ABSTRACT

The project is entitled web application” **PURE ORGANIC BAZAAR”**, which was created with the Python Flask framework, is to give customers a smooth online shopping experience for fresh and organic product. Our platform provides a large selection of products, such as vegetables, grain, spinach, and oils, with an emphasis on encouraging healthy living. With the convenience of **'cash on delivery',** customers can browse, choose products and purchase the things they want with ease by navigating via the internet. Users may also manage their accounts, see goods, add things to cart, place orders, and keep track of their transactions via the platform's user and admin functions. Admins can use capabilities like order tracking, product management, and customer profile viewing in the interim. Come along as we embrace a better way of living with PURE.

CONTENTS

1.Project Description

1.4 Introduction

The "PURE ORGANIC A BAZAAR" website is a powerful tool created to transform the way people buy for fresh and organic goods online. This project, which aims to encourage healthy living, makes use of the Flask framework in Python to give users an intuitive and smooth interface.The application's key features are its user authentication and registration features, which let users make accounts, safely log in, and use customised features like managing orders and seeing profiles. The website also provides a thorough inventory of organic products that is arranged for simple browsing, guaranteeing that users can quickly locate what they need.Features like order placing, secure payment methods, and a virtual shopping cart further improve the shopping experience and guarantee a simple and convenient transaction process.

1.5 Existing System

In the existing system, the checkout process for purchasing organic products online was often convoluted and time-consuming. Users faced multiple steps, including navigating through various pages and providing extensive information, which led to a disjointed and frustrating experience. This lack of streamlined checkout processes resulted in abandoned carts and reduced customer satisfaction.

Disadvantages:

1.Limited Selection:

Many existing online platforms offer a limited selection of organic products, making it challenging for customers to find all their desired items in one place.

2.Complex Checkout Processes:

Existing systems often had cumbersome checkout processes, requiring users to navigate through multiple pages and input extensive information before completing their purchases**.**

3.Lack of Personalisation:

Without user accounts, customers had no way to personalise their shopping experience, track their orders, or view their purchase history.

4.Limited Administrative Tools:

For administrators, managing products, orders, and customer profiles was often manual and time-consuming, lacking efficient tools to streamline these processes.

5.Security Concerns:

Some existing platforms faced security vulnerabilities, putting users' personal and financial information at risk during transactions.

1.6 Proposed System

The "PURE ORGANIC BAZAAR" web application proposes a solution to the fragmented and cumbersome checkout process encountered in the existing system. By implementing a user-friendly interface and streamlined checkout flow, the proposed system aims to enhance the overall shopping experience for customers. Features such as a single-page checkout, saved user profiles, and secure payment options contribute to a seamless and efficient process, reducing abandoned carts and improving customer satisfaction. With the proposed system, users can enjoy a hassle-free purchasing experience, ultimately leading to increased engagement and retention on the platform.

Advantages:

1.Streamlined Checkout Process:

The proposed system offers a simplified and user-friendly checkout process, reducing the number of steps required for users to complete their purchases. This streamlined approach minimises friction and enhances the overall shopping experience.

2.Enhanced User Experience:

With features such as saved user profiles and personalised recommendations, the proposed system provides users with a tailored and seamless shopping experience. This contributes to increased user satisfaction and encourages repeat visits to the platform.

3.Improved Efficiency:

By implementing a single-page checkout and integrating secure payment options, the proposed system improves the efficiency of the purchasing process. This reduces the likelihood of abandoned carts and ensures smoother transactions for both users and administrators.

4.Increased Security:

The proposed system prioritizes the security of user information and financial transactions. By utilizing encryption protocols and adhering to industry best practices, the system minimises the risk of data breaches and enhances user trust and confidence in the platform.

5.Higher Conversion Rates:

With a more intuitive and efficient checkout process, the proposed system is expected to result in higher conversion rates for completed purchases. This translates to increased revenue and improved business performance for the "PURE ORGANIC BAZAAR" platform.

1.3.1Hardware Specification

- Processor: AMD PRO A4-4350B R4 2.50 GHz
- Installed RAM: 4.00 GB
- Hard disk: 500 GB
- Keyboard: Standard keyboard
- Monitor: 15-inch color monito

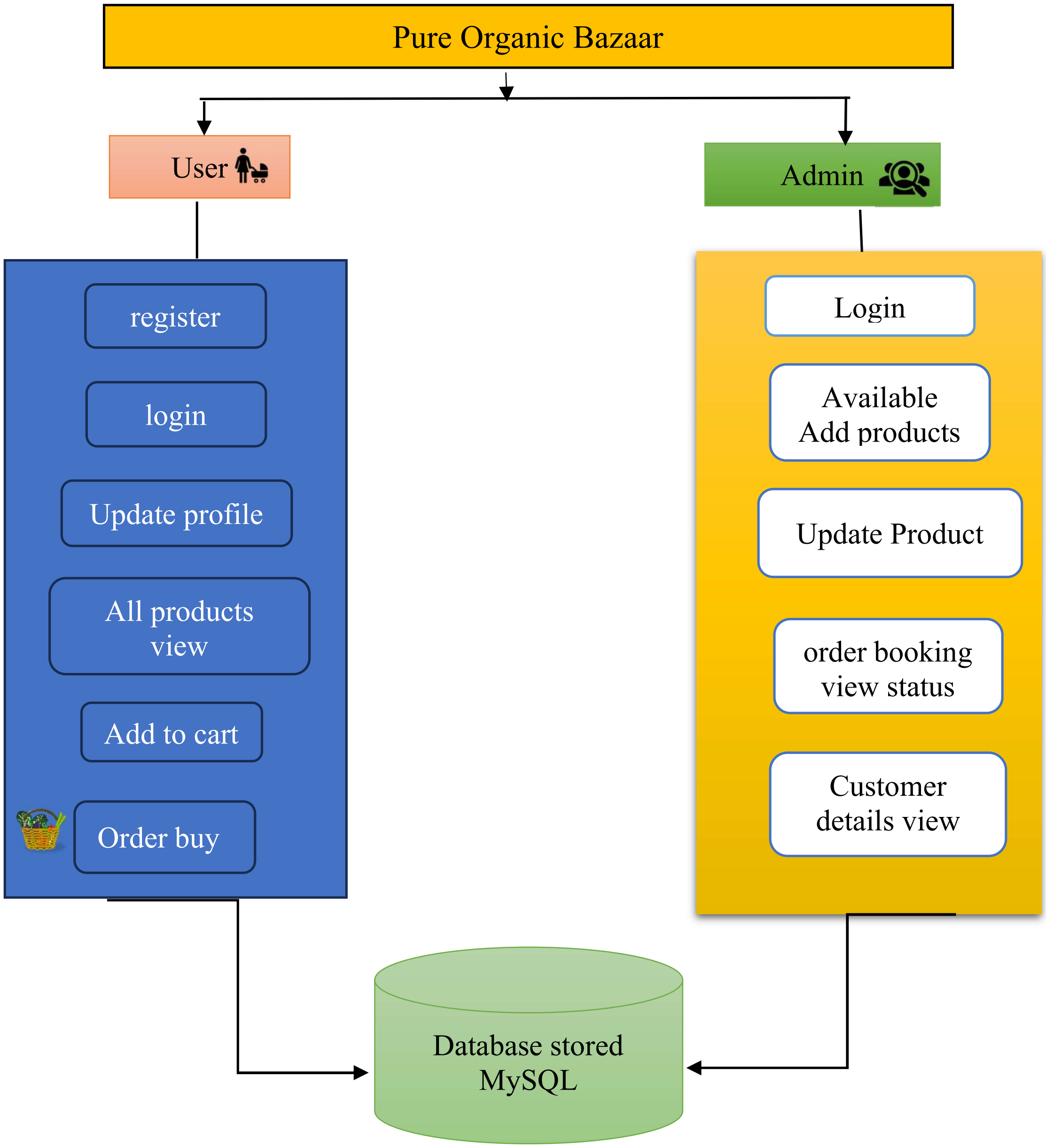
1.3.2 Software Specification

- Operating System: Windows OS
- System type: 64-bit operating system, x64-based processor
- Editor: Visual Studio Code
- Framework: Flask
- Front End: HTML,CSS and Java Scripts
- Back End: Python,MySQL

2.Logical Development

2.1 Architectural Design

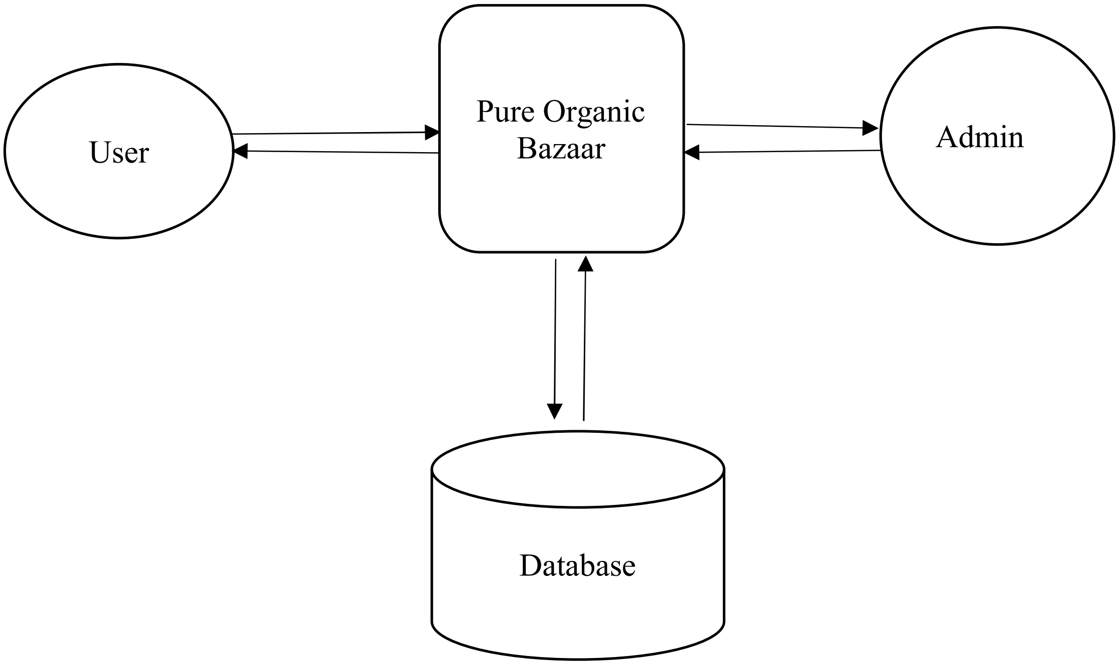
A system architecture is a conceptual model that outlines the structure of a system. The application follows a three-tier architecture consisting of a presentation tier (client-side interface), an application tier (Flask-based server-side logic), and a data tier (database management). This design ensures separation of concerns, scalability, maintainability, and allows for easy changes and updates to the various components of the system. Additionally, full facilitate communication between client and server components, allowing for seamless data exchange and interaction.



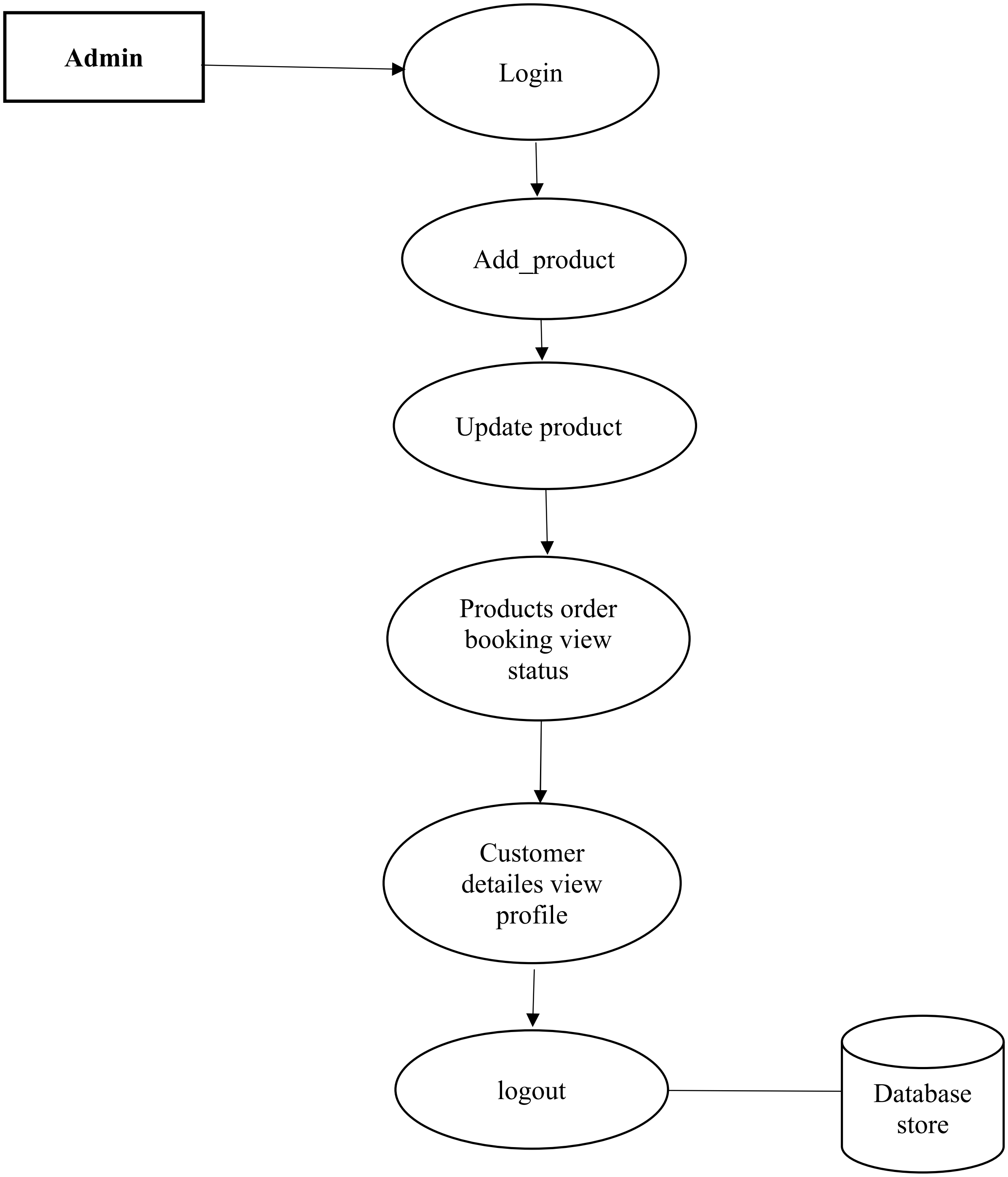
2.2 DFDs

Level 0:

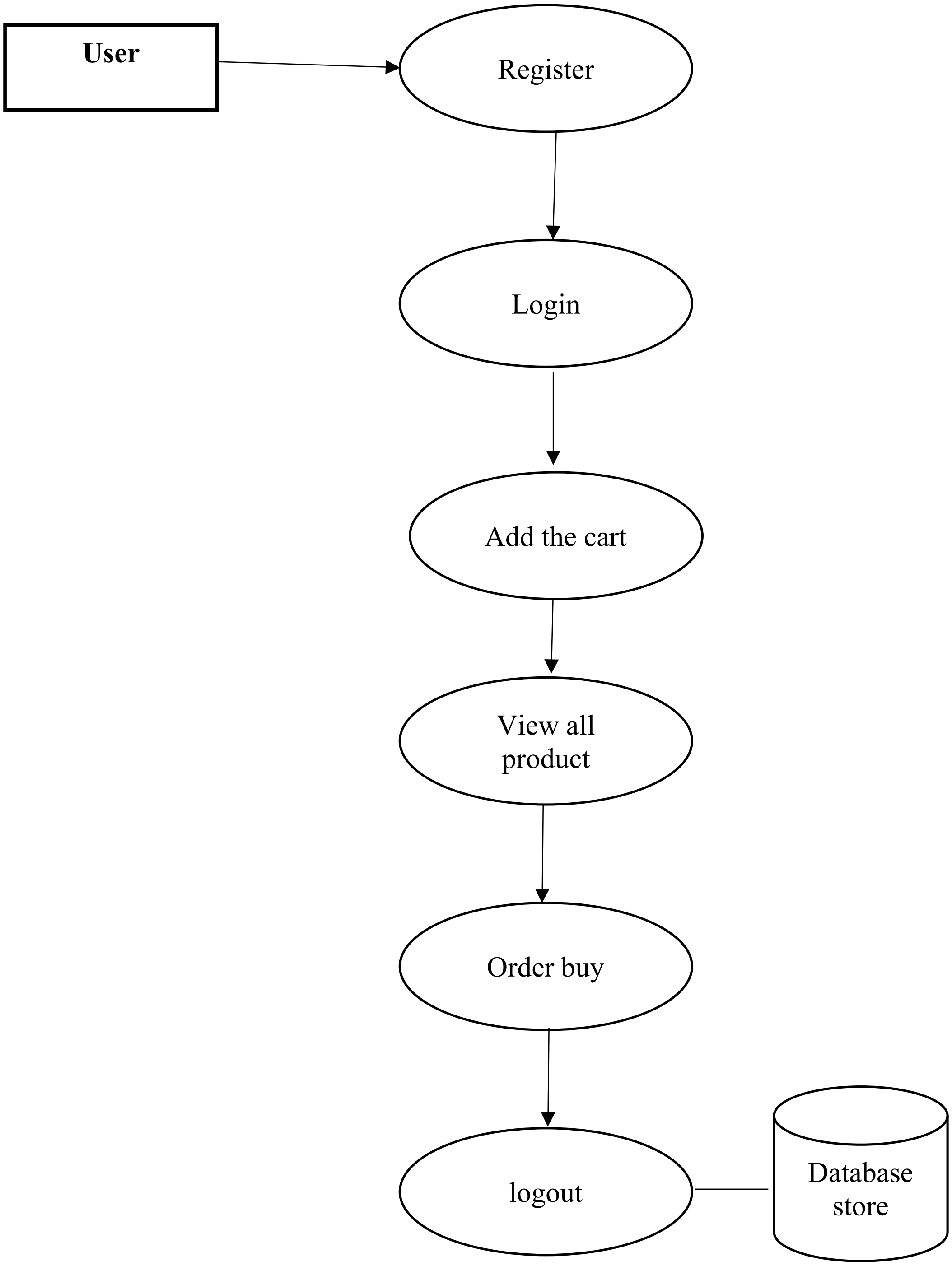
The DFD Level 0 diagram showcases the flow of data between these components, illustrating how users and administrators interact with the system and how data is stored and retrieved from the database to facilitate various functionalities.



Level 1:


Admin
Login
Add_product
Update product
Products order booking view status
Customer detailes view profile
logout
Database store

Level 2:


User
Register
Login
Add the cart
View all product
Order buy
logout
Database store

3. Database Design

3.1. Tables Design

A table is a data structure that organizes information into rows and columns. You can use it to store and display data in a structured format. For example, the database stores data in tables. so that you can quickly access information from a particular row. Tables are often used on websites to display multiple rows of data on a page. Databases often contain multiple tables, each designed for a specific purpose. For example, a corporate database may contain separate tables for each user, customer, and supplier. Each table can contain its own set of fields, depending on the data you need to store. In a database table, each field is considered a column and eachentry (or record) is considered a row. You can access specific values from a table by requesting data from a single column and row.

Table Name: User Register

Field Name	Data Type	Size	Constraints
id	int	5	Primary key
Name	varchar	10	Not null
Phone	int	10	Not null
Email	varchar	40	Not null
Address	varchar	60	Not null
Password	Varchar	20	Not null

Table Name:Admin

Field Name	Data Type	Size	Constraints
Username	Varchar	30	Not null
password	varchar	20	Not null

Table Name: Add_product

Field Name	Data Type	Size	Constraints
Id	int	50	Primary key
Name	varchar	30	Not null
quality	varchar	20	Not null
price	varchar	10	Not null
description	longtext	100	Not null
Image	longtext	100	Not null
type	varchar	30	Not null

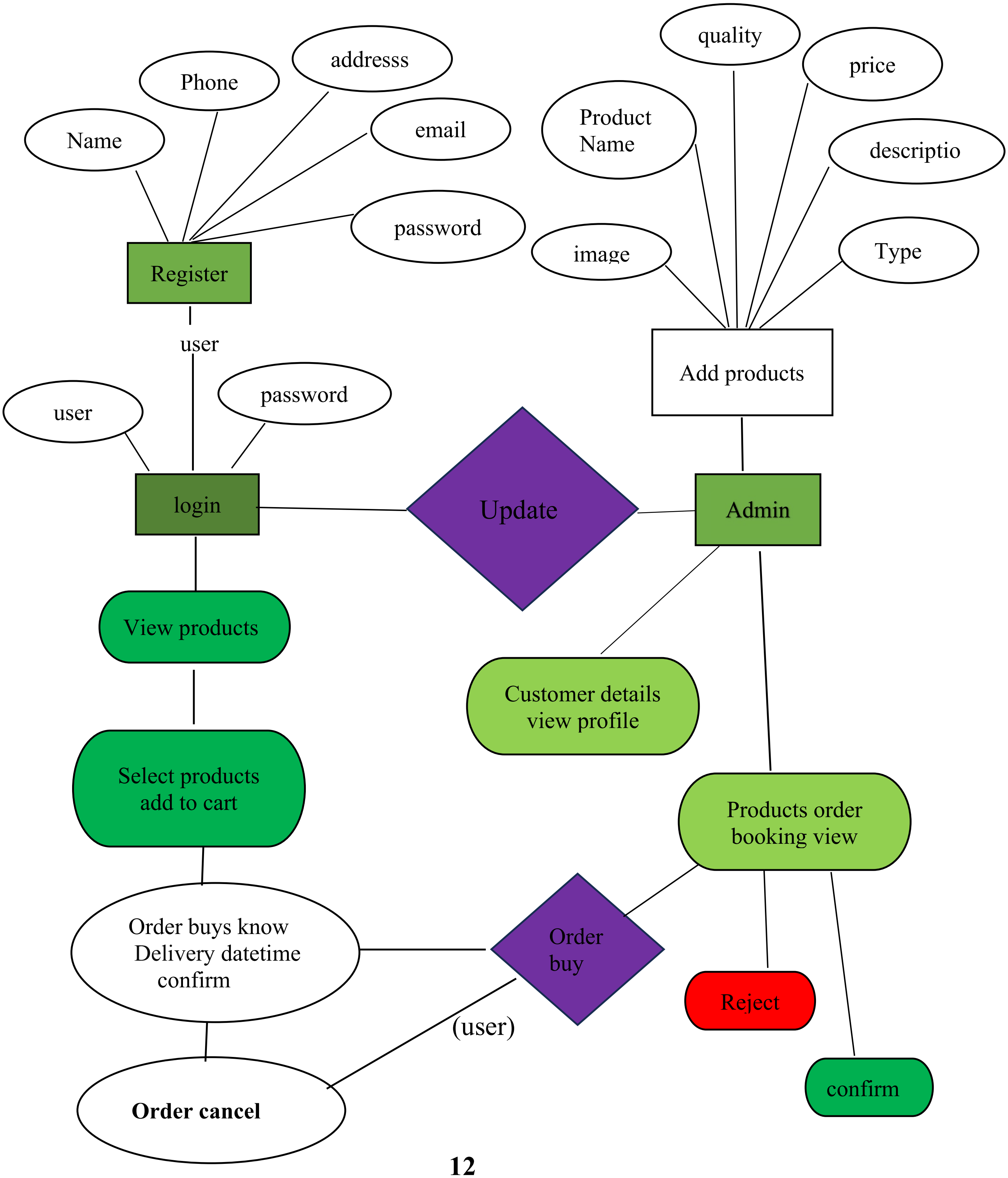
Table Name: Cart

Field Name	Data Type	Size	Constraints
Cart id	int	10	Not null
Product id	int	100	Not null
Kg\liter	varchar	50	Not null
Customer id	varchar	20	Not null
status	varchar	10	Not null
Delivery datetime	datetime	null	Not null

3.2. Data Dictionary:

Field Name	Field Type	Size	Constraints	Sample values
id	int	5	Primary key	01
Name	varchar	10	Not null	arun
Phone	int	10	Not null	9721818533
Email	varchar	40	Not null	Arun@gmail.com
Address	varchar	60	Not null	7/2 main trichy
Password	Varchar	20	Not null	123@
Username	Varchar	30	Not null	Arun
quality	varchar	20	Not null	high
price	varchar	10	Not null	200.0
description	longtext	100	Not null	Product is nature
Image	longtext	100	Not null	image
type	varchar	30	Not null	categories
Product id	int	100	Not null	001
Kg\liter	varchar	50	Not null	10
Customer id	varchar	20	Not null	12
status	varchar	10	Not null	0/1
Deliverydatetime	datetime	10	Not null	12/4/2024 02:00 PM

3.3. Relationship Diagram:



4.PROGRAM DESIGN

The program design of the "PURE ORGANIC BAZAAR" project includes the logical organization and structure of the software code base with an emphasis on modularization, abstraction, and encapsulation. Using the Python Flask framework, your backend logic is divided into separate modules or packages, each responsible for a specific functionality such as user authentication, product management, or order processing. Object-oriented programming principles are used to define classes and methods that promote code reusability and maintainability. Additionally, appropriate error handling mechanisms and exception handling strategies are implemented to ensure the robustness and reliability of the software. The goal of this project is to achieve implementation clarity, efficiency, and scalability through thoughtful program design.

4.1MODULES:

The modules used in this project are:

4.1.1User:

- User Login
- Sing up
- View profile
- Update profile
- Product view
- Cart
- Order
- Logout

4.1.2Admin:

- Admin login
- Add products
- View all products
- Edit products
- View booking status
- Customer profile view
- Logout

4.2 MODULE DESCRIPTION

User Login:

The gives registered users the option to safely access their accounts by entering their password and username. Before allowing access to customized features like managing carts, seeing profiles, and placing orders, this module makes sure that authentication has been completed.

Sing up:

The allows new users to register for accounts by entering their name, email address, and password. This module provides easy registration to use the platform's services and guarantees the accuracy of user data.

View profile:

The provide consumers access to their account details, which include preferences, id, name, phone number, email, and personal data. This module makes it easier for users to access important account information, which improves user experience.

Update profile:

Allows users to modify their profile information, id, name, phone number ,email, such as changing passwords, updating contact details, or adding delivery addresses. This module ensures that user profiles remain accurate and up-to-date to facilitate smooth transactions.

Products view:

Presents users with a catalog of available products, categorized for easy navigation. This module showcases the range of organic items offered by the platform, enabling users to browse and select products according to their preferences and needs. The product view drop down and filter categories available products just view speciation.

Cart:

Provides users with a virtual shopping cart where they can add, remove, or modify selected items before proceeding to checkout. This module facilitates a convenient shopping experience by allowing users to review and manage their selected items before making a purchase.

Order:

Enables users to place orders for selected items, specifying delivery are date and time preferences and cash on Delivery methods. This module facilitates the seamless completion of transactions, ensuring that users receive their desired products in a timely manner.

Logout:

Allows users to securely user account logout of their accounts, terminating their current session and ensuring the security of their personal information. This module helps maintain user privacy and security by providing a clear mechanism for ending user sessions.If the logout return page home page referce.

Admin login:

Grants authorized personnel access to administrative functionalities and privileged features of the platform. This module ensures secure authentication and access control for administrators responsible for managing the system.

Add product:

` Allows administrators to add new products to the platform's catalog, specifying details such as name, description, price ,qulity and image availability. This module facilitates the expansion of the product offerings to meet customer demands.

View all products:

Enables administrators to view a comprehensive list of all products available on the platform. This module provides administrators with an overview of the current inventory, facilitating effective management and decision-making.The products drop down filter type categories function. The product view drop down and filter categories available products just view speciation.

Edit product:

Allows administrators to modify existing product information, such as updating prices, descriptions, or availability status. This module ensures that product details remain accurate and up-to-date to provide users with reliable information. If the not available products delete option function speciation

View Booking Status:

Provides administrators with insights into the status of customer orders, including pending, processed, and Reject and confirm completed orders. This module facilitates order management and tracking, ensuring efficient handling of customer requests.

Customer Profile View:

Allows administrators to view detailed profiles of registered customers, including contact information, id, name, phone number, email and preferences. This module enables administrators to better understand customer behavior and tailor services to meet their needs.

Logout:

Allows users to securely log out of their accounts, terminating their current session and ensuring the security of their personal information. This module helps maintain user privacy and security by providing a clear mechanism for ending user sessions. If the logout return page are home page referce.

5. TESTING

5.1 Unit Testing:

5.1.1Checkout Process:

Test that the checkout process proceeds smoothly without errors.Test various scenarios, such as adding/removing items from the cart, applying discounts, and selecting shipping options. Verify that the final order summary accurately reflects the selected items and total price.

5.1.2 User Profile Management:

Test the functionality to create, update, and view user profiles.Verify that user information is saved correctly and can be retrieved without errors.Test edge cases such as invalid input or data validation errors.

5.1.3 Product Catalog:

Test the display of products in the catalog, ensuring that all items are listed correctly with accurate descriptions and prices.Verify that users can navigate through different categories and search for specific products.Test pagination and sorting functionality to ensure proper display of products.

5.1.4 Cart Management:

Test adding, removing, and updating items in the shopping cart. Verify that the cart total is calculated accurately based on the selected items and quantities.Test edge cases such as adding out-of-stock items or exceeding the maximum quantity allowed.

5.1.5 Authentication and Authorization:

Test user login and registration functionalities.Verify that only authenticated users can access certain features such as viewing profiles, placing orders, and accessing account settings.Test different user roles, such as regular users and administrators, to ensure proper access control.

5.1.6 Order Processing:

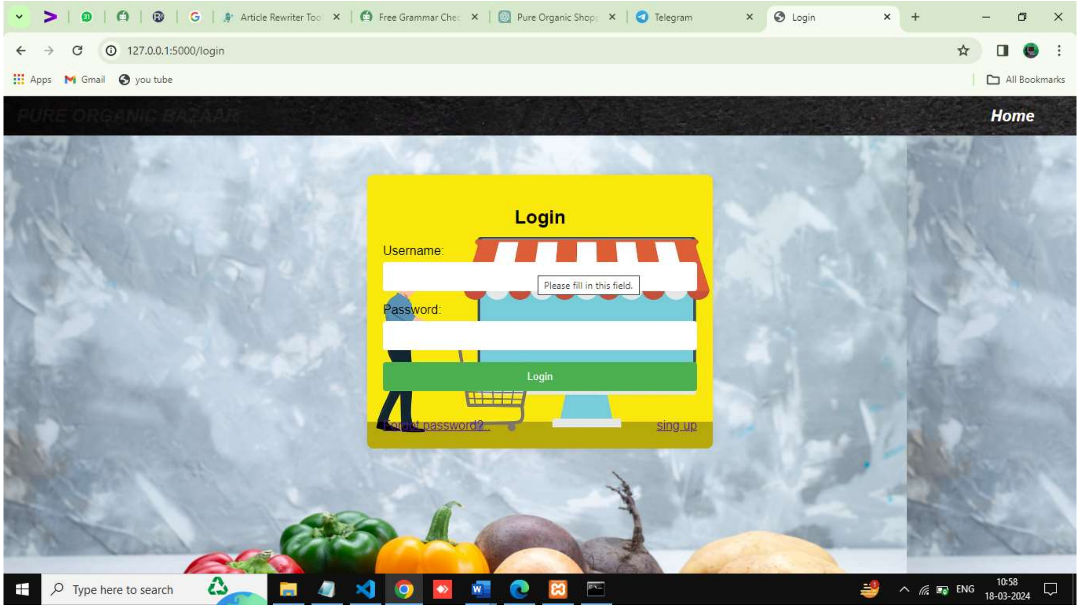
Test the functionality to place and process orders.Verify that orders are recorded correctly in the system and that users receive confirmation emails.Test scenarios such as order cancellations, refunds, and order status updates.

5.1.7 Security:

Test for security vulnerabilities such as SQL injection, cross-site scripting (XSS), and cross-site request forgery Verify that sensitive user data is properly encrypted and protected. Test authentication mechanisms to ensure they cannot be bypassed or exploited.

5.1.8 Error Handling:

Test how the system handles errors and exceptions, such as invalid inputs or server failures. Verify that appropriate error messages are displayed to users and logged for debugging purposes. Test scenarios where the system encounters unexpected issues, such as network timeouts or database errors.



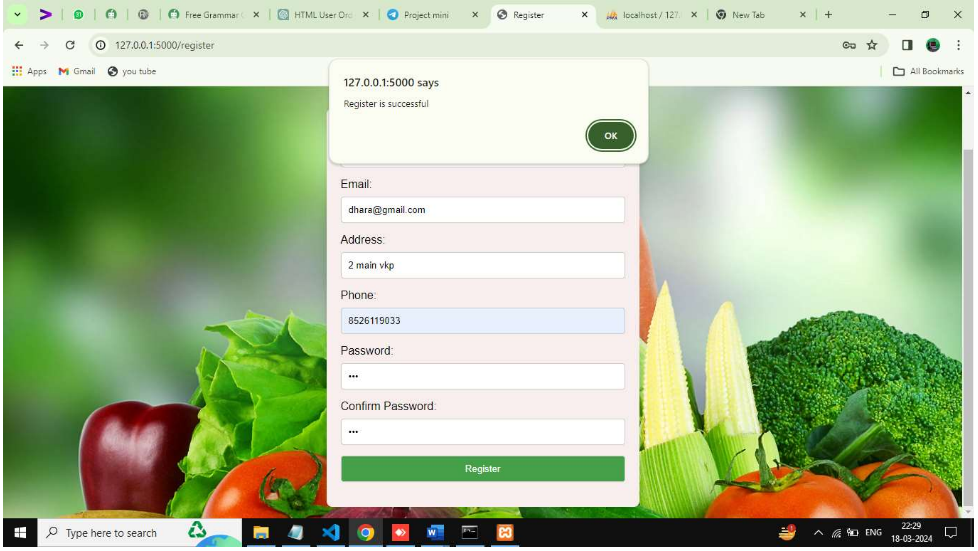
Please fill in this field.

5.1 user unit testing

5.2 Integration Testing:

5.2.1 user Authentication and Profile Management Integration:

Verify seamless transition between user authentication and profile management.Ensure user profiles are accurately updated upon registration or modification.Test proper redirection to login pages for unauthorized profile accesses.



127.0.0.1:5000/register

127.0.0.1:5000 says

Register is successful

Email: dhara@gmail.com

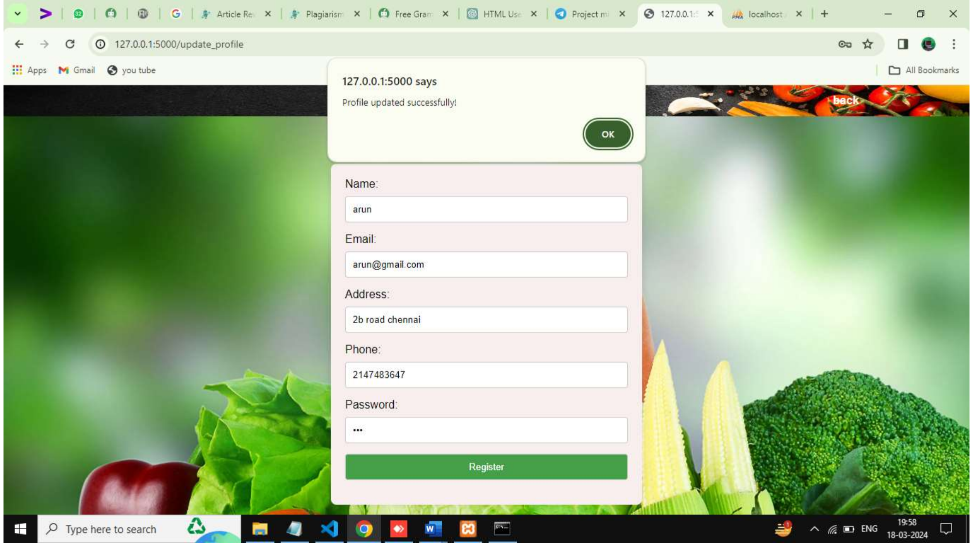
Address: 2 main vkp

Phone: 8526119033

Password: •••

Confirm Password: •••

User Register Integration



127.0.0.1:5000/update_profile

127.0.0.1:5000 says

Profile updated successfully!

Name: arun

Email: arun@gmail.com

Address: 2b road chennai

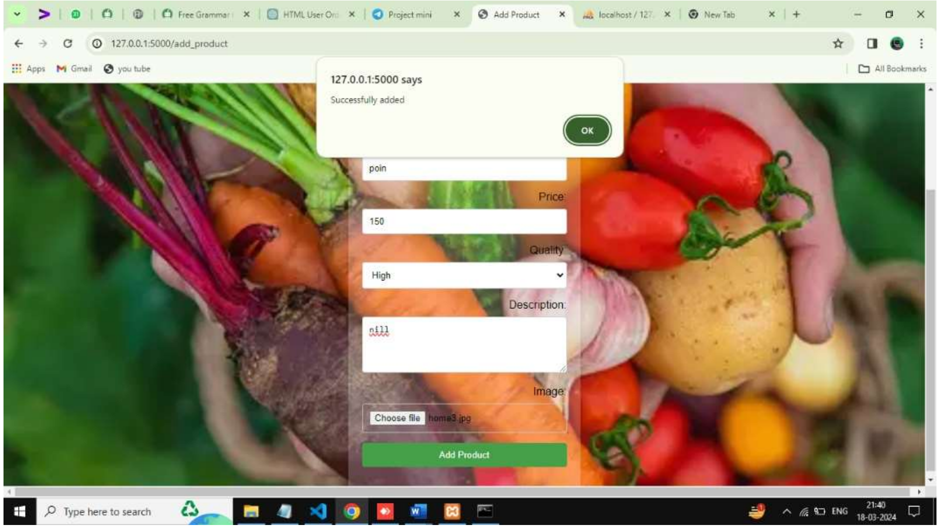
Phone: 2147483647

Password: •••

Profile update Integration

5.2.2Product Catalog and Cart Management Integration:

Confirm smooth interaction between product catalog and cart management modules.Validate accurate addition and removal of items from the cart.Ensure synchronization of cart updates with product catalog listing



127.0.0.1:5000/add_product

127.0.0.1:5000 says

Successfully added

poin

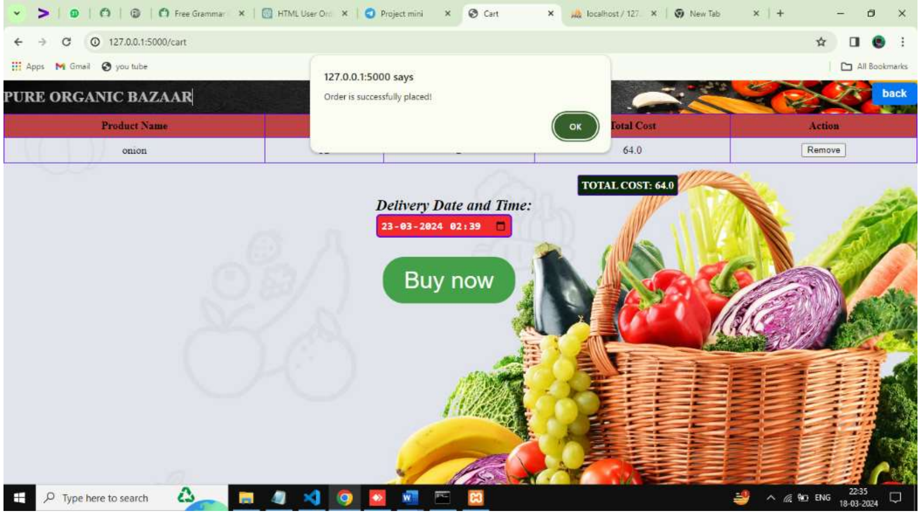
Price: 150

Quality: High

Description: nill

Image: Choose file home3.jpg

Product catalog Integration



127.0.0.1:5000/cart

127.0.0.1:5000 says

Order is successfully placed!

PURE ORGANIC BAZAAR

Product Name			Total Cost	Action
onion			64.0	Remove

TOTAL COST: 64.0

Delivery Date and Time: 23-03-2024 02:39

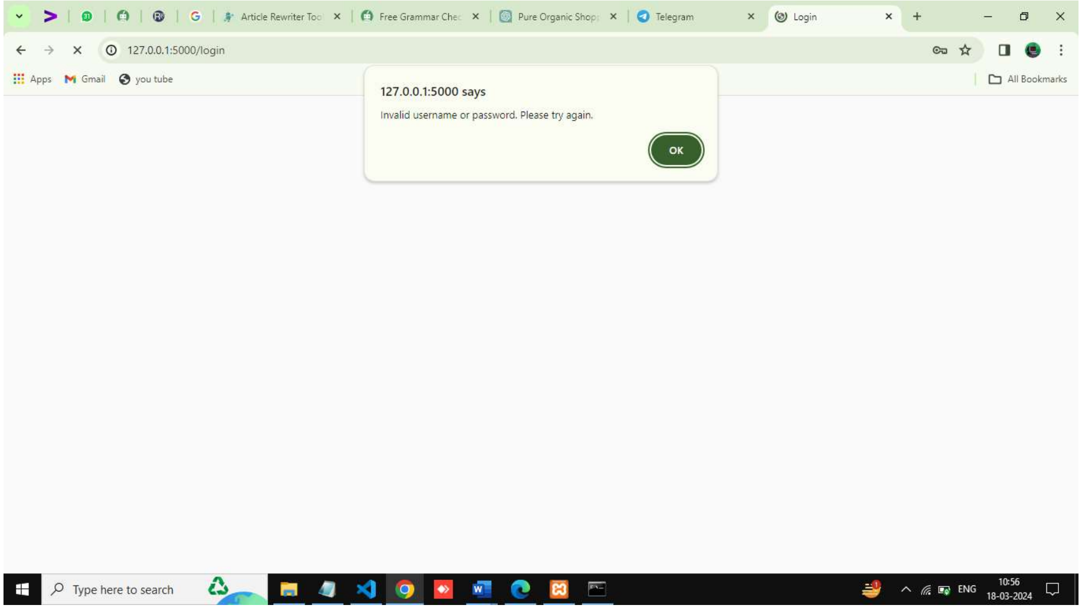
Cart Management Integration:

5.3 System Testing:

System testing involves testing the entire integrated system as a whole to ensure that it meets the specified requirements and functions correctly in its intended environment. It focuses on evaluating the system's behavior and performance across various scenarios to identify any defects or deviations from expected outcomes. This testing phase verifies the system's compliance with functional, non-functional, and business requirements, including usability, reliability, performance, security, and compatibility. System testing encompasses different techniques such as functional testing, usability testing, performance testing, security testing, and compatibility testing to validate the system's overall quality and readiness for deployment.

5.4 Validation Testing:

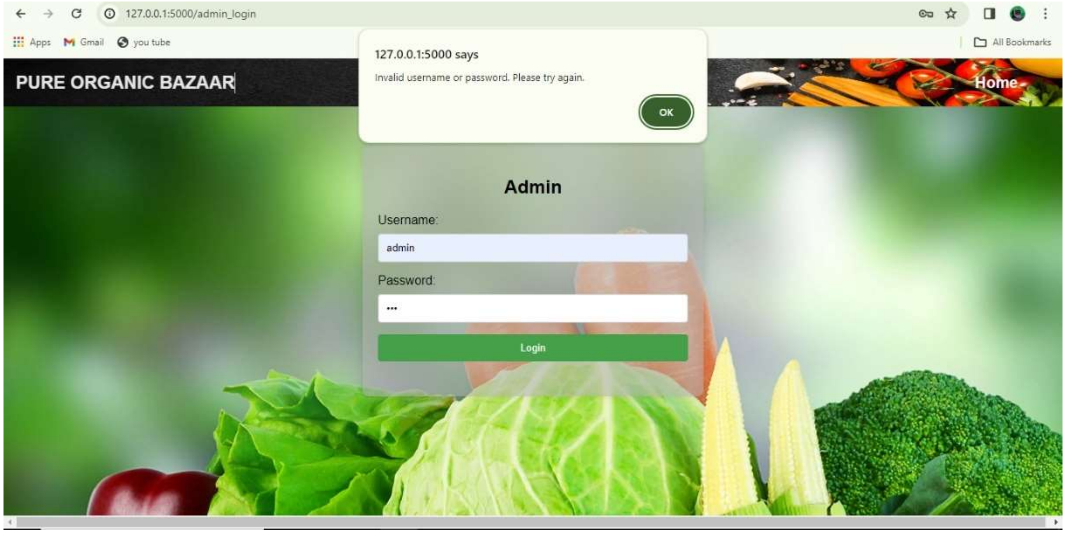
Validation testing is the process of evaluating the final product to ensure that it meets the customer's requirements and expectations. In the context of the "PURE ORGANIC BAZAAR" project, validation testing involves confirming that the web application fulfills its intended purpose of providing a smooth online shopping experience for organic products. This testing phase focuses on assessing whether the implemented features and functionalities align with the stakeholders' needs and specifications. Validation testing verifies that the system meets user requirements, is user-friendly, and delivers the desired value to customers. It typically involves end-to-end testing, user acceptance testing (UAT), and customer feedback collection to validate the system's overall functionality, usability, and satisfaction.



127.0.0.1:5000 says

Invalid username or password. Please try again.

5.4 validation testing (user)



127.0.0.1:5000 says

Invalid username or password. Please try again.

Admin

Username: admin

Password: •••

5.4 validation testing (Admin)

6.Conclusion

In conclusion, the "PURE ORGANIC BAZAAR" web application embodies a significant advancement in the realm of online shopping, particularly in the domain of organic products. Leveraging the Python Flask framework, the project has successfully developed a robust platform that prioritizes user experience, convenience, and health consciousness. Through seamless integration of features like user authentication, product catalog management, and secure checkout processes, the application offers a streamlined and intuitive shopping experience for customers. Extensive testing, including unit testing, integration testing, and validation testing, has been conducted to ensure the functionality, reliability, and adherence to user requirements of the system. By addressing pain points encountered in existing systems, such as fragmented checkout processes and limited product selections, "PURE ORGANIC BAZAAR" strives to redefine the online shopping landscape, particularly for those seeking organic and fresh produce. The project's commitment to promoting healthy living is evident through its emphasis on organic products and user-friendly interface. Furthermore, the integration of user authentication and profile management ensures personalized experiences for users, enhancing customer satisfaction and loyalty.With its comprehensive approach to system development and rigorous testing methodologies, the "PURE ORGANIC BAZAAR" project is poised to deliver significant value to users and administrators alike. By embracing innovation and customer-centric design principles, this project sets a new standard for online shopping platforms, offering not only convenience but also a commitment to healthier lifestyles. As the project moves forward, it holds the potential to further revolutionize the way individuals shop for organic products, fostering a culture of sustainability and well-being in the digital marketplace.

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