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Submitted in partial fulfillment of the
requirements of the degree of

Bachelor of Engineering
(Information
Technology)

By

Ria Chaudhari -Roll No (07)

Under the guidance of

Mrs. Dipti Karani

Department of Information Technology

VIVEKANAND EDUCATION SOCIETY'S INSTITUTE OF TECHNOLOGY, Chembur, Mumbai 400074

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Institute of Technology

(Autonomous Institute Affiliated to University of Mumbai, Approved by AICTE & Recognised by Govt. of Maharashtra)
NAAC accredited with 'A' grade

April 2024

Certificate

This is to certify that project entitled

"Blinkit Clone

" Group

Members Names

Miss. Ria Chaudhari (Roll No. 07)

In fulfillment of degree of BE. (Sem. VI) in Information Technology for Project is approved.

Prof. Mrs. Dipti Karani
Project Mentor

External Examiner

Dr.(Mrs.)Shalu Chopra H.O.D

Dr.(Mrs.)J.M.Nair
Principal

Date: / 4/2025 Place: VESIT, Chembur

College Seal

Declaration

We declare that this written submission represents my ideas in my own words and where others' ideas or words have been included, I have adequately cited and referenced the original sources. I also declare that I have adhered to all principles of academic honesty and integrity and have not misrepresented or fabricated or falsified any idea or data or fact or source in my submission. I understand that any violation of the above will be cause for disciplinary action by the Institute and can also evoke penal action from the sources which have thus not been properly cited or from whom proper permission has not been taken when needed.

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(Signature)

Ria Chaudhari -
Roll No (07)

Dept. of Information Technology

Abstract

The Blinkit Clone is a full-stack web application that replicates the core features of the Blinkit grocery delivery platform. The system allows users to browse products, explore categories, and place orders efficiently. Built using React + TypeScript for the frontend, Flask for the backend, and MongoDB Atlas for the database, the project ensures real-time responsiveness and smooth user experience. The system emphasizes modular design, fast search, category filtering, and integrates seamlessly with a MongoDB product catalog.

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Chapter 1:Introduction

Introduction

The Blinkit Clone is designed to simulate a real-time e-commerce grocery delivery platform with a focus on intuitive design, performance, and backend integration.

Objectives

- Enable category-wise browsing and product filtering
- Provide a dynamic product display system
- Facilitate backend management using Flask and MongoDB
- Implement a fast and responsive frontend
- Ensure seamless routing and UI interaction using React

Motivation

Inspired by the need for real-time, user-friendly grocery shopping experiences, this project aims to offer a clone of the Blinkit platform to demonstrate full-stack development skills and database integration.

Scope of the Work

The project includes a homepage, category listing, product cards with images and prices, and the functionality to expand into cart, payment, or admin panel in the future.

Feasibility Study

Using open-source tools such as Flask, MongoDB, and React ensures technical feasibility. The modular nature of the system allows for scalability and future feature additions.

Chapter 2: Literature

Survey

Introduction

Many existing grocery delivery apps prioritize performance and real-time updates. This survey evaluates similar systems and their technical architectures.

Review of Literature Survey

1. Evaluation of Consumer Behavior Regarding Food Delivery Applications in India

Authors: Sarvesh Jadhav, Ray Titus, Tina Babu, R. Chinnaiyan (2023)
Objective: To analyze consumer preferences and satisfaction levels concerning food delivery applications in India.
Work Done: The study conducted surveys focusing on attributes like restaurant variety, food packaging quality, and application design. It emphasized the significance of user-friendly interfaces in enhancing customer satisfaction.
Conclusion: A diverse range of restaurants and intuitive application design significantly influence consumer satisfaction and app usage frequency.
Reference: arXiv:2401.14409arXiv

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2. Critical Success Factors for Quick Commerce Grocery Delivery in India: An Exploratory Study

Authors: Venkatesh Ganapathy, Chithambar Gupta (2023)
Objective: To identify key factors contributing to the success of quick commerce grocery delivery services in India.
Work Done: The research analyzed various quick commerce models, focusing on aspects like funding, cost control, and efficient deployment of resources.
Conclusion: Sustainable operations in quick commerce require strategic funding, cost management, and diversification of revenue streams beyond delivery charges.
Reference: ResearchGatesafer.uct.cl

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3. Smart Online Grocery Shopping App Development

Authors: Abdulhaseeb H. Abdulmalik, Faisal Sulaiman A. Alghafri, Mohammed J. Yousif (2021)
Objective: To develop a smart online grocery shopping application addressing common shopping challenges.
Work Done: The study designed an app incorporating features like user-friendly interfaces, efficient navigation, and personalized recommendations to enhance the shopping experience.
Conclusion: The developed application effectively addressed shopping inconveniences, offering a streamlined and user-centric grocery shopping solution.
Reference: ResearchGate

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4. Online Grocery Delivery: Sustainable Practice or Congestion Generator and Environmental Burden?

Authors: Mateo Samudio Lezcano, Corey D. Harper, Destenie Nock, Gregory V. Lowry, Constantine Samaras (2023)
Objective: To assess the environmental impact of online grocery delivery services.
Work Done: The study evaluated changes in travel patterns and emissions resulting from grocery delivery adoption, using Seattle, WA as a case study.
Conclusion: Online grocery delivery can both increase and decrease peak hour emissions and vehicle hours traveled, depending on various factors like delivery center location and delivery timing.
Reference:
ScienceDirectScienceDirect+2ADS+2CoLab+2ADS+2CoLab+2ScienceDirect+2

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5. Development of Smart Online Grocery Shopping App

Authors: Savali Patil, Anjali Joshi, Aachal Shinde, Abhishek Rathod, Madhuri Kawarhe (2023)
Objective: To enhance existing grocery shopping systems by integrating advanced functionalities like stock prediction and online payment modules.
Work Done: The project developed a system enabling users to purchase groceries as per their requirements and allowing admins to predict future stock based on previous sales.
Conclusion: The implemented system improved performance and service quality for both clients and shopkeepers.
Reference: Atlantis Press

Chapter 3

Design and Implementation

Introduction

This chapter presents the outcomes of the blinkit implementation, including cost estimates, feasibility study results, and a detailed analysis of the platform's effectiveness in enhancing community engagement. The observations and remarks highlight the key findings and recommendations for future improvements.

Requirement Gathering

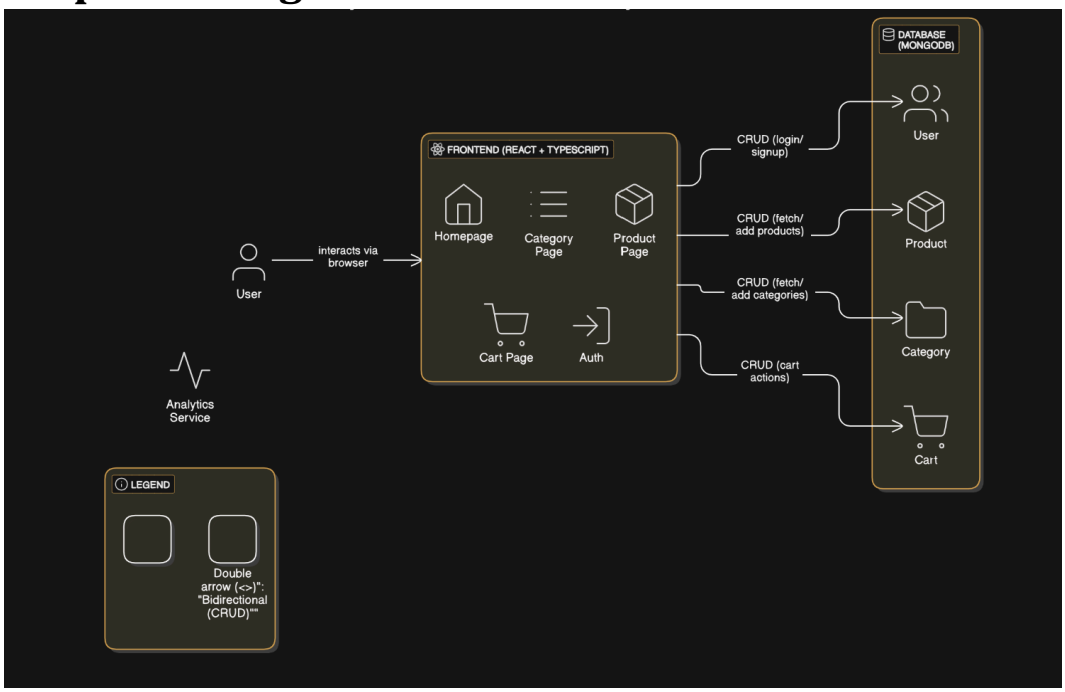
Functional Requirements:

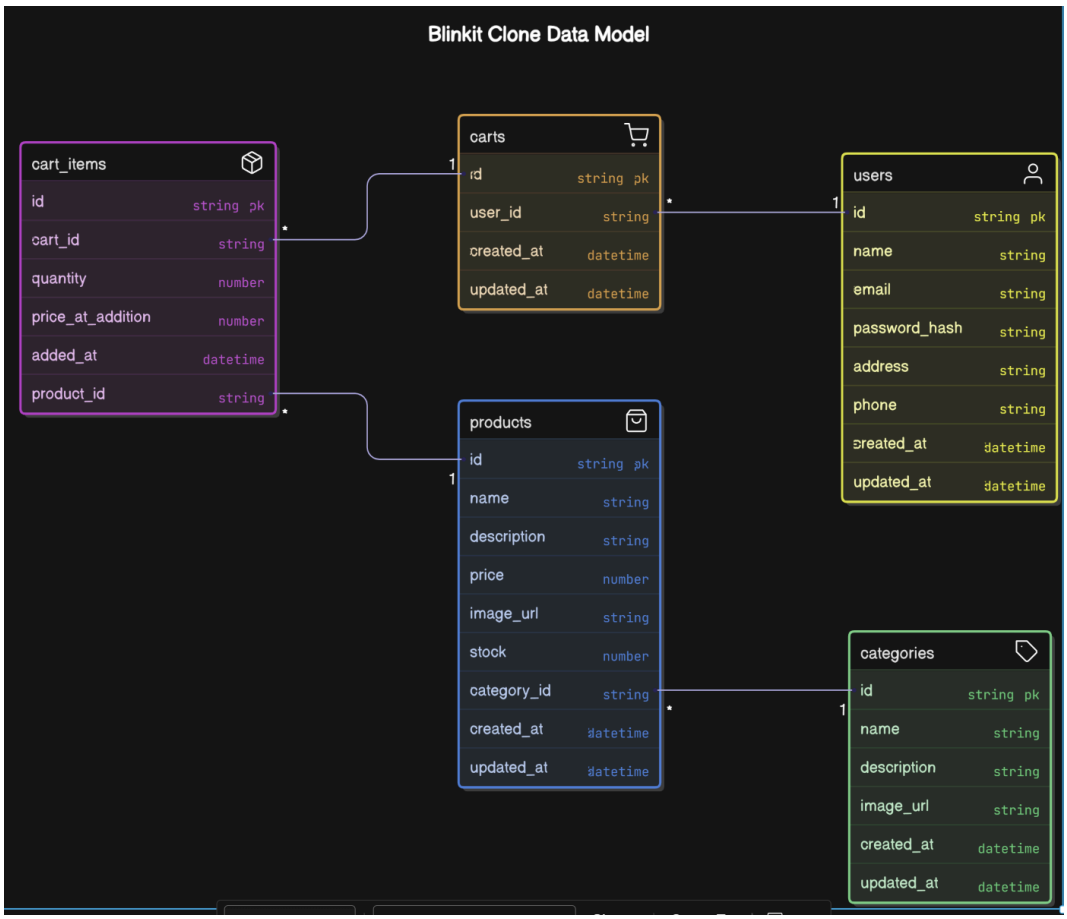
- Browse categories
- View product listings
- Load product data from MongoDB
- Category-wise filtering

Performance Requirements:

- High responsiveness
- Low latency
- Mobile compatibility

Proposed Diagram





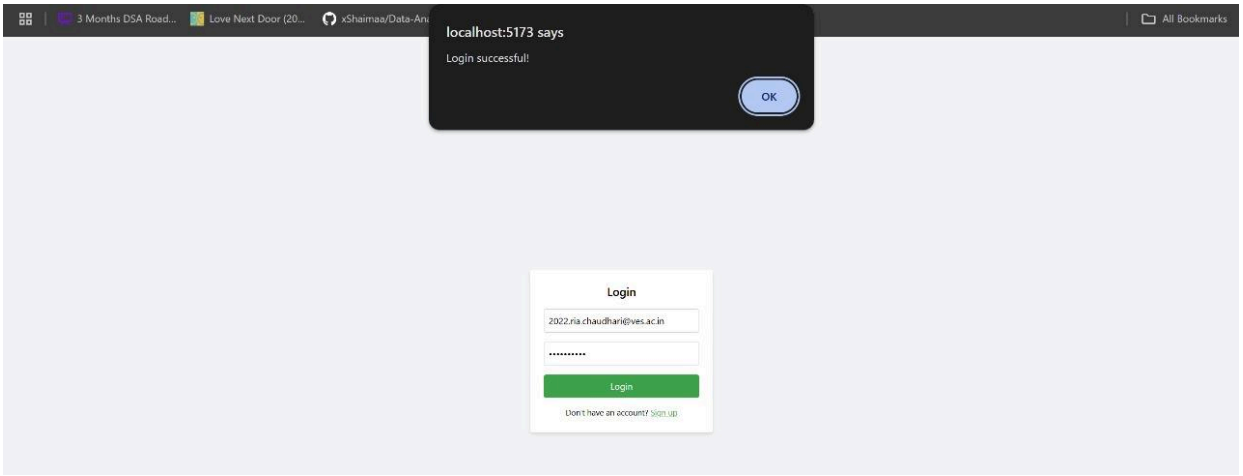
Software Requirements

- Frontend: React + TypeScript
- Backend: Flask
- Database: MongoDB
- Tools: VS Code, Postman, GitHub

Chapter 4
Results and Discussion

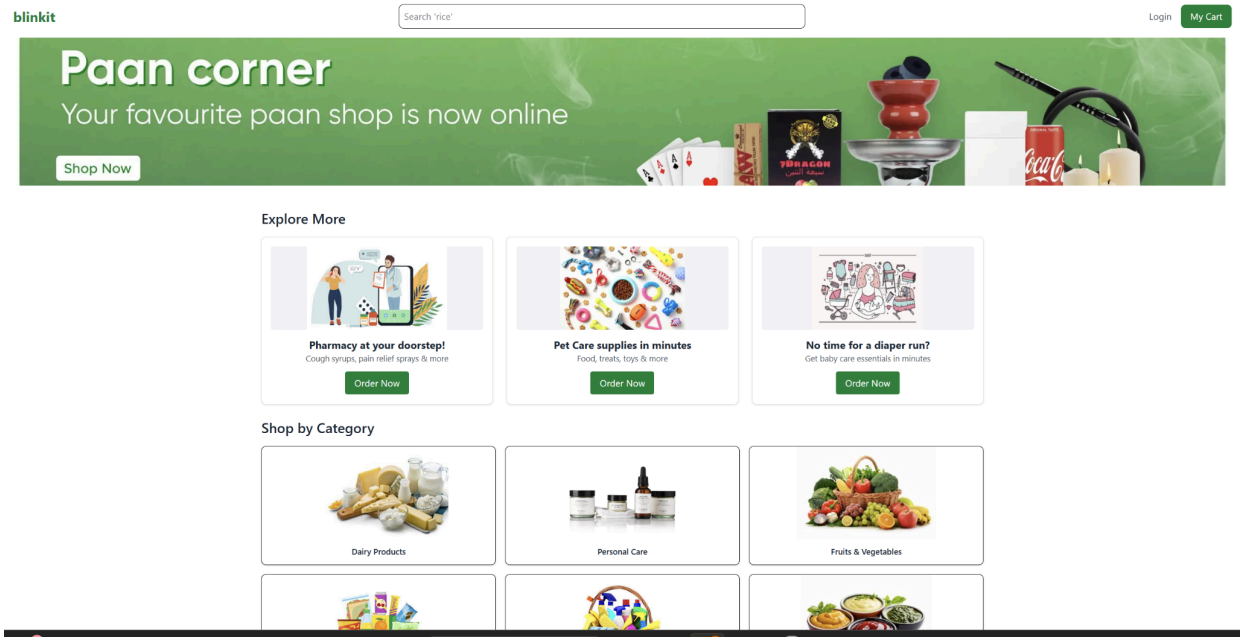
4.1 Login Page

User can login using email and password



4.2 Homepage

Displays top categories, product grid, banners, and navigable layout.

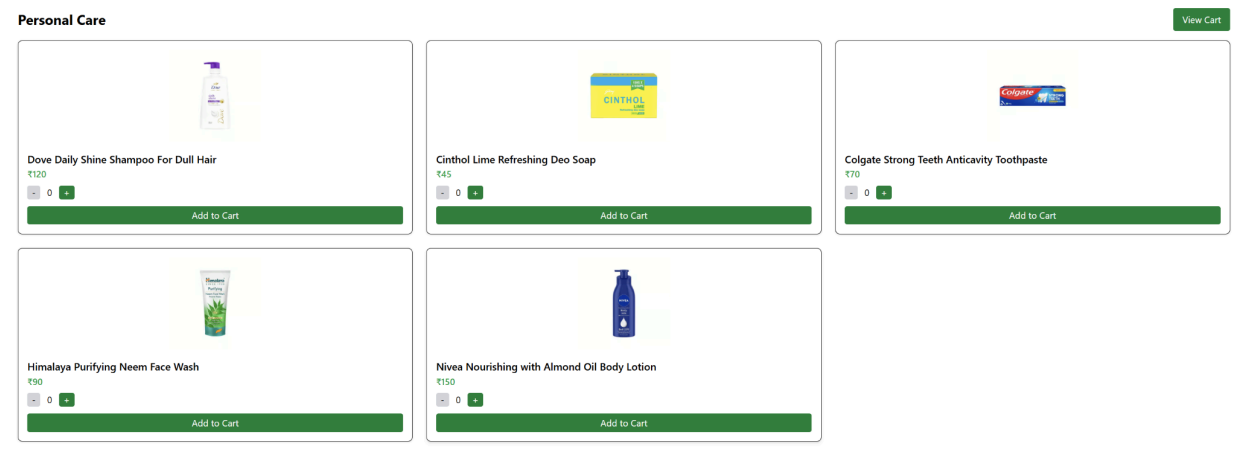


4.3 Categories Page

Dynamic category components fetch and render product data based on user selection.

4.4 Product Display

Product cards include name, image, and price, all pulled dynamically from MongoDB via Flask backend.



4.5 Cart Page

All the items added to the cart are displayed on this page along with the total amount that is to be paid by the customer.

4.6 Observations

- User interface is intuitive and quick to load
- Category filtering is effective
- System is modular and easily extensible

Chapter 5: Conclusion

Conclusion

The Blinkit Clone project effectively demonstrates the integration of a modern frontend with a robust backend and a cloud-based database. It mirrors a real-time grocery shopping experience and can be expanded further.

Future Scope

- Implement order history and admin dashboard
- Integrate payment gateway
- Real-time delivery tracking

Bibliography

- Sarvesh Jadhav, Ray Titus, Tina Babu, R. Chinnaiyan. *Evaluation of Consumer Behavior Regarding Food Delivery Applications in India*, arXiv preprint arXiv:2401.14409, 2024. https://arxiv.org/abs/2401.14409

- Venkatesh Ganapathy, Chithambar Gupta. *Critical Success Factors for Quick Commerce Grocery Delivery in India: An Exploratory Study*, ResearchGate, 2023. https://www.researchgate.net/publication/383374532_Critical_success_factors_for_quick_commerce_grocery_delivery_in_India_an_exploratory_study

- Abdulhaseeb H. Abdulmalik, Faisal Sulaiman A. Alghafri, Mohammed J. Yousif. *Smart Online Grocery Shopping App Development*, ResearchGate, 2021. https://www.researchgate.net/publication/352761822_Smart_Online_Grocery_Shopping_App_Development

- Mateo Samudio Lezcano, Corey D. Harper, Destenie Nock, Gregory V. Lowry, Constantine Samaras. *Online Grocery Delivery: Sustainable Practice or Congestion Generator and Environmental Burden?*, Transportation Research Part D: Transport and Environment, 2023. https://www.sciencedirect.com/science/article/pii/S1361920923001190