created by Tim Berners-Lee in 1991. The first-ever version of HTML was HTML 1.0, but the first standard version was HTML 2.0, published in 1995.

4.2 VERSION OF HTML

HTML 5 is the fifth and current version of HTML. It has improved the markup available for documents and has introduced application programming interfaces(API) and Document Object Model(DOM).

Features:

- It has introduced new multimedia features which supports audio and video controls by using <audio> and <video> tags.

- There are new graphics elements including vector graphics and tags.
- Enrich semantic content by including <header> <footer>, <article>, <section> and <figure> are added.
- Drag and Drop- The user can grab an object and drag it further dropping it on a new location.
- Geo-location services- It helps to locate the geographical location of a client.
- Web storage facility which provides web application methods to store data on web browser.
- Uses SQL database to store data offline.
- Allows to draw various shapes like triangle, rectangle, circle, etc.
- Capable of handling incorrect syntax.
- Easy DOCTYPE declaration i.e. <!doctype html>
- Easy character encoding i.e. <meta charset=”UTF-8″

4.3 CSS: -

Cascading **S**tyle **S**heets, fondly referred to as **CSS**, is a simply designed language intended to simplify the process of making web pages presentable. CSS allows you to apply styles to web pages. More importantly, CSS enables you to do this independent of the HTML that makes up each web page.CSS is easy to learn and understand, but it provides powerful control over the presentation of an HTML document.

4.4 REACTJS

- ReactJS is a declarative, efficient, and flexible JavaScript library for building reusable UI components. It is an open-source, component-based front-end library

  responsible only for the view layer of the application. It was created by **Jordan Walke,** who was a software engineer at **Facebook.** It was initially developed and maintained by Facebook and was later used in its products like **WhatsApp** & **Instagram.** Facebook developed ReactJS in **2011** in its newsfeed section, but it was released to the public in the month of **May 2013.**
- Today, most of the applications are built using MVC (model view controller) architecture. In MVC architecture, React is the 'V' which stands for view, whereas the architecture is provided by the Redux or Flux.
- A ReactJS application is made up of multiple components, each component responsible for outputting a small, reusable piece of HTML code. The components

are the heart of all React applications. These Components can be nested with other components to allow complex applications to be built of simple building blocks.

ReactJS uses virtual DOM based mechanism to fill data in HTML DOM. The virtual DOM works fast as it only changes individual DOM elements instead of reloading complete DOM every time.

- To create React app, we write React components that correspond to various elements. We organize these components inside higher level components which define the application structure. For example, we take a form that consists of many elements like input fields, labels, or buttons. We can write each element of the form as React components, and then we combine it into a higher-level component, i.e., the form component itself. The form components would specify the structure of the form along with elements inside of it.

.

4.5 BASIC FEATURES:

2. User Register:

→ Check the new username or email address if it's already registered to the system using AJAX

2.Form validation:

→ Check if all mandatory fields are filled out.

4. Form validation:

→ Password need to be more than 6 character and need to have alphanumeric and special characters

4. Hard Delete:

→ Permanently remove item from database.

5. Soft Delete:

→ Remove the item from showing in listing and search.

6. Soft Delete:

→ Can be accessed by checking the check box in Update Item.

CHAPTER -5

IMPLEMENTATION AND USER INTERFACE

Creating an website concept design with screen sketches and functional flow diagrams is the best way to communicate your vision to the website developer. Making the concept clear to the developer is probably the most important factor in successful web development. Yet it is one of the most common problems or obstacles in an web development outsourcing project.

No matter what the marketing and profit goals are or if you are outsourcing an web for your personal use, you need to fully design and document the web concept if you expect a programmer to make your vision a reality. Developers are not mind readers and even descriptions given during conversations can be very fleeting or interpreted differently. Fully documenting your concept, therefore, leaves little to chance. The two most important things to do are: A) make a comprehensive description of how the web works and what it does (functionality) and B) create a comprehensive description of what the user sees and does (look and feel).

5.1 Implementation of Resume Builder App:

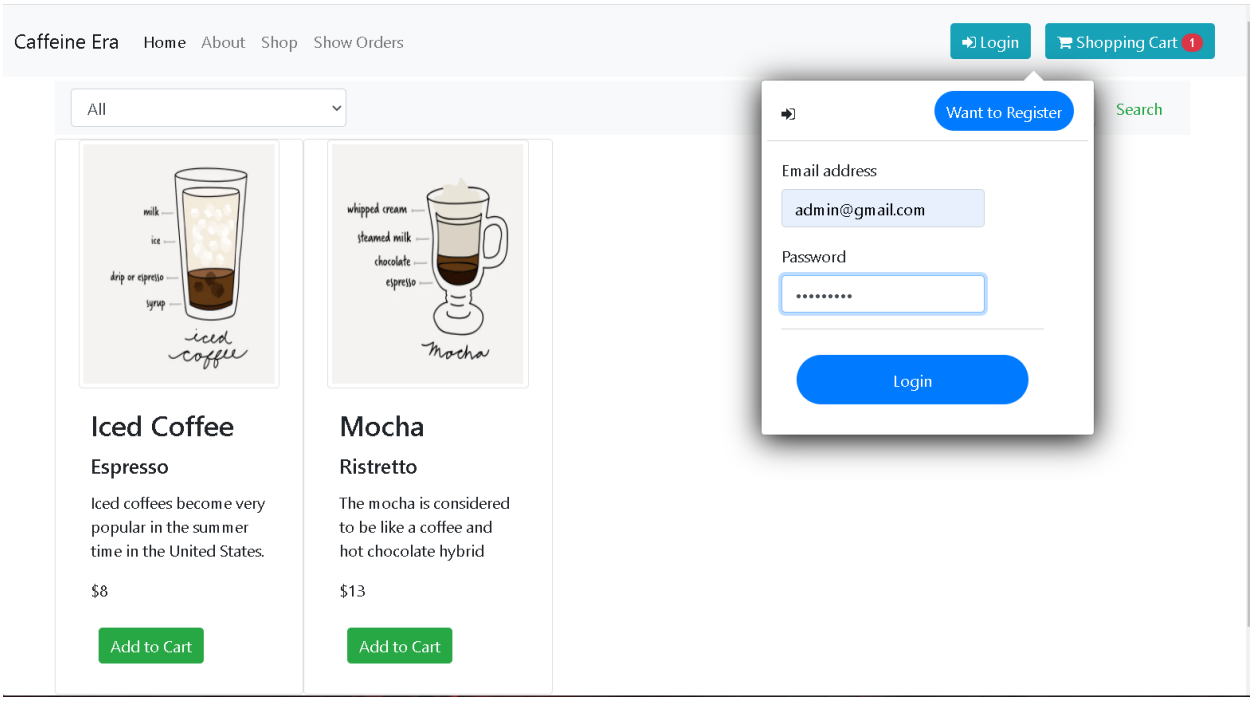
Implementation of Caffeine Era is taken place in various phases. Firstly, we built the Home page and then we built the Login Page for Customer and then the register page was made. Then the Customer page, details uploading page, and all the other pages were made after this.

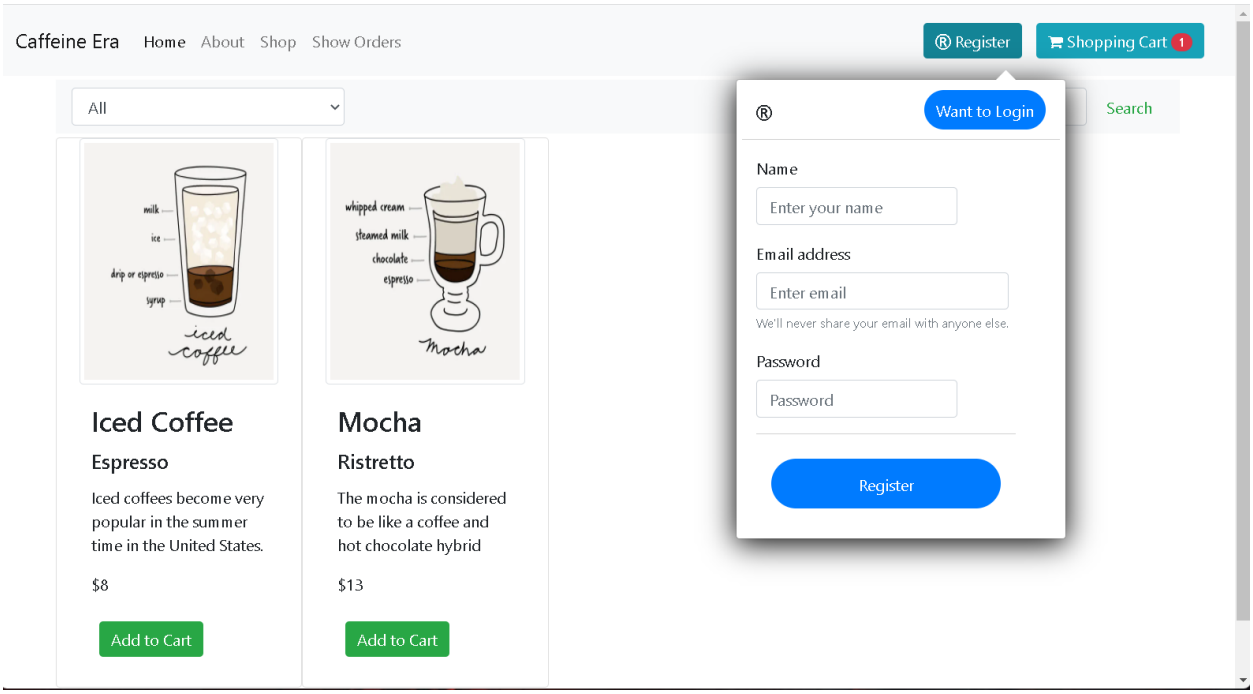
5.1.1 Step to be followed to develop the app:

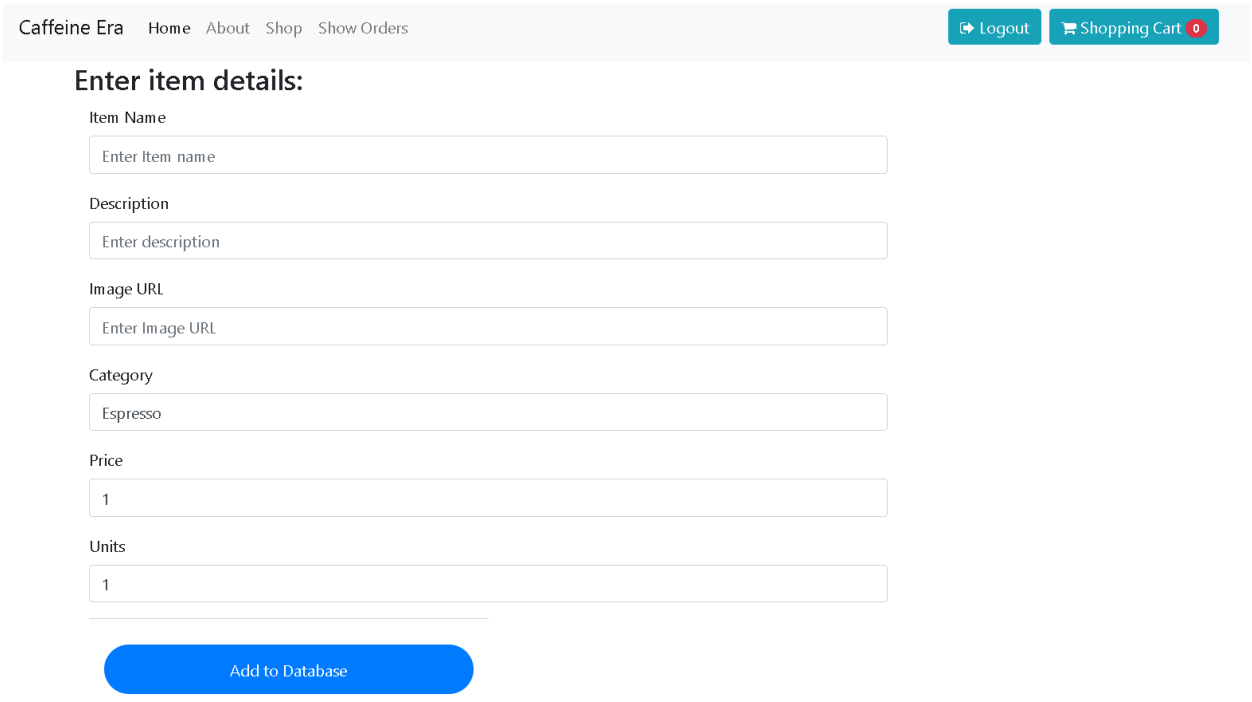
This project uses MERN - MongoDB, Express, React and Node - stack to implement a coffee shop.
It offers the following functionlaity:
User Register - Check the new username or email address if it’s already registered to the system using AJAX
Form validation: Check if all mandatory fields are filled out. (JQuery)
Form validation: Password need to be more than 6 character and need to have alphanumeric and special characters. (JQuery)
Lists the available cofee products in the system

The user can search on the basis of category and item name.
Search and Filtering are integrated togehter.
Paging functionlaity is provided for listing the products.
Paging is provided with Search and filtering as well.
Users can add items to the cart.
Users can add / subtract the items in the cart until the order is placed.
Users can place orders by clicking on Checkout button.
Payment platforms are not included.
Users can view their individual orders.
Admin users have the same interface as Normal users.
Admin users can Add, Delete or Update a Item.
Add and Update feature are supported with form validation.
Images can be added or Updated by using URLs. This way we just store the URL and can use another server for image storage.
Admin user can do 2 type of delte
Hard Delete - Permanently remove item from database.
Soft Delete - Remove the item from showing in listing and search.
Soft Delete - Can be accessed by checking the check box in UpdateItem.

5.1 User Interface




Caffeine Era
Home
About
Shop
Show Orders
® Register
Shopping Cart 1
All
Search
®
Want to Login
Name
Enter your name
Email address
Enter email
We'll never share your email with anyone else.
Password
Password
Register
milk
ice
drip or espresso
syrup
iced coffee
whipped cream
steamed milk
chocolate
espresso
Mocha
Iced Coffee
Espresso
Iced coffees become very popular in the summer time in the United States.
$8
Add to Cart
Mocha
Ristretto
The mocha is considered to be like a coffee and hot chocolate hybrid
$13
Add to Cart


Caffeine Era
Home
About
Shop
Show Orders
Logout
Shopping Cart 0
Enter item details:
Item Name
Enter Item name
Description
Enter description
Image URL
Enter Image URL
Category
Espresso
Price
1
Units
1
Add to Database

Caffeine Era Home About Shop Show Orders Logout Shopping Cart 0

Order Details:

Customer Name : Admin

Email : admin@gmail.com

Item name:Iced Coffee, Price:$8, Units Bought:1

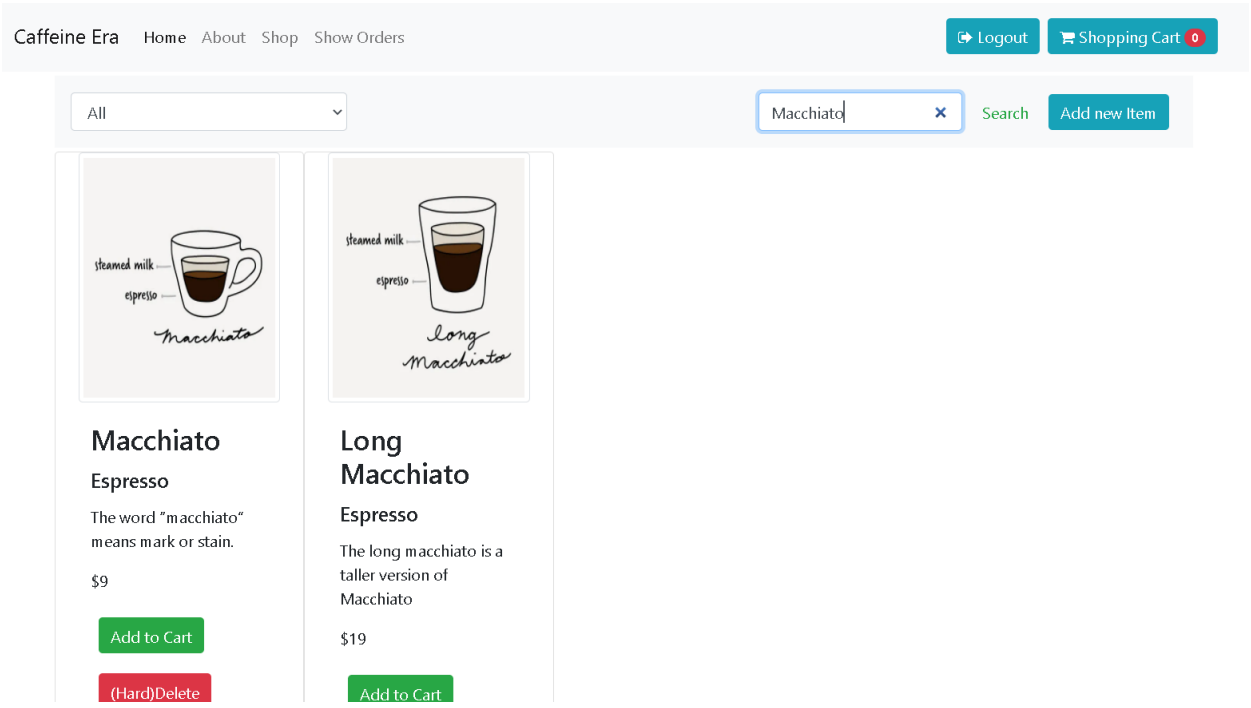
Total Quantity: 1, Total Amount: $8

Customer Name : Admin

Email : admin@gmail.com

Total Quantity: 0, Total Amount: $0

1 Next →



Caffeine Era Home About Shop Show Orders

Register Shopping Cart 1

All

Search Search

Iced Coffee

Espresso

Iced coffees become very popular in the summer time in the United States.

$8

Add to Cart

Mocha

Ristretto

The mocha is considered to be like a coffee and hot chocolate hybrid

$13

Add to Cart

localhost:3000/Shop

Caffeine Era Home About Shop Show Orders

Logout Shopping Cart 0

Espresso

expresso Search Add new Item

Espresso

Espresso

Also known as a short black, is approximately one ounce of highly concentrated coffee.

$5

Add to Cart

Double Espresso

Espresso

This drink is highly concentrated and strong.

$10

Add to Cart

Americano

Espresso

Americanos are popular breakfast drinks and originated during World War II.

$10

Add to Cart

Long Black

Espresso

It generally has more crema than an americano.

$7

Add to Cart

Enter item details:

Item Name

Iced Coffee

Description

Iced coffees become very popular in the summer time in the United States.

Image URL

https://cdnimg.webstaurantstore.com/uploads/blog/2019/4/coffee-drinks_iced-coffee.jpg

Category

Espresso

Price

8

Units

98

☐ Soft Delete

Update Item

CHAPTER - 6

TESTING

6.1 Introduction

System testing is a critical element of software quality assurance and represents the ultimate review of specification, design and coding. Software testing fundamentals define the overriding objectives for software testing. Testing is one of the steps in the software engineering process that could be viewed (psychologically, at least) as destructive rather than constructive.

Testing is a process of executing a program with the intent of finding an error. A good test case is one that has a high probability of finding a yet undiscovered error. A successful test is one that uncovers an as yet undiscovered error.

6.2 White Box Testing(GLASS BOX TESTING)

Whitebox tests focus on the program control structures. Test cases are derived to ensure that all statement in the program has been executed at least once during testing and that all logical conditions have been exercised.
Knowing the internal working of a product, tests can be conducted to ensure that " all gears mesh", that is the internal operation performs according to specification and all internal components have been adequately exercised.
White box testing is a test case design methods that uses the control structure of the procedural design to design to derive test cases. Guarantee that all independent paths within a module have been exercised at least once. Exercise all logical decision on their and false sides Execute all loops at their boundaries and within their operational bounds. Exercise internal data structures to ensure their validity.

6.3 Black Box Testing:

Black Box testing focuses on the functional requirements of the software it is not an
alternative to white box techniques. Rather, it is a complementary approach that is likely to
uncover a different class of errors than white box methods. Black box testing attempts to find the
following types of Errors:-
Incorrect or missing functions.
•Interface errors.

•Errors in data structures or external database access.
•Performance errors
•Initialization and termination errors.
In white box testing, test cases are performing early the testing processes where as in black box testing process. It is applied during later stages of testing as the attention is focused on the information domain.

6.4 Unit Testing

Unit testing focuses verification effort on the smallest unit of software design. Using the procedural design description, important control paths are tested to uncover errors with in the boundary of the module. The relative complexity of test and uncovered errors is limited by the constrained scope established for unit testing. The unit test is normally the constrained scope established for unit testing. The unit test is normally white box oriented, and the step can be conducted in parallel for multiple Modules.
The module interface is tested to ensure that information properly flows into and out of the program unit under test. The local data structure is examined to ensure that data stored temporarily maintains its integrity during all steps in an algorithm's execution. Boundary conditions are tested to ensure that the module operates properly at boundaries established to limit or restrict processing

6.5 Integration Testing

Integration testing is a systematic technique for constructing the program structure while conducting tests to uncover errors associate with interfacing. The objective is to take unit tested modules and build a program structure that has been dictated by design. There is often a tendency to attempt non incremental integration to construct the program using big bang approach.

All modules are combined in advance. The entire program is tested as a who Incremental integration is the anti thesis of big bang approach. The program is constructed and tested in small segments where errors are easier to isolateand correct;interfaces are more likely to be tested completely and systematic test applied Modules are integrated By moving downward through the control hierarchy, beginning with the main control module.

6.6 Verification and Validation:

Validation is a process of finding out if the product being built is right? I.e. whatever the software product is being developed; it should do what the user expects it to do. The software product should functionally do What it is supposed to, it should satisfy all the functional requirements set by the user.

Validation is done during or at the end of the development process in order to determine whether the product satisfies specified requirements.

The standard definition of Verification goes like this: “are we building the product RIGHT?” i.e. verification is a process that makes it sure that the software product is developed the right way. The software should confirm to its predefined specifications, as the product development agoes through different stages, an analysis is done to ensure that all required specifications are meet.

Validation and verification process go hand in hand. But visibly validation process starts after verification process ends (after coding of the product ends). Each verification activity (such as requirement specification, verification functional design verification etc.) has its corresponding validation activity (such as functional validation/testing, code validation/testing, system/integration validation,

CHAPTER -7

CONCLUSION

The project **Caffeinr Era** is to offering a world class coffee experience at affordable prices. The software takes care of all the requirements of the process and is capable to provide easy and effective storage of information related to customers and resumes that come up to the system. It generates reports for customers & administrators. Provides easy designing tools and other interesting features. The system also provides the facility to contact the customer.

This system provides online storage/ updates and retrieval facility. This system promises very less or no paper work and also provides help to customers and viewers. In this system everything is stored electronically so very less amount of paperwork is required and information can be retrieved.

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