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Quicktap: Grocery Price Comparison Platform

Dr P Deepthi, G Akshitha, P Garshana, M Keerthi

[1]Associate Professor, Department Of Cse, Bhoj Reddy Engineering College For Women, India.

[2,3]B. Tech Students, Department Of Cse, Bhoj Reddy Engineering College For Women, India.

ABSTRACT

QuickTap *is a web-based grocery price comparison system designed to help users find the best prices for grocery items across different local shops. Instead of manually visiting stores or browsing multiple websites, users can quickly compare prices through a single platform, saving time and money. The system has three main modules: User, ShopOwner, and Admin. Users can register, log in, view product categories, compare prices, and contact support. ShopOwners can manage their product listings, while Admins oversee users, shop owners, and product data. Built using Java and MySQL, QuickTap provides an efficient, secure, and user-friendly interface, making grocery shopping smarter and more convenient*

1. INTRODUCTION

Quick is a Java-based desktop application developed to help consumers compare the prices of grocery items across multiple retail stores in order to make informed and cost-effective purchasing decisions. With grocery prices varying significantly between retailers, this system aims to provide transparency and convenience by enabling users to view real-time or regularly updated price information in a centralized interface.

Existing system

In the current market scenario, grocery shopping whether conducted online or offline is largely based on individual effort, lacking the integration of modern technological advancements for efficient price comparison. Most consumers rely on visiting multiple physical stores or browsing through various e-commerce websites and mobile applications to compare the prices of basic grocery item.

Proposed system

The proposed system is a Java-based Grocery Price Comparison System designed to overcome the inefficiencies and limitations of the current fragmented shopping experience. This system aims to provide users with a centralized platform where they can input their grocery list and instantly compare the prices of those items across multiple online vendors. By automating the process of price comparison, the system significantly reduces the time and effort spent on manual searches while helping users make smarter, budget-conscious shopping decisions.

2-REQUIREMENT ANALYSIS

Functional requirements

- Register
- Login
- ViewProducts
- ViewStore
- AddToCart
- RemoveCart
- ViewCart
- Logout

Admin:

- Login
- ManageUsers
- ManageProducts
- ManageShopOwner
- Logout

ShopOwner:

- Login
- Add Product
- Update Product
- Logout

Non-Functional Requirements

- **Performance:** Fast processing for quick checkout**.**
- **Security :** Secure login and customer data protection.
- **Scalability :** Expandable for multiple stores.
- **Usability** : Simple UI for easy learning.

Hardware Requirements

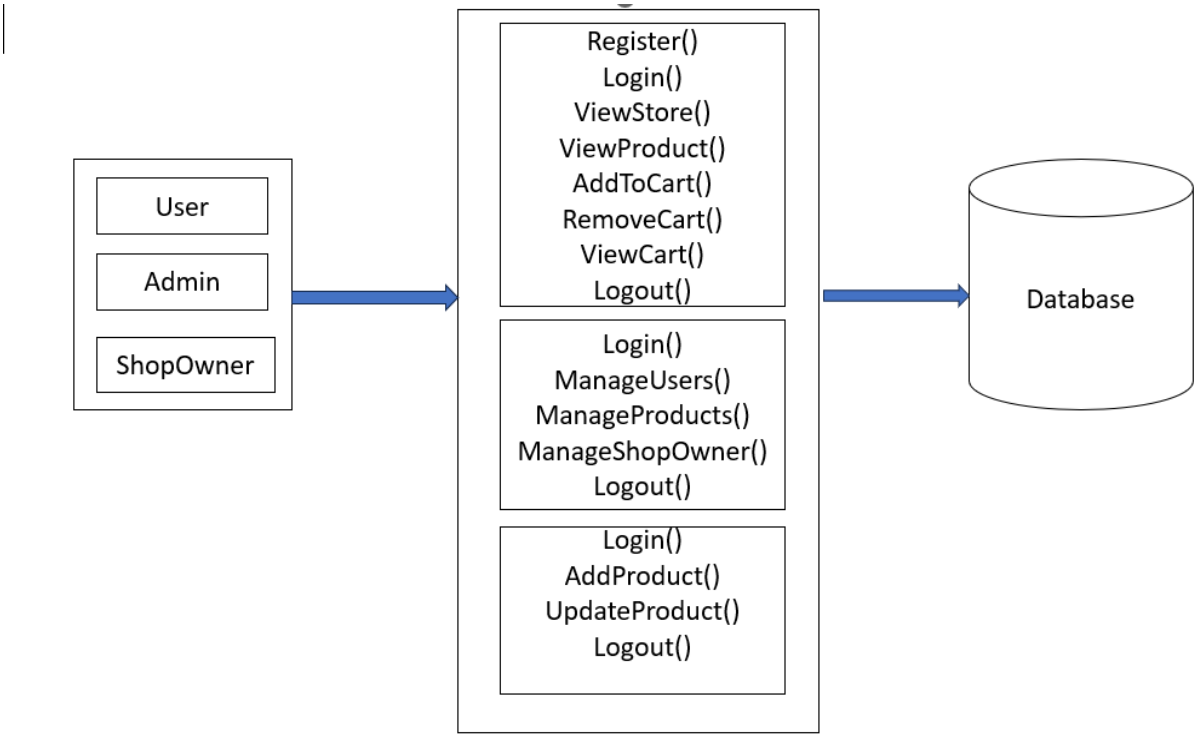
- Processor: Gen Intel(R) Core (TM) i7-1355U 1.70 GHz
- RAM: 8GB or more
- Storage: 256GB SSD

Software Requirements

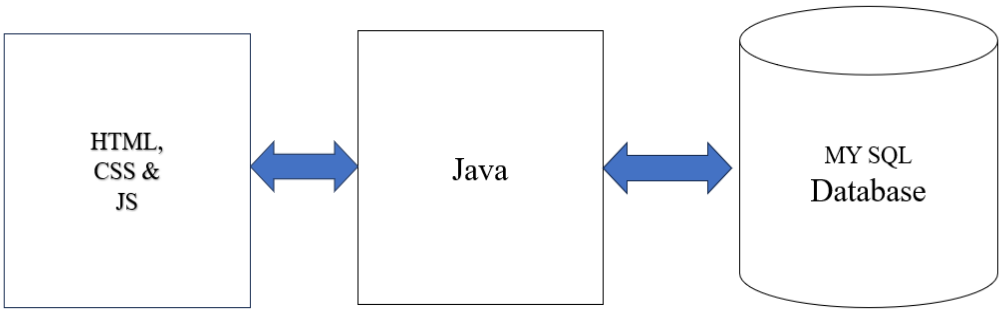
- Frontend: HTML, CSS, JavaScript
- Database: MySQL
- Language used: Java
- Tools**:** Eclipse / IntelliJ IDEA / NetBeans
- Operating System: Windows 11

3-DESIGN

Software Architecture



Technical Architectures



4-IMPLEMENTATION

QuickTap is a web-based grocery price comparison platform that allows users to compare product prices across different shops, helping them make cost-effective shopping decisions. The system supports three main roles: **User**, **ShopOwner**, and **Admin**. Each module is designed to provide a seamless experience in browsing products, managing inventory, and overseeing system data.

1. User Interface

The application features a user-friendly and responsive interface developed using **HTML**, **CSS**, and **JSP** for frontend display, while the backend is handled through **Java Servlets and DAO classes**. Users can sign up, log in, view shop lists, browse product categories, compare product prices, and contact support. ShopOwners can manage their products, and Admins can monitor and manage the system-wide data.

- **Secure Login/Signup** for User, ShopOwner, and Admin.
- **User Dashboard** for category browsing, shop list viewing, price comparison, and contacting support.
- **ShopOwner Dashboard** to add/edit/delete products and view product listings.
- **Admin Dashboard** to manage users, shop owners, and monitor product and category data.

Technologies

The following technologies were used in the implementation of the system:

Technologies Used in Farm Tech Lease

- **Frontend:**
- **HTML** – Structure of pages (login, category view, product comparison, etc.)
- **CSS** – Styling and layout of web interfaces.
- **JavaScript** – For dynamic page rendering and Java integration in views.
- *Backend:*

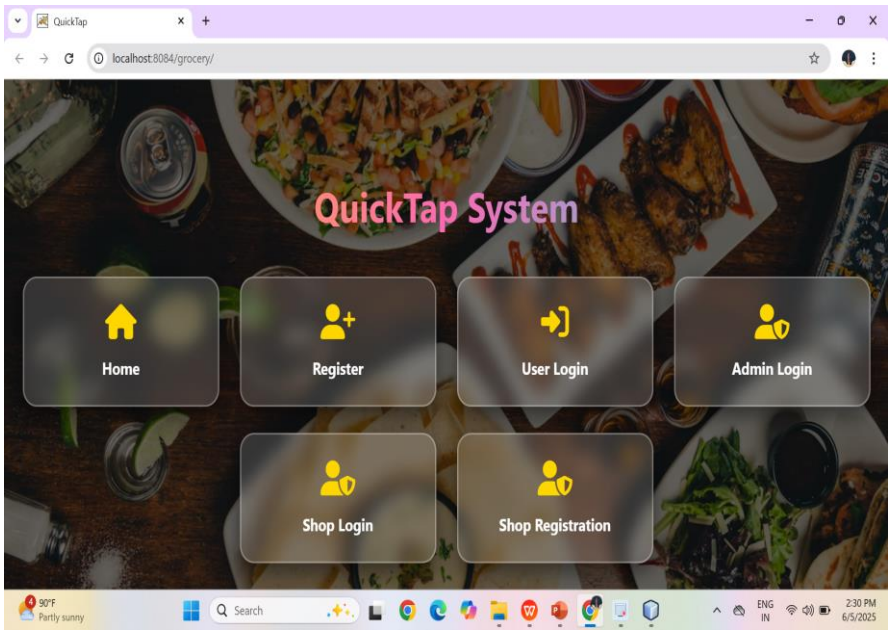
JAVA – Core application logic to process requests and interact with the database.

MySQL – Stores all application data including:

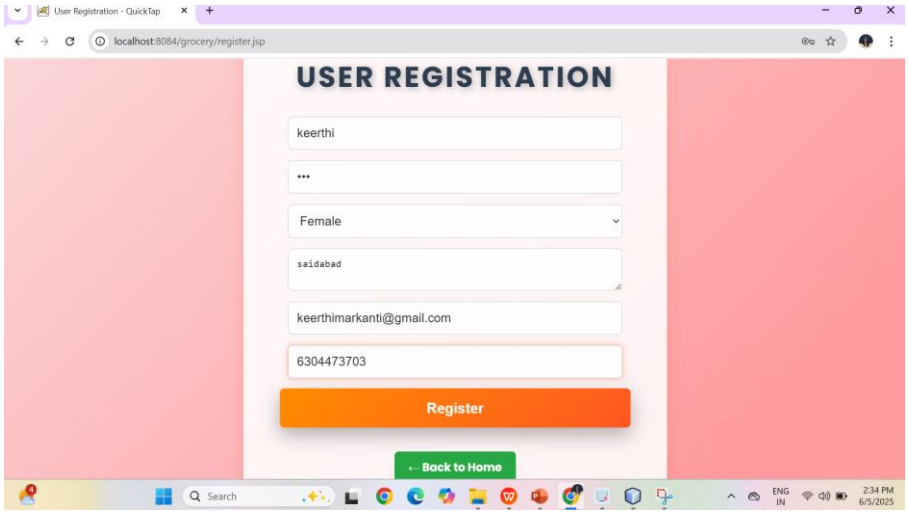
- User and ShopOwner accounts
- Product listings
- Admin credentials
- Categories
- Support requests

5-SCREENSHOTS

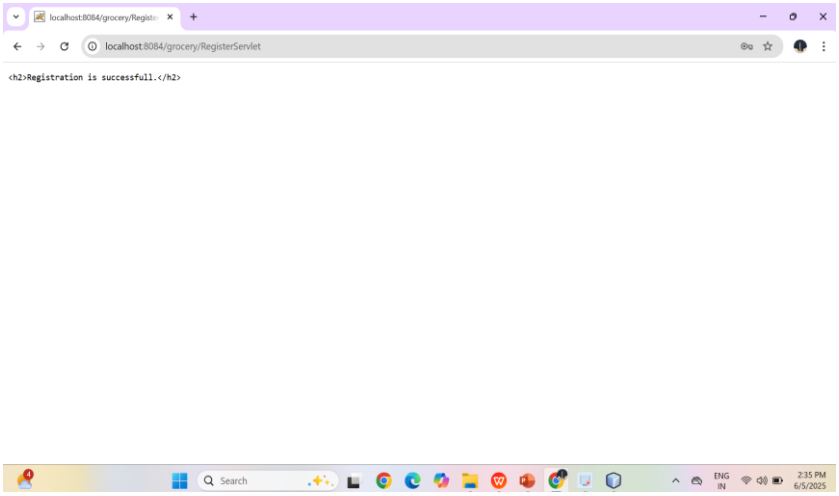
Home page:



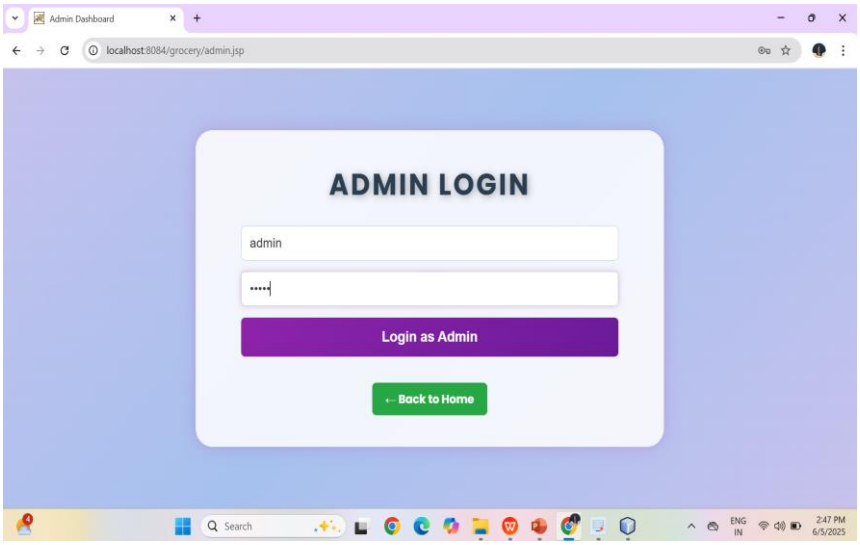
User Registration Page:



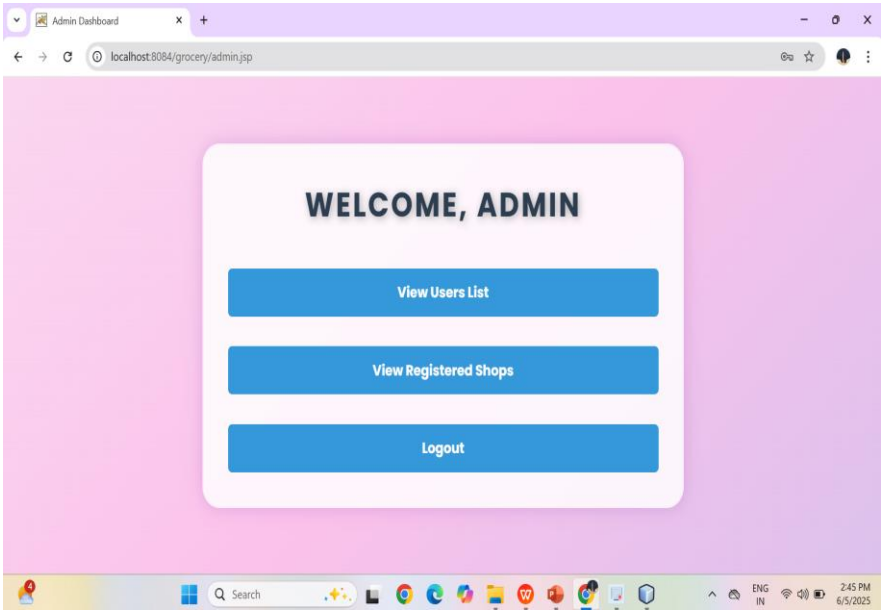
Registered Successfully:

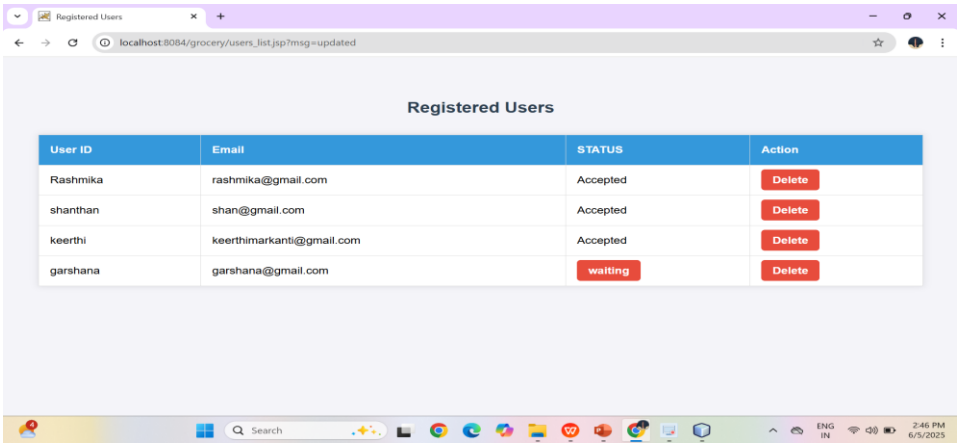


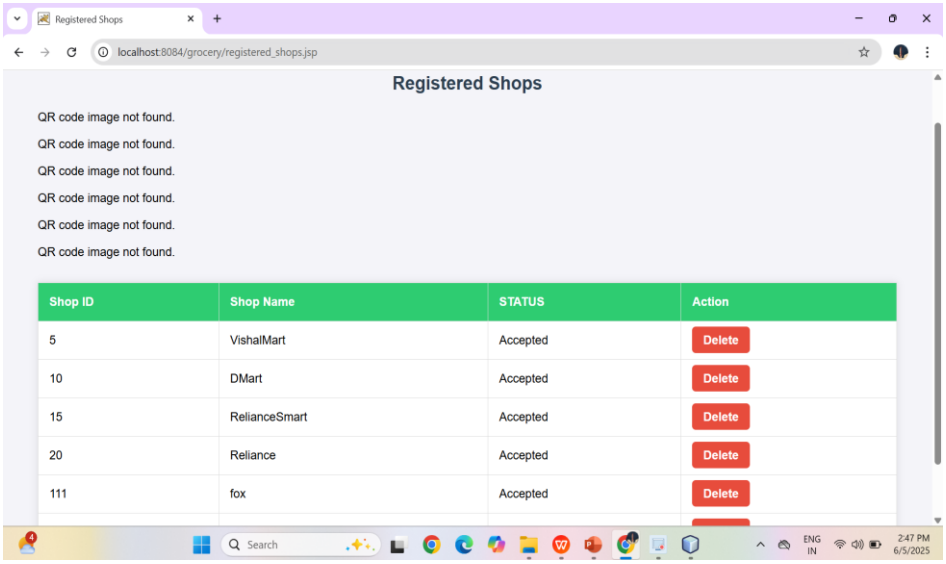
Admin Page:

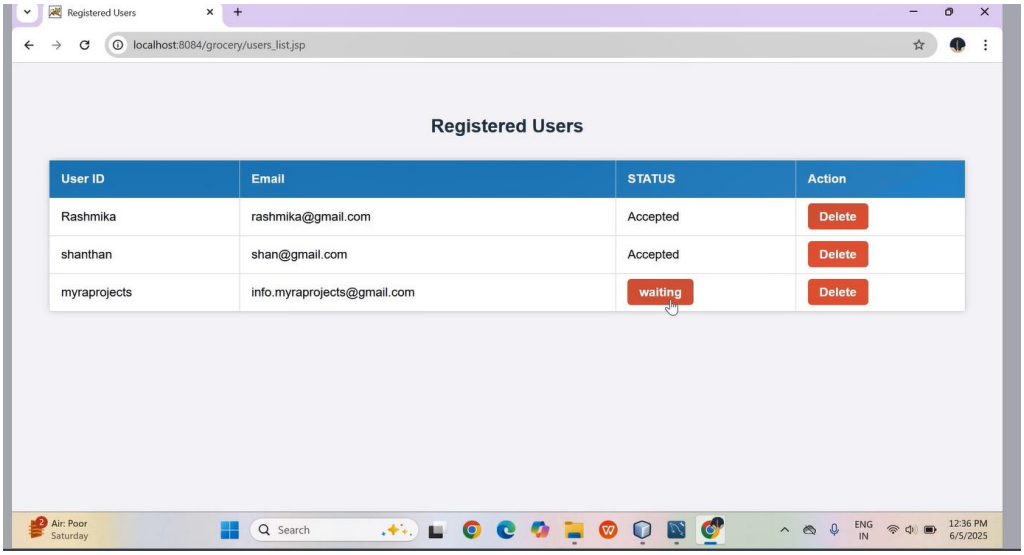


Admin Login:

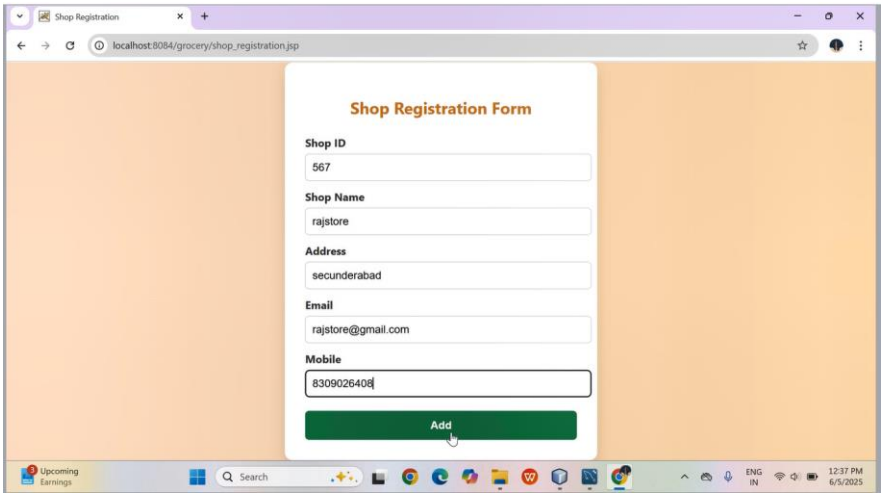




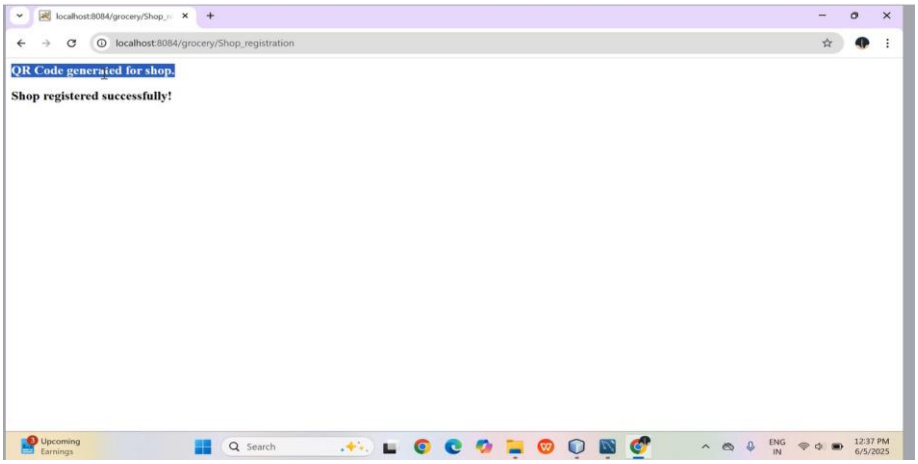




Shop Registration Form:



Registration Successful:



6. CONCLUSION

Connecting small shop apps empower businesses by giving them a digital platform to reach a broader audience. These apps help small shops compete with larger retailers, boost sales, and gain customer insights. They also support local economies by promoting independent businesses and fostering community engagement. Overall, these apps play a key role in driving local economic growth and leveling the playing field for small shops.

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