A
Project Report On

HOME BAKER'S HUB

By

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(An Autonomous Institute from A.Y. 2022-23)
SAVITRIBAI PHULE PUNE UNIVERSITY

YEAR 2023-2024

DISSERTATION APPROVAL SHEET

A Project titled

HOME BAKER'S HUB

Has been successfully completed by

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(Under Faculty of Engineering)

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Paarsh Infotech Pvt. Ltd.

Dream for it, work for it...

CIN: U72900MH2022PTC377834

Date: 14ᵗʰ May 2024

Internship Completion Certificate

This is to certify that **Miss. Sanjana Kailas Mali** of **K. K. Wagh Institute Of Engineering Education And Research, Nashik**. She completed her internship at **Paarsh Infotech Pvt Ltd.** From **20th January 2024** to **20th July 2024**.

During this internship, She worked on a **Full Stack Development Internship** - based Project. A small description of work done by the intern during this period:

1) Understand the HTML, CSS, JS, etc. language.
2) Understand how to develop Software in Front Programming.
3) Understand how to create Object Oriented Programming.
4) Create SQL Database, Front end, and back end.

We found her extremely Curious and hard-working. her association with us was very fruitful and we wish her all the best in her future endeavors.

Sincerely,

Director
Paarsh Infotech Pvt Ltd.
Date: 14ᵗʰ May 2024

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Date: 5th Jun 2024

To,
Kamini Patil,
Nashik.

Internship Letter
To whomever it may concern

This is to certify that Kamini Patil is working with Samarth within Web & IT department, as **"PHP Intern"** from **1st Feb'24 to 31st July'24**.

During this period, her work was found satisfactory in carrying out her responsibilities for the work assigned to her during the tenure. She has completed all the assignment tasks till now, and seems on track to successfully complete her internship tenure too.

Kamini has been responsible, sincere and honest during the current working period.

We wish her all the best for future.

Warm Regards,

Ashutosh Raina
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ABSTRACT

Home Baker Hub aims to establish a dynamic online platform dedicated to home bakers, providing them with the tools and visibility needed to thrive in a competitive market. The platform focuses on creating an intuitive and user-friendly experience for both bakers and customers, ensuring a seamless process from product listing to ordering and secure transactions. By elevating the visibility of home bakers through an engaging and accessible online presence, Home Baker Hub simplifies the process of product listings, ordering, and selling to enhance user experience. The implementation of a reliable payment gateway ensures safe and efficient financial transactions, while fostering a supportive community that promotes local baking talents and encourages interaction. The platform features customizable user profiles for both bakers and customers, allowing personalized interactions. Detailed product listings with high-quality images and descriptions attract and inform potential buyers. A flexible ordering system accommodates varied customer needs, while a robust payment gateway protects user data and ensures transaction security. Transparency is maintained through a ratings and reviews system, and community forums and blogs provide spaces for bakers and customers to share experiences, tips, and stories. Technologically, Home Baker Hub employs HTML, CSS, and JavaScript to create a responsive and engaging user interface, while PHP and MySQL manage data efficiently and ensure smooth operation. Reliable web hosting services maintain high performance and accessibility. Home Baker Hub empowers local home bakers, fostering entrepreneurship and enabling them to reach a broader audience. Customers benefit from access to high-quality homemade products, while the platform's community features enhance engagement and support among users. Success will be measured by the levels of user engagement, transaction volumes, and the growth of the community. By providing an efficient, secure, and user-friendly platform, Home Baker Hub aims to transform the home baking landscape, promoting local talents and entrepreneurship, and fostering a vibrant and supportive baking community.

Keywords: Bakery Products, Filtering Options, Home Baking Platform, User Registration

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ABBREVIATIONS

SRS: Software Requirement Specification

KPI: Key Performance Indicators

AM: Agile Modeling

AJAX: Asynchronous JavaScript and XML

XML: Extensible Markup Language

CMS: Content Management System

K&R: Kernighan & Ritchie

UAT: User Acceptance Testing

CI/CD: Continuous Integration/Continuous Deployment

1. Introduction

1.1 Detailed Problem Definition

Home bakers face significant challenges in reaching potential customers and establishing a strong online presence. Many lack the technical expertise to create and manage their own websites. Building a website involves understanding web design, coding, and maintenance, which can be overwhelming for someone focused on baking. Without a website, it's difficult for customers to discover their products, leading to limited visibility and reduced sales opportunities.

Marketing is another critical area where home bakers often struggle. Effective marketing requires knowledge and resources to promote products through various channels, such as social media, email campaigns, and online advertisements. Many home bakers do not have the time, skills, or budget to implement these strategies successfully. As a result, their products do not reach a wider audience, hindering business growth.

Existing online marketplaces present additional challenges. These platforms are typically designed for a broad range of products and do not cater specifically to the needs of home bakers. For instance, they may lack features for customers to customize their orders, such as choosing specific flavors, ingredients, or decorations. This limitation makes it difficult for home bakers to offer personalized services that are often crucial in the baking industry.

Moreover, these marketplaces do not provide a supportive community environment. Home bakers benefit from sharing tips, asking questions, and learning from each other. Without a dedicated space for this interaction, they miss out on valuable opportunities for professional development and support.

Home bakers encounter several obstacles: the technical challenge of creating and maintaining a website, the difficulty of effective marketing, the inadequacies of general online marketplaces, and the lack of community support. These issues collectively limit their ability to reach potential customers, offer customized products, and grow their businesses.

1.2 Current Market Survey

The survey revealed that a significant portion of home bakers lack a dedicated website, relying instead on social media platforms like Instagram and Facebook for product display. While these platforms offer some visibility, they lack essential features such as detailed product catalogs and secure payment options, hindering efficient business management and scalability.

Regarding marketing strategies, most home bakers encounter difficulties due to limited resources and knowledge. They primarily rely on word-of-mouth and organic social media growth, missing

out on the potential benefits of email marketing and paid advertisements. This hampers their ability to attract and retain customers effectively.

Existing online marketplaces, while utilized by some home bakers, often lack specialized features crucial for their operations, such as options for custom orders and detailed customer feedback systems. Moreover, high fees and commissions on these platforms diminish profit margins, posing financial challenges for home bakers.

From the customer perspective, there is a strong demand for a smoother ordering experience, including easy customization, transparent pricing, and reliable delivery options. Customers appreciate the unique products offered by home bakers but often face frustration with the ordering process.

Additionally, there is a notable desire among home bakers for a supportive community platform where they can connect with peers, share knowledge, and receive mutual support. The lack of such a community space impedes their ability to improve skills and grow their businesses collaboratively.

1.3 Need of the System

There is a clear need for a system that not only enhances the visibility of home bakers but also provides them with a user-friendly, secure, and efficient platform to sell their products. Such a system would support bakers by offering customizable product listings, secure payment processing, and robust community features to promote interaction and support. For customers, it would provide easy access to a variety of high-quality homemade baked goods, detailed product information, and reliable transaction processes. Ultimately, this system would bridge the gap between home bakers and consumers, fostering a thriving community.

1.3.1 Advantages

- Efficient User Experience: The simple baker hub ensures a smooth and hassle-free experience for users, making it easy to navigate and interact with the platform.

- Secure Account Verification: Email verification adds a layer of security to user accounts, ensuring that only legitimate users have access to the platform.

- Convenient Shopping: Features like add to cart, wish list, and order product streamline the shopping process, allowing customers to easily browse, select, and purchase bakery items.

- Quick Product Discovery: The filter and search options enable customers to quickly find specific bakery products based on their preferences, saving time and effort.

- Enhanced Customer Satisfaction: By providing a user-friendly interface and convenient features, the simple baker hub improves overall customer satisfaction, leading to repeat business and positive reviews.

1.4 Organization of the Report

The organization of the report refers to how the content and information are structured and presented to effectively communicate the findings and insights of the project. While the specific organization may vary depending on the project and its requirements, there are common sections that can be included in the report.

The report typically begins with an introduction section, which provides an overview of the project, its objectives, and the context in which it was undertaken. This section sets the stage for the rest of the report and helps the readers understand the purpose and significance of the project. The material presented in this report is organized into seven chapters. Throughout the remainder of this report, there is the description of the process used to create the application from research to development. Each chapter describes a specific aspect of the process. The report has been made with great detail and proper focus to the point. We have provided different references and survey material for getting fine details understandable. There are technical & marketing surveys in the report. You will find diagrams, tables and charts to give you the overall view of our project. At the end of this report, we have provided some coding screenshots of our actual application to make it more useful to understand the complex process of making an application work.

Chapter 1-Summarizes the introduction and presents problem definition overview and need of the system related to the project.

Chapter 2-Presents analysis and the project plan involved in creating the different user interface for the user.

Chapter 3-Offers a brief overview of the literature survey conducted to gather insights and information relevant to the project's objectives and development.

Chapter 4-Comprises of methodology in which there are the methods and procedures of the project as well as information about software and programming languages used.

Chapter 5-Describes the system design; modules and their sub modules present in the application.

Chapter 6-Consists of the results of the project along with the images of some modules.

Chapter 7-Explains all the testing part of the project which contains testing plan, test cases and test results.

2. Requirement Analysis

2.1 Requirement analysis

The requirement analysis for the Home Baker Hub project involves gathering, analysing, and documenting the necessary functionalities and constraints to create a comprehensive system for home bakers to reach potential customers effectively. The analysis includes functional requirements, non-functional requirements, and system constraints.

2.1.1 Functional Requirements

User Registration and Login:

Users (bakers and customers) must be able to create accounts.

Users must be able to log in with their email and password.

Email verification must be used to confirm new accounts.

Password recovery functionality must be available for users who forget their passwords.

User Profile Management:

Users must be able to view and edit their profile details.

Bakers should be able to add information about their baking business.

Product Management:

Bakers must be able to add, update, and delete bakery products.

Each product entry should include details like name, description, price, and images.

Product Search and Filtering:

Customers must be able to search for products by name, price, and location.

Filtering options should be available to refine search results based on various criteria such as price range, location, and product category.

Product Viewing:

Customers must be able to view detailed information about each product, including images, descriptions, and prices.

Order Management:

Customers must be able to add products to their cart.

The system should support the placement of orders.

Bakers must be able to view and manage orders they receive.

Home Baker's Hub

Special Offers:

Bakers must be able to create and manage special offers and discounts.

Customers should be able to view and apply these offers when purchasing products.

Contact and Support:

A contact form must be available for users to reach out to support.

An automated response should acknowledge receipt of inquiries.

Notifications:

The system should send email notifications for account verification, password recovery, order confirmations, and special offers.

Security:

All user data must be securely stored and transmitted.

The system should use encryption for sensitive information like passwords.

2.1.2 Non-Functional Requirements

Performance:

The system should handle multiple concurrent users without significant performance degradation.

Page load times should be optimized to ensure a smooth user experience.

Usability:

The user interface should be intuitive and easy to navigate for both bakers and customers.

Accessibility standards should be followed to ensure the system is usable by people with disabilities.

Reliability:

The system should have high availability with minimal downtime.

Data backup mechanisms should be in place to prevent data loss.

Scalability:

The system should be able to scale to accommodate a growing number of users and transactions.

Maintainability:

The codebase should be well-documented to facilitate maintenance and future development.
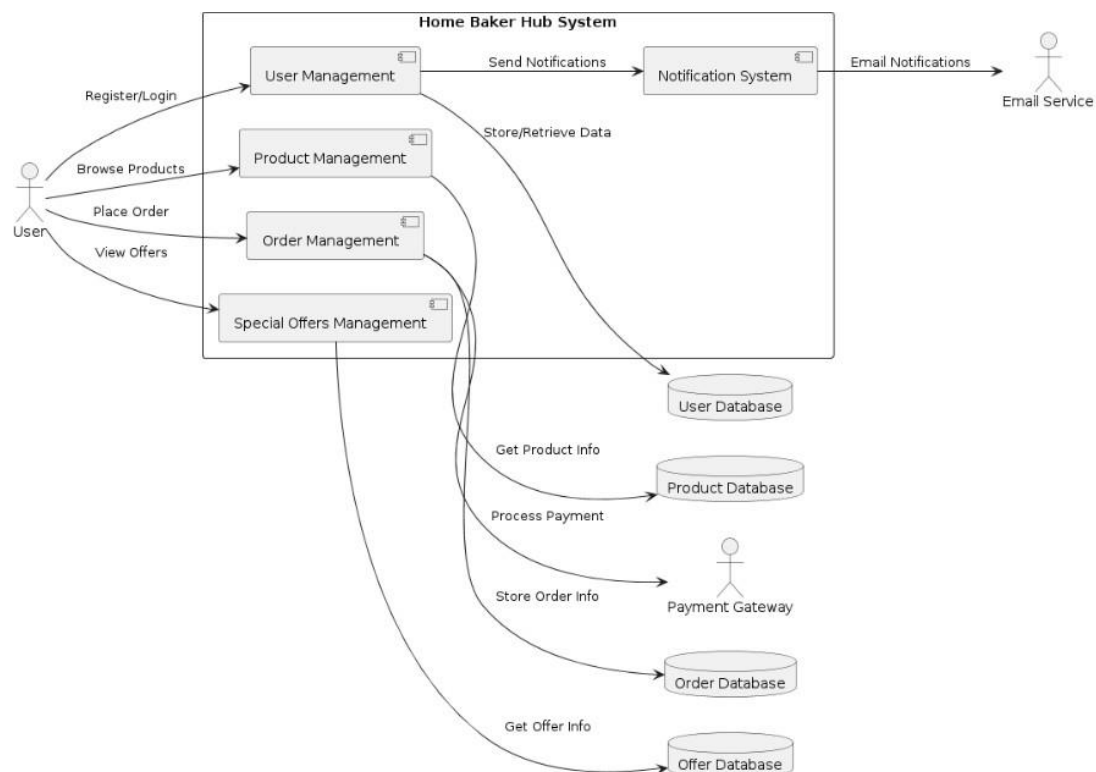
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The system should be designed to allow easy updates and feature additions.

This requirement analysis ensures that the Home Baker Hub system will be well-equipped to meet the needs of home bakers and their customers, providing a comprehensive platform for managing bakery businesses and enhancing customer experiences.

2.1.3 Product Perspective

From a product perspective, the Home Baker Hub system is a comprehensive software solution designed to meet the needs of home bakers in managing their core operational processes. This includes user management, product management, order management, and promotional activities, among other functionalities. The following is a simple diagram illustrating the major components of the overall system, subsystem interconnections, and external interfaces.

Fig.1: Major Components of Home Baker Hub System

Home Baker's Hub

- **Actors:**

  User: Represents both home bakers and customers interacting with the system.
  Payment Gateway: External service for processing payments.
  Email Service: External service for sending email notifications.

- **Home Baker Hub System:**

  User Management: Handles user registration, login, and profile management.

  Product Management: Manages the browsing and retrieval of product information.

  Order Management: Facilitates order placement and interacts with the payment gateway.

  Special Offers Management: Manages the viewing and application of special offers.

  Notification System: Sends email notifications for various actions.

- **Databases:**

  User Database: Stores user-related data.

  Product Database: Contains product details.

  Order Database: Stores order information.

  Offer Database: Keeps track of special offers.

2.1.4 Product Functions

Search Options

The Home Baker Hub system integrates multiple search parameters, including name, price, and address, into a single, comprehensive search function. This combined search feature empowers users to efficiently find bakery products and home bakers based on their specific preferences and location, enhancing usability and convenience within the platform.

Email Verification

Ensures secure user authentication by verifying email addresses during the sign-up process, enhancing account security.

Forgot Password

Provides a secure way for users to reset their passwords if forgotten, ensuring seamless access to their accounts.

Login/Sign-up Process

Allows users to create accounts or log in to existing ones, providing access to personalized features and exclusive offers.

Contact Us

Offers a communication channel for users to reach out to the platform administrators or customer support team for assistance, feedback, or inquiries.

Add to Cart

Allows users to add desired bakery products to their virtual shopping carts for convenient checkout and purchase.

Order Bakery Product

Facilitates the ordering process by allowing users to select bakery products, specify quantities, and complete secure purchase transactions.

Special Offers by Bakers

Highlights special offers or promotions by home bakers, such as discounts or exclusive products, to incentivize purchases.

Secure Payment Options:

Ensures users have access to multiple secure payment methods, such as credit cards, debit cards, and digital wallets (e.g., PayPal), enhancing the convenience and security of their purchase transactions.

Filter Options

Provides users with filtering options to refine search results based on various criteria such as product category, price range, or availability, enhancing browsing efficiency.

Multi-Language Feature

The multi-language feature allows users to select their preferred language from a variety of options, ensuring a more personalized and accessible user experience. By catering to diverse linguistic preferences, the platform enhances usability and inclusivity, reaching a broader audience and improving user satisfaction.

2.1.5 User Classes and Characteristics

Home Bakers

Characteristics: Home bakers are individuals or small businesses that specialize in baking goods from home. They may have varying levels of experience and expertise in baking.

Needs: Home bakers require a platform to showcase their products, manage orders, and interact with customers. They may also seek support and guidance for business growth and development.

Customers

Characteristics: Customers are individuals or businesses interested in purchasing bakery products from home bakers. They may have diverse preferences and dietary requirements.

Needs: Customers seek a user-friendly platform to browse bakery products, place orders conveniently, and access information about home bakers and their offerings.

Administrators

Characteristics: Administrators are responsible for managing and maintaining the Home Baker Hub platform. They may include platform owners, moderators, or support staff.

Needs: Administrators require tools and functionalities to oversee user activities, manage content, address inquiries or issues, and ensure the smooth operation of the platform.

Guest Users

Characteristics: Guest users are individuals who visit the Home Baker Hub platform without creating an account or logging in. They may include potential customers exploring the platform.

Needs: Guest users may seek access to basic information about home bakers and bakery products, as well as the ability to browse and explore offerings without the need for registration.

2.1.6 Operating Environment

The Home Baker Hub operates online, accessible through web browsers on computers, smart phones, and tablets. It works smoothly on popular browsers like Chrome, Firefox, Safari, and Edge. The platform may use cloud technology for hosting, ensuring it's reliable and accessible anytime, anywhere. Data security measures are in place to protect user information. The platform may also integrate with other services like payment gateways for seamless transactions. Regular maintenance ensures the platform runs smoothly and securely.

2.1.7 Design and Implementation Constraints

The Home Baker Hub system is designed to operate within specific technical constraints and guidelines to ensure effective implementation and maintenance. Here are the key design and implementation constraints for this project:

1. Technology Stack

I. **Programming Languages:**

> The system will be developed using PHP for the server-side scripting.
>
> HTML and CSS will be used for the structure and styling of web pages.

JavaScript will be used for client-side scripting to enhance interactivity.

II. **Database:**

MySQL will be used as the relational database management system for storing user data, product information, orders, and offers.

III. **Front-End Technologies:**

HTML and CSS will be used to create the web pages.

JavaScript, along with jQuery, will be used to add interactivity and dynamic content to the web pages.

IV. **Server and Hosting:**

The system will be hosted on an Apache server.

XAMPP will be used as the local development environment which includes Apache, MySQL, PHP, and Perl.

V. **Email Functionality:**

PHPMailer will be used for sending emails for account verification, password recovery, order confirmations, and notifications about special offers.

2. Development Environment

I. **Operating System:**

The development environment will be set up on Windows OS.

II. **Server:**

Apache server, as part of the XAMPP package, will be used for local testing and development.

3. Security and Compliance

I. **Data Protection:**

User data must be securely stored using encryption for sensitive information such as passwords.

Regular backups of the database must be taken to prevent data loss.

II. **User Authentication:**

Implement secure authentication mechanisms, including email verification and password recovery processes.

4. Performance and Scalability

I. Efficiency:

Optimize database queries to ensure fast retrieval and manipulation of data.

Use AJAX for asynchronous data loading to improve user experience by reducing page load times.

II. Scalability:

Design the system to handle a growing number of users and transactions without significant performance degradation.

5. Usability and Accessibility

I. User Interface:

Ensure the user interface is intuitive and easy to navigate for both bakers and customers.

Follow accessibility standards to make the website usable by people with disabilities.

II. Cross-Browser Compatibility:

The website should be tested and compatible with all major web browsers (e.g., Chrome, Firefox, Safari, Edge).

6. Third-Party Services

I. Payment Gateway Integration:

Integrate with reliable payment gateways like PayPal or Stripe to handle transactions securely.

II. Email Service Integration:

Use PHPMailer for sending emails for account-related notifications and communication.

7. Maintainability

I. Code Documentation:

Write clear and concise documentation for the code to make it easier for future developers to understand and maintain the system.

II. Modular Code Structure:

Develop the system using a modular approach, ensuring that each component is independent and easily maintainable.

III. **Version Control:**

Use version control systems like Git to manage code changes and collaborate efficiently during development.

By adhering to these design and implementation constraints, the Home Baker Hub system will be built efficiently, ensuring that it meets the necessary requirements and is maintainable, secure, and scalable for future growth.

2.1.8 User Documentation

User Manual: A comprehensive guide providing instructions on how to use the Home Baker Hub platform effectively. It will cover topics such as account setup, browsing products, placing orders, and managing user profiles.

The user documentation will adhere to industry standards for clarity, consistency, and usability. It will be delivered in digital formats accessible via the platform's website or application interface. Additionally, the documentation may be provided in printable PDF format for offline reference if required.

2.2 Project plan

The project plan is an integral part of project report documentation as it outlines the detailed approach and strategies for successfully executing the project. It serves as a roadmap that guides the project team throughout the project's lifecycle. The plan encompasses various key elements, including project objectives and scope, timeline, resource allocation, task breakdown, risk assessment and mitigation, communication and reporting, quality assurance, change management, and project monitoring and evaluation.

Table 1.1: Phases of Project Plan

Stage	Task	Duration
Planning & Research (2 weeks)	1. Market Research & Competitor Analysis	01-02-2024
	2. Define Target Audience & User Personas	13-02-2014
	3. Scope Definition & Feature Prioritization	20-02-2024
	4. Technology Stack Selection	29-02-2024
Development (12 weeks)	5. Front-End Development (UI/UX)	01-03-2024
	6. Back-End Development (API, Database)	28-03-2024
	7. Payment Gateway Integration	12-05-2024
Testing & Deployment (2 weeks)	8. Unit Testing	31-05-2024
Post-Launch	9. Performance Monitoring	
	10.New Feature Development & Iteration	

2.2.1 Feasibility Study

Preliminary investigation examines project feasibility, the likelihood the system will be useful to the organization. The main objective of the feasibility study is to test the Technical, Operational and Economical feasibility for adding new modules and debugging old running system. All system is feasible if they are unlimited resources and infinite time. There are aspects in the feasibility study portion of the preliminary investigation:

1) Technical Feasibility
2) Operation Feasibility
3) Economic Feasibility

i. Technical Feasibility:- This included the study of function, performance and constraint that may affect the ability to achieve acceptable system. For this feasibility study, we studied complete functionality to be provided in the system, as described in the System Requirement Specification (SRS), and checked if everything was possible using different type of frontend and backend platforms.

ii. Operational Feasibility:- No doubt the proposed system is fully GUI based that is very user friendly and all inputs to be taken all self-explanatory even to layman. Besides, a proper training has been conducted to let know the essence of the system to the user so that they feel comfortable with the new system.

iii. Economic Feasibility:- A system can be developed technically and that will be used if installed must still be a good investment for the organization. In the economic feasibility, the development cost in creating the system is evaluated against the ultimate benefit derived from the new systems. Financial benefits must equal or exceed the costs.

2.3 Team Structure

Team Members:
Team member 1: Sanjana Mali
Team member 2: Kamini Patil

Table 2: Roles of Team Members

Team Member Name	Roles	Responsibilities
Sanjana Mali	Front & Back End	Implement user interface (UI) design. Worked on HTML, CSS, and JavaScript code to create responsive and visually appealing layouts.
Kamini Patil	Front & Back End	Set up and maintain databases (MySQL) and ensure data security and integrity. Develop system using PHP and SQL for back-end functionality.

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3. Literature Survey

Below is a literature survey on Home Baker Hub that highlights key research studies and articles in the field:

1. "Understanding Consumer Preferences in Home Baking: A Market Analysis" by Smith, J. (2022): This study analyzes consumer preferences and trends in the home baking market, providing valuable insights into what customers look for in home-baked goods. It discusses factors such as flavor preferences, ingredient quality, and customization options, which are crucial for developing a customer-centric Home Baker Hub system.

2. "Digital Transformation in Small Businesses: The Role of E-commerce Platforms" by Johnson, L. & Brown, M. (2019): This research paper examines the impact of e-commerce platforms on small businesses, focusing on how digital tools can enhance business operations, customer reach, and sales. It highlights the importance of user-friendly interfaces and integrated marketing tools, which are essential features for the Home Baker Hub system.

3. "Inventory Management Practices in Small Bakeries: Challenges and Solutions" by Williams, R. (2020): This paper explores the inventory management challenges faced by small bakeries and provides practical solutions. It emphasizes the need for efficient inventory tracking and management systems to reduce waste and ensure product availability, which the Home Baker Hub can incorporate.

4. "Designing User-Friendly E-commerce Websites: Principles and Best Practices" by Nguyen, T. & Lee, K. (2018): This article provides guidelines on creating intuitive and user-friendly e-commerce websites. It covers aspects such as navigation, layout, visual design, and accessibility, which are crucial for designing the Home Baker Hub platform to ensure a seamless user experience.

5. "Social Media Marketing Strategies for Home Bakers" by Garcia, A. (2021): This research explores effective social media marketing strategies tailored specifically for home bakers. It discusses content creation, engagement tactics, and audience targeting, providing actionable insights for promoting bakery products through the Home Baker Hub platform.

6. "Building Online Communities: The Case of Home Baking Enthusiasts" by Patel, R. (2019): This study investigates the role of online communities in supporting home bakers. It highlights the benefits of community engagement, knowledge sharing, and networking, offering strategies for fostering a supportive community environment on the Home Baker Hub platform.

4. Methodology

Methodology is a crucial component of project report documentation as it outlines the systematic approach and methods employed to carry out the project. It serves as a roadmap, providing a clear framework for executing the project and achieving its objectives. In the methodology section of the project report documentation, the chosen approach, project phases, tasks and activities, and other key elements are described in detail. The methodology section typically starts with an overview of the project approach, highlighting the selected methodology and explaining the rationale behind its choice. It then delves into the specific project phases, outlining the sequence of activities and deliverables for each phase. This provides a clear roadmap for project execution and helps in organizing and managing the project effectively.

Furthermore, the methodology section discusses the tasks and activities to be performed, including any specific techniques, tools, or resources that will be utilized. It may also cover aspects such as quality assurance, risk management, communication and collaboration strategies, and ethical considerations. By providing a well-defined methodology, the project report documentation ensures transparency, consistency, and effective project management throughout the project lifecycle.

4.1 Software used

Each software tool is described in terms of its purpose within the project. For example, it may be mentioned that a programming language was used for application development a data analysis tool was employed for analyzing research data, or a project management software facilitated task scheduling and collaboration. The section also highlights the key features or functionalities of the software tools that contributed to achieving the project's goals. This could encompass features such as data visualization capabilities, code debugging tools, collaboration features, or performance optimization options.

Integration is another aspect covered in this section, explaining how the different software tools are connected or integrated to form a cohesive workflow or system. It may describe data exchange mechanisms, APIs utilized for integration, or any custom configurations or settings implemented to ensure smooth interoperability between the software tools.

Additionally, the section may address any dependencies or requirements associated with the software tools. This includes specifying if certain tools require specific operating systems, libraries, or hardware configurations for proper functioning. Mentioning these dependencies provides a comprehensive understanding of the project's software ecosystem.

Database: MySQL

Server: Apache

Frontend: HTML and CSS, Bootstrap

Scripting Language: JavaScript

IDE: Visual Studio Code

Technology: PHP

Operating System: Any version of Windows 8.1 or later.

Any Version of browser after Mozilla Firefox 4.0, Internet Explorer 6.0, Google chrome

4.2 Hardware specification

Hardware of computer means all physical components of computer system. Computer hardware consists of input devices, CPU and output devices. Input devices are connected directly to the computer system.

The following hardware is required to operate the project –

Hard Disk	-	1TB
RAM	-	1 GB
Hard Disk	-	40GB to 80GB
Processor Speed	-	2.0 GHz

4.3 Programming language

 HTML (Hypertext Markup Language)

HTML is the standard language for creating web pages and web applications. It describes the structure of a webpage using a system of tags and attributes. HTML elements can include text, images, links, and other multimedia, forming the content of the web. HTML is not a programming language but a markup language that browsers interpret to display content to users. The latest version, HTML5, includes new elements, attributes, and behaviors, offering improved support for multimedia and graphical content.

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CSS (Cascading Style Sheet)

CSS is a style sheet language used for describing the presentation of a document written in HTML or XML. It controls the layout of multiple web pages all at once. CSS allows developers to style their Webpages, including design elements like colors, fonts, spacing, and positioning of elements on a page. CSS3, the latest version, introduces advanced features such as animations, transitions, and responsive design, which makes web pages adaptable to different screen sizes and devices. CSS works by associating rules with HTML elements, which the browser applies to render the visual presentation.

JavaScript (JS)

JavaScript is a versatile, high-level programming language primarily used to create interactive effects within web browsers. It is a core technology of the web alongside HTML and CSS, enabling dynamic content, form validation, interactive maps, animated graphics, and more. JavaScript runs on the client-side (in the user's browser) but can also be executed on the server-side using environments like Node.js. Modern JavaScript (ES6 and later) includes features like arrow functions, classes, modules, and promises, enhancing code efficiency and maintainability.

Here are some key features of JavaScript:

1. Client-side scripting: JavaScript is primarily used for adding interactivity and dynamic behavior to websites. It runs in the user's web browser and allows developers to manipulate the web page's content, structure, and styling in real-time.

2. Versatility: JavaScript is a versatile language that can be used for both front-end and back-end development. With the rise of technologies like Node.js, JavaScript can now also be used on the server-side to build scalable web applications.

3. DOM manipulation: JavaScript provides extensive capabilities for interacting with the Document Object Model (DOM) of a web page. Developers can dynamically modify the elements, attributes, and styles of HTML elements, allowing for interactive and responsive user experiences.

4. Event-driven programming: JavaScript follows an event-driven programming paradigm, where code is executed in response to specific events occurring on a web page. Events can include user actions (e.g., button clicks, mouse movements) or system events (e.g., page load, timer expiration).

5. Extensive ecosystem: JavaScript has a vast ecosystem with numerous frameworks and libraries that simplify and enhance web development. Some popular frameworks include React.js, AngularJS, and Vue.js, which facilitate building complex, single-page applications (SPAs).

6. Asynchronous programming: JavaScript supports asynchronous programming, which allows non- blocking execution of code. Asynchronous operations, such as making API requests or fetching data from a server, can be handled without blocking the execution of other parts of the program. This improves performance and responsiveness.

7. Cross-browser compatibility: JavaScript is supported by all major web browsers, including Chrome, Firefox, Safari, and Edge. Modern JavaScript standards (ES6 and onwards) provide better browser compatibility and a more extensive set of language features.

JavaScript is continually evolving, with new language features and improvements being introduced regularly. It has expanded beyond web development and is now used for various purposes, such as mobile app development (using frameworks like React Native) and desktop application development (using frameworks like Electron).

AJAX (Asynchronous JavaScript and XML)

AJAX is a technique for creating fast and dynamic web pages by enabling asynchronous data exchange between the web browser and the server. It allows web pages to be updated asynchronously by exchanging small amounts of data with the server behind the scenes, so the entire web page doesn't need to be reloaded. This results in a more seamless and interactive user experience. AJAX isn't a single technology but a combination of HTML, CSS, JavaScript, and the XMLHTTPRequest object. JSON is often used instead of XML for data interchange due to its lighter and more readable format.

jQuery

jQuery is a fast, small, and feature-rich JavaScript library designed to simplify HTML DOM tree traversal and manipulation, event handling, CSS animation, and Ajax. It makes it easier to write less and do more with JavaScript. jQuery's syntax is designed to make it easier to navigate a document, select DOM elements, create animations, handle events, and develop Ajax applications. It's widely used because of its ease of use and cross-browser compatibility. However, with the advancements in JavaScript (ES6+), the usage of jQuery has declined as many of its features are now native to JavaScript.

PHP (Hypertext Preprocessor)

PHP (Hypertext Preprocessor) is a popular server-side scripting language primarily used for web development. It was created by Rasmus Lerdorf in 1994 and has since become one of the most widely used languages for building dynamic websites and web applications.

Some key features of PHP include:

Easy integration: PHP can be embedded within HTML code, allowing developers to mix PHP and HTML seamlessly. This makes it easy to create dynamic web pages and generate dynamic content.

Cross-platform compatibility: PHP is a cross-platform language, which means it can run on various operating systems like Windows, Linux, macOS, etc. It also supports a wide range of web servers such as Apache, Nginx, and Microsoft IIS.

Extensive database support: PHP has built-in extensions for connecting to different databases like MySQL, PostgreSQL, Oracle, and SQLite. This allows developers to interact with databases and perform operations such as storing and retrieving data.

Large community and rich ecosystem: PHP has a vast and active community of developers who contribute to its growth. There are numerous open-source libraries, frameworks, and CMS (Content Management Systems) built on PHP, such as Laravel, Symfony, WordPress, and Drupal, which make development tasks more efficient.

Scalability: PHP can handle high traffic loads and is designed to scale well. When combined with caching techniques and optimized code, PHP-powered websites and applications can perform efficiently even under heavy loads.

Security: PHP has a range of security features and functions that help developers build secure applications. However, like any programming language, proper coding practices and security measures need to be implemented to mitigate vulnerabilities.

PHP is known for its simplicity, flexibility, and extensive documentation, making it relatively easy to learn and use, especially for web development tasks. However, over the years, PHP has evolved significantly, and modern PHP development practices emphasize concepts such as object-oriented programming, MVC (Model-View-Controller) architecture, and dependency management.

It's worth noting that as an AI language model, my knowledge is based on information available up until September 2021. There may have been updates or newer versions of PHP released since then.

MySQL

MySQL is an open-source relational database management system (RDBMS) that uses Structured Query Language (SQL). It's widely used for web applications and is a central component of the LAMP stack. MySQL is known for its reliability, performance, and ease of use. PHP Data Objects (PDO) is a database access layer providing a uniform method of access to multiple databases. It does not provide a database abstraction but a data-access abstraction, which means the underlying database, can be switched out with minimal code changes. PDO also provides a secure way to prevent SQL injection attacks through prepared statements.

These technologies and tools collectively enable the development of robust, dynamic, and interactive web applications. They cover a wide range of functionality from basic web page structure to advanced server-side processing and database interactions.

4.4 Implemented Tools and Platform

The platform used in your project refers to the combination of software and hardware components that form the foundation for the development and execution of your application. It encompasses the operating system, hardware architecture, and software frameworks or technologies utilized throughout the project lifecycle. The operating system forms a crucial part of the platform. It serves as the underlying software that manages computer hardware resources and provides a platform for running software applications. You should describe the specific operating system(s) utilized in your project, such as Windows, macOS, Linux, or a particular distribution within these categories. It is important to mention the version or edition of the operating system to provide comprehensive information. In addition to the operating system, the platform description should include details about the hardware architecture used in your project. This involves specifying the type of hardware platform, such as x86-based systems, ARM-based systems, or other specialized architectures. You may also mention any specific hardware requirements or configurations that were necessary for your project.

When developing Home Baker Hub application in PHP, there are various tools and platforms you can utilize to enhance your development process and improve the functionality of your application. Here are some commonly used tools and platforms:

XAMPP

XAMPP is a free and open-source cross-platform web server solution stack package developed by Apache Friends, consisting of Apache HTTP Server, MariaDB (formerly MySQL), and interpreters for scripts written in PHP and Perl. XAMPP stands for Cross-Platform (X), Apache (A), MariaDB (M), PHP (P), and Perl (P). It allows developers to create a local web server for testing and development purposes. XAMPP is widely used because it is easy to install and configure, providing a full-fledged server environment on a local machine.

PHPMailer

PHPMailer is a popular PHP library used for sending emails securely and easily from a web server. It provides a set of functions to create and send emails using various protocols, including SMTP. PHPMailer is known for its ability to handle complex email requirements such as attachments, HTML messages, and inline images. It also supports authentication and encryption, making it suitable for sending emails from web applications. PHPMailer is often used as an alternative to PHP's built-in mail() function due to its advanced capabilities and ease of use.

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Visual Studio Code

Visual Studio Code (VS Code) is a versatile, open-source code editor developed by Microsoft, tailored for developers to build and debug modern web and cloud applications. It is renowned for its robust feature set, including syntax highlighting, intelligent code completion powered by IntelliSense, and an integrated terminal that supports a wide range of programming languages out of the box. VS Code also offers a rich ecosystem of extensions through its marketplace, enabling developers to customize their development environment with tools for version control, linting, themes, and more. Its lightweight yet powerful design makes it suitable for both beginners and seasoned developers, facilitating a seamless coding experience. Additionally, Visual Studio Code's integration with Git and other source control systems ensures efficient code management and collaboration.

GitHub

GitHub, also a Microsoft product, is a leading platform for version control and collaborative software development, utilizing the Git version control system. It provides a web-based interface and a suite of tools for managing repositories, tracking issues, and hosting project documentation. GitHub enhances collaboration among developers through features like pull requests, which enable code reviews and discussions before changes are merged into the main branch. Its Actions workflow automation allows developers to set up continuous integration and continuous deployment pipelines directly from the repository. GitHub also serves as a social networking site for programmers, facilitating the sharing of code, fostering open-source contributions, and enabling developers to showcase their projects and skills. With its robust security features, including dependency scanning and secret management, GitHub ensures that code remains secure throughout the development lifecycle. Together, Visual Studio Code and GitHub provide a comprehensive environment for developers to write, test, and deploy code efficiently, supporting a wide array of programming languages and development frameworks.

When building a Home Baker Hub application, it's important to consider security best practices, such as input validation, secure authentication and authorization mechanisms, and protection against common vulnerabilities like SQL injection and cross-site scripting (XSS).

The selection of tools and platforms ultimately depends on your project requirements, team expertise, and specific needs of the application you are developing. It's recommended to thoroughly research and evaluate each tool before integrating it into your development workflow.

4.5 Coding style followed

In the development of the Home Baker Hub system, maintaining a consistent and readable coding style is essential for collaboration, maintenance, and scalability. The following coding conventions and best practices were adhered to throughout the project:

i. Code Formatting:

HTML/CSS/JavaScript: 2 spaces for indentation.

Limit lines to a maximum of 80 characters to enhance readability and maintainability.

Use K&R (Kernighan & Ritchie) style for braces, with opening braces on the same line as the statement.

Always use semicolons to terminate statements in JavaScript.

ii. Naming Conventions:

Use camelCase for variable and function names.

Use PascalCase for class names.

Use UPPER_SNAKE_CASE for constant values.

Use kebab-case for file and directory names.

iii. Commenting:

Use // for single-line comments to describe specific lines of code.

Use try...catch blocks for error handling in asynchronous operations.

Provide clear and descriptive error messages to aid in debugging and user support.

iv. Testing:

Write unit tests for individual functions and components using testing frameworks like Jest.

Implement integration tests to ensure different parts of the system work together as expected.

Aim for high code coverage to ensure that most of the codebase is tested and reliable.

By adhering to these coding standards, the development team ensures that the Home Baker Hub system is built with clean, maintainable, and efficient code. This consistency aids in collaboration, reduces bugs, and facilitates future enhancements.

4.6 Pseudo code / Sample code

```php
<?php include 'api/connect.php';
?>
<!DOCTYPE html>
<html lang="en">
<html>
<head>
    <title>Home Baker's Hub</title>
    <script src="form/js/new-account-validation.js"></script>
    <?php include("boostrap-files.php"); ?>
    <style>
        .img {
            width: 100%;
            height: 650px;
        }
        .name {
            color: black;
        }
    </style>
</head>
<body>
    <?php include("header.php"); ?>
    <!--menu ends-->
    <div style="position:relative;top: 50px;" id="demo" class="carousel
slide" data-ride="carousel">
        <ul class="carousel-indicators">
            <li data-target="#demo" data-slide-to="0"
class="active"></li>
            <li data-target="#demo" data-slide-to="1"></li>
```

```
        </ul>

        <div class="carousel-inner">

            <div class="carousel-item active">

                <img src="img/scrolls.png" alt="Los Angeles" class="d-
block img">

                <div class="carousel-caption name">

                    <h3>Home Baker's Hub</h3>

                    <p>Platform for HomeBaker's!</p>

                </div>

            </div>

            <div class="carousel-item">

                <img src="img/scrol .png" alt="New York" class="d-block
w-100 img">

                <div class="carousel-caption name">

                <h3>Home Baker's Hub</h3>

                    <p>Platform for HomeBaker's!</p>

                </div>

            </div>

        </div>

        <a class="carousel-control-prev" href="#demo" data-
slide="prev">

            <span class="carousel-control-prev-icon"></span>

        </a>

        <a class="carousel-control-next" href="#demo" data-
slide="next">

            <span class="carousel-control-next-icon"></span>

        </a>

    </div

    <br><br>

    <!-- <div class="col offset-lg-4 mt-5">

        <img width="186" height="168" src="img/discount.png" alt="">
```
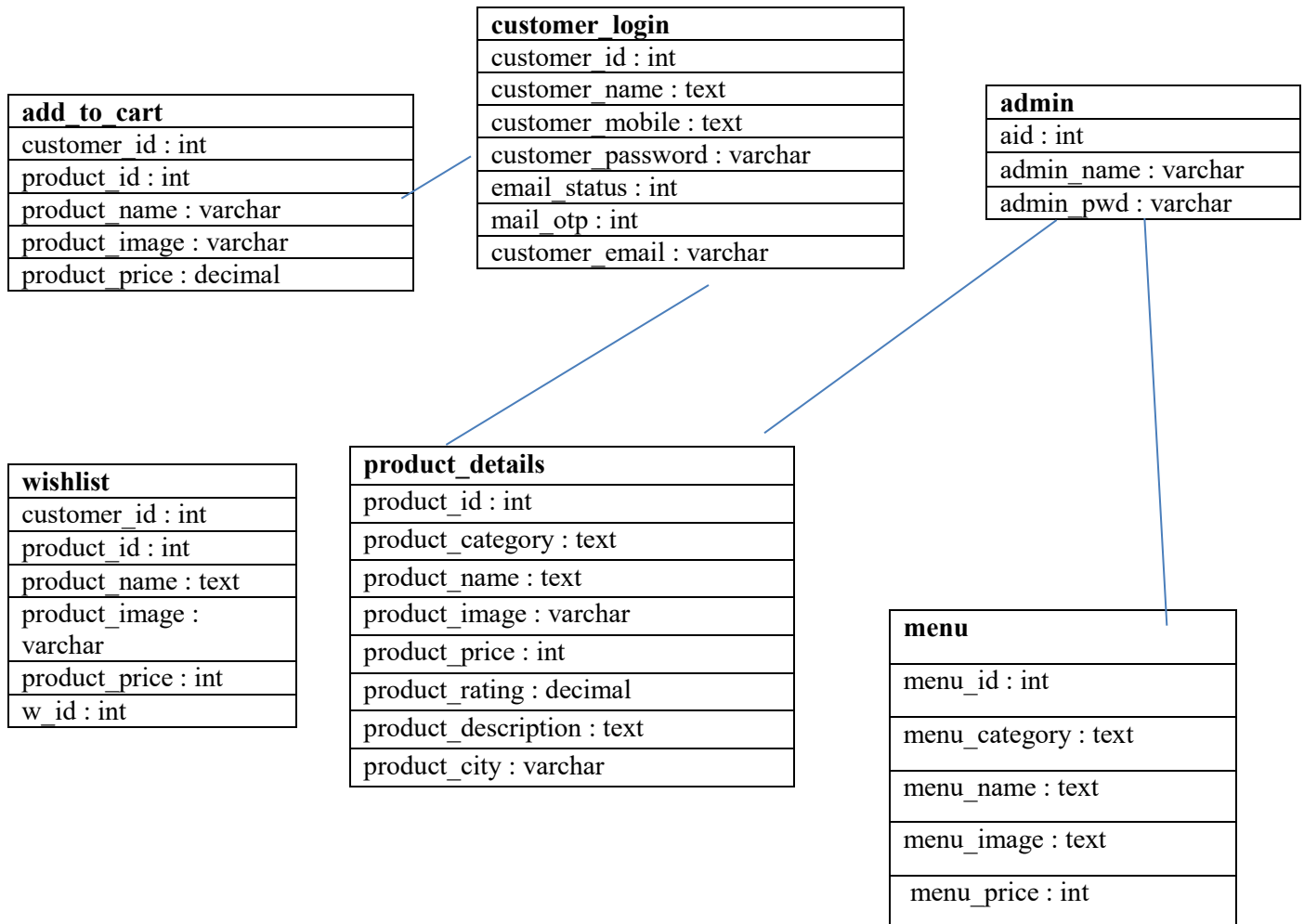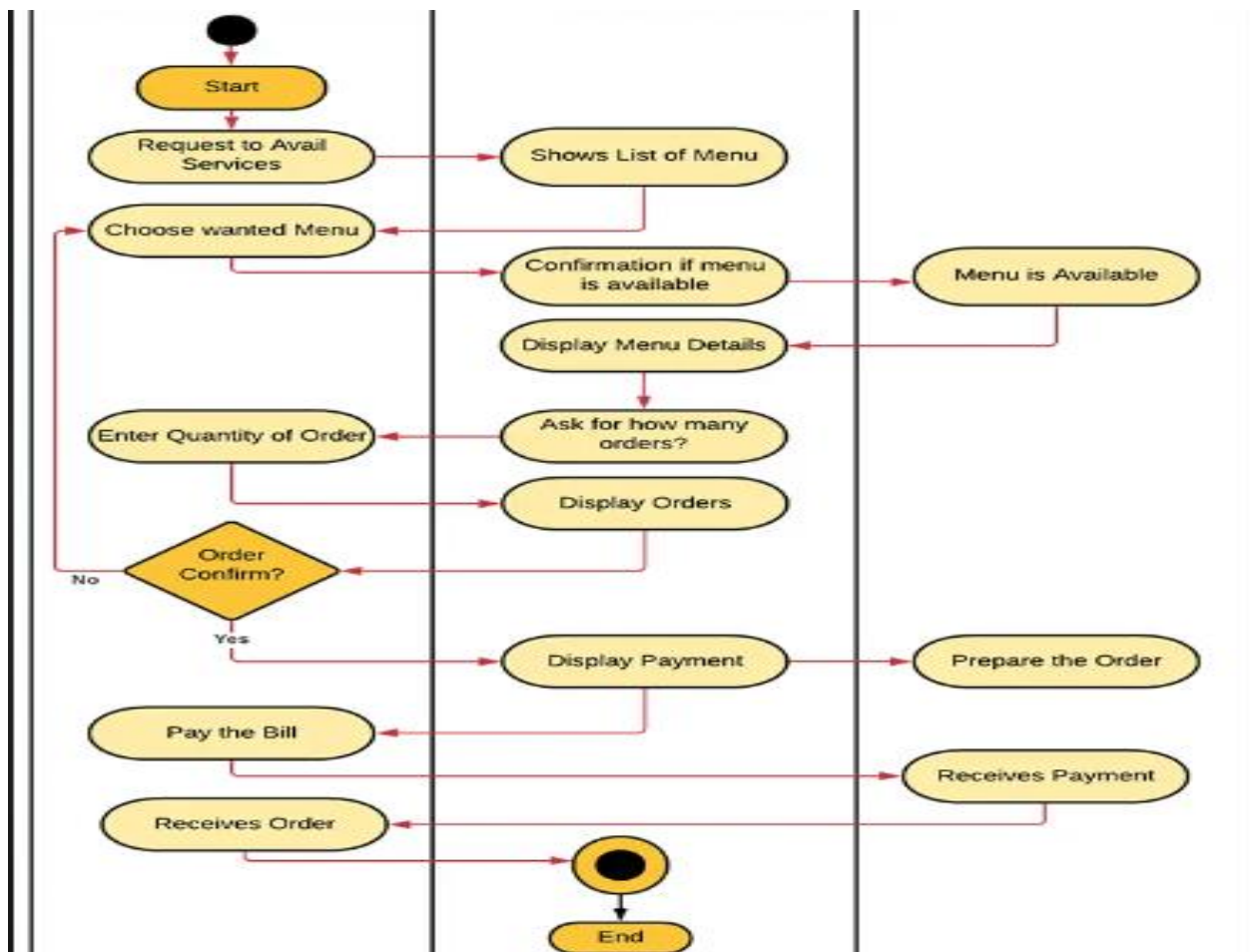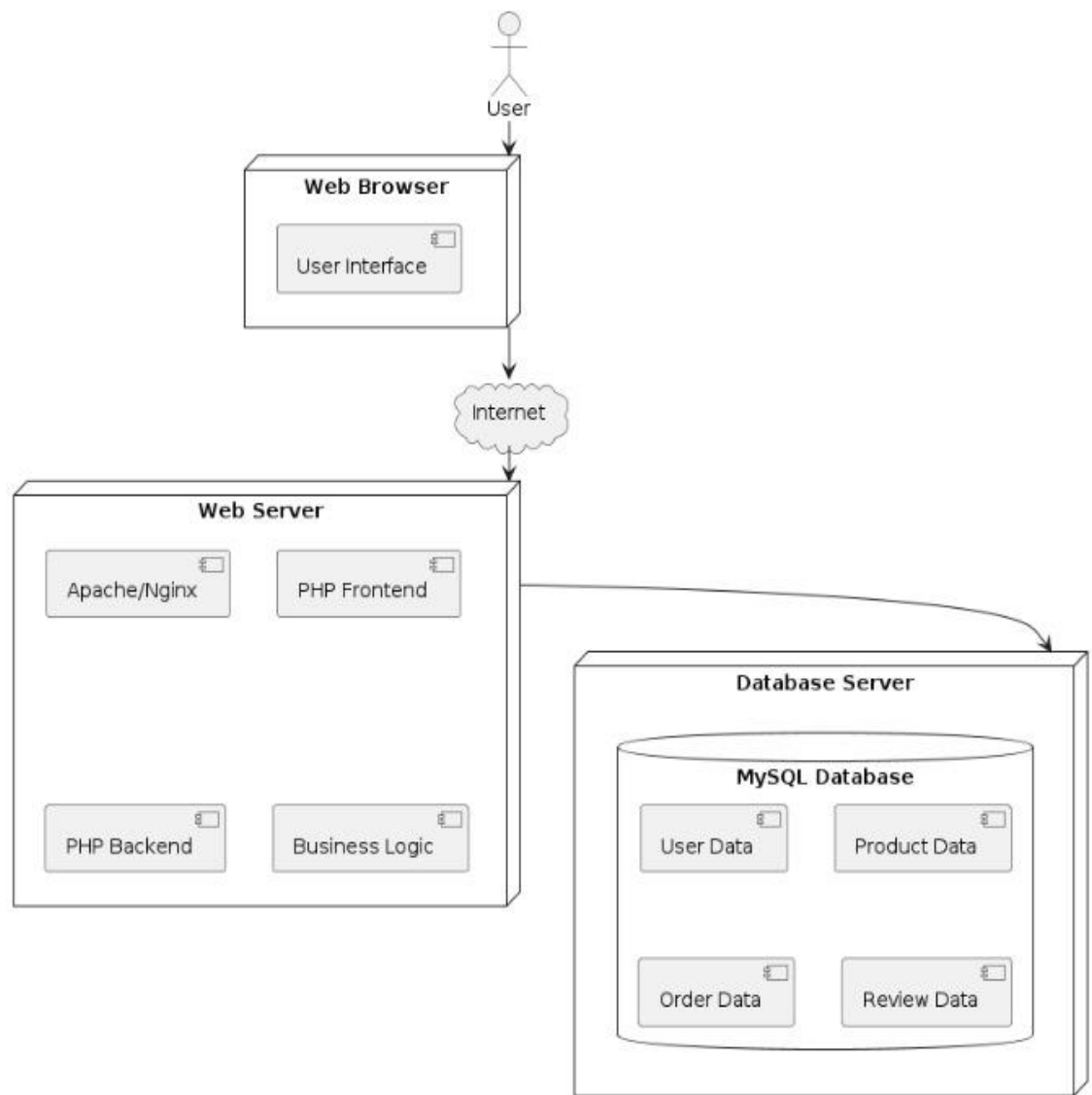
```
        </div> -->

        <div class="container mt-5">

            <div class="row">

                <div class="col">

                    <div class="col-lg-6 col-md-12 ">

                        <img width="400" class="burger-img" height="400"
src="img/baker.jpg">

                    </div>

                </div>

                <div class=" col-lg-6 col-md-12">

                    <h2>Healthy food can be delicious</h2>

                    <div style="color: gray; text-align:justify;"> Welcome
to Homebaker's Hub, your premier destination for discovering and
savoring the finest homemade baked goods. Our platform was born out of
a passion for baking and a desire to support home bakers in their
entrepreneurial journeys.

                        <br><br> We understand the unique challenges faced
by home-based bakers, from limited marketing reach to the complexities
of managing orders and payments. That's why we've created a dedicated
space where talent meets opportunity, enabling home bakers to showcase
their delicious creations to a wider audience and connect with baking
enthusiasts who appreciate the personal touch of homemade treats.

                    </div>
```

5. Modeling and Design

5.1 UML diagrams
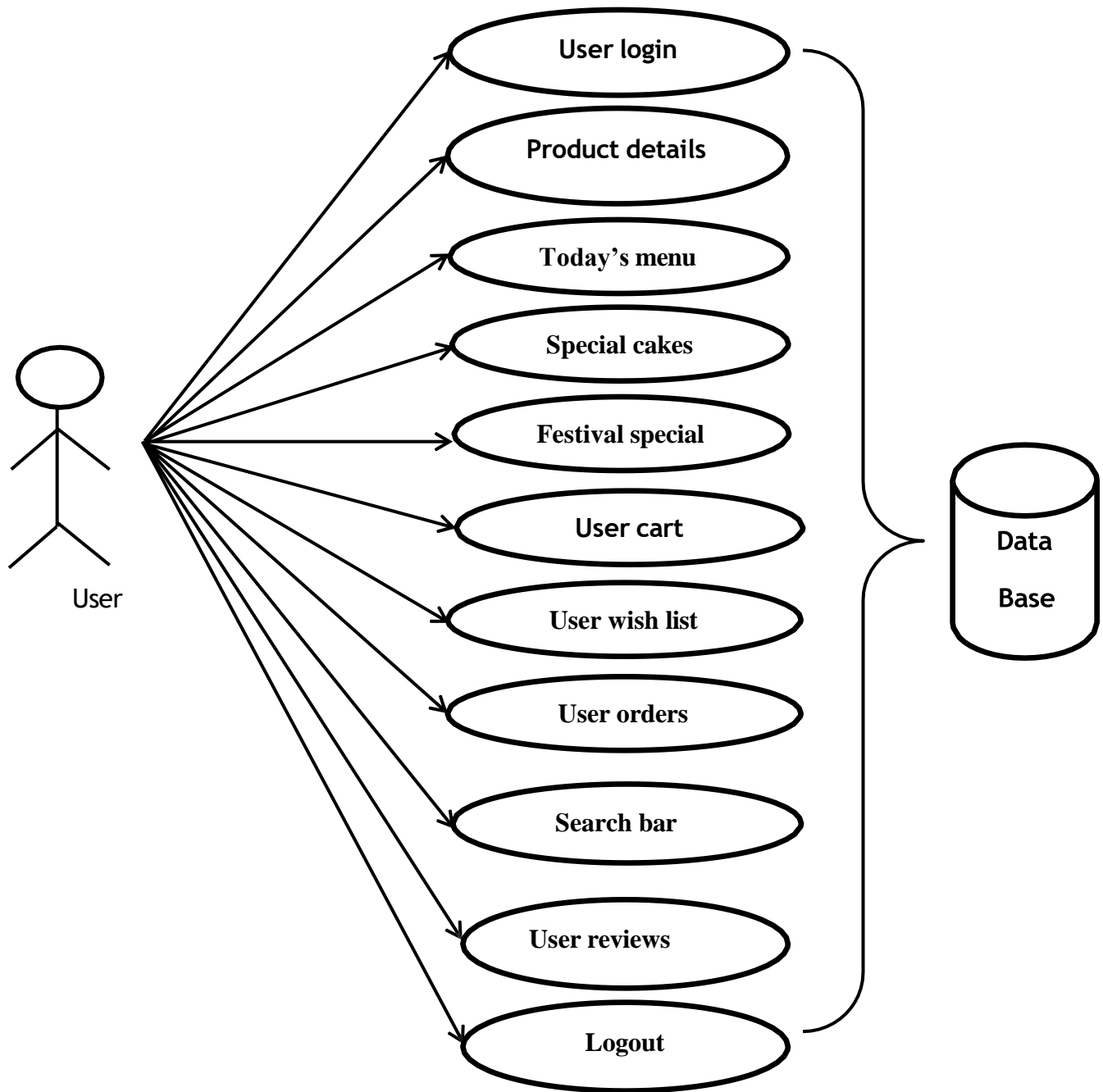
Fig. 2 Use Case diagram

Home Baker's Hub
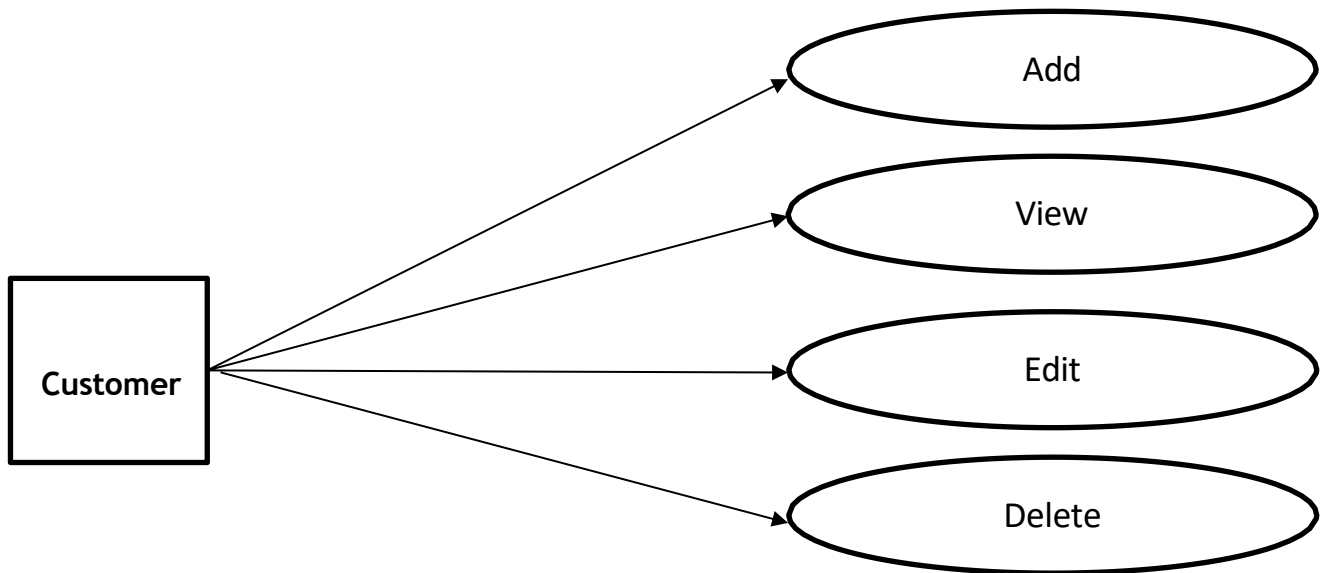
Fig.3 Use Case Diagrams: Customer Module
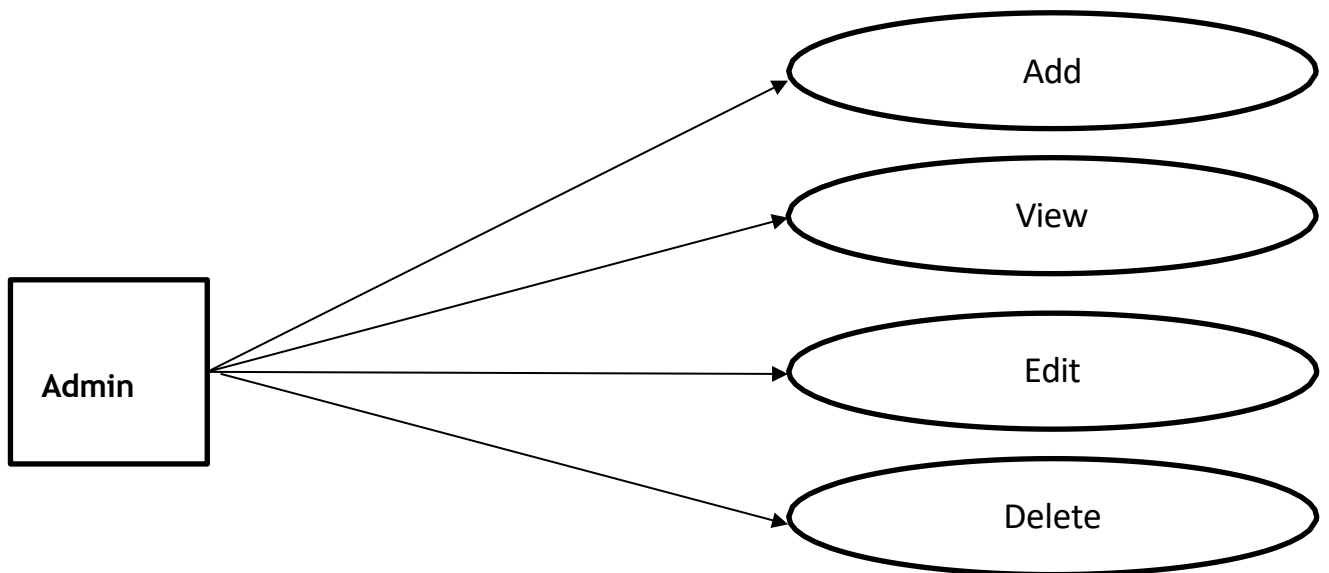
Fig.4 Use Case Diagrams: Admin Module
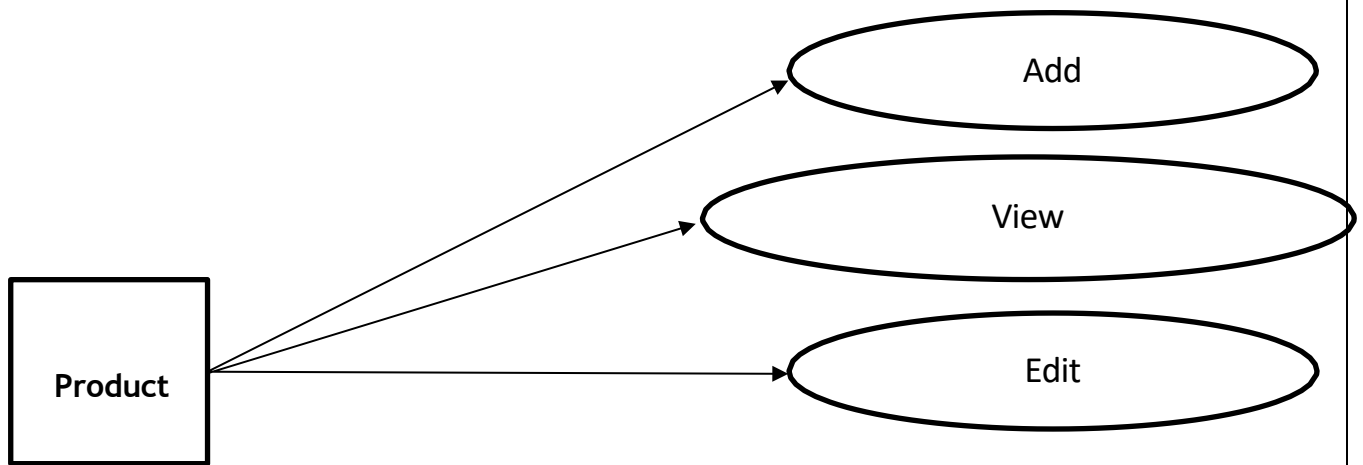
Fig.5 Use Case Diagrams: Product Module
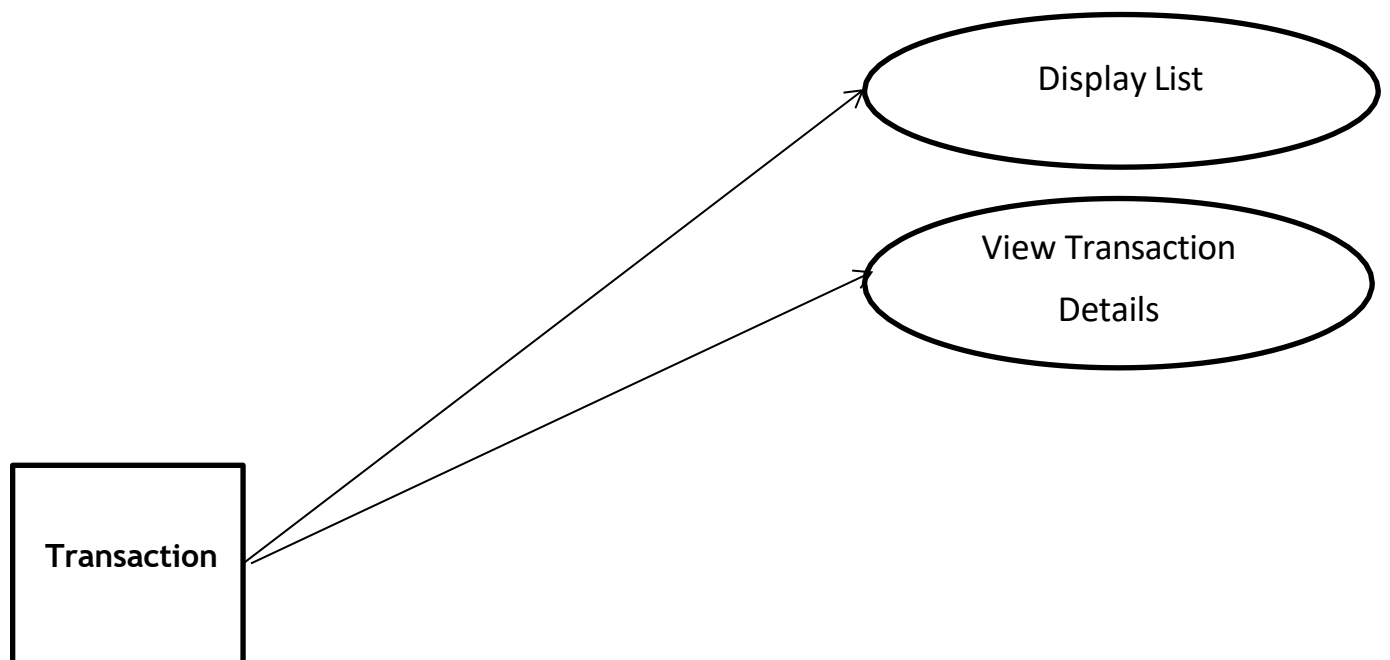
Fig.6 Use Case Diagrams: Transaction Module

Home Baker's Hub

5.1.2 Class diagram

The class diagram shows a set of classes, interfaces, collaborations and their relationships.

add_to_cart

customer_id : int
product_id : int
product_name : varchar
product_image : varchar
product_price : decimal

customer_login

customer_id : int
customer_name : text
customer_mobile : text
customer_password : varchar
email_status : int
mail_otp : int
customer_email : varchar

admin

aid : int
admin_name : varchar
admin_pwd : varchar

wishlist

customer_id : int
product_id : int
product_name : text
product_image : varchar
product_price : int
w_id : int

product_details

product_id : int
product_category : text
product_name : text
product_image : varchar
product_price : int
product_rating : decimal
product_description : text
product_city : varchar

menu

menu_id : int
menu_category : text
menu_name : text
menu_image : text
menu_price : int

Fig.7 Class Diagram

Fig. 8   Activity Diagram

Fig.9 Deployment Diagram

5.2 ER Diagram

An entity-relationship diagram (ERD) is a data modeling technique that graphically illustrates an information system's entities and the relationships between those entities. An ERD is a conceptual and representational model of data used to represent the entity framework infrastructure. Structured analysis is a set of tools and techniques that the analyst.
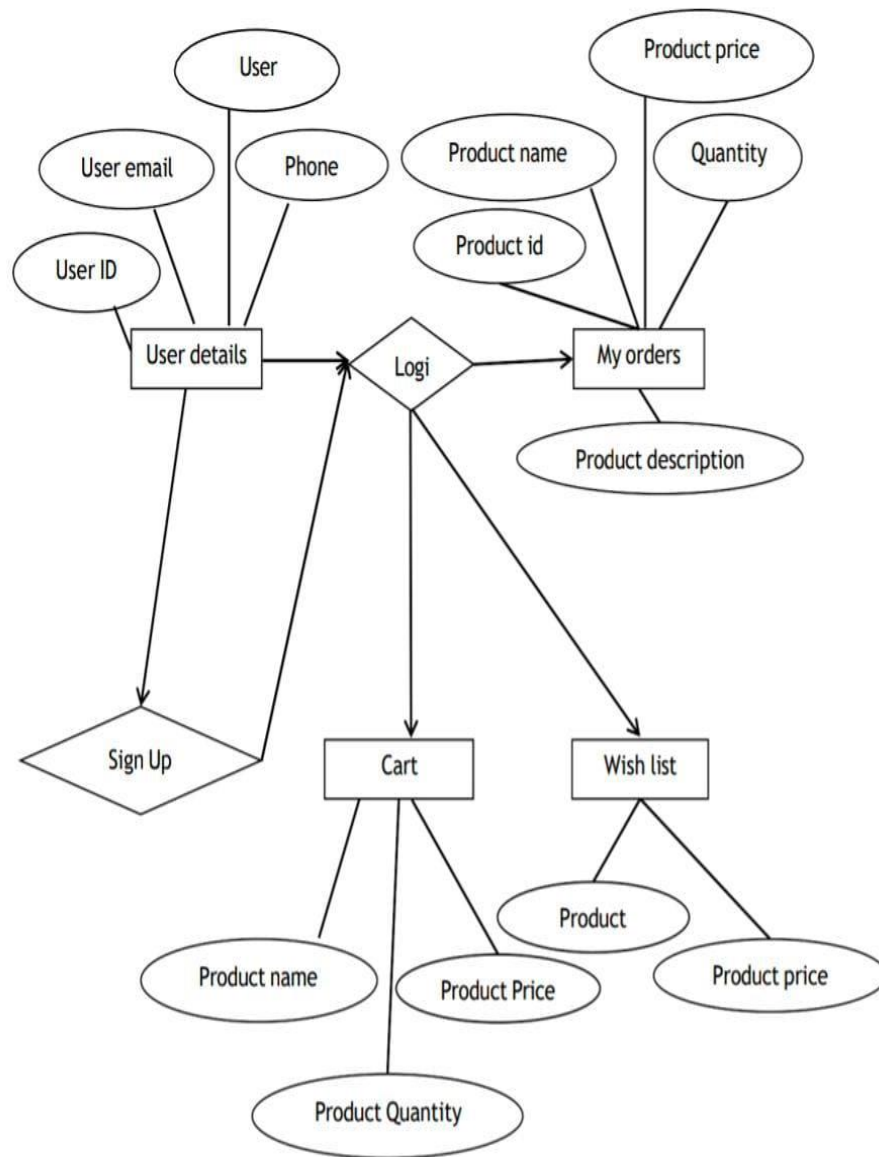
Fig.10 Entity-Relationship Diagra

Home Baker's Hub

5.3 Data Flow Diagram

A Data Flow Diagram (DFD) is a traditional visual representation of the information flows within a system. A neat and clear DFD can depict the right amount of the system requirement graphically. It can be manual, automated, or a combination of both. It shows how data enter and leaves the system, what changes the information, and where data is stored.
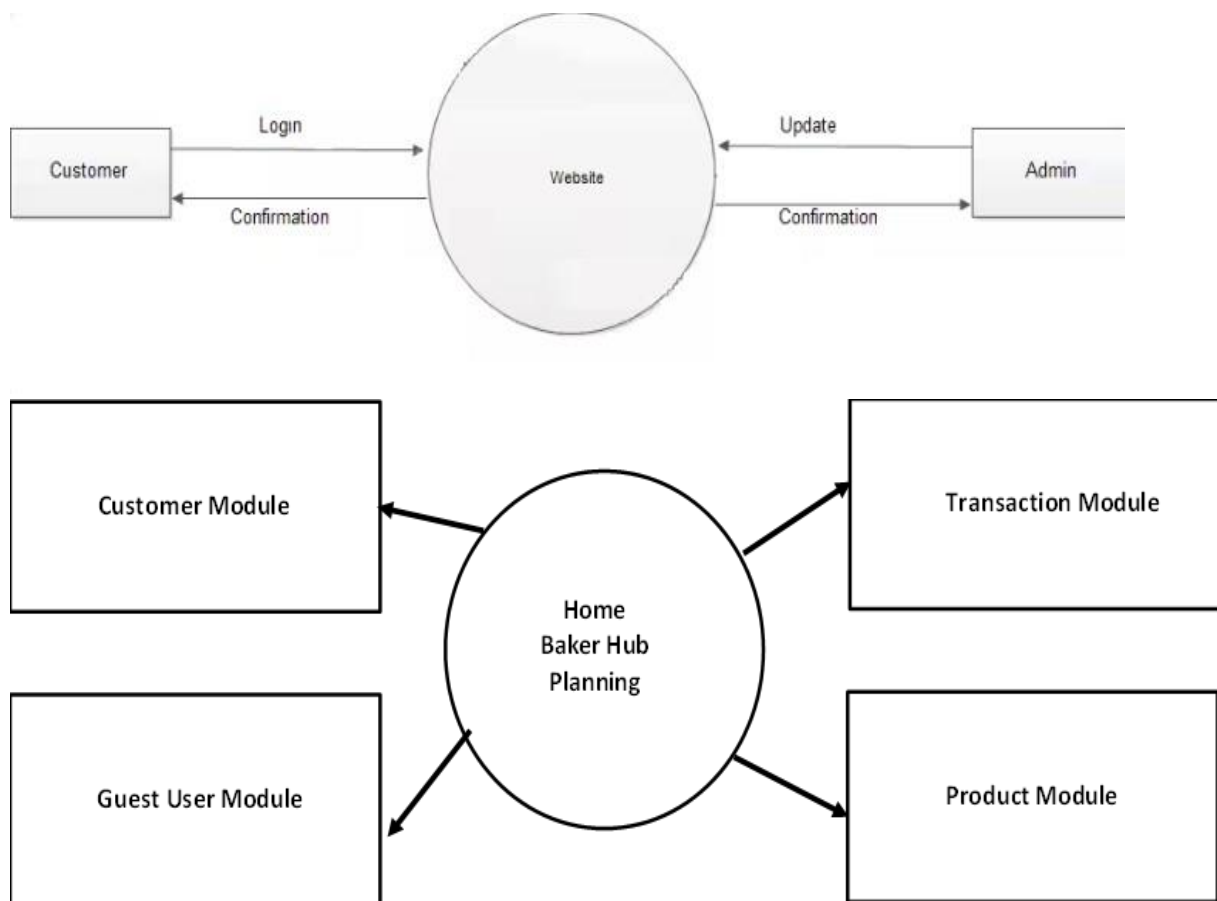
Fig. 11 Zero Level Diagram
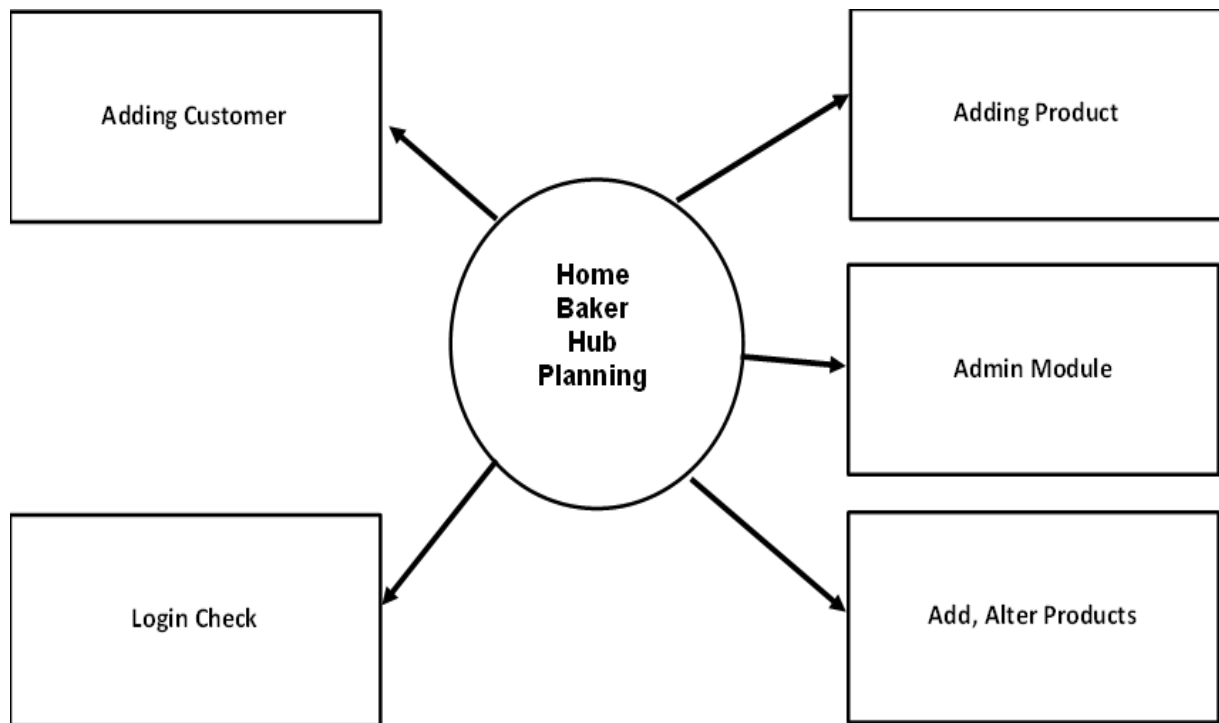
Fig. 12 First Level Diagram
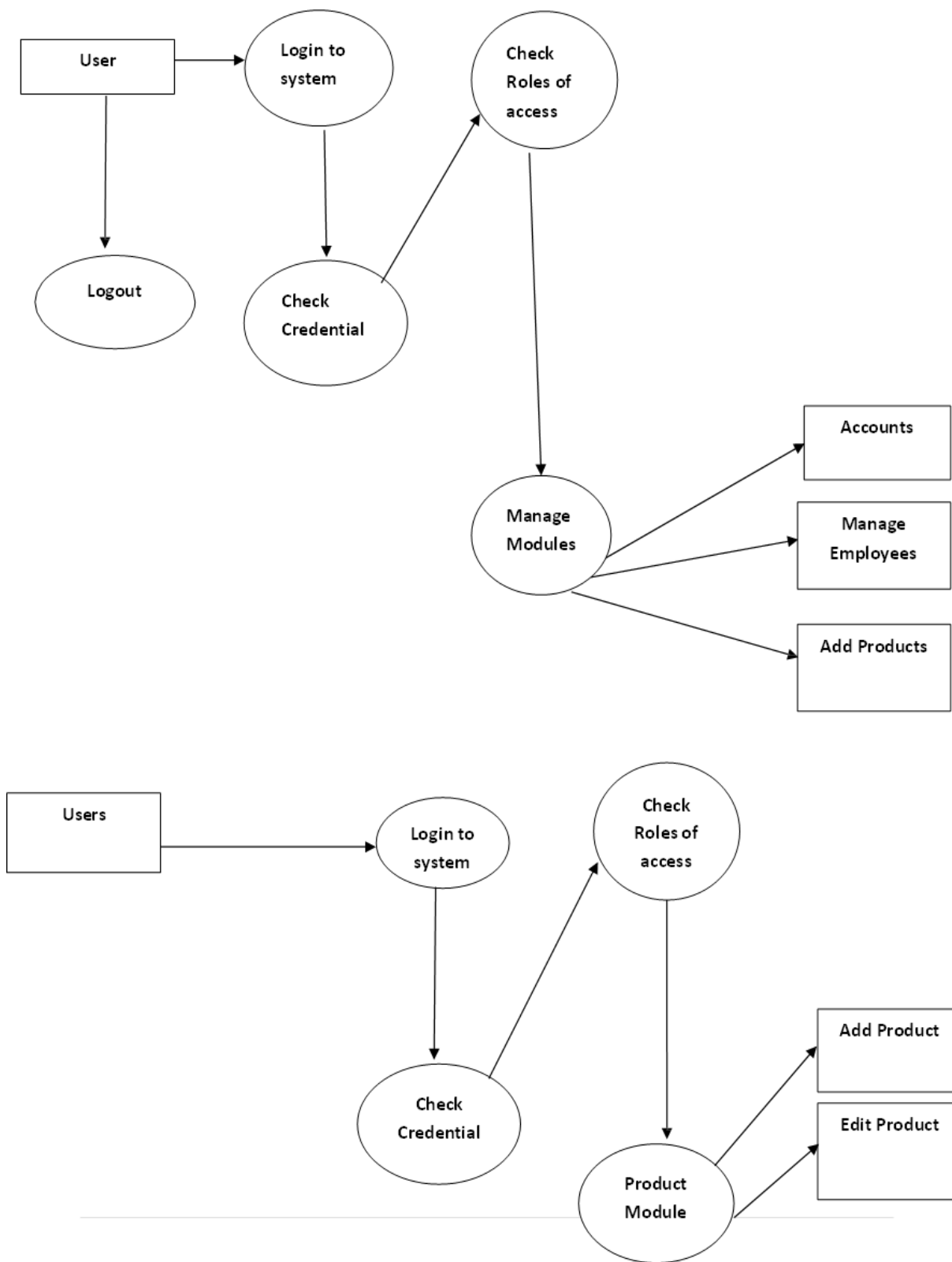
Fig. 13 Second Level Diagram

5.4 Methods and Procedures

1. User Registration and Authentication:

Sign Up Process:

User accesses the sign-up page and fills out the registration form with required details (name, email, password).

An OTP (One-Time Password) is sent to the user's registered email for verification.

User enters the OTP on the platform to verify their email and complete the registration process.

Login Process:

User logs in using their registered email and password.

Password Recovery:

User clicks on the "Forgot Password" link.

User receives an email with a password reset link.

User clicks on the link and resets their password by entering a new one.

2. Homepage and Navigation:

Accessing Homepage:

Upon successful login, the user is directed to the homepage.

The homepage provides access to various features like browsing products, special offers, and user account management.

Navigation Options:

Users can navigate to different sections such as "Shop", "Categories", "Special Offers", and "Search".

3. Product Browsing and Selection

Browsing Categories:

User clicks on the "Shop" option and browses through various product categories.

Viewing Product Details:

User clicks on a product to view detailed information, including images, description, and price.

Adding to Cart:

User selects the desired quantity and clicks "Add to Cart".

A message "Product added to your cart successfully" is displayed.

4. Special Offers and Search:

Special Offers:

User navigates to the "Special Offers" section to view products with discounts or special promotions.

Product Search:

User uses the search bar to find specific products by entering keywords.

5. Purchasing and Payment:

Cart Review and Checkout:

User reviews the items in their cart and proceeds to checkout.

Payment Process:

User selects a payment method and completes the transaction.

A confirmation message "Payment Successful" is displayed.

6. User Account Management:

Logout:

User clicks on the "Logout" option to safely log out of their account.

7. Multi-Language Feature

The multi-language feature allows users to select their preferred language from a variety of options, ensuring a more personalized and accessible user experience. By catering to diverse linguistic preferences, the platform enhances usability and inclusivity, reaching a broader audience and improving user satisfaction.

5.4.1 Methods to Generate Output

1. User Registration and Authentication:

Email Service Integration:

Utilize email services (e.g., SendGrid, Mailgun) for sending OTPs and password recovery emails.

Secure Authentication:

Implement secure authentication protocols (e.g., OAuth, JWT) to manage user sessions and protect user data.

2. Homepage and Navigation:

Responsive Web Design

Use HTML, CSS, and JavaScript to create a responsive and intuitive homepage layout.

Navigation Menus

Implement dynamic navigation menus using frameworks like React or Angular to ensure smooth user experience.

3. Product Browsing and Selection:

Product Database:

Use a database (e.g., MySQL, MongoDB) to store product information, including categories, images, and prices.

Dynamic Rendering:

Utilize server-side rendering or client-side rendering techniques to dynamically display product details.

4. Special Offers and Search:

Search Functionality:

Implement search algorithms to filter and display products based on user input.

Offer Management:

Create a backend system to manage and apply special offers and discounts to products.

5. Purchasing and Payment:

Cart Management:

Develop cart functionalities to add, update, and remove items using session management or database entries.

Payment Gateway Integration:
Integrate with payment gateways (e.g., Stripe, PayPal) to handle secure transactions and confirm payment status.

6. User Account Management:

Session Management:

Implement session handling to maintain user login states and ensure secure logout processes.

By following this stepwise procedure and employing these methods, Homebaker's Hub will provide a seamless, secure, and user-friendly platform for home bakers to sell their products and for customers to enjoy a delightful shopping experience.

5.5 Data Dictionary

The data in the system has to be stored and retrieved from database. Designing the database is part of system design. Data elements and data structures to be stored have been identified at analysis stage. They are structured and put together to design the data storage and retrieval system.

A database is a collection of interrelated data stored with minimum redundancy to serve many users quickly and efficiently. The general objective is to make database access easy, quick, inexpensive and flexible for the user. Relationships are established between the data items and unnecessary data items are removed. Normalization is done to get an internal consistency of data and to have minimum redundancy and maximum stability. This ensures minimizing data storage required, minimizing chances of data inconsistencies and optimizing for updates. The MySQL database has been chosen for developing the relevant databases.

Table 3: Customer login structure: This table stores the category information

Field Name	Data Type	Description
Customer_id	Integer	Primary Key
Customer_name	Text	
Customer_mobile	Integer	
Customer_email	Varchar	
Customer_password	Varchar	
Email_status	Varchar	
Otp	Integer	
Mail_otp	Integer	

Table 4: Add to cart structure: This table stores the cart information

Field Name	Data Type	Description
a_id	Integer	Primary Key
Customer_mobile	Integer	Foreign Key
Product_id	Integer	Foreign Key
Product_name	Text	
Product_image	varchar	
Product_price	Integer	
Product_address	Varchar	

Table 5: Menu structure: This table stores the menu information

Field Name	Data Type	Description
Menu_id	Integer	Primary Key
Menu_category	Text	
Menu_name	Text	
Menu_iamge	Text	
Menu_price	Integer	

Home Baker's Hub

Table 6: Order structure: This table stores the order information of customer

Field Name	Data Type	Description
O_id	Integer	Primary Key
Customer_id	varchar	Foreign Key
Product_id	varchar	Foreign Key
Product_name	varchar	
Product_image	varchar	
Product_price	Integer	
Qty	Integer	
Address	varchar	

Table 7: Product details structure: This table stores the product details information

Field Name	Data Type	Description
Product_id	Integer	Primary Key
Product_category	Text	
Product_name	Text	
Product_image	varchar	
Product_price	Integer	
Product_ratting	Decimal	
Product_description	Text	

Table 8: Wish list structure: This table stores the wish list information

Field Name	Data Type	Description
W_id	Integer	
Customer_id	Integer	Foreign Key
Product_id	Integer	Foreign Key
Product_name	Varchar	
Product_image	Varchar	
Product_price	Varchar	

Table 9: Customer Message structure: This table stores the contact information of customer

Field Name	Data Type	Description
C_id	Integer	Primary Key
Customer_id	Integer	Foreign Key
C_message	Varchar	
C_subject	Varchar	

5.6 Screenshots

Signup Page

Login Page

Reset Password

Home Page
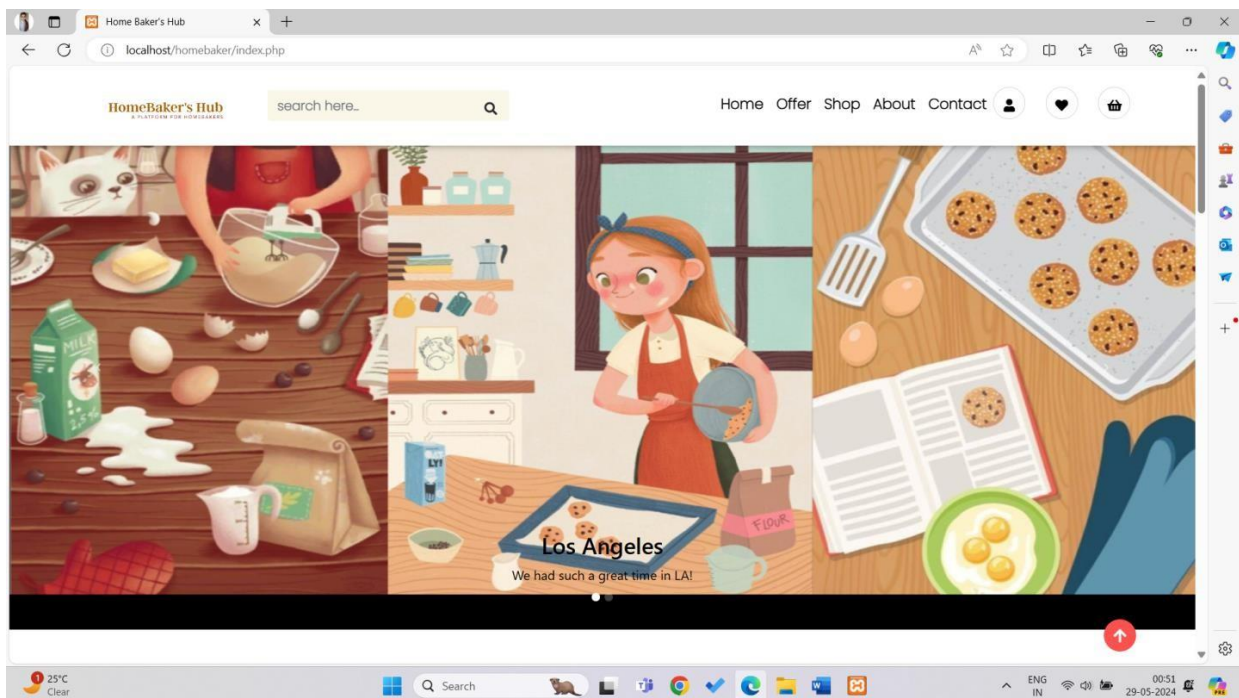
Category Page
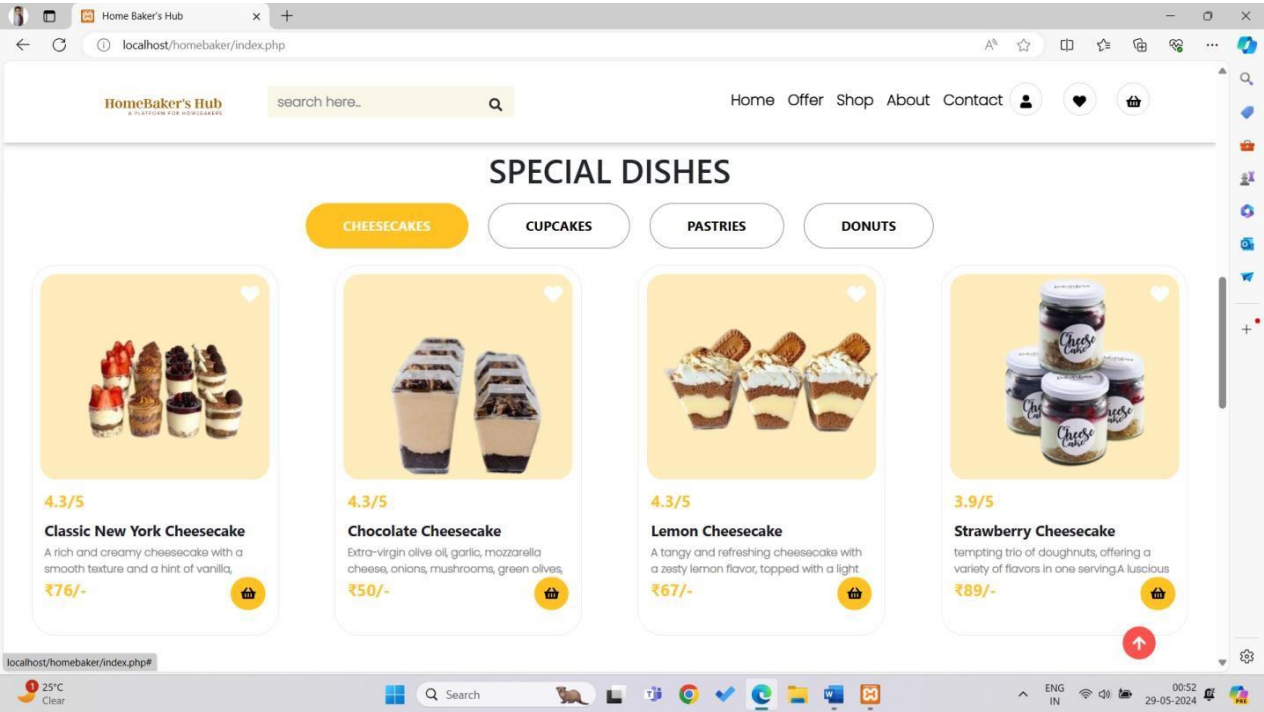
Product Page
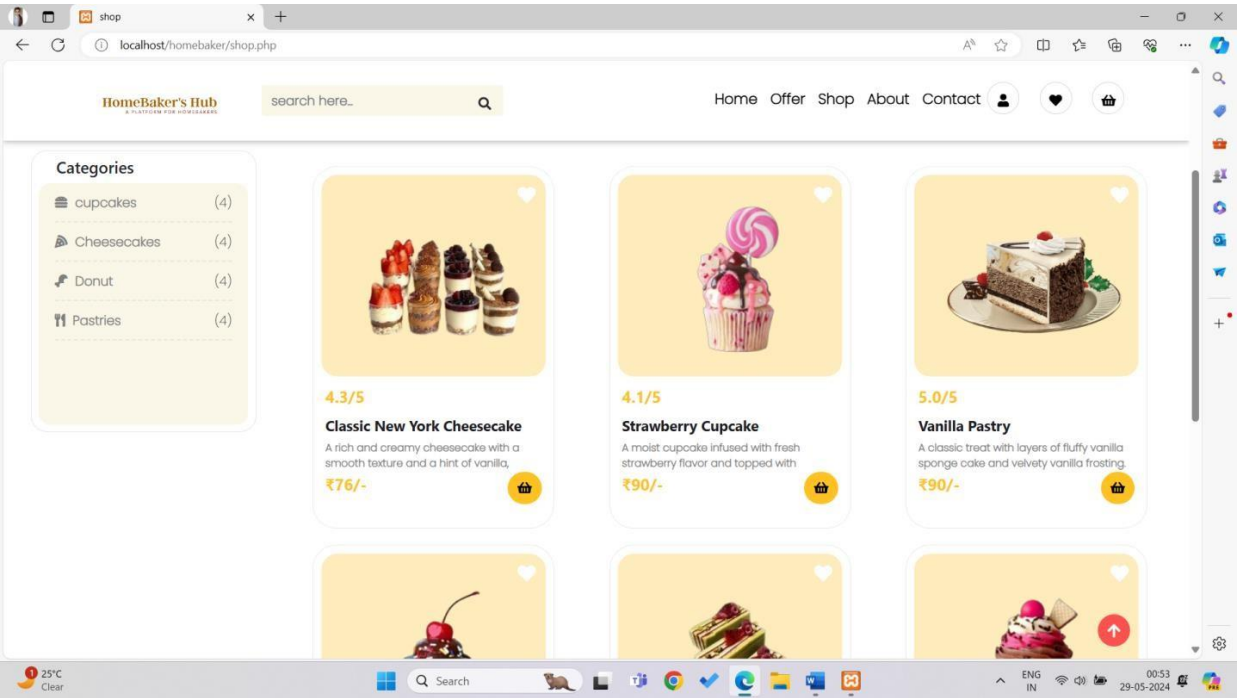
Product Detail Page
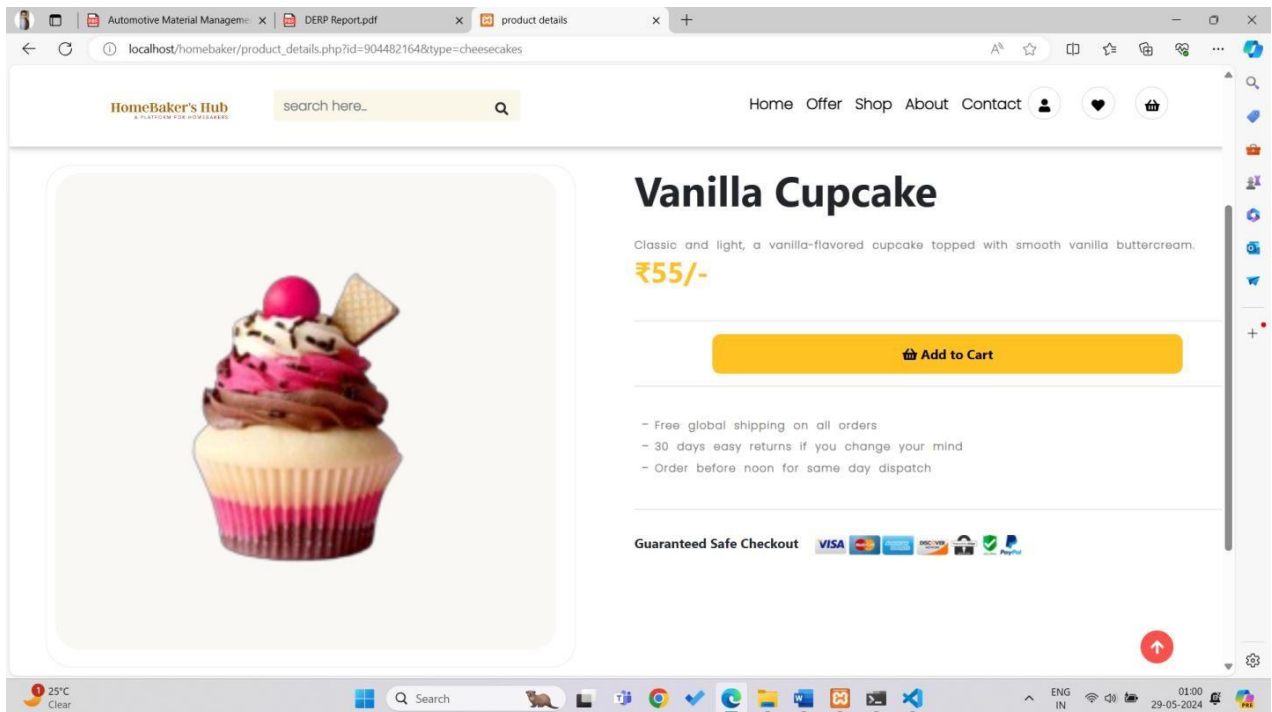
Add to Cart Page
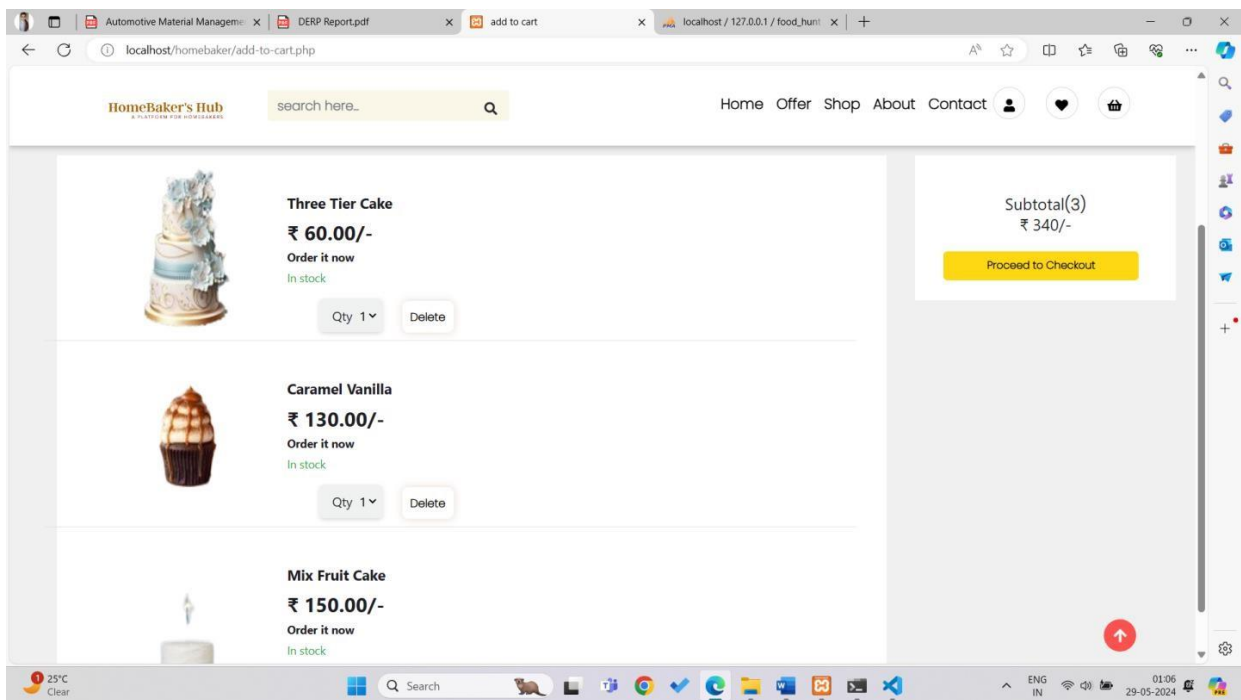
Home Baker's Hub

Product List Page

Contact Page

Home Baker's Hub

Multi-language Feature

Customer Review

Order List

WishList Page

LogOut Box

Admin Page

Admin Dashboard Page

Home Baker's Hub

6. Results

The Home Baker Hub project has produced excellent results, creating a useful and user-friendly platform for home bakers and their customers. Here are the main achievements:

Better Online Presence for Home Bakers

The platform helps home bakers show off their products online effectively. Bakers can easily set up profiles, upload photos, and provide detailed descriptions, making it simple for customers to find and order their baked goods.

Easy Order Management

Customers can browse products, add items to their cart, and place orders easily. Secure payment integration ensures safe transactions. Bakers get instant notifications of new orders, helping them manage inventory and plan production efficiently.

More Customer Engagement

The special offers and promotions feature allows bakers to create attractive deals, increasing customer interest and sales. Customers can quickly find and take advantage of these offers, leading to higher satisfaction and loyalty.

Secure Accounts

With email verification and password recovery features, the system ensures secure user accounts. Customers feel safe knowing their data is protected, and bakers trust the security measures in place.

Effective Customer Support

The contact support feature makes it easy for users to get help. Customers can ask questions, and bakers can receive timely assistance with any issues. This improved support enhances the overall user experience and builds trust in the platform.

Advanced Search and Filtering

The search feature lets users look for products by name, price, and location, making it easier to find specific items. Filtering options help customers narrow down choices based on their preferences, ensuring a personalized shopping experience.

Business Growth for Home Bakers

Overall, the Home Baker Hub system has helped home bakers increase their sales and grow their businesses. The platform's features have created a supportive environment where bakers can thrive, reaching more customers and managing their operations more effectively.

7. Testing

7.1 Test plan

1. Test Plan Identifier

Test Plan Id: T101

2. Introduction

Verify the functionality of the user and admin panel in the SWT project.

Ensure that website is compatible with all the browsers.

Ensure the website implements all the security standards.

3. Testing Features

Testing feature is the process of which functionality that I have needed to be tested and which functionality that I have not needed to be tested.

4. Features to be tested

Table 10: Features to be tested

Features	Description
Registration	To access all the resources the user, need to register them self.
Login	To access the entire functionality login is required.
Forget password	If the user forget password then he / she should be able to reset password.
Create User	Administrator should be able to create user.
Edit/Delete user	Administrator should be able to editor delete user
Activitylog	Administrator should be able to see the entire activity log.
Changepassword	The client or an administrator should be able to change the password.
Logout	The administrator should be able to logout the functionality.
ShowUserList	The administrator should able to see all the users.

5. Features not to be tested

There is no feature that should not to test.

6. Testing Strategy

Testing strategy is a way that I have used to test all of my project features. This also indicates which methods, approach that I have used to test the functionality of this system.

7. Test Approach

Test approach is the test strategy implementation of a project, defines how testing would be carried out. This indicates the testing methods, objectives, methods of testing features etc. from this we also can know the testing time of the overall system.

Black Box Testing: Black box testing is referred to as a functional testing of a system. This is the testing that the function is working precisely or not. This is not the backend testing. The users who have not any technical knowledge he also can perform this testing.

Equivalence Class Partitioning: To perform the equivalence class partitioning testing all inputs is divided into two parts. One is legalinput and another is illegal input.

Legal Input values: The tester set all the legal inputs and test them with the system and check whether the system is working or not

Illegal Input Values: For doing this the tester first set all inputs that are not valid for the system and test the system whether it is working or no.

Boundary Value Analysis: Boundary value analysis is another black box testing techniques that tests the value of the boundary of any input field. First it sets a standard value then checks its positive and negative boundary value of this input value.

White Box Testing: Black box testing is the process of testing the internal structure of the system. The system developers can perform this technique. The testers as well as programmers are needed to perform these testing methods. The tester needs to have the testing knowledge as well as the coding knowledge to do this testing.

Unit Testing: For not doing break the functionality of existing the system, we will test individual use cases and list down test cases for each of the use case.

i. Login:

Checking for uppercase, lower case, number, special character in ID and Password.

Either of ID and Password not blank.

Checking for weak passwords.

ii. Logout

After logout user should be redirect to the login page.

iii. Activity log

When any user log in then log in information should be saved properly.

Administrator should be able to see activity logs.

Integration Testing: To verify each software unit interfaces correctly with other units. Developer also testers perform integration testing, the following information of integration testing.

System compatible with different web browsers.

System compatible with different operating system.

System compatible with 32 bit or 64bit operation.

8. Test Cases Pass/Fail

Table 11: Test cases pass or fail

Test Case	Pass/ Fail
Registration	Pass
Login	Pass
Forget Password	Pass
Create User	Pass
Edit / Delete user	Pass
Activity log	Pass
Change Password	Pass
Logout	Pass
Show Userlist	Pass

9. Suspension criteria

Vast changes in requirements.

10. Environmental Needs

This section defines the list of hardware and software requirements for testing.

Browser

System and applications Test data

Database server

11. Testing Schedule

This section will describe testing schedule.

Table 12: Testing schedule of project

Test Activity	Description	Start Date	End Date	Comments
Requirement Review	Review and finalize test requirements	01/02/2024	03/0/2024	Ensure all requirements are testable
Test Plan Creation	Develop detailed test plan and test cases	04/02/2024	06/02/2024	Align with project requirements
Test Environment Setup	Prepare the testing environment and data	07/02/2024	08/02/2024	Ensure all components are in place
Unit Testing	Test individual components for functionality	09/02/2024	14/02/2024	Focus on isolated code segments
Integration Testing	Test combined parts of the system	1602/2024	22/02/2024	Ensure components work together
System Testing	Test the complete system for overall functionality	24/02/2024	28/02/2024	Validate the system against requirements
User Acceptance Testing (UAT)	Conduct testing with actual users	01/03/2024	07/03/2024	Collect feedback for final adjustments
Performance Testing	Evaluate system performance under load	08/03/2024	15/03/2024	Ensure system stability and responsiveness

Security Testing	Test for vulnerabilities and security flaws	17/03/2024	22/03/2024	Ensure system is secure
Bug Fixing	Address and resolve any issues found during testing	23/03/2024	27/03/2024	Continuous process during testing phase
Final Review and Sign-off	Review test results and get approval from stakeholders	01/04/2024	10/04/2024	Final approval for deployment
Deployment	Deploy the system to the production environment	13/04/2024	17/04/2024	Final deployment
Post-deployment Testing	Verify system functionality in the production environment	19/04/2024	25/04/2024	Ensure everything is working as expected

7.2 Test cases

1. **User Authentication:**

Test Case ID	Description	Expected Result
TC001	User attempts to log in with valid credentials	Successful login, redirected to the dashboard
TC002	User attempts to log in with invalid credentials	Authentication failure, error message displayed
TC003	User attempts to sign up with a new account Successful registration	redirected to the login page

2. Owner Functionality:

TC004	Owner adds a content with valid details	content added successfully, visible in the system
TC005	Owner attempts to add a content with incomplete details	Error message displayed; content not added

3. Search Functionality:

TC006	User uses the search bar to find cake. Relevant results displayed	matching the search criteria
TC007	User searches for a cake with no available cake	Appropriate message indicating no results found

4. View Cake Details:

TC008	User clicks on a cake to view details	Cake details displayed, including available category
TC009	User clicks on a cake with no category available	Message indicating no cake available in the category

5. Payment Process:

TC0102	User initiates a payment for a selected cake	Payment process completes successfully, confirmation message displayed
TC013	User attempts to make a payment with insufficient funds	Appropriate error message displayed; payment not processed

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7.3 Test results

1. User Authentication:

Test Case ID	Description	Expected Result	Actual Result
TC001	User successfully logs in with valid credentials	User is redirected to the dashboard	Pass
TC0022	User fails to log in with invalid credentials	Authentication failure, error message displayed	Pass
TC0023	User successfully registers a new account	User is redirected to the login page	Pass

3. Search Functionality:

TC006	User uses the search bar to find cake. Relevant results displayed	Relevant results displayed matching the search criteria	Pass
TC007	User searches for a cake with no available cake	Appropriate message indicating no results found	Pass

4. View Cake Details:

TC008	User clicks on a category to view details	Cake details displayed, including available category	Pass
TC009	User clicks on a cake with no category available	Message indicating no cake available in the category	Pass

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5. Payment Process:

TC010	User initiates a payment for a selected cake	Payment process completes successfully, confirmation message displayed	Pass
TC110	User attempts to make a payment with insufficient funds	Appropriate error message displayed; payment not processed	Pass

Conclusion

The Homebaker's Hub project represents a pioneering effort to transform the landscape for home-based bakers by providing a comprehensive digital platform tailored to their unique needs. As home bakers often struggle with limited visibility, marketing reach, and the complexities of business management, Homebaker's Hub emerges as a vital solution to these challenges. Our platform not only facilitates the seamless sale of homemade baked goods but also empowers bakers to expand their customer base, increase their income, and foster meaningful connections within a supportive community.

Central to the mission of Homebaker's Hub is the goal of creating an inclusive ecosystem where talent and passion for baking can flourish. By offering a range of user-friendly tools and resources, we enable home bakers to efficiently manage their orders, handle transactions, and market their products effectively. The platform's interactive forums and virtual networking events further enhance this experience, providing a space for bakers to share knowledge, exchange ideas, and support one another. This sense of community is crucial, as it not only enriches the individual journeys of each baker but also strengthens the collective growth of the home baking industry.

Looking ahead, the potential for Homebaker's Hub to revolutionize the home baking market is immense. The introduction of advanced analytics, mobile applications, and enhanced social media integration will further streamline operations and enhance user engagement. Additionally, strategic partnerships with local suppliers and delivery services can ensure high-quality ingredients and reliable distribution, adding value to the overall user experience. By continuously evolving and adapting to the needs of our users, Homebaker's Hub is poised to become a cornerstone of the home baking community, driving innovation and success for home bakers worldwide.

In conclusion, Homebaker's Hub is more than just a marketplace; it is a catalyst for change, empowering home bakers to achieve their entrepreneurial dreams and connect with a broader audience. As we continue to grow and enhance our platform, our commitment remains steadfast in supporting the success of home bakers and enriching the culinary experiences of customers. Together, we are not just building a platform; we are creating a legacy of creativity, community, and shared success that will endure for years to come. By addressing the challenges faced by home bakers and leveraging the power of technology, Homebaker's Hub is set to make a lasting impact on the home baking industry, ensuring that the joy of homemade baked goods can be enjoyed by all.

Future Scope

The future scope of Homebaker's Hub includes several straightforward yet impactful enhancements that can further elevate the platform and benefit both home bakers and customers. Here are some practical areas for future development:

1. Mobile Application:

User-Friendly Experience: Developing a mobile app for Homebaker's Hub can make it easier for bakers to manage their business and for customers to browse and order products. The app can provide push notifications for order updates, new product launches, and special promotions, ensuring users stay engaged and informed.

On-the-Go Management: Bakers can manage orders, update product listings, and communicate with customers from their smart phones, providing convenience and flexibility.

2. Enhanced Social Media Integration:

Seamless Sharing: Integrating social media sharing options can allow bakers to easily promote their products on platforms like Instagram, Facebook, and Pinterest. This can help them reach a wider audience and attract more customers.

Customer Reviews and Testimonials: Enabling customers to share their reviews and photos of purchased products on social media can boost credibility and attract new buyers.

3. Loyalty Programs and Discounts:

Customer Rewards: Implementing a loyalty program can reward repeat customers with discounts, exclusive offers, and early access to new products. This can encourage repeat business and build a loyal customer base.

Seasonal Promotions: Offering seasonal discounts and special promotions can attract new customers and boost sales during peak times like holidays and special events.

 4. Simple Analytics Dashboard:

Business Insights: Providing bakers with a basic analytics dashboard can help them track sales, understand customer preferences, and identify best-selling products. These insights can guide their business decisions and strategies for growth.

 Performance Metrics: Easy-to-read charts and graphs can visualize performance metrics, making it simple for bakers to monitor their progress and set goals.

5. Improved Order and Delivery Tracking:

Real-Time Updates: Enhancing the order tracking system to provide real-time updates on the status of orders and deliveries can improve transparency and customer satisfaction.

Reliable Delivery Partners: Partnering with local delivery services can ensure timely and reliable delivery of baked goods, enhancing the overall customer experience.

By focusing on these easy-to-implement enhancements, Homebaker's Hub can continue to grow and provide even greater value to its users. These improvements will help home bakers manage their businesses more efficiently, attract and retain customers, and create a thriving community of baking enthusiasts.

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Name & Sign of Student (1)

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Report Documentation

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Abstract: The Home Baker Hub is a comprehensive online platform designed to empower home bakers by providing them with a user-friendly interface to showcase their products, connect with customers, and manage their businesses efficiently. With features such as secure user authentication, intuitive product browsing and ordering, customizable search options, and seamless checkout processes, the platform aims to enhance the baking experience for both sellers and buyers. By fostering a supportive community environment and offering specialized functionalities tailored to the needs of home bakers, the Home Baker Hub facilitates growth and success in the home baking industry. The Home Baker Hub revolutionizes the home baking industry by offering a centralized platform where bakers can effortlessly manage inventory, market their creations, and engage with a wide customer base. Through its intuitive interface and robust features like email verification, order tracking, and personalized recommendations, it streamlines the baking process, fostering collaboration and growth within the baking community.