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**PES UNIVERSITY, BANGALORE**  
**Department of Computer Science and Engineering**  
**B.TECH. (CSE)**  
**V SEMESTER**  
**UE20CS303 –SOFTWARE ENGINEERING**

**PROJECT REPORT**  
**ON**  
**Bakery Management System**

PES1UG20CS250	Varun Kumar Meda
PES1UG20CS253	Mihir Santosh Sanjay
PES1UG20CS274	Paladugula Lakshmi Snigdha
PES1UG20CS286	Pragathya B

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DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING  
BENGALURU – 560100, KARNATAKA, INDIA

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### **Proposal of the project:**

The Online Bakery system is a web application that allows various customers to order food online and get it delivered. This software is platform-independent and flexibly runs on all operating systems and mobile devices. In addition to this, the Bakery ordering system also allows the users to order meals from other local Bakeries and the same will be delivered based on the user's delivery request.

Bakery owners can provide their bakery information using the web portal. This information will act as the basis for the search results displayed to the user. A receipt is generated which acts as a token for identifying the customer who placed the order through the Online Bakery system.

## **Software Requirements Specifications:**

### **2. Overall Description :**

#### **2.1 Product functions:**

- Allow Customers to scroll through the menu and select the dishes he/she wants.
- Allow the Customers to cancel/edit the order any time before its prepared.
- Allow Customers to request for a bill.
- Show dish queues and their status, for Proprietor.
- Allow proprietor to perform CRUD (create, retrieve, update and delete) operations on Staff Members, Menu Items and Inventory.
- Allow Proprietor to mark orders complete.
- Allow the Proprietor to approve cancellation of the dish or order.
- Allow Proprietor to mark the bill as paid.
- Notify the Proprietor when a particular order is complete.

#### **2.2 User Classes and Characteristics:**

There are four types of users that interact with our system(See Appendix B)

Firstly, there are proprietors.

We'll provide an interface for proprietors as well through which they are looking at the status of their order queues, but they will not interact with our system.

##### **2.2.1 Customer Class:**

Customers interact with our system directly in order to place order, modify order, get bill and give feedback. We do not store any information related to customers in our system. The process of order taking starts from customers placing order and then the other series of events begin.

##### **2.2.2 Proprietor:**

Proprietor can mark a dish as prepared when a proprietor tells him to do so. He can approve the cancellation of an order whenever a customer edits or removes a dish from his order. He can also assign a dish to a particular proprietor based on the specialty of the proprietor.

The specific proprietor will also provide their input when he marks the bill as paid when customers pay for their order or get the bill printed. Moreover, he gets a notification whenever a particular order is complete, or some customer asks for help through the system. Proprietor can also see tables in the hall and their status i.e. empty or filled.

Proprietor's job is to manage the inventory and other information related to the menu and proprietors in the system.

### **3.External Interface Requirements:**

#### **3.1 User Interfaces:**

##### **3.1.1 Customer Interface:**

The customer interface will contain three screens. All three screen will have a consistent layout.

### 3.1.1.1 Place Order:

In this screen, the system shows a list of cards (UI Elements) of dishes. Each dish will have an image, its price per serving.

### 3.1.1.2 Timer and Edit/Cancel Order:

After confirming the order, the user will be shown a timer screen. In this screen, customers will be shown “Edit Order” and “Cancel Order” buttons and a timer which shows the completion time of the order. There will also be a button to request for a bill.

### 3.1.2 Proprietor:

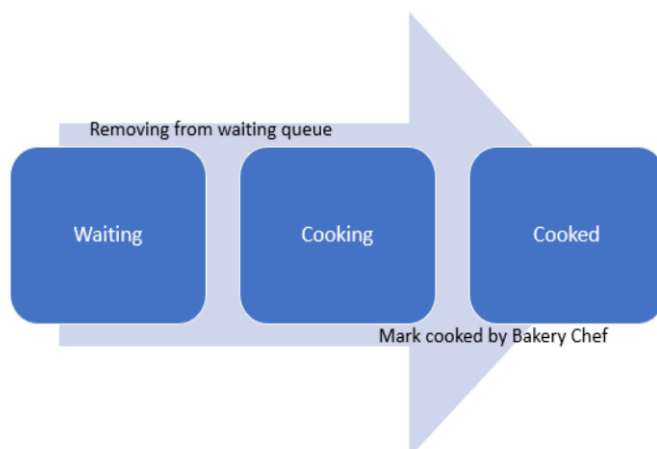
The system will show all the current orders in detail i.e. all the dishes of a particular order. In each order, there is a button which will be used to mark that dish cooked. Moreover, when customer wants to remove a dish from his order, system will show proprietor a notification to approve the removal of the dish.

Proprietor will have a screen where he will get notification whenever an order is completed. System will notify the proprietor about the order number and table number. proprietor also has a screen where all orders are listed, and status button to mark the order as paid. Moreover, he also has an interface screen to see and the status of tables in the bakery as free/available.

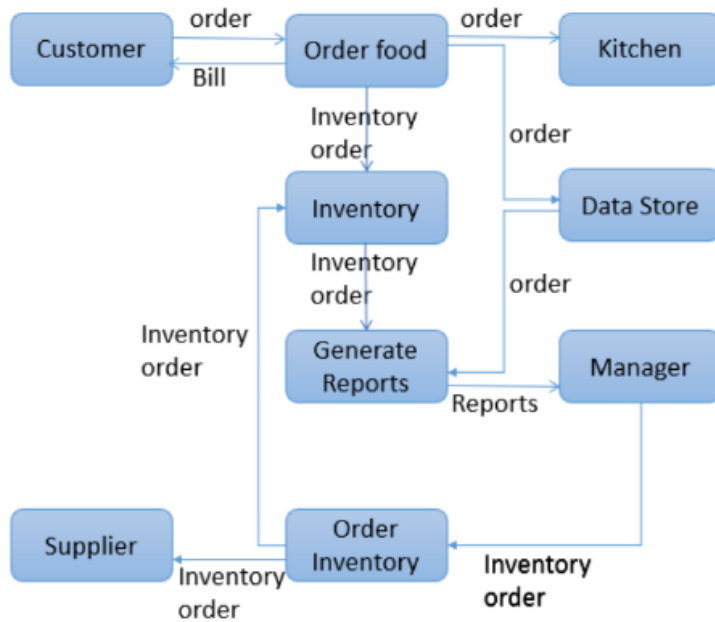
As proprietor is authorized to perform CRUD operations on Staff Members, Menu Items and Inventory Items. He'll be having three different screens for Staff Members, Menu Items, and Inventory.

## 4. Analysis Models:

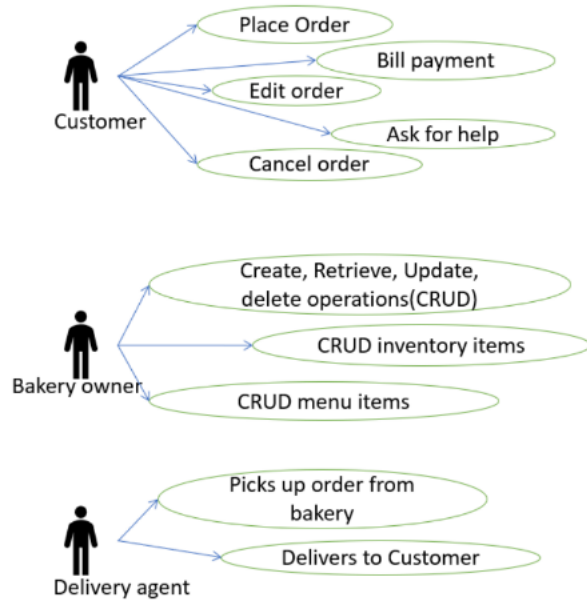
### Dish State Diagram:



## Data Flow Model:



## Use case diagram:



## **5. System Requirements:**

### **5.1 System feature 1:**

#### **ORDERED BAKERY ITEMS FROM THE BAKERY MENU TO BE PICKED UP OR DELIVERED:**

- ◆ User shall place an item order from the bakery menu.
- ◆ User gets the ordered food item delivered to the desired address.
- ◆ Menu manager is responsible for creating and maintaining the 'Bakery menu.'
- ◆ In addition to this, users can order multiple items from the menu in a single order.

### **5.2 System feature 2:**

#### **ORDERED ITEMS FROM OTHER LOCAL BAKERY TO BE DELIVERED:**

- ◆ Users shall place a meal order from the local Bakery menu.
- ◆ Bakery meal deliverer is responsible for delivering the meal to the user's desired Address.

### **5.3 System feature 3:**

#### **CREATE, VIEW, MODIFY, AND DELETE MEAL SERVICE SUBSCRIPTIONS:**

- ◆ User can subscribe a meal plan from the bakery menu
- ◆ Menu manager is responsible for creating and maintaining the various subscription plans.
- ◆ User can place multiple subscriptions from the menu in a single

### **5.4 System feature 4:**

#### **REQUEST MEAL DELIVERY:**

- ◆ User has the option to schedule his delivery at his desired time.
- ◆ Users can change his delivery address before the meal is picked up by the delivery Agent.

### **5.7 System feature 7:**

#### **HIDE UNAVAILABLE PRODUCTS FROM DELIVERY:**

- ◆ Either decide not to show unavailable products on the website or mark them as unavailable.

## **6. Other Nonfunctional Requirements**

### **6.1 Performance Requirements:**

The system must be interactive, and the delays involved must be less. So, in every action-response of the system, there are no immediate delays. Since User Experience (UX) is critical to the success or failure of our system in the market and performance is UX. The system should support more than 1000 user to checkout at the same time. Responses to queries shall take no longer than 7 seconds to load onto the screen after the user submits the query. The system shall display confirmation messages to users within 4 seconds after the user submits information to the system. In case of scrolling through the menu there should be a delay of no more than 2 seconds before the next page of menu items is displayed. The order should be placed in pending orders and be visible to the bakery owner in less than 5 seconds to start the preparation.

Cancel Order/ updates must be made with little delay to avoid delivery delay. Also, when connecting to Django backend the delay to make a successful connection should be less for effective real time communication.

### **6.2 Safety Requirements:**

The software is completely environmentally friendly and does not cause any safety Violations.

### **6.3 Security Requirements:**

User's personal information like phone number and credit card information should be encrypted before storing in databases.

### **6.4 Software Quality Attributes:**

The system is up and running for most of the time and the server is not down for more than a few minutes to avoid inconvenience of the customers. There can be a change in the menu and information stored in the database about employees and inventory. If need arises in the future, software can be modified to change the requirements. Software should be easily repaired if a fault occurs and should be easily installed on devices and would run smoothly according to the requirement. No matter how many orders are placed, the system must give the correct results. Current version can be used in the future versions with more functionality added.

### **6.5 Business Rules:**

- ❖ The Bakery owner's interface contains the view of tables that are free, and can just view and doesn't provide any input to the system.
- ❖ Once the bill is paid, the bakery owner can mark the order as paid
- ❖ The Bakery owner has access to perform add, delete, update operations on the database for menu, inventory, employees and no other person can modify the data in the db.
- ❖ Customers can place orders from the list of available items and can update orders and pay bills.
- ❖ The Bakery owner assigns orders and can update the queues and has an additional functionality of load balance.
- ❖ Delivery agents can only view the orders and cannot remove an order from their queue. Only the owner can interact with the queues containing orders.

## **Appendix A: Glossary**

**CRUD operations** - CRUD is an acronym that comes from the world of computer programming and refers to the four functions that are considered necessary to implement a persistent storage application: *create*, *read*, *update* and *delete*.

**Django** - Django is a Python-based web framework that allows you to quickly create efficient web applications. It is also called batteries included framework because Django provides built-in features for everything including Django Admin Interface, default database – SQLite3, etc.



## Appendix B: Field Layouts

Field	Length	Data Type	Description	Is Mandatory
Account Number	16	Numeric		Y
Card Amount	20	Numeric		Y
Status	25	Alphanumeric	Status of rejection	Y
Customer Name	60	String		Y
Address	100	Alphanumeric		Y
Phone number	10	Numeric		Y
Email address	60	Alphanumeric		N

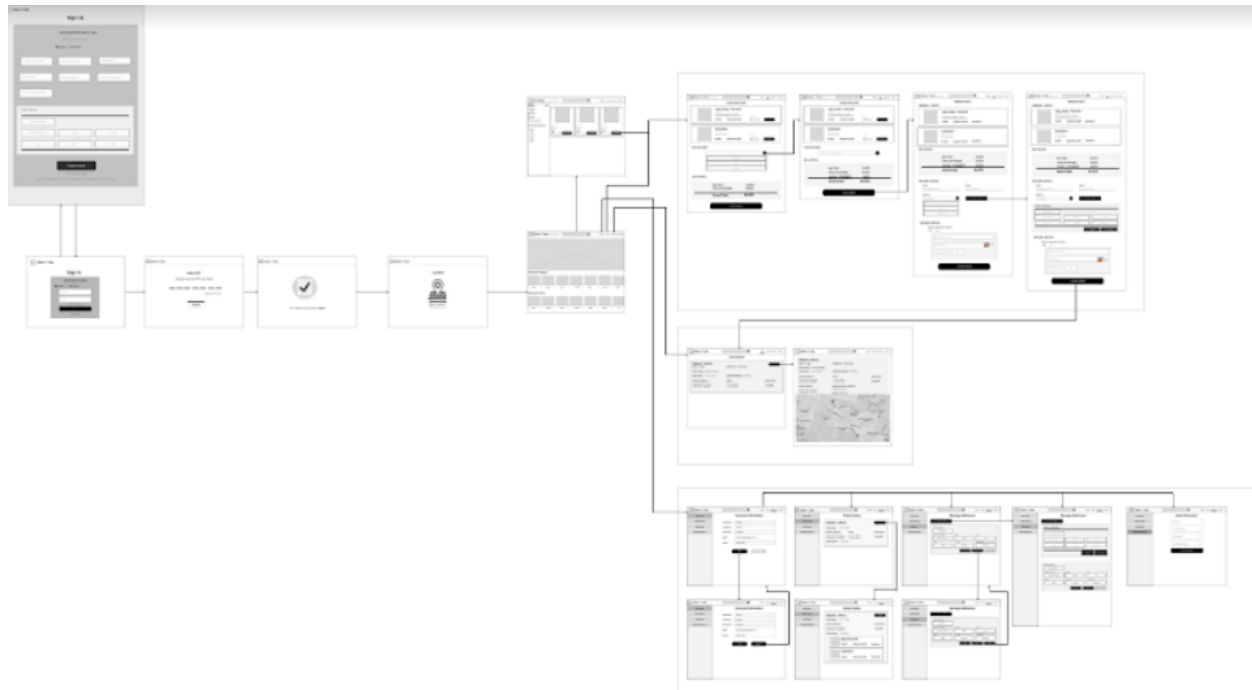
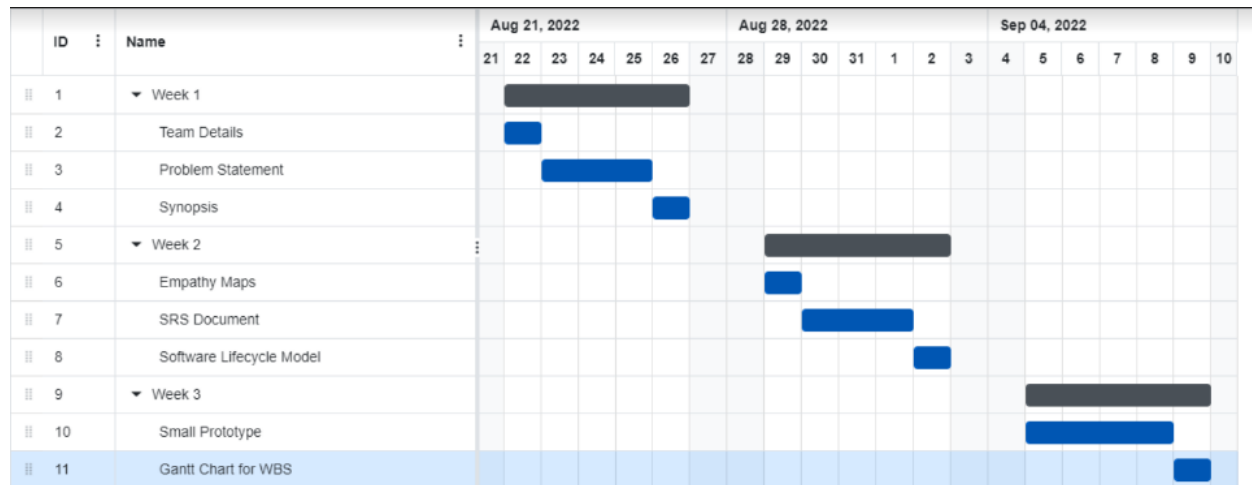
### Registration Report

Bank Account Number  
 ISFC Code  
 Bank Name  
 Account Status  
 Account Type  
 Customer Name  
 Card Number  
 SI Start Date

### Transaction Report

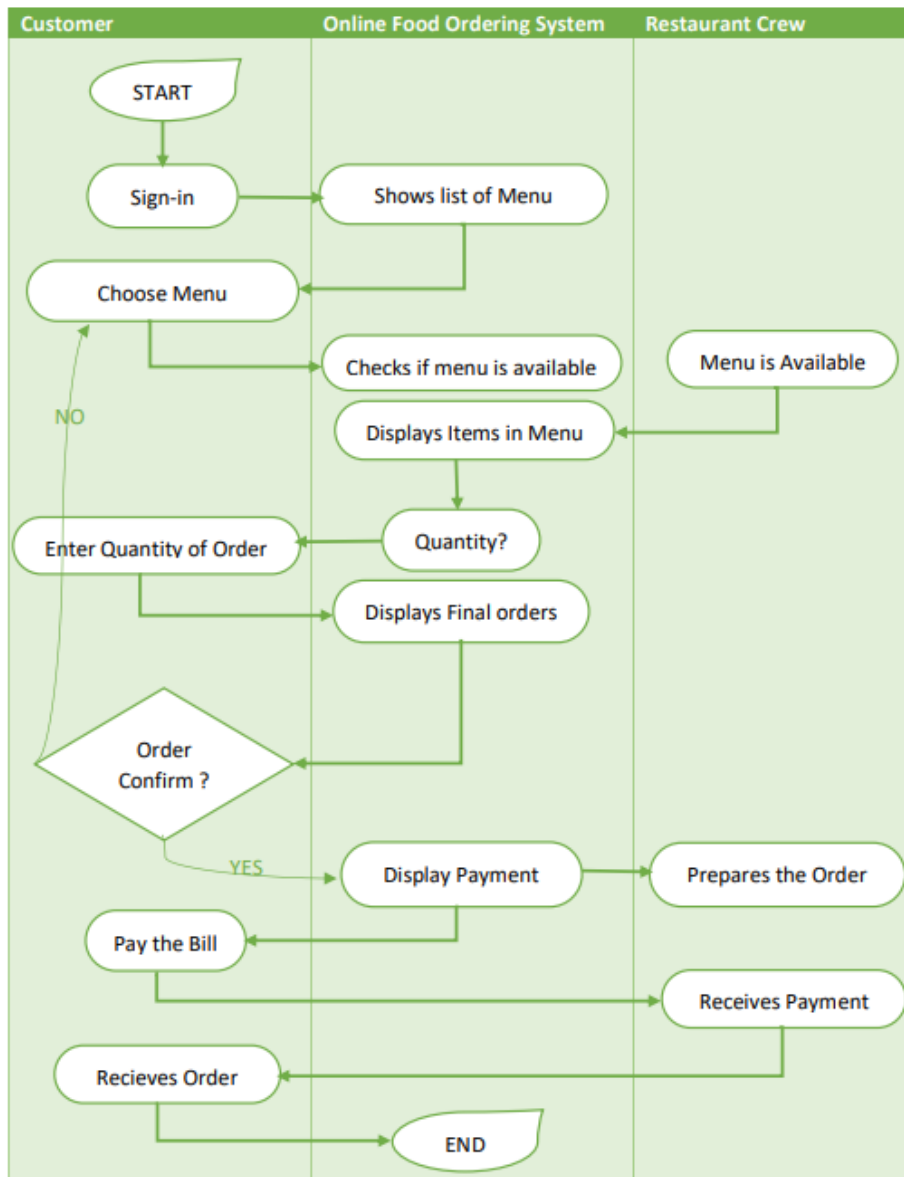
Transaction Reference Number  
 Bank Account Number  
 ISFC Code  
 Bank Name  
 Customer Name  
 Card Number  
 Debit Transaction Amount  
 Transaction Date

## PROJECT PLAN:

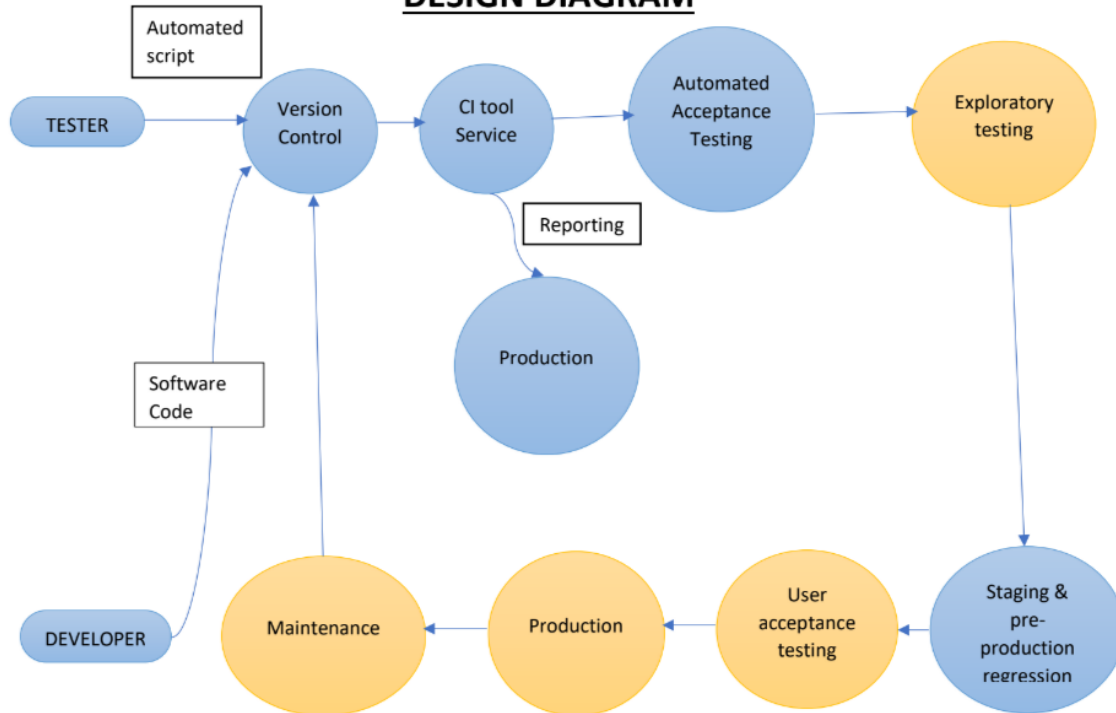


## DESIGN DIAGRAMS:

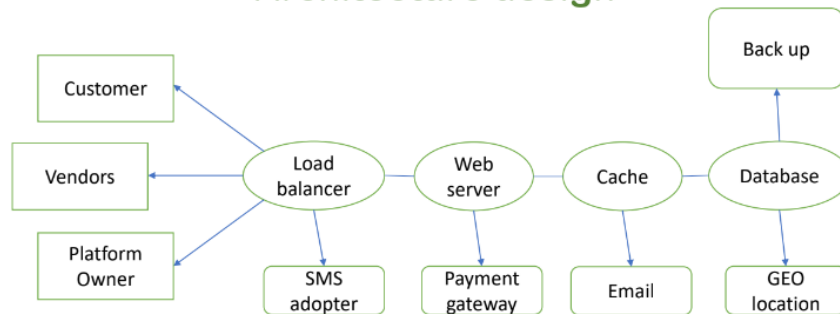
### UML DIAGRAM



## DESIGN DIAGRAM



## Architecture design

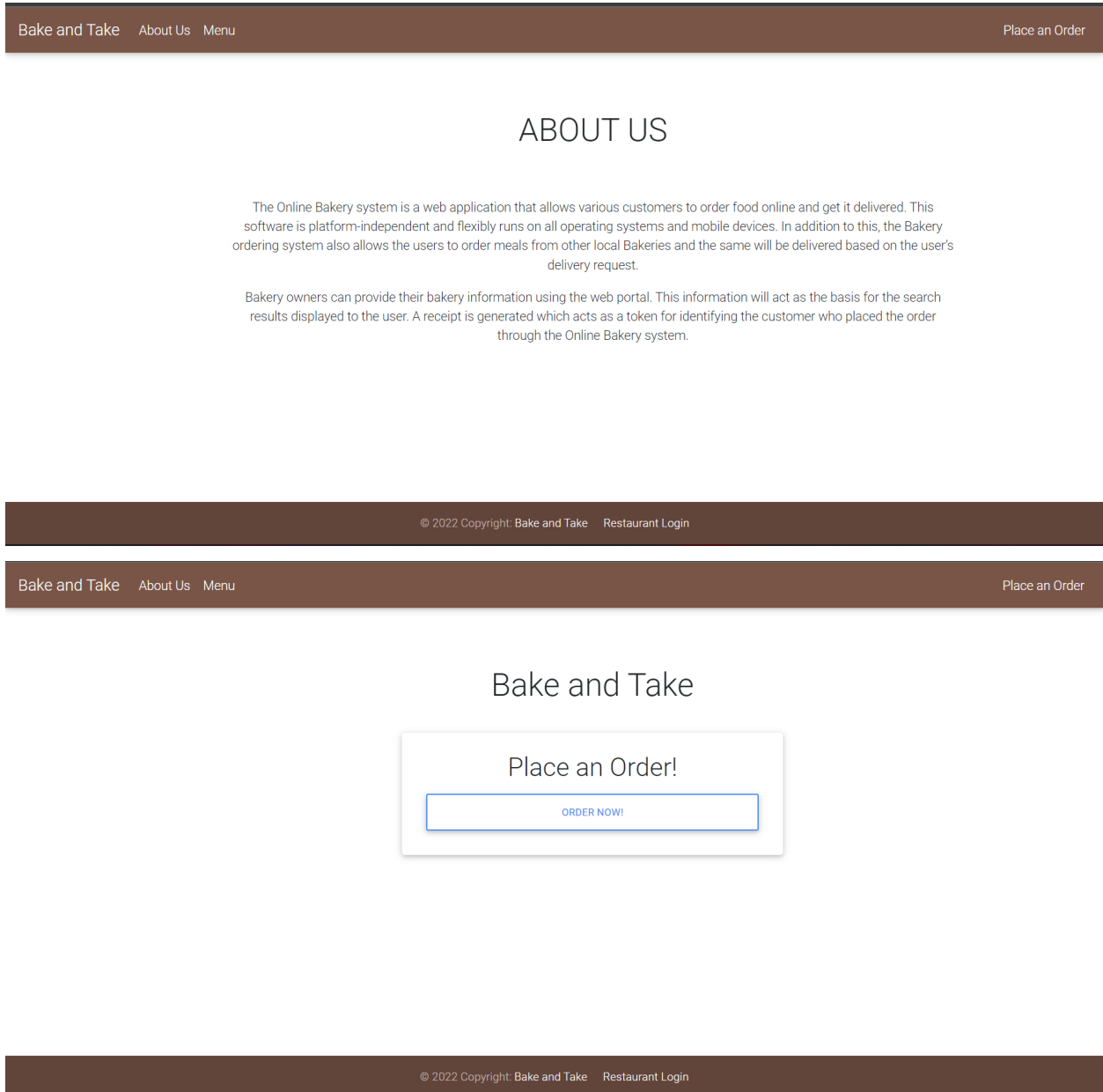


## Test cases:

Test Case ID	Name of Module	Test case description	Pre-conditions	Test Steps	Test data	Expected Results	Actual Results	Test Result
UT-01	Admin Sign-up	Adds user details to the database	Access to any browser	Provide Username and Password	User name: ABC Password: qaz	Sign-up should be successful	Successful signup	PASS
UT-02	User sign-up the admin account	The user tries to access the admin page	Access to the sign-in/sign-up site	Provide Username and Password	User name: PQR Password: 123	Sign-up should fail	"Sign Up Closed We are sorry, but the sign up is currently closed."	FAIL
UT-03	Select deserts from the Menu	Add the deserts to the cart from the menu page	Access to the Menu Page	Select the deserts	Selected deserts	Adds the items to the cart	Items in the cart	PASS
UT-04	Checkout	User Checks out the cart with items to be delivered	User should checkout with at least one	Press the Checkout Button	Items in the cart	Directs to the payment Page	Directs to the payment Page	PASS
UT-05	Total orders	Total number of orders on the admin page	Customers should have ordered items	Admin sign-in and route to the order list.	Ordered items	Displays the number of orders	Displays the number of orders	PASS
UT-06	Payment	Admin selects the payment button confirming the payment	Admin should sign-in and route to the order list	Click the "Payment-done" Button	Ordered list of items	Displays that the payment was successful	Displays that the payment was successful	PASS

## Screenshots of output:

### User side:





☒ Chocolate cupcake **150.00**

You know what's better than chocolate cake? A chocolate cupcake.



☐ Strawberry cupcake **120.00**

Strawberry cupcake with strawberry buttercream made with rich juicy strawberries.



☒ Vanilla cupcake **120.00**

Crunchy on the outside and moist on the inside with colorful sprinkles that will brighten your day.



☐ Mango cupcake **130.00**

Made from fresh juicy, tangy mangoes

Full Name

Paladugula Lakshmi Snigdha

Email Address

snigdha1012@gmail.com

Street Address

PFR

City

Bengaluru

State

Karnataka

Zip Code

560102

SUBMIT ORDER!

## Order Submitted!

You should receive a confirmation email soon.

[Go to the homepage](#)

### Order Summary:

Chocolate cupcake 150.00

Vanilla cupcake 120.00

**Total: 270.00**

Pay Now or Pay With Cash At Delivery

 **PayPal** Checkout

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## What's On Our Menu?

cupcake



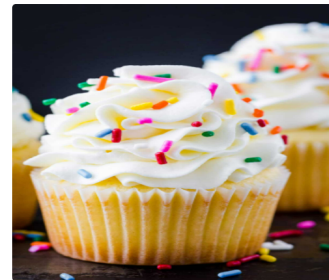
Chocolate cupcake

Price: 150.00



Strawberry cupcake

Price: 120.00



Vanilla cupcake

Price: 120.00

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Deliver

Order ID: 24

## Customer Information:

Name: Snigdha Paladugula  
Email: snigdha1012@gmail.com

## Address Information:

Street: PFR  
City: Bengaluru  
State: Karnataka  
Zip Code: 560102

## Payment and Shipping Information

✗ Order Has Not Been Paid  
✓ Order Has Been Shipped!

Admin Side:

Django administration

WELCOME, **ADMIN** [VIEW SITE](#) / [CHANGE PASSWORD](#) / [LOG OUT](#)

Site administration

ACCOUNTS	
Email addresses	<a href="#">+ Add</a> <a href="#">Change</a>

AUTHENTICATION AND AUTHORIZATION	
Groups	<a href="#">+ Add</a> <a href="#">Change</a>
Users	<a href="#">+ Add</a> <a href="#">Change</a>

CUSTOMER	
Categorys	<a href="#">+ Add</a> <a href="#">Change</a>
Menu Items	<a href="#">+ Add</a> <a href="#">Change</a>
Order models	<a href="#">+ Add</a> <a href="#">Change</a>

SITES	
Sites	<a href="#">+ Add</a> <a href="#">Change</a>

SOCIAL ACCOUNTS	
Social accounts	<a href="#">+ Add</a> <a href="#">Change</a>
Social application tokens	<a href="#">+ Add</a> <a href="#">Change</a>

Recent actions

My actions

- [Order: Nov 17 04: 16 AM](#)  
Order model
- [Order: Nov 17 03: 53 AM](#)  
Order model
- [Order: Nov 15 05: 37 AM](#)  
Order model
- [Order: Nov 14 04: 07 PM](#)  
Order model
- [Order: Nov 13 06: 58 AM](#)  
Order model
- [Order: Nov 13 07: 05 AM](#)  
Order model
- [Order: Nov 13 01: 34 PM](#)  
Order model
- [Order: Nov 14 02: 54 AM](#)  
Order model
- [Order: Nov 14 04: 15 AM](#)  
Order model
- [Order: Nov 14 04: 16 AM](#)  
Order model

Django administration

WELCOME, ADMINVIEW SITE / CHANGE PASSWORD / LOG OUT

HomeCustomerCategories

Start typing to filter...

ACCOUNTS

Email addressesAdd

AUTHENTICATION AND AUTHORIZATION

GroupsAdd

UsersAdd

CUSTOMER

CategoriesAdd

Menu itemsAdd

Order modelsAdd

SITES

SitesAdd

SOCIAL ACCOUNTS

Social accountsAdd

Select category to change

ADD CATEGORY +

Action:Go0 of 4 selected

CATEGORY

Bread

Cookies

Full Cakes

Cupcakes

4 categorys

Start typing to filter...

ACCOUNTS

Email addressesAdd

AUTHENTICATION AND AUTHORIZATION

GroupsAdd

UsersAdd

CUSTOMER

CategoriesAdd

Menu itemsAdd

Order modelsAdd

SITES

SitesAdd

SOCIAL ACCOUNTS

Social accountsAdd

Social application tokensAdd

Social applicationsAdd

Select menu item to change

ADD MENU ITEM +

Action:Go0 of 17 selected

MENU ITEM

Milk bread

Whole wheat bread

Vanilla chocochip Cookies

Chocolate Chocochip Cookies

Strawberry cake

Red velvet

Black Forest

Butterscotch Cake

Pineapple Cake

Choco vanilla

Choco lava cupcake

Death By Chocolate

Orange cupcake

Mango cupckae

Vanilla cupcake

Strawberry cupcake

Deliver

Today's Total Revenue  
Rs.270.00

Today's Total Orders  
1

Order ID	Price	Name	Email	Street	City	State	Zip Code	Is Paid?
34	270.00	Paladugula Lakshmi Snigdha	snigdha1012@gmail.com	PFR	Bengaluru	Karnataka	560102	✖

[Sign In](#)[Sign Up](#)

## Sign In

If you have not created an account yet, then please [sign up](#) first.

Username\*

admin

Password\*

....

☐ Remember Me

[Forgot Password?](#)

SIGN IN

[Sign In](#)[Sign Up](#)

## Sign Up Closed

We are sorry, but the sign up is currently closed.

