A

Project Report On

E-commerce WebSite

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BCA Semester – 5

Project Guide :
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Submitted To :

Geetanjali College Of Computer Science
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Acknowledgement

I Am Happy To Submit My Idea Of "E-commerce WebSite" Application In Saurashtra University, Rajkot For BCA Degree In Computer Branch.

I Also Grateful To Prof. Brijesh Shah Head of The Department And All The Faculty Members Of The Department Of Computer Science For Their Kind Support Through Out This Journey.

I Take The Privilege To Acknowledge The Elite Authors Of Numerous Books And Papers And Blogs Which We Have Referred During Progress Of This.

I Also Say The Big Thank You To My Parents For Such A Support And Without Them I Can Do Nothing Not In Just Project But Also In Life. Thankful To My Family For Their Support.

The Feeling Of Gratefulness To Any One's Help Directly Arises From The Bottom Of Heart. A Small But An Important And Timely Help Can Prove To Be A Milestone In One's Life.

Very Thankful To Almighty Of All Of "God" To Give Me Such A Best Persons And All The Thing He Provides Before I Need And I Always Feel That Without Him I Are Nothing.

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Project Profile

▪ Project Title	:	E-commerce Website
▪ Development Software	:	VS Code
▪ Front End	:	User Side : React.js Admin Side : React.js
▪ Backend	:	Mongo db
▪ Academic Year	:	2024-2025
▪ Developed By	:	kacha kaushal
▪ Submitted To	:	Geetanjali College
▪ Documentation Tool	:	Microsoft Word
▪ Operating System	:	User Side : Computer OS Admin Side : Computer OS
▪ Language	:	User Side : React.js Admin Side :React.js Backend Side: Node.js,Express.js

System Development Life Cycle

For The Development Of This Project I Have Follow The Simple Waterfall Model Of SDLC.

The Waterfall Model Was The First Process Model To Be Introduced. It Is Also Referred To As A Linear-Sequential Life Cycle Model. It Is Very Simple To Understand And Use. In A Waterfall Model, Each Phase Must Be Completed Before The Next Phase Can Begin And There Is No Overlapping In The Phases.

The Waterfall Model Is The Earliest SDLC Approach That Was Used For Software Development.

The Waterfall Model Illustrates The Software Development Process In A Linear Sequential Flow. This Means That Any Phase In The Development Process Begins Only If The Previous Phase Is Complete. In This Waterfall Model, The Phases Do Not Overlap.

Steps : 1 - Requirement gathering
2 - Project Planning
3 - Design
4 - Coding & Implementation
5 - Testing

1 - Requirement Gathering

Any Software Development Process Must Include The Requirement Gathering Stage. After Choosing The Project Topic, One Must Research Every Criteria Needed To Construct That Specific Project.

I Began Gathering Requirements For My Restaurant Application From The Various Meal Ordering Apps That Are Offered In The Google Play Market. In Order To Learn About The Necessary Functionality Needs For Food Ordering Applications, I Have Examined Apps Like Drizzles And Zomato For Layout Design Requirements.

Features That Are Needed In Application For Customer Are As Follows :

1. New Order :

   New Order Is The Main Feature Of The Customer Side Application That Will Be Used To Make Orders.

2. Order Details Or Cart :

   Order Details Or Cart Is The Feature That Will Be Used To Show Customer's Order History.

3. Bottom Menu :

   Bottom Menu Bar Is The Feature That Will Be Used To Show Order Details Or Cart Details Of Each Table Order.

Features That Are Needed In Application For Admin Are As Follows:

1. Home :

   It Is The Feature That Will Be Used To Show Each Table Order List Which Has Been Done By The User.

2. Cloth Category :

   This Feature Allows User To Manage The Categories In The Cloth Zone.

3. Cloth Items :

   This Feature Allows User To Manage The Each Category Items In The Cloth Zone.

2 - Project Planning

Making A Project Plan Comes Next, After The Requirement Collection Phase Has Been Completed. The Amount Of Project Modules Must Be Determined, And The Optimal Technology For Development Must Be Selected.

To Create The Existing Project, Choosing Technologies In This Case Means Selecting Front End And Back-End Technology.

User Side XML Produced Layouts Are Utilized For This Project's Front-End Technology, And Node.js Is Used As The Coding Language For Any Operations Based On User Interaction With The User Interface.

On The Other Hand, Html And React.js Are Utilized To Create The User Interface On The Admin Side.

Mongo db Is Utilized As The Back End For Both The User And Admin Sides In Order To Provide Authentication Services And To Store Data.

3 - Design

This Process Can Be Broken Down Into Two Parts: The Preliminary Design And The Final Design. The Project's Basic Layout Is Generated On Paper Or Using Any Design Program During The Preliminary Design Phase, And The Development Team Then Evaluates The Design's Viability.

The Second Phase Is Final Design, In Which The Project's Final Or Nearly Accurate Design Is Constructed After Earlier Concepts Have Been Evaluated For Practicality And Flaws Have Been Identified.

4 - Coding & Implementation

The Actual Application Is Coded In The Chosen Programming Language Following The Collection Of All Requirements, Customer Approval Of The Design, And Feasibility Assessment Of The Project.

The SDLC's Longest Phase Is Regarded As Being This One. To Finish This Level, We Need Various Tools Including Ides, Browsers, And Backend Tools. For Development, I Selected Visual Studio Code For React.js "Admin Panel" Development.

To Avoid Confusion Throughout The Coding Phase, I Also Adhere To The Following Coding Standards:

Coding Standard :

1. Give The Variable Names Based On The Activities In Which They Are Present. For Example, If A Variable Is Present In A Category Activity, Its Name Must Begin Or End With A Cat Or Category Phrase.

2. Whenever An Array Is Constructed, The Array Suffix Is Utilized.

3. Data Classes That Are Used Are Given Names Based Only On Their Activity.

4. An Adapter Suffix Is Required For Adapter Classes.

5. All Variables And Files Must Have Camel Case Names.

6. Functions For Data Loading Employ Get Prefix.

The Application Development Divided To Two Phases, Which Are :

1. Database Making :

   Database Is Made Based On The Design. It Used Mongodb Real Time Database Which Will Be Related Between The Applications Developed In Android OS And The Website Developed In Using PHP.

2. Website Development :

   This Phase Is Translating The Result Of Design Into React.js Programming For Customer, And React.js For Admin Side Website.

5 - Testing

The Application Is Ready To Be Tested For Usability And To See If It Is Operating As Planned Once The Coding And Implementation Phases Are Complete.

For Testing Purpose, I Shared My App With My Colleagues To Verify Its Functions And User Friendliness. Till App Does Not Function As Intended This SDLC Process Repeats It Self From First Step To Last.

System Requirement Specifications

To Develop This Project , The Following System Hardware And Network Are Required :

Minimum Hardware Requirement :

For Client Side :

Operating System	Windows 7
CPU/Processor	Intel i3
Ram	4 GB

For Admin Panel :

Operating System	Windows 7
CPU/Processor	x86-64 processor
Ram	2 GB

About The Tools& Technologies

Vs code:

Visual Studio Code is a lightweight but powerful source code editor which runs on your desktop and is available for Windows, macOS and Linux. It comes with built-in support for JavaScript, TypeScript and Node.js and has a rich ecosystem of extensions for other languages and runtimes (such as C++, C#, Java, Python, PHP, Go, .NET). Begin your journey with VS Code

Node.js :

Node.js is a powerful JavaScript runtime built on Chrome's V8 engine, designed for building scalable and high-performance network applications. One of its main advantages is its non-blocking, event-driven architecture, which allows it to handle multiple connections simultaneously. This makes Node.js particularly well-suited for I/O-heavy tasks, such as web servers and real-time applications, where it can efficiently manage concurrent requests without getting bogged down.

Another key feature of Node.js is its vast ecosystem, facilitated by npm (Node Package Manager), which provides access to thousands of libraries and frameworks. This extensive package repository allows developers to easily integrate third-party modules into their applications, accelerating development and reducing the need for reinventing the wheel. Furthermore, Node.js promotes the use of JavaScript on both the client and server sides, enabling full-stack development with a unified language, which simplifies the development process and enhances collaboration among developers.

React.js:

React.js is a popular JavaScript library developed by Facebook for building user interfaces, particularly for single-page applications. Its component-based architecture allows developers to create reusable UI components, making it easier to manage and maintain complex applications. By using a virtual DOM, React optimizes rendering performance by only updating parts of the UI that have changed, which significantly enhances the user experience and responsiveness of web applications.

One of the standout features of React is its declarative approach, which enables developers to describe what the UI should look like for different application states. This simplifies the process of building interactive UIs, as developers can focus on the logic of their application rather than worrying about the underlying implementation details. Additionally, the vast ecosystem surrounding React, including tools like React Router for navigation and Redux for state management, provides developers with powerful resources to enhance their applications and streamline development workflows.

Mongo db :

MongoDB is a NoSQL database that provides a flexible, document-oriented approach to data storage. Unlike traditional relational databases that use structured tables, MongoDB stores data in JSON-like BSON (Binary JSON) format, which allows for a more dynamic and schema-less design. This flexibility makes it particularly well-suited for applications with varying data structures or those that require rapid iteration, as developers can easily adapt to changes without the need for complex migrations.

express.js:

Express.js is a minimal and flexible Node.js web application framework that provides a robust set of features for building web and mobile applications. Designed to simplify the development of server-side applications, Express allows developers to create APIs and web servers quickly and efficiently. Its middleware architecture enables the handling of requests and responses in a modular way, making it easy to add functionalities such as authentication, logging, and error handling. This modularity promotes clean and maintainable code, allowing developers to focus on building the core functionality of their applications.

1. Authentication :

   Passwords, Phone Numbers, Google, Facebook, Twitter, And Other Methods Are All Supported For Authentication. One Or More Sign-In Methods Can Be Manually Incorporated Into An App Using The Firebase Authentication (SDK).

2. Realtime Database :

   Data Is Continuously Available Across All Clients And Is Synced In Real-Time, Even When An App Is Not Running.

3. Hosting :

   A Web App Can Be Hosted Quickly Using Firebase Hosting Thanks To Content Delivery Networks All Over The World Being Cached.

4. Test Lab :

   On Physical And Virtual Devices Housed In Google's Data Centers, The Application Is Tested.

postman :

Postman is a powerful API testing tool that simplifies the development and testing of APIs by providing a user-friendly interface for making requests and viewing responses. With Postman, developers can easily create, send, and manage HTTP requests, making it straightforward to test RESTful APIs and other web services. The tool supports a variety of request methods, including GET, POST, PUT, and DELETE, allowing users to interact with APIs in a versatile manner. Postman also offers features like environment variables, collections, and automated testing scripts, which help streamline workflows and ensure consistent testing across different environments.

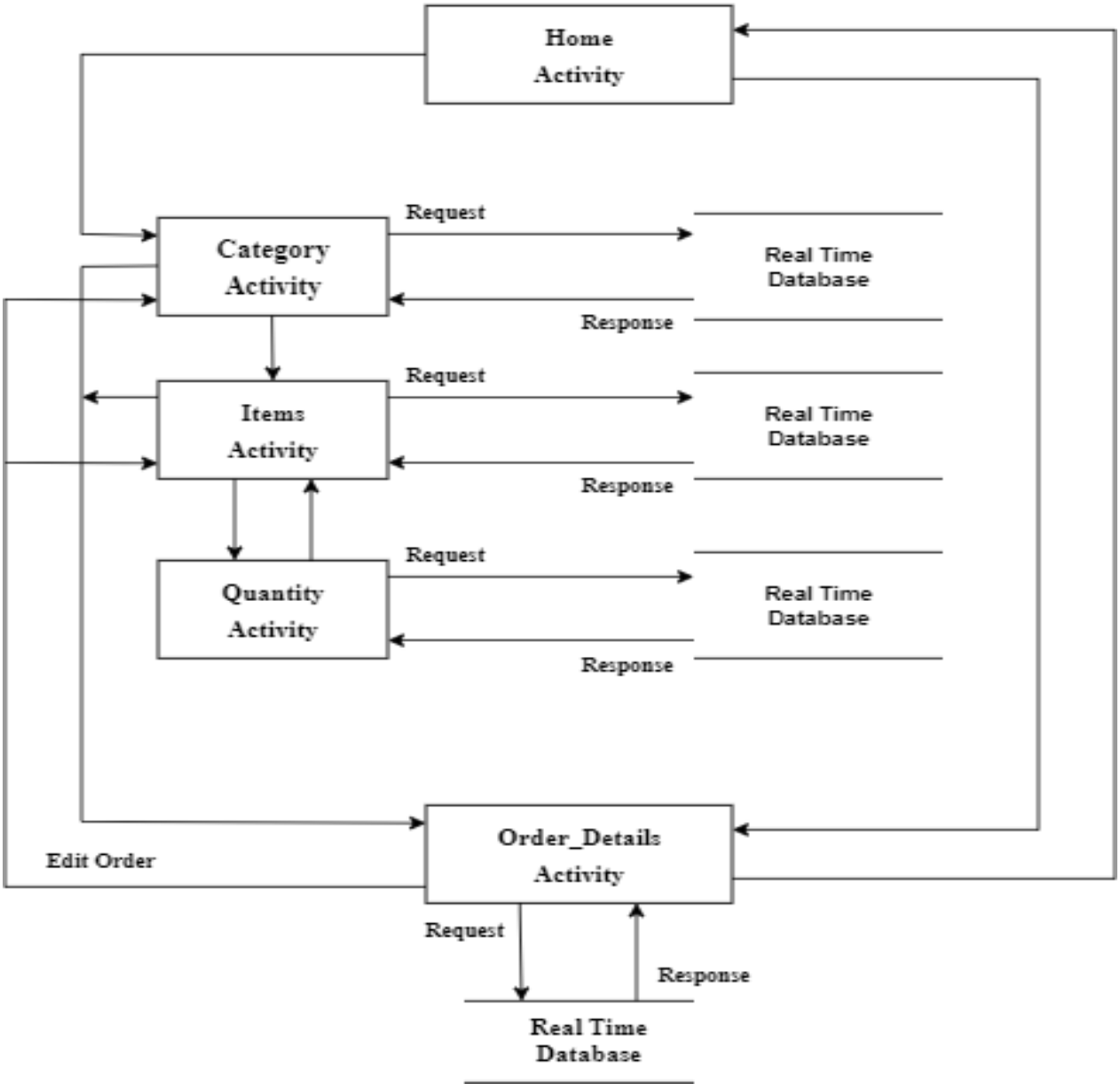
One of Postman's standout features is its ability to visualize API responses in various formats, making it easier to analyze and debug applications. Users can view responses in JSON, HTML, XML, or plain text, and they can even create tests to validate response data against expected outcomes. Additionally, Postman supports collaboration among teams, enabling users to share collections and documentation seamlessly. This fosters better communication and efficiency within development teams, ensuring that everyone is aligned on API functionality and requirements. Overall, Postman serves as an essential tool for developers looking to build, test, and document APIs effectively.

Word :

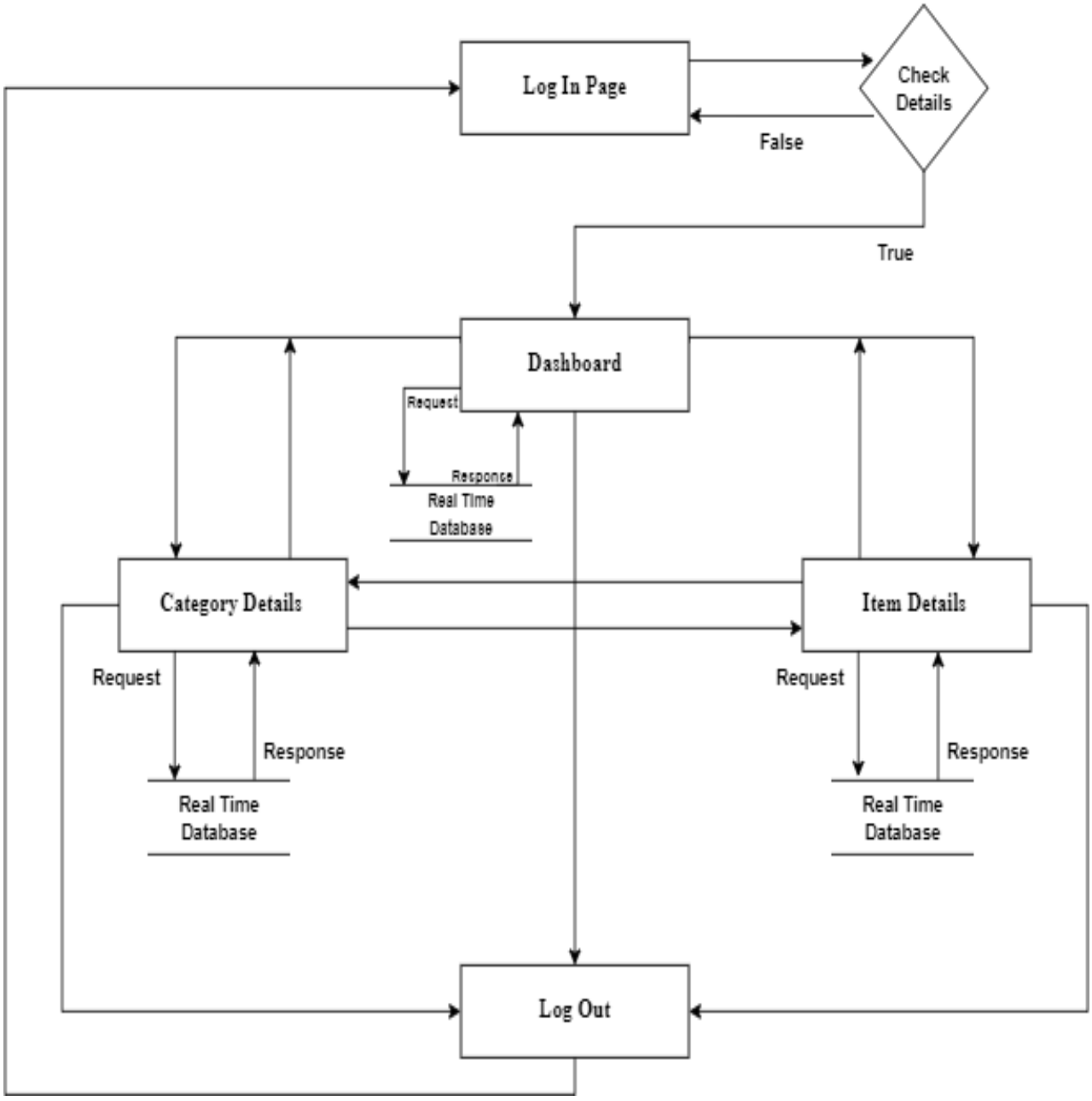
MS Word Enables Users To Do Write-Ups, Create Documents, Resumes, Contracts, Etc. This Is One Of The Most Commonly Used Programs Under The Office Suite.

Data Flow Diagram

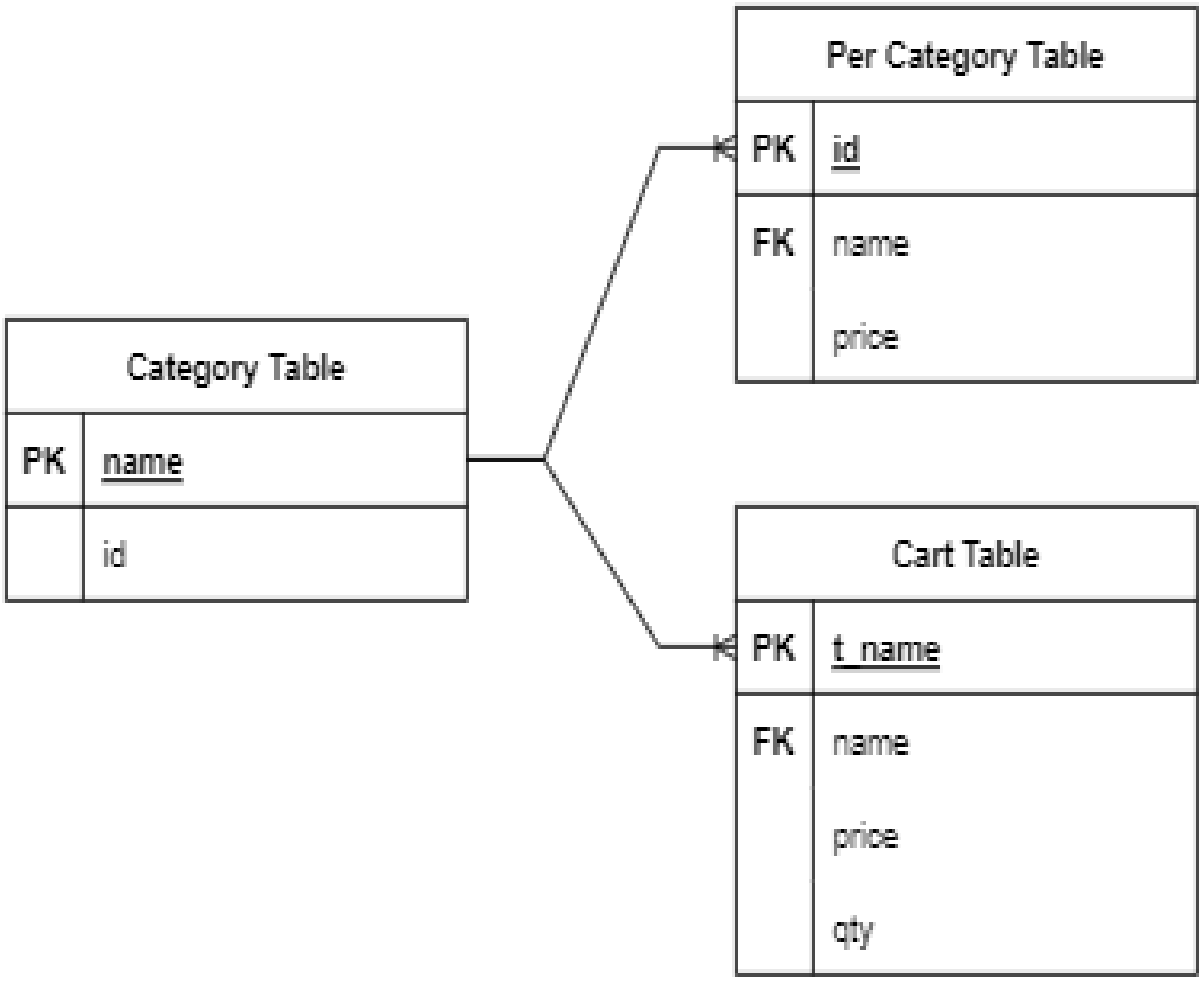
User Side :



Admin Side:


Log In Page
Check Details
False
True
Dashboard
Request
Response
Real Time Database
Category Details
Item Details
Request
Response
Real Time Database
Request
Response
Real Time Database
Log Out

Entity Relationship Diagram



Data Dictionary

Category Table:

Sr no	Field	Data Type	Size	Constraint
1	Id	String	-	-
2	Name	String	-	Primary Key

Each Category Table:

Sr no	Field	Data Type	Size	Constraint
1	Id	String	-	Primary Key
2	Name	String	-	Foreign Key
3	Price	String	-	-

Cart Table :

Sr no	Field	Data Type	Size	Constraint
1	Table Name	String	-	-
2	Name	String	-	Foreign Key
3	Price	String	-	-
4	Quantity	String	-	-

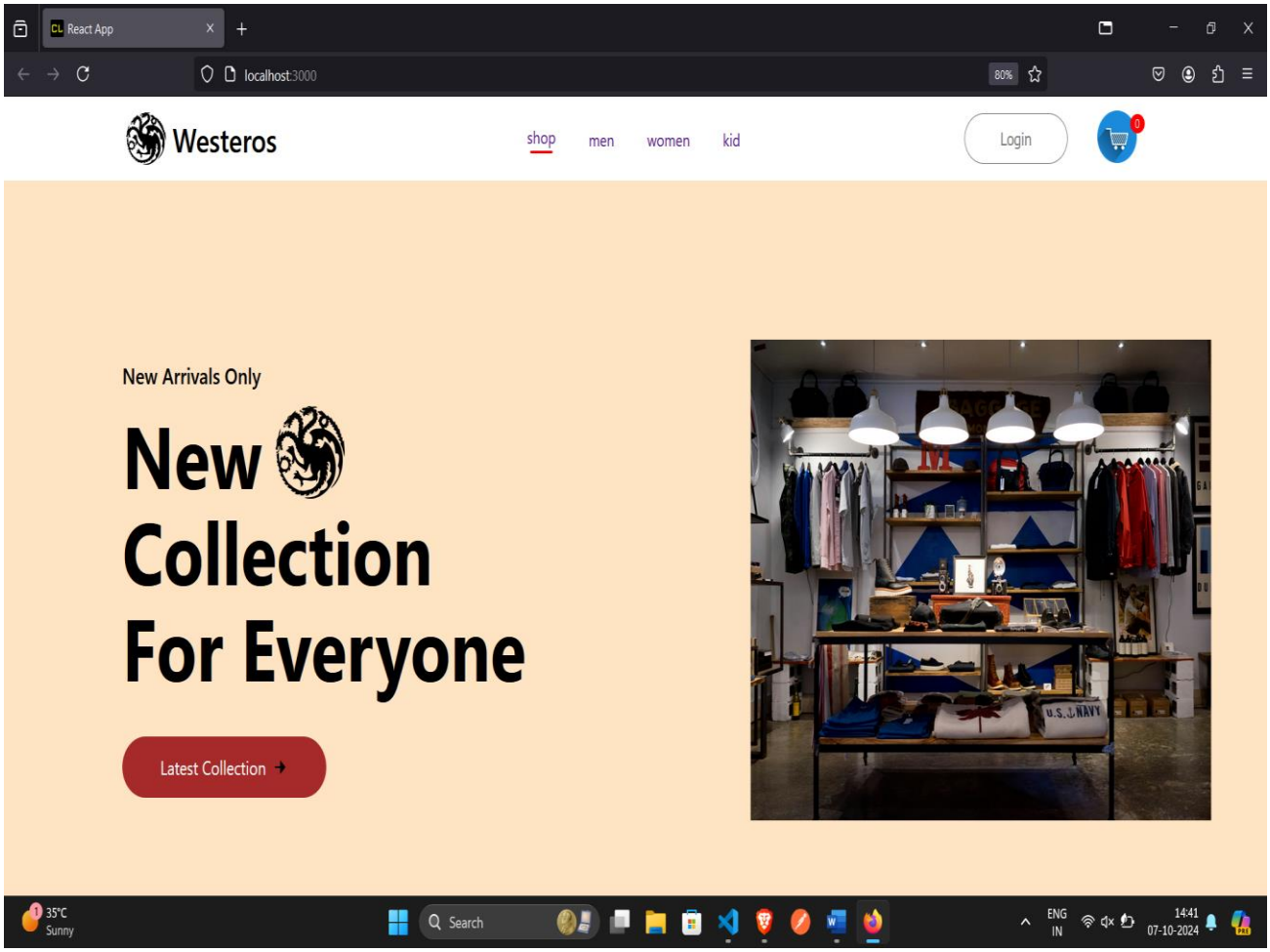
Finished Order Table :

Sr no	Field	Data Type	Size	Constraint
1	Table Name	String	-	-
2	Id	String	-	-
3	Name	String	-	-
4	Price	String	-	-
5	Quantity	String	-	-

Screen Shots

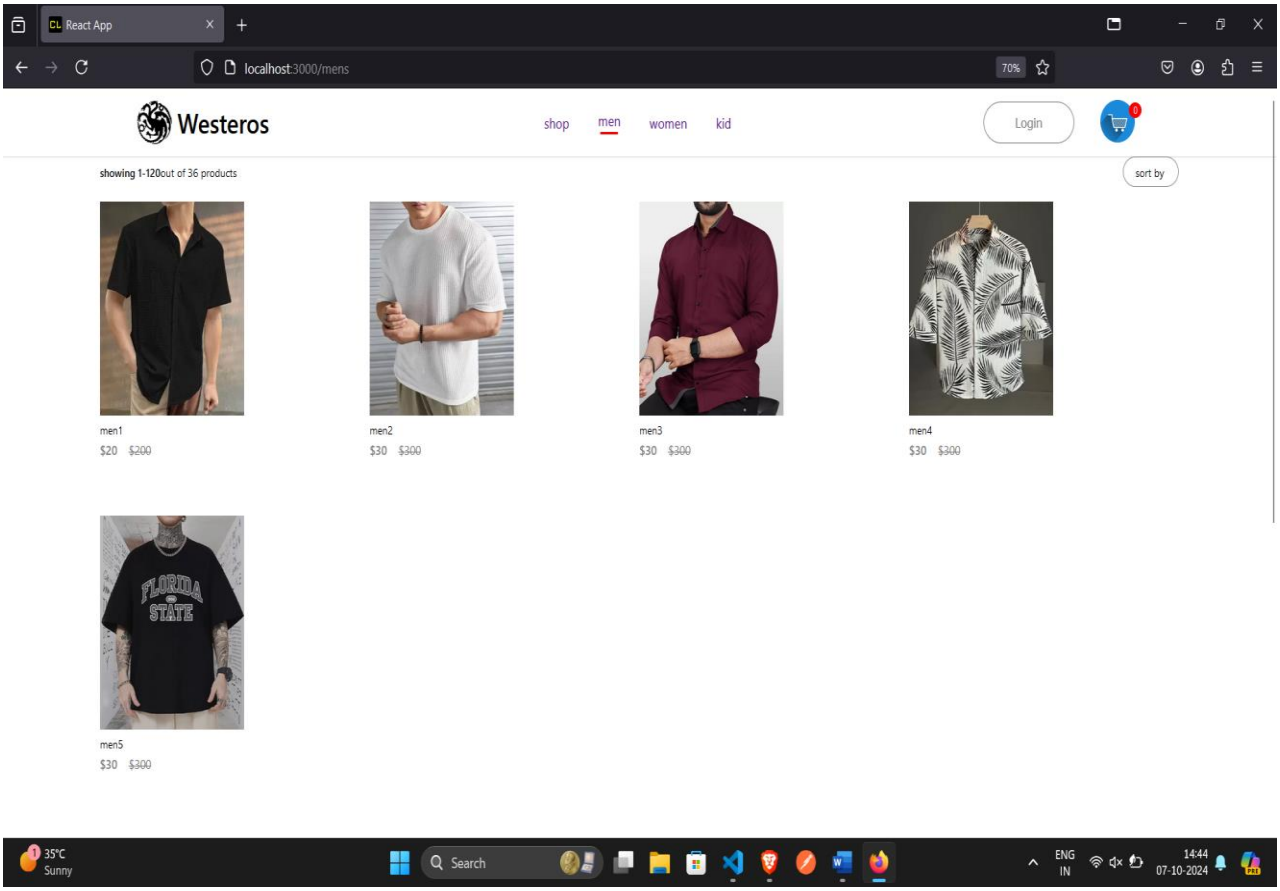
User Side Screens:

1 - Home Screen :



- It Is First Screen Of A Website.
- A Screen Shows Available All Tables In Cloth.
- Click To Each Element To Transfer Category Screen To Show All Categories.

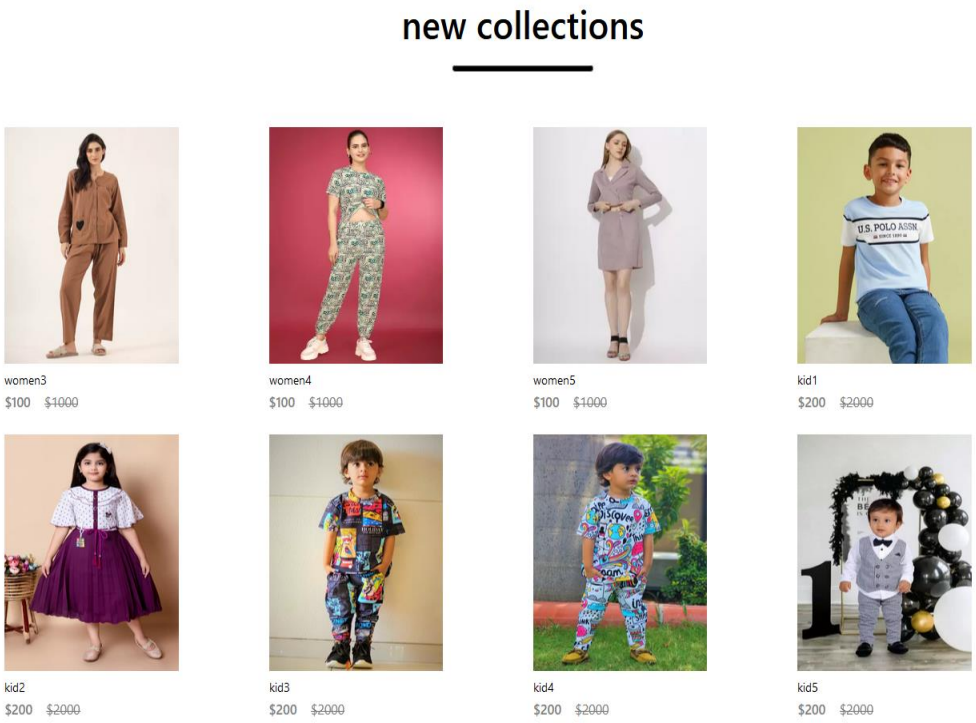
2 - Category Screen :



- This Screen Displays Mens cloth That Are Offered.

- By Selecting One, The User Will Be Taken To A Page That Contains The Relevant Cloths.

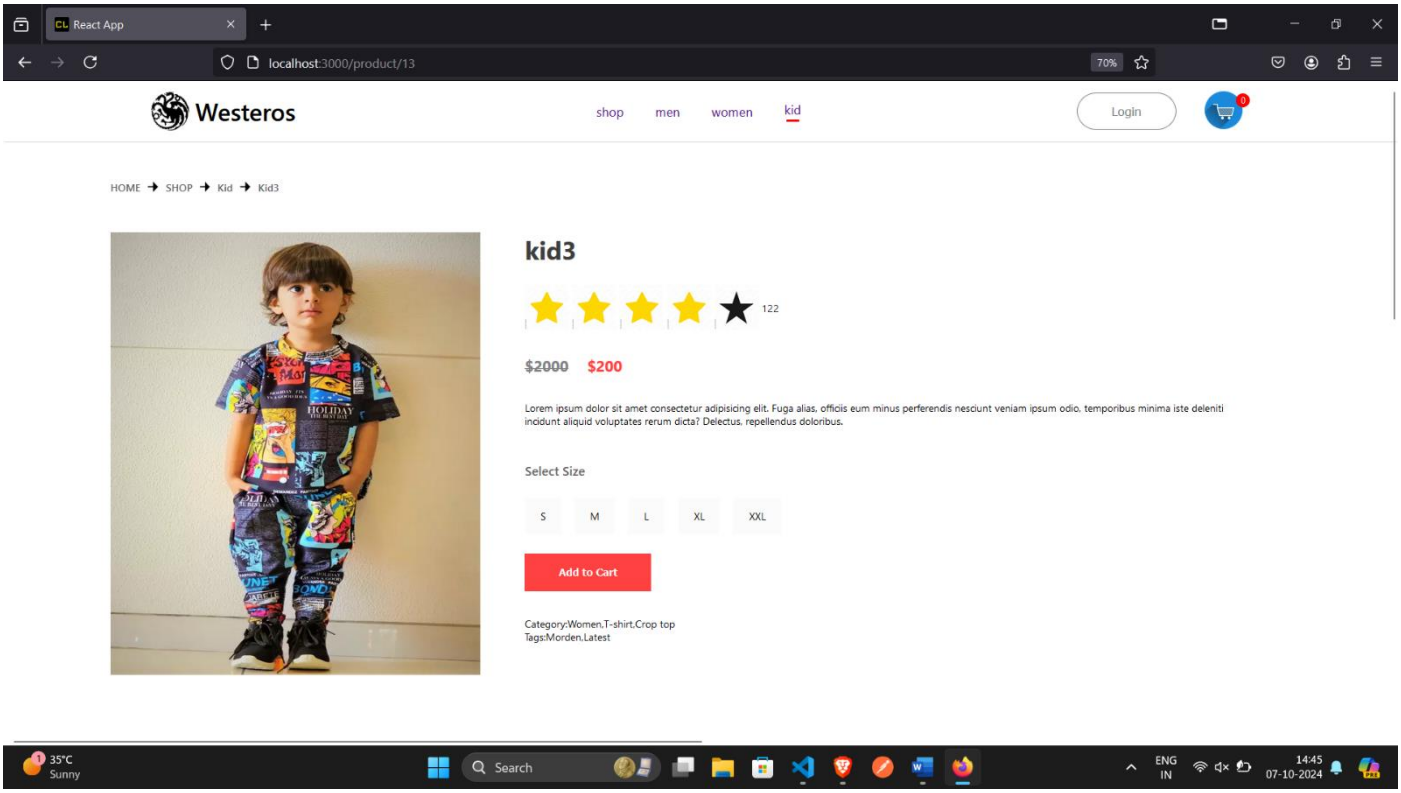
3 - Item Screen :



- This Screen Displays Every cloth Item That Falls Under The Specific cloth Category That The User Has Chosen From The Main Screen Or The Category Screen.

- Click To Each Category Show Add Quantity Screen To Add Quantity To Place Order Or Cancel.

4 - Cart Screen :



- This Screen Lists Every Item The User Has Chosen To Order Along With The Quantity, Cost Per Item, And Total Cost Of The Order. The Quantity Can Be Changed, And Items Can Be Taken Out Of The Cart.

- Click To Edit Button To Edit Order And Finish Button To Finish Order.

Admin Side :

1 - Login Screen

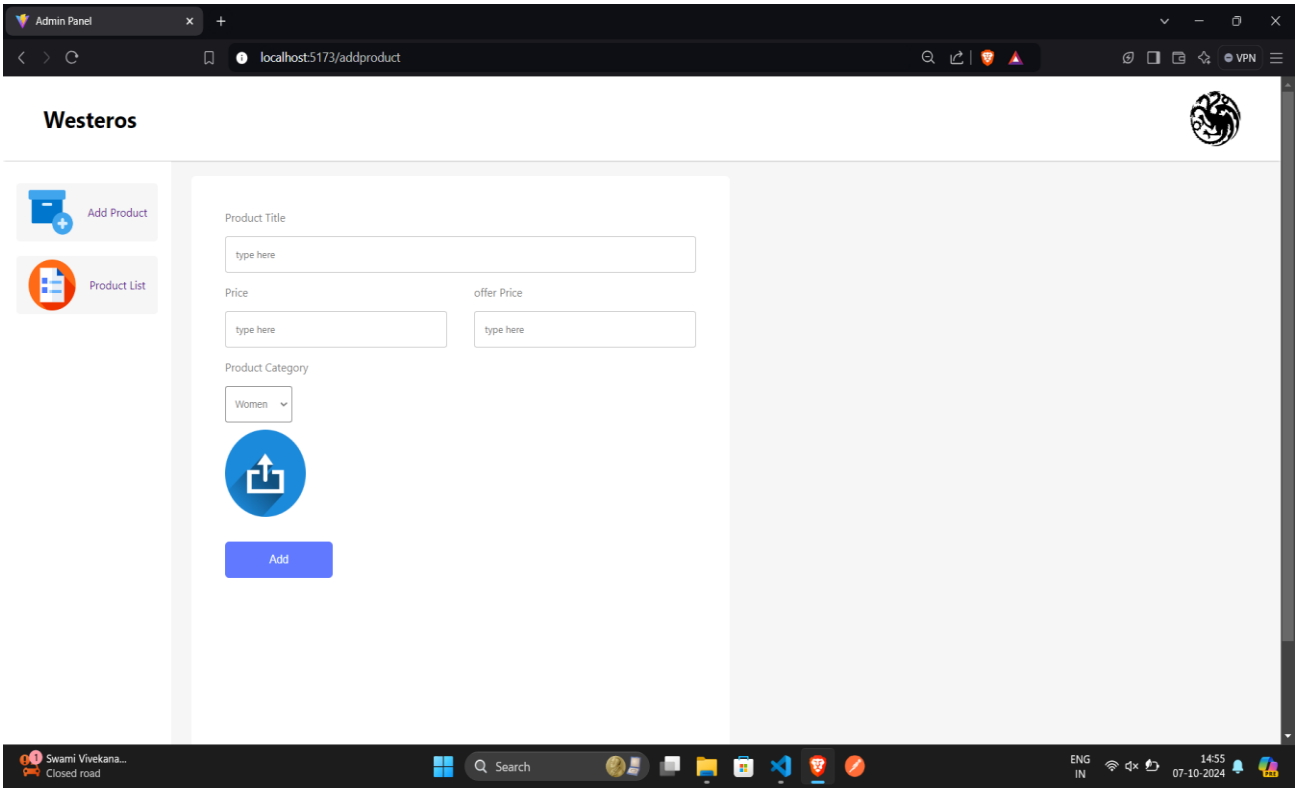
- If The Credentials Entered Are Accurate, The Admin Can Log In From This Screen.

- Input A Right Password To Log In.

2 - Dashboard :

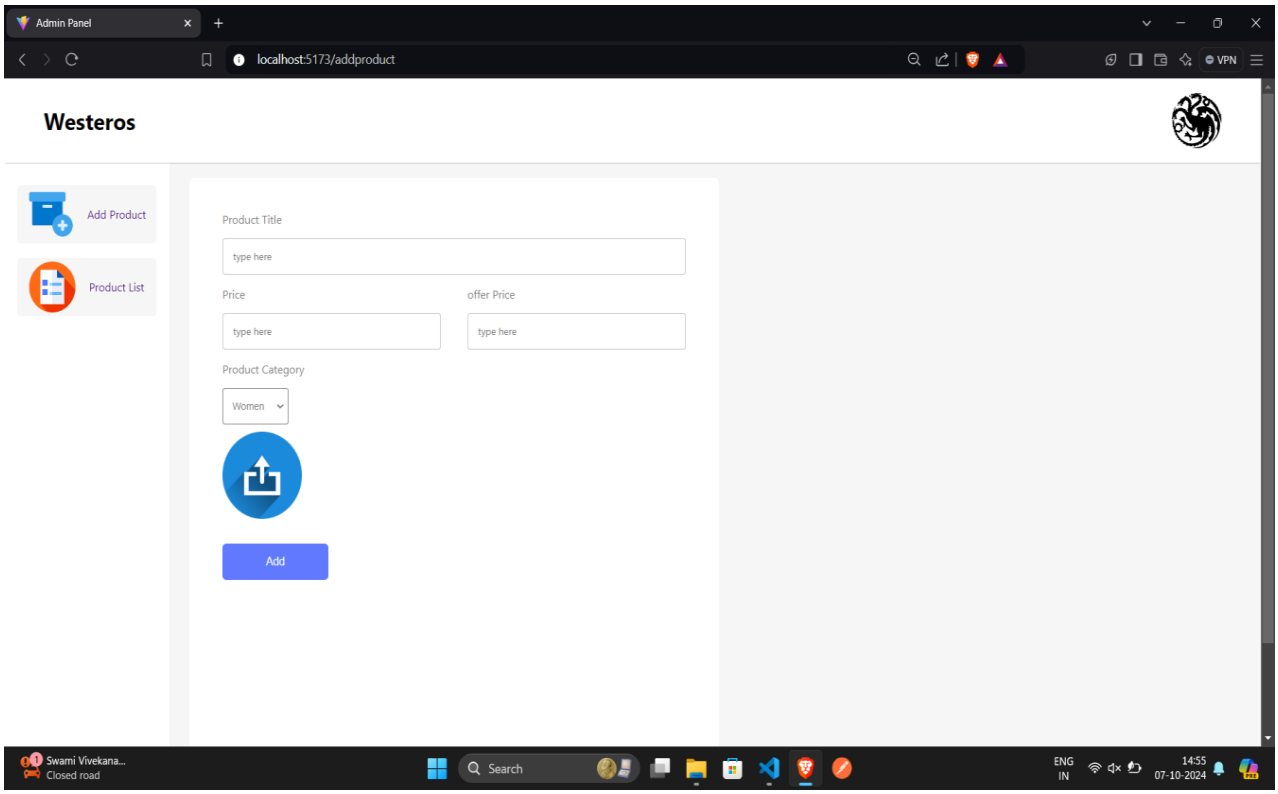
- Home Screen :

-



- This Screen Show A Finish Order List For Generate Bill.
- A Click To Edit Bill Button To Edit It Bill.

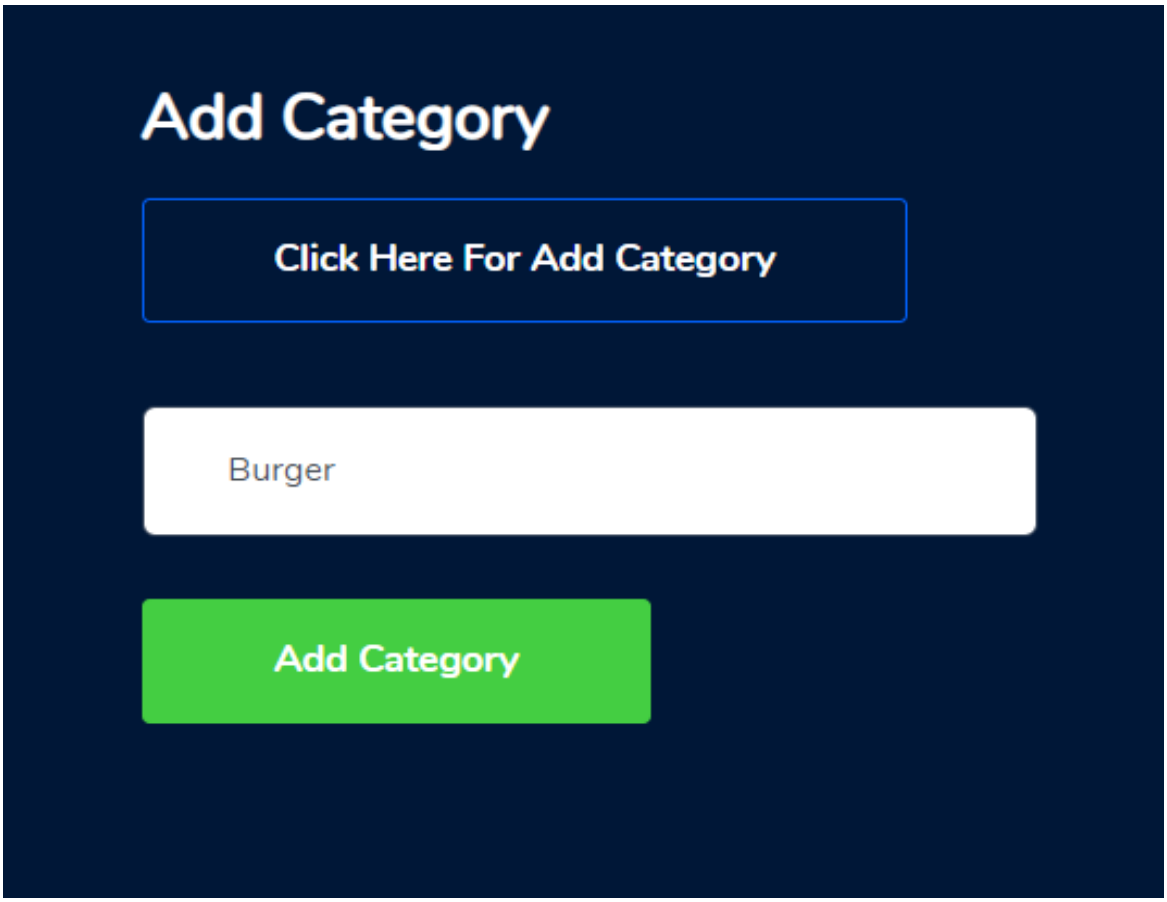
- **Add product :**



- This Screen For Edit Cloth To Add Items To After Finish Add.

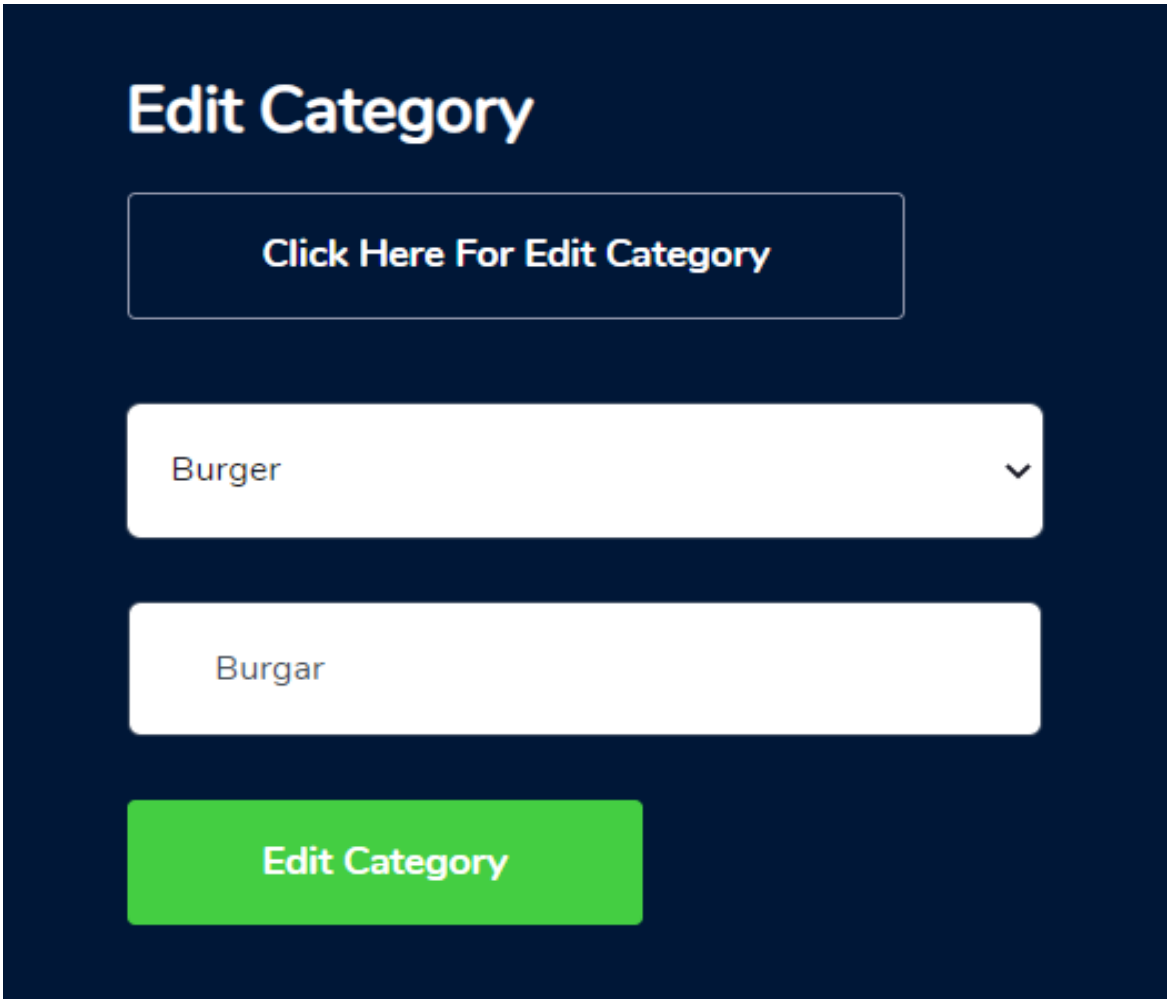
3 - Category Details Screen :

- **Add Category :**



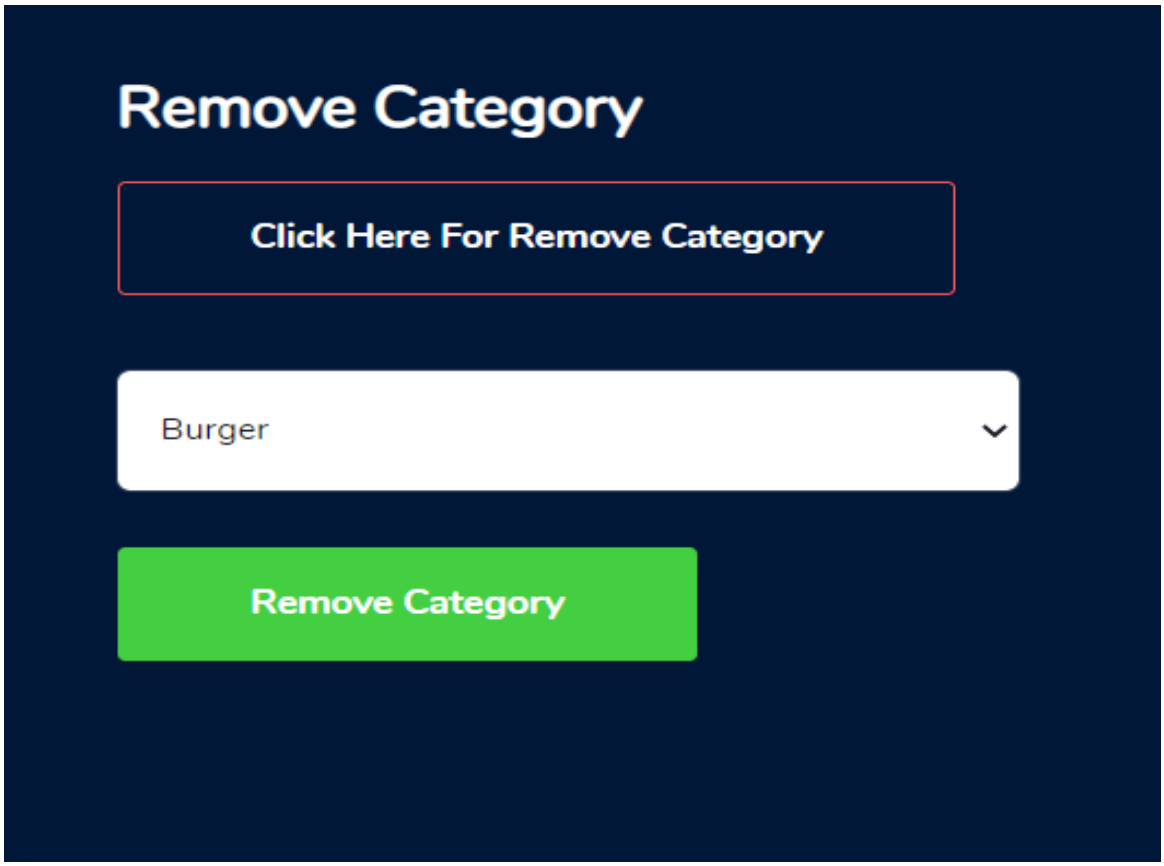
- The Admin Can Create New Food Categories Using This Panel.

- **Edit Category :**



- The Admin Can Edit Food Categories Using This Panel.

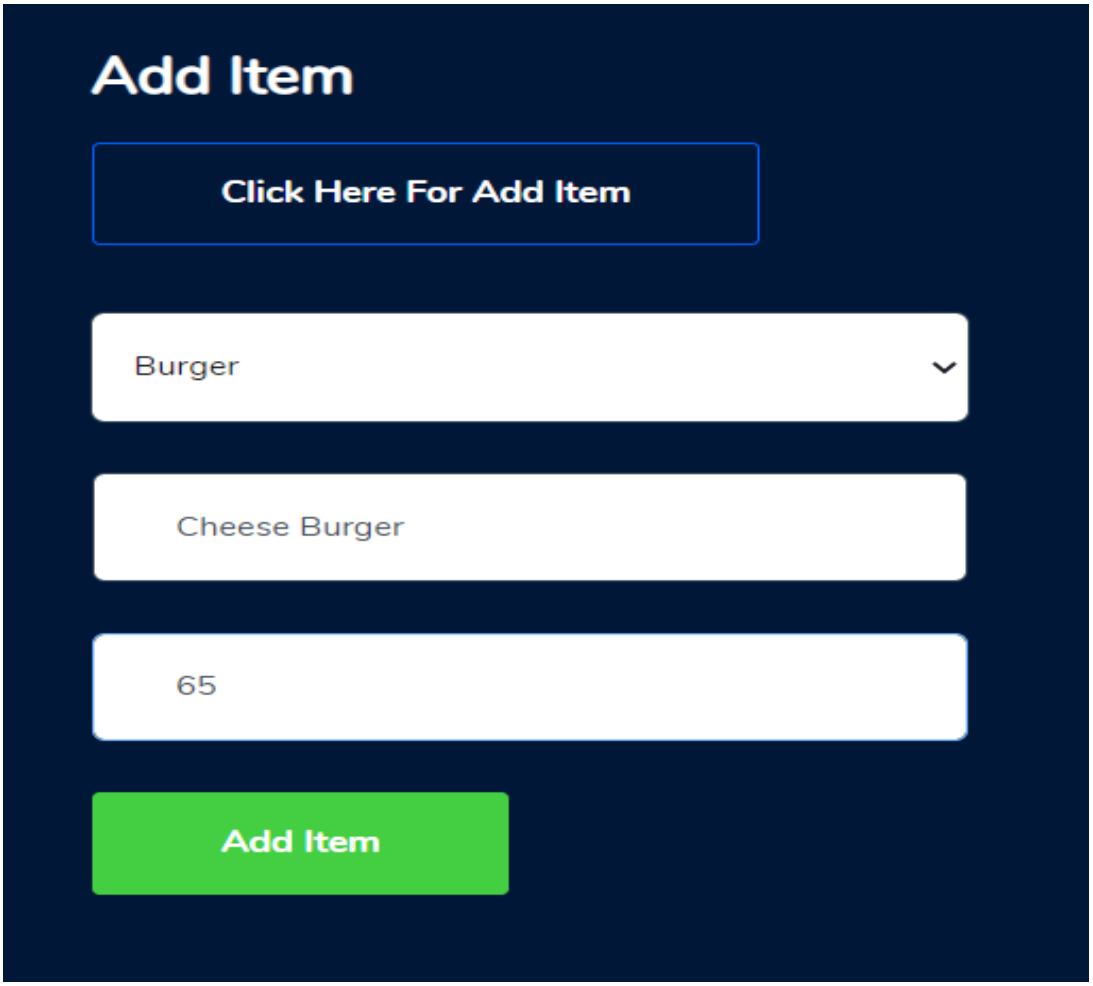
- **Delete Category :**



- The Admin Can Delete Food Categories Using This Panel.

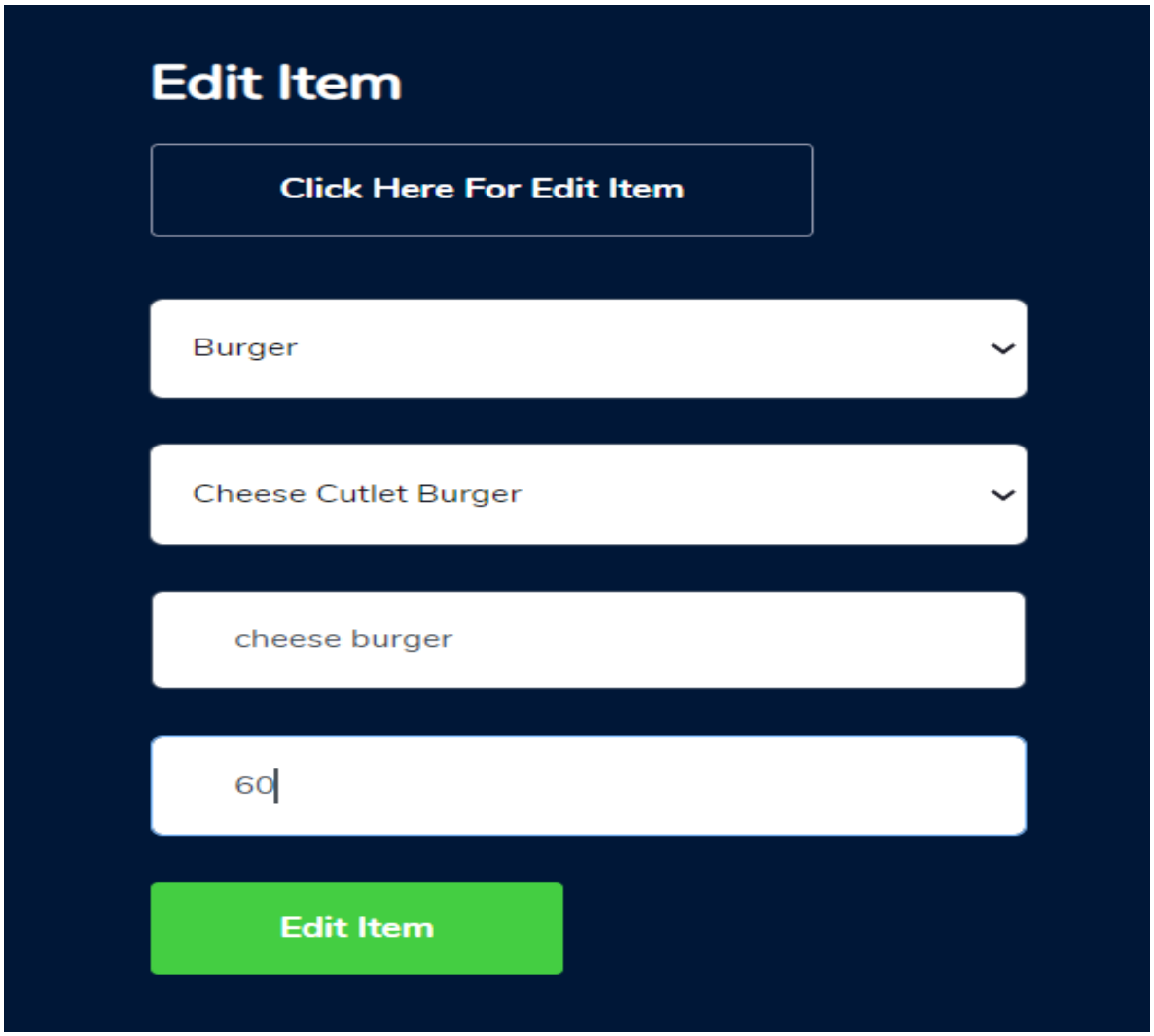
4 - Item Details Screen :

- Add Item :



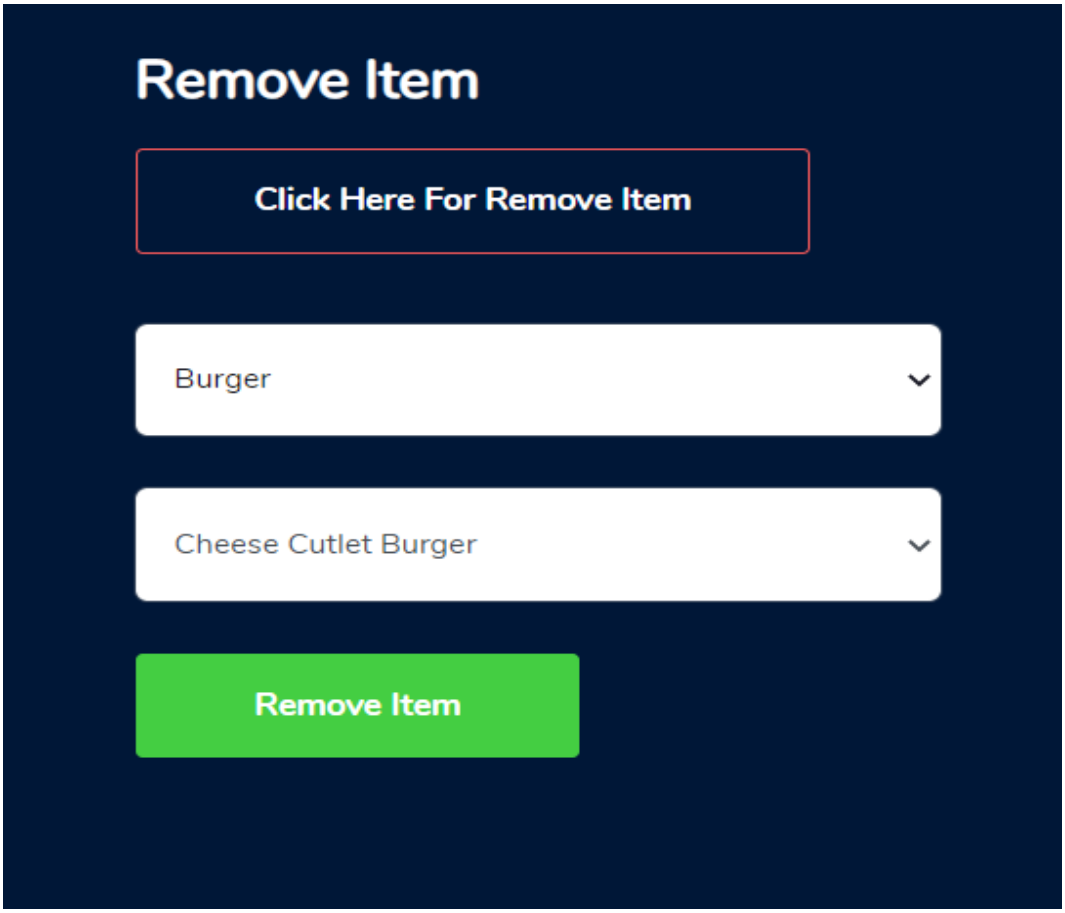
- The Admin Can Add New Food Item Using This Panel.

- **Edit Item :**



- The Admin Can Edit Food Item Using This Panel.

- **Delete Item :**



- The Admin Can Delete Food Item Using This Panel.

Test Cases (User Side)

Test Case	Description	Actual Output	Test Result
Home Screen	Display All Tables Available In Food Zone.	Display All Tables Available In Food Zone.	**Pass**
Category Screen	Display All Food Categories Of Available In Food Zone.	Display All Food Categories Of Available In Food Zone.	**Pass**
Item Screen	Display All Food Items Of Each Category Of Available In Food Zone.	Display All Food Items Of Each Category Of Available In Food Zone.	**Pass**
Quantity Screen	Add Quantity Of Ordering Food Item.	Add Quantity Of Ordering Food Item.	**Pass**
Cart Screen	Display Order History Of Each Table. (Edit And Finish Order.)	Display Order History Of Each Table. (Edit And Finish Order.)	**Pass**
Remove Item From Cart	This Button Lets User To Remove Any Item From The Cart	This Button Lets User To Remove Any Item From The Cart	**Pass**
Bottom Navigation	This Navigation Bar Navigates To Home Page , Cart Page.	This Navigation Bar Navigates To Home Page , Cart Page.	**Pass**

Test Cases (Admin Side)

Test Case	Description	Actual Output	Test Result
Login Screen	If the username and password given are accurate, the admin can log in from this screen to the admin panel.	If the username and password given are accurate, the admin can log in from this screen to the admin panel.	**Pass**
Dash Board Screen	Display Finish Order List Of Each Table.	Display Finish Order List Of Each Table.	**Pass**
Edit Bill Screen	The Admin Can Edit A Bill Of Finish Order.	The Admin Can Edit A Bill Of Finish Order.	
Category Screen	The admin can add , update and remove food category.	The admin can add , update and remove food category.	**Pass**
Item Screen	The admin can add , update and remove Each Category food Item.	The admin can add , update and remove Each Category food Item.	**Pass**

Limitation

- Though We Tried Our Best In Developing This System But As Limitations Are Major Parts Of Any System So Are Of Our System. Some Limitations Of — Innovator To Investors Portal Are As Under :

  - Data Load Speed Slow.
  - Order Not Seen in Admin Panel .

Future Enhancement

- To Conclude, Project Data Grid Works Like A Component Which Can Access All The Databases And Picks Up Different Functions By Admin. Trying Remove The Many Limitations. Add Some Functionality In FutureShow In Below.

  - Improve WebSite Behavior.
  - I Will Overcome Limitations An Website.
  - Provide More Functionalities To Use In Admin Panel.

Webliography

- ✓ https://stackoverflow.com/
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