



Kallardo - Software Documentation

v1.4 -7/2/25

Overview

Kallardo is an all-encompassing platform designed to streamline restaurant management through web and mobile applications. It offers a vast range of features, from secure user authentication to advanced notification systems, and is built to be highly responsive, secure, and SEO-optimized. This documentation provides an in-depth look at each feature and the underlying technology that powers Kallardo.

Kallardo Web (React, PWA) - [URL](#)

Kallardo Android (React Native, Expo) - [URL](#)

Kallardo Android Lite (React, TWA) - [URL](#)

1. Codebase

- **Lines of Code:**
 - **Django:** 8362 lines, optimized for maintainability and performance.
 - **React.js:** 11391 lines, ensuring a dynamic and responsive web interface.
 - **React Native:** 5933 lines, focused on delivering a smooth mobile experience.
- **Optimization:** The code is meticulously optimized to ensure scalability and ease of maintenance.
- **Data Fields :** Above 130 data fields

2. API Management

- **50+ API Endpoints:** Kallardo features over 50 APIs, each optimized for specific functionalities across the platform. These APIs are meticulously designed to handle a variety of requests efficiently and securely.
- **Custom API Throttling:** In addition to general throttling, API requests are throttled based on user roles and IP addresses, providing an additional layer of security.
- **Authorization:** Integrated into every API, ensuring robust security and compliance with best practices.

3. Custom User Login

- **OTP-based Authentication:** Users authenticate via OTP sent through SMS, leveraging VI DLT for message delivery. This ensures a high level of security and compliance with telecom regulations.
- **Authorization:** Every API endpoint is secured with authorization checks, ensuring that only authenticated users can access sensitive operations.

4. Hosting & Security

- **Server Hosting:**
 - **Hostinger Plain Linux VPS:** Chosen for its reliability and cost-effectiveness.
 - **UFW Firewall:** Configured to secure the server against unauthorized access.
- **GDPR Compliance:** Data handling processes comply with GDPR regulations, ensuring user privacy and data protection.
- **Security Measures:**
 - **Remote Code Execution (RCE) Immunity:** The system is hardened against RCE vulnerabilities.
 - **SQL Injection Prevention:** The platform is built with defenses against SQL injection attacks.
 - **DDOS and DOS Protection:** Enhanced measures are in place to mitigate DDOS and DOS attacks.
 - **XSS Attack Prevention:** Cross-site scripting vulnerabilities are addressed.

- **CSRF Attack Immunity:** Cross-Site Request Forgery protection is built into the system.
- **Google reCAPTCHA:** Implemented on both Android and Web platforms to mitigate automated attacks and ensure the integrity of user interactions.
- **All API Throttling:**Throttling is applied universally across all APIs to prevent abuse, including for anonymous users. This ensures that the platform remains stable and secure, even under high traffic or potential attack scenarios.
- **Custom API-Specific Throttling:** Throttling is customized at the API level to prevent abuse and ensure fair usage across the platform. Throttling is customized at the API level to prevent abuse and ensure fair usage across the platform.

5. User Experience Enhancements

- **Push Notifications:**
 - **Web and Android Notifications:** Seamlessly integrated to keep users informed.
 - **Custom Push Notifications:** Categorized notifications to prevent them from being blocked, ensuring important updates reach users.
- **Dark and Light Modes:** Available across all four platforms, offering users a personalized experience based on their preferences.
- **Invoices :** Invoices are generated dynamically using xhtml2pdf to convert HTML templates into PDF format, ensuring professional and consistent invoice presentation across platforms.

6. Platform Support

- **Platforms:**
 - **Android App:** Full-featured with deep linking and Google Maps integration.
 - **Web App:** Fully responsive and optimized for performance.
 - **Android Lite:** A lightweight version (< 1MB) designed for quick access and minimal data usage.
 - **iOS App:** Code is ready, with the launch scheduled soon.

- **Responsiveness:** The platform is fully responsive, including all dashboards (Admin, Restaurant, and Delivery Boy Management).

7. SEO Optimization

- **SEO-Rich Website:**
 - **10+ Pages Indexed:** Ensuring visibility and discoverability on Google.
 - **SEO for Restaurants:** Each restaurant listing is optimized for search engines, increasing their chances of appearing in search results.

8. Analytics and Monitoring

- **User Analytics:** Comprehensive tracking of user behavior, with detailed insights to drive business decisions.
- **QR code Integration :** Each restaurant is provided with a unique QR code which redirects user to web app or mobile app if app is installed

9. Payment Integration

- **Gateway Support:**
 - **Four Platforms:** Integrated with multiple payment gateways for versatility.
 - **Migration from PhonePe to Razorpay:** The platform previously supported PhonePe and has since migrated to Razorpay for better functionality and user experience.

10. Data Handling

- **Image Compression:**
 - **300px Compression:** All food and hotel images are compressed to 300px for faster loading times, with original images stored for potential AI processing.
- **Data Scraping:**
 - **Beautiful Soup and Selenium:** Used to legally scrape restaurant data from Swiggy, reducing manual data entry time from 3 hours to just 1 minute.

11. Admin and Management Dashboards

- **Custom Django Admin Dashboard:** Added Custom functionalities over Normal Django Admin to use it more in most complex use case.

- **Custom React.js Dashboards:**
 - **Admin Dashboard:** Provides a comprehensive view of sales and other critical data.
 - **Restaurant Management Dashboard:** Features for managing dine-in, pickup, and delivery operations, including assigning deliveries to specific delivery boys.
 - **Delivery Boy Management:** Integrated with Google Maps API to streamline the delivery process and ensure timely service.
- **QR Code or OTP Verification:**
 - **Dine-in and Pickup:** Verification can be done by scanning a QR code generated by the Restaurant Dashboard or by entering an OTP.
 - **Delivery Verification:** Orders delivered by delivery boys can be verified by scanning a QR code or entering an OTP, ensuring secure and accurate delivery.

12. Performance Optimization

- **Loading Speed:**
 - **0.6s Loading Time:** The web application is highly optimized, achieving a loading speed of just 0.6 seconds. [Source](#)
- **Optimized React Code:** The codebase is streamlined to allow API integration with just one line, facilitating rapid development and deployment.
- **State Management:** Efficiently managed across all platforms using *React-Redux*.
- **API Caching & Retry:** Implemented using *React Query* to ensure optimal performance and reliability.

13. Deployment and Maintenance

- **Hosting Setup:** Both backend and frontend are hosted on the same server, simplifying deployment and maintenance.
- **Deployment Automation:**
 - **Single Command Updates:** Backend and frontend updates are automated with single-word aliases (**RestartBackend** and **RestartFrontend**).
- **Centralized Database:** A unified database serves all four platforms, ensuring consistency and ease of data management.

14. Advanced Features

- **Custom Logging:** Implemented with Django to provide detailed logs for monitoring and debugging.
- **Deep Linking:**
 - **Android Deep Links:** Seamlessly integrated with the website to redirect users from kallardo.com to the Android app.
- **Custom Notifications:** Secondary custom notifications are implemented across all platforms for in-app alerts.
- **Google Maps Integration:** Both Android and iOS apps are integrated with Google Maps API to allow users to easily select their delivery addresses.
- **Cron Jobs:** Automated tasks like opening and closing restaurants based on their timings are handled using Cron jobs.

15. Technologies Used

- **Programming Languages:** Python, JavaScript, TypeScript
- **Backend Framework:** Django, Django REST Framework
- **Frontend Framework:** React.js, React Native, Expo
- **State Management:** React-Redux
- **Styling:** Tailwind CSS, NativeWind
- **Database:** PostgreSQL
- **Server & Hosting:** Hostinger (plain Linux VPS), Linux Nginx, Ubuntu
- **Firewall:** UFW
- **Version Control:** Git
- **Payment Gateway:** Razorpay (previously PhonePe)
- **Web Scraping:** BeautifulSoup, Selenium
- **PDF Generation:** xhtml2pdf
- **Routing:** React Router Dom
- **API Throttling:** Custom implementation using Django
- **Push Notifications:** Custom implementation for Web and Android
- **Data Compression:** On-server image compression
- **Compliance:** GDPR

- **Miscellaneous:** Deep Linking for Android, Cron Jobs (Django-Cron), Custom Logging using Django, API Caching and Retry with React Query

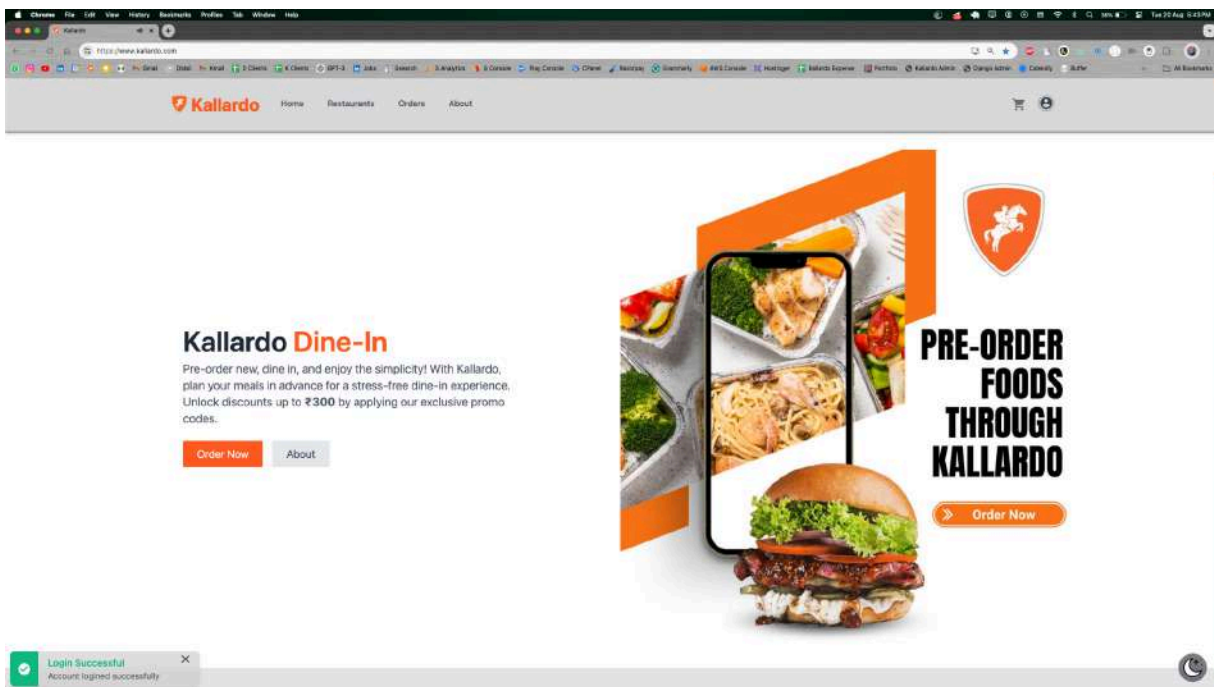
Third-Party APIs:

- **Google Maps API:** For delivery address selection and integration with delivery management.
- **VI DLT:** For OTP-based SMS authentication.
- **Amazon S3:** For classified storage needs.

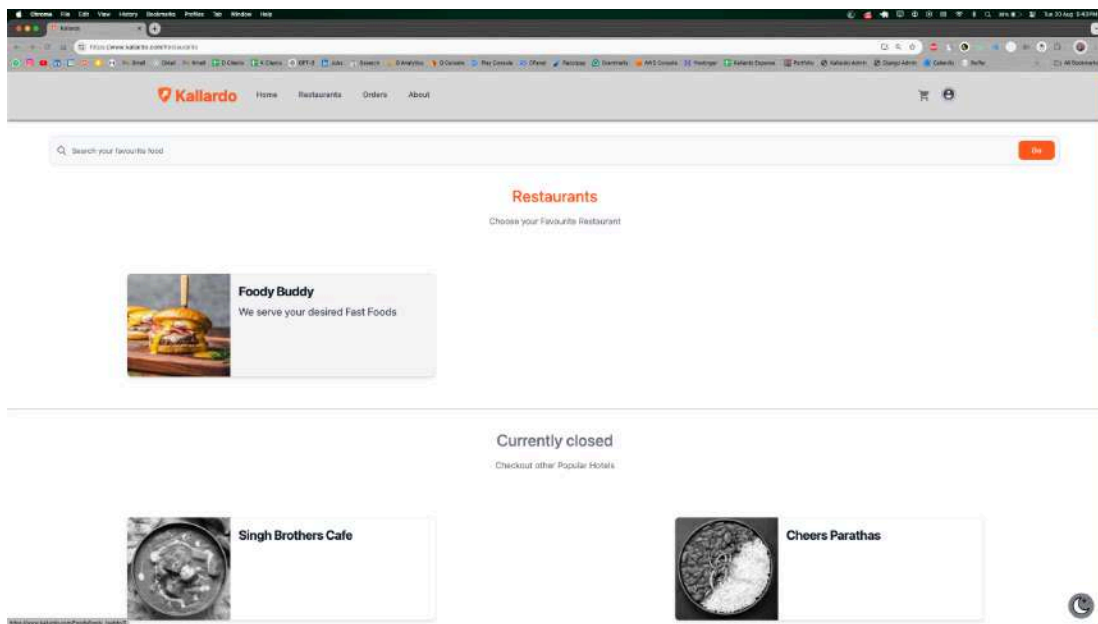
17. Database Schema

Not available in public Documentation

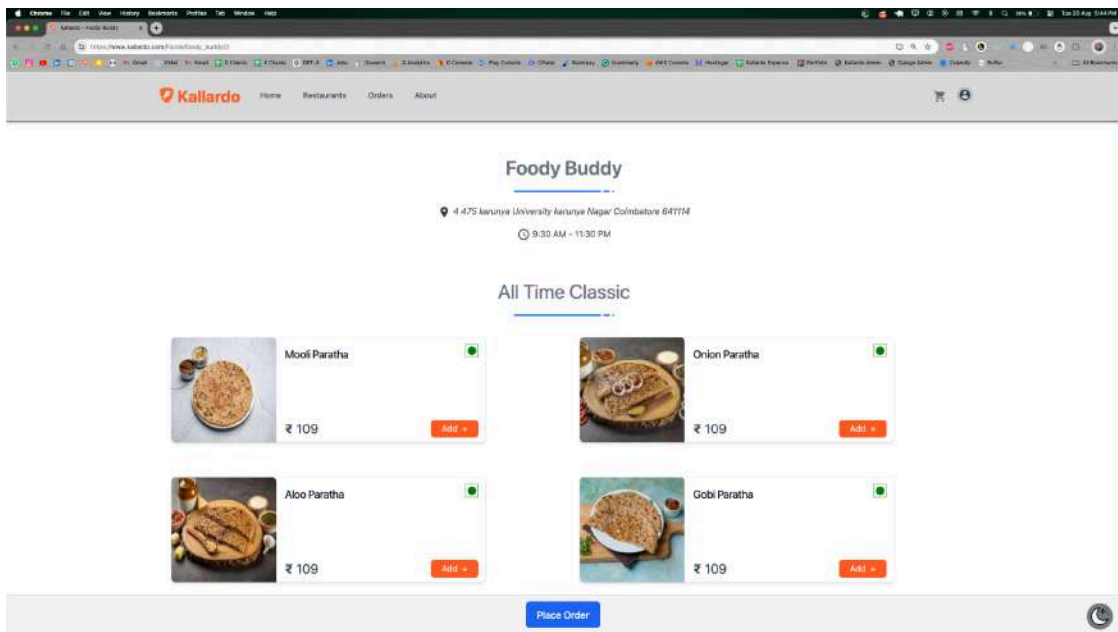
18. Screenshots - Web Application



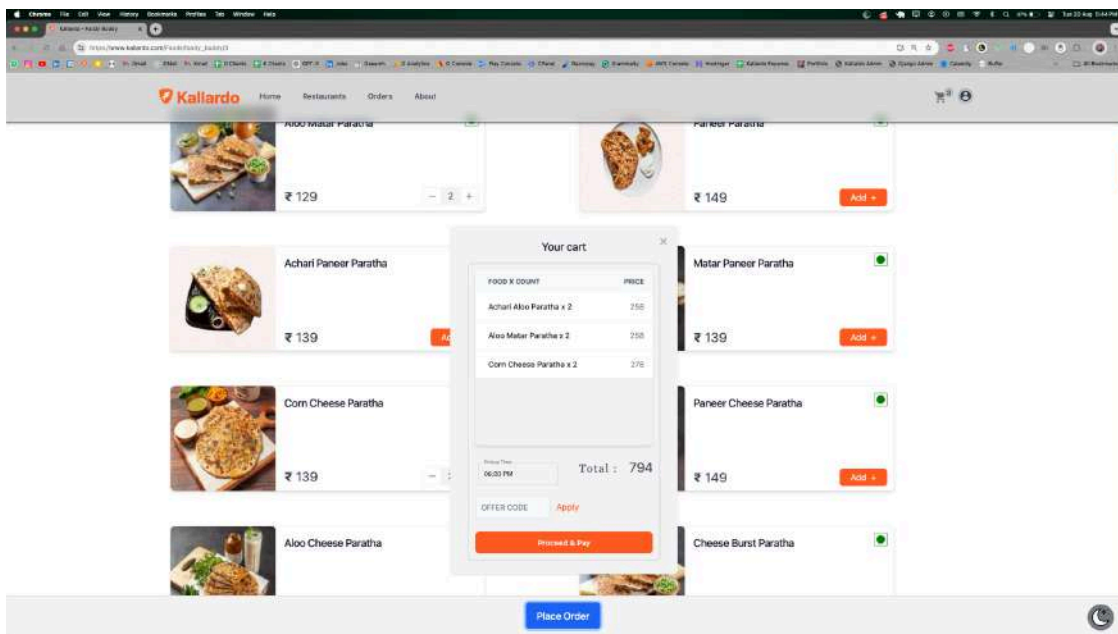
Home Page



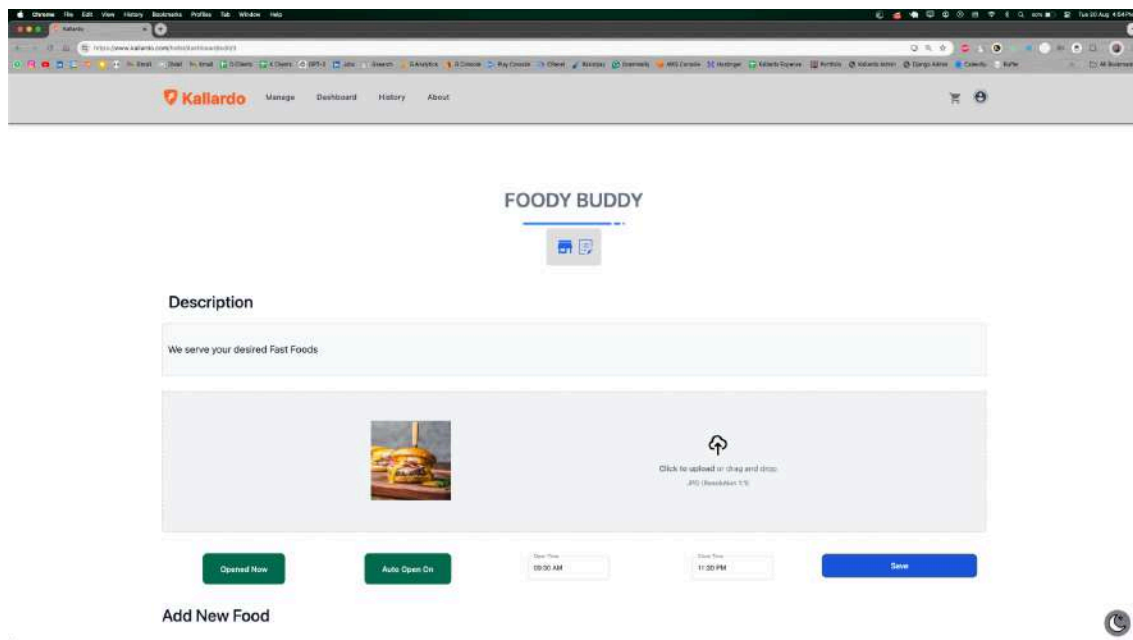
Listing Restaurants



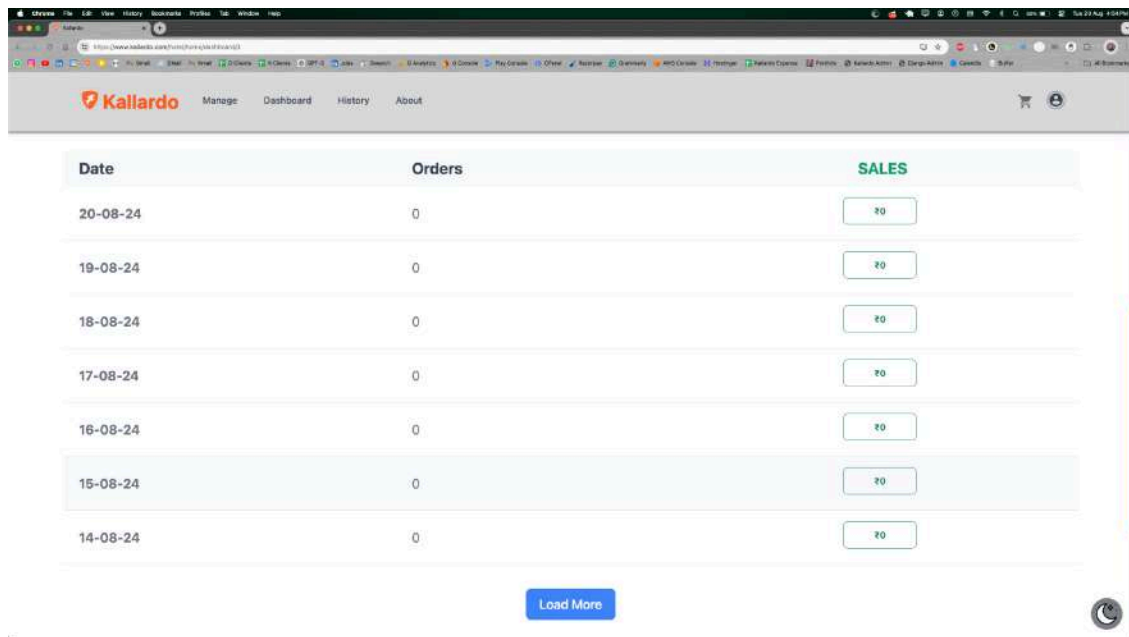
Listing Foods



Ordering Foods



Restaurant Dashboard - 1

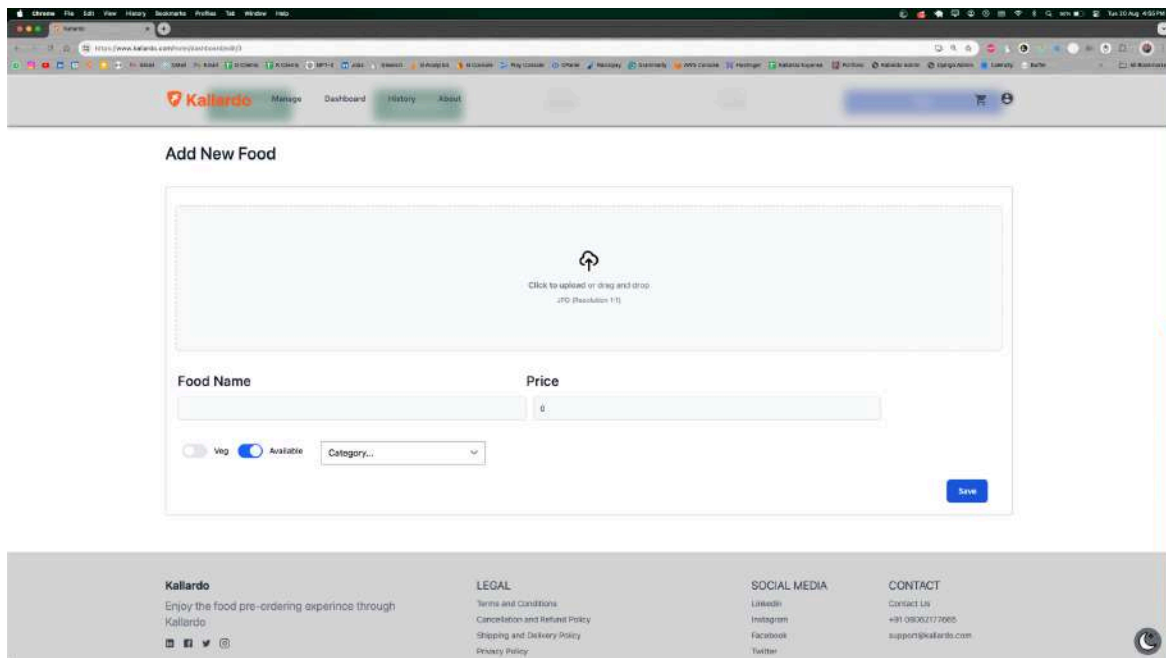


The screenshot shows the Kallardo Restaurant Dashboard. At the top, there is a navigation bar with the Kallardo logo and links for Manage, Dashboard, History, and About. Below the navigation bar is a table with three columns: Date, Orders, and SALES. The table displays data for the dates 20-08-24 through 14-08-24. Each row shows 0 orders and a sales amount of 70. A 'Load More' button is located at the bottom of the table.

Date	Orders	SALES
20-08-24	0	70
19-08-24	0	70
18-08-24	0	70
17-08-24	0	70
16-08-24	0	70
15-08-24	0	70
14-08-24	0	70

[Load More](#)

Restaurant Dashboard - 2



The screenshot shows the Kallardo Restaurant Dashboard with the 'Add New Food' form. The form includes a large image upload area with a placeholder text 'Click to upload or drag and drop (JPG (Resolution 1:1))'. Below the image area are input fields for 'Food Name' and 'Price'. There are also checkboxes for 'Veg' and 'Available', and a 'Category...' dropdown menu. A 'Save' button is located at the bottom right of the form.

Add New Food

Click to upload or drag and drop
(JPG (Resolution 1:1))

Food Name:

Price:

☐ Veg ☒ Available

[Save](#)

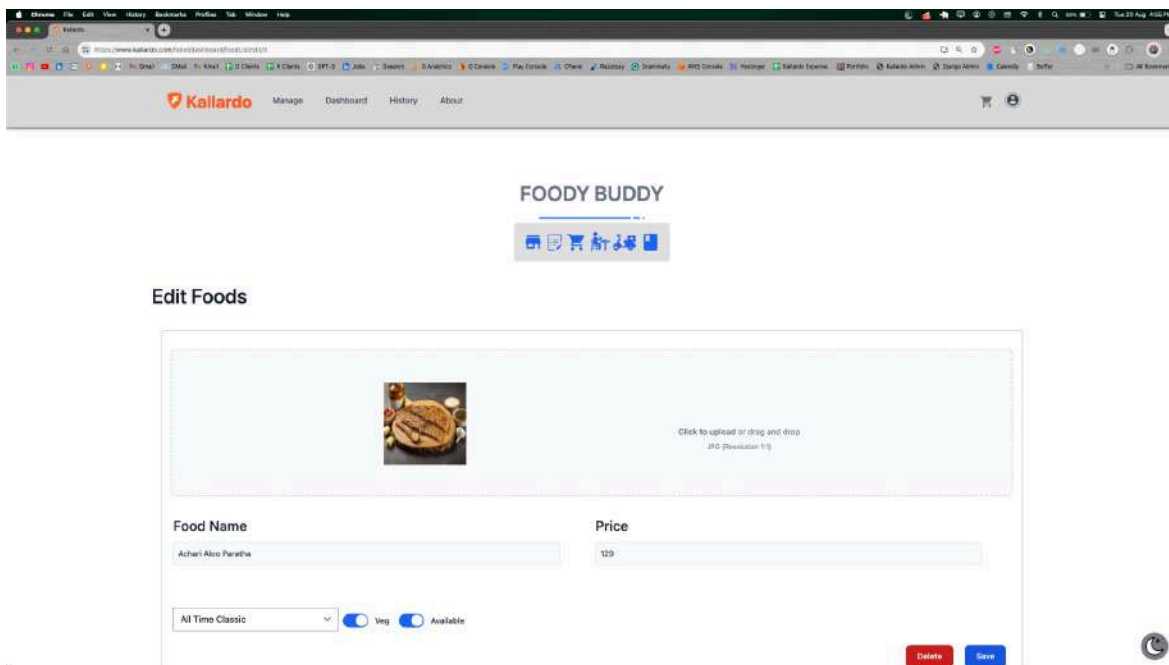
Kallardo
Enjoy the food pre-ordering experience through Kallardo
[Facebook](#) [Instagram](#) [Twitter](#)

LEGAL
[Terms and Conditions](#)
[Cancellation and Refund Policy](#)
[Shipping and Delivery Policy](#)
[Privacy Policy](#)

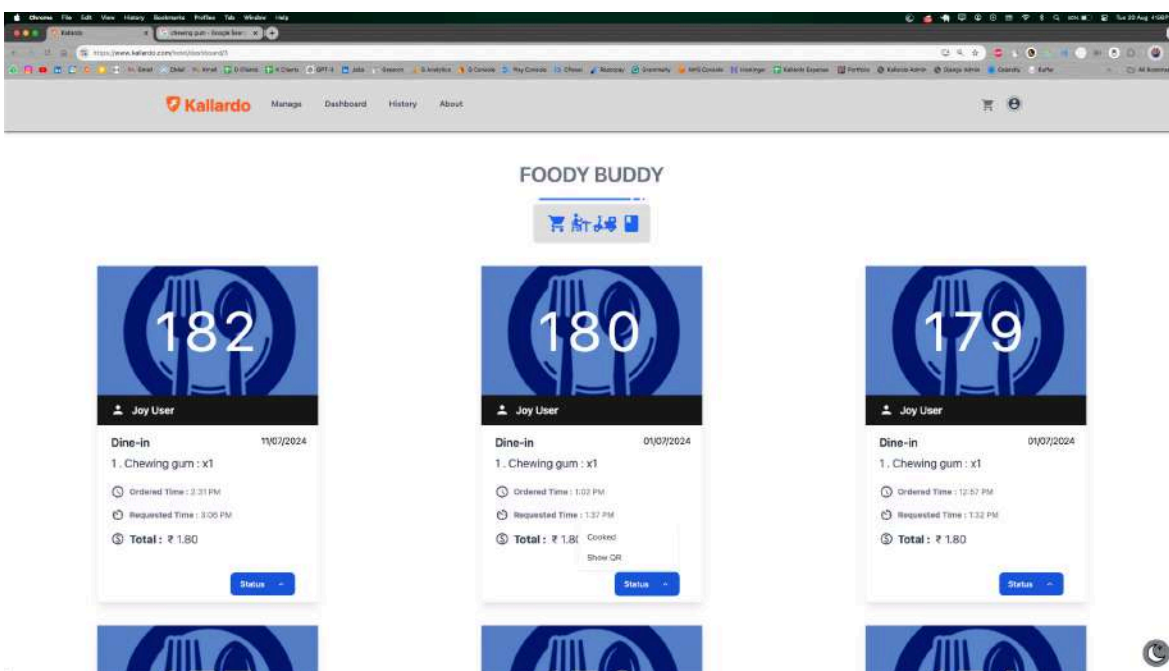
SOCIAL MEDIA
[LinkedIn](#)
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[Twitter](#)

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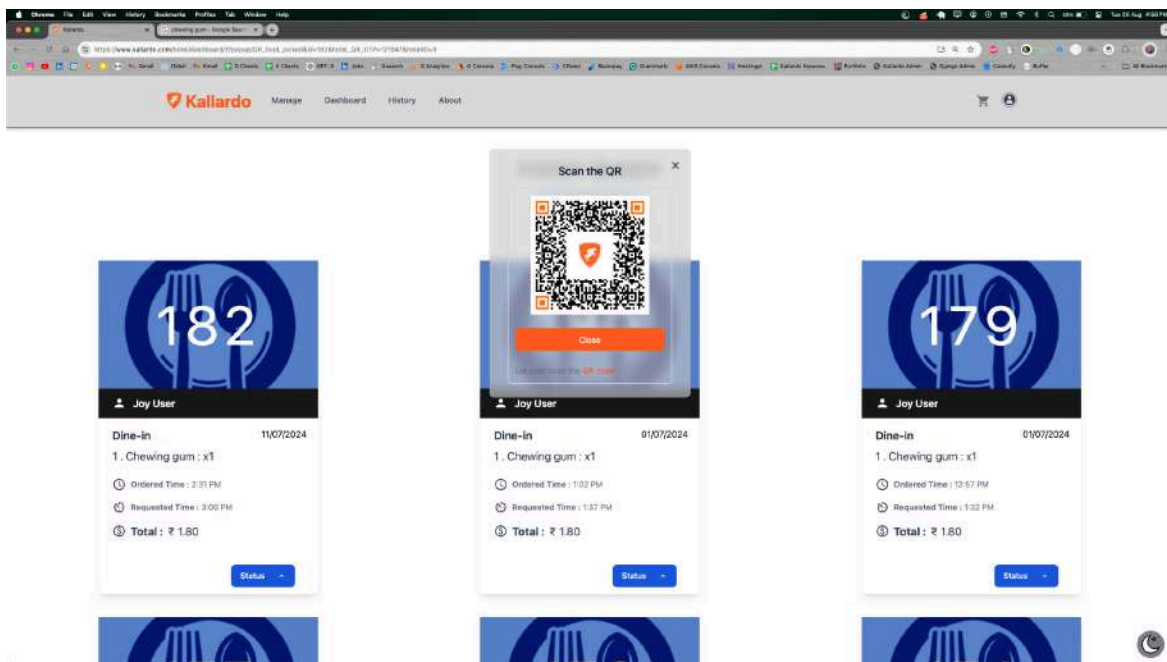
Adding Food



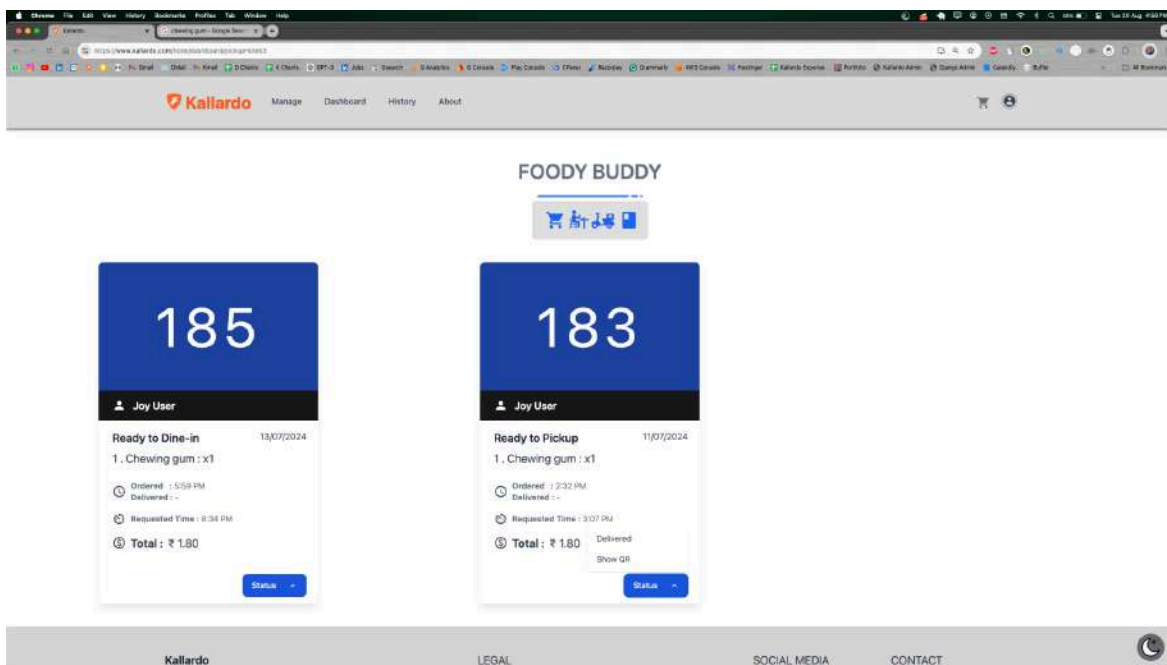
Editing Food



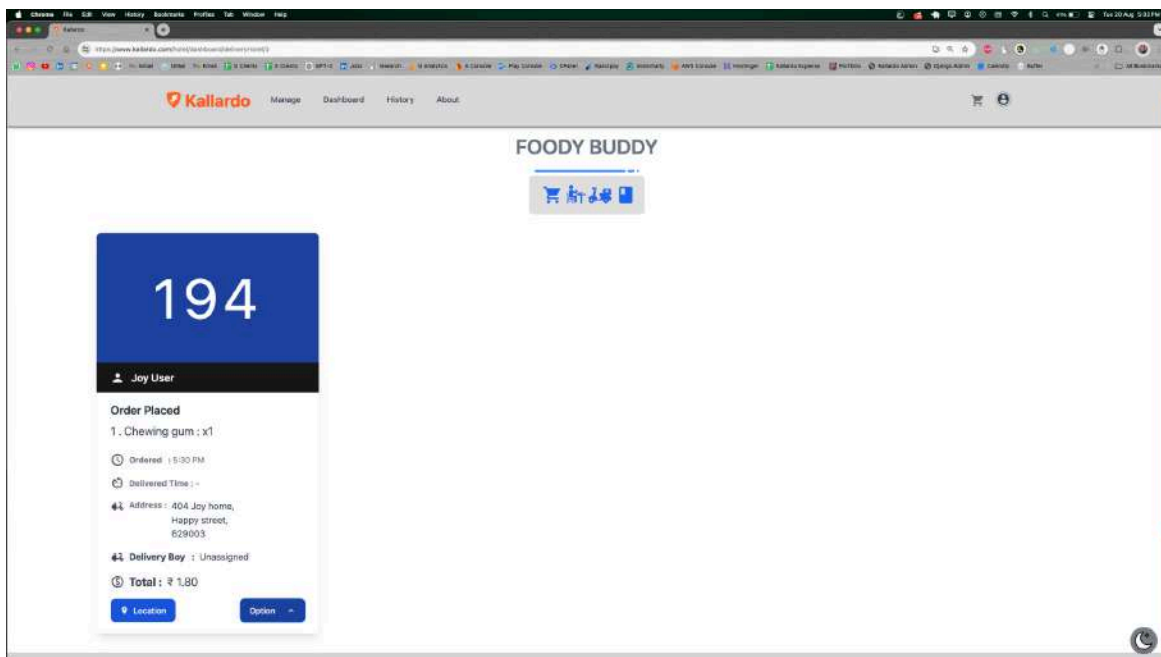
Managing Orders



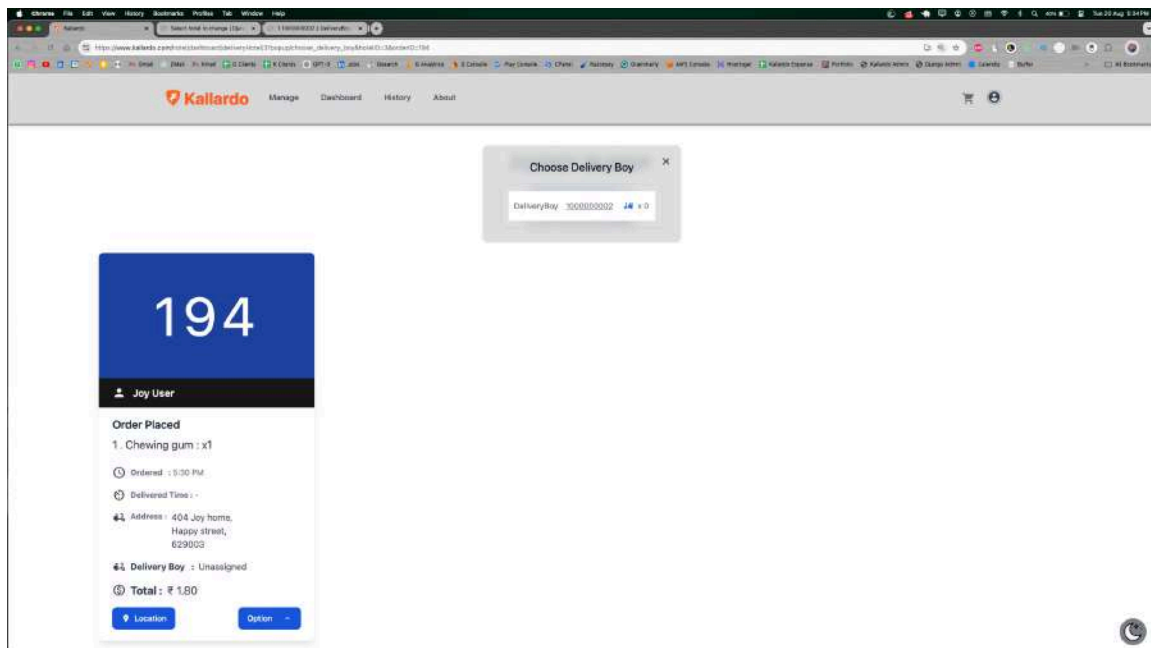
QR Code Dine-in



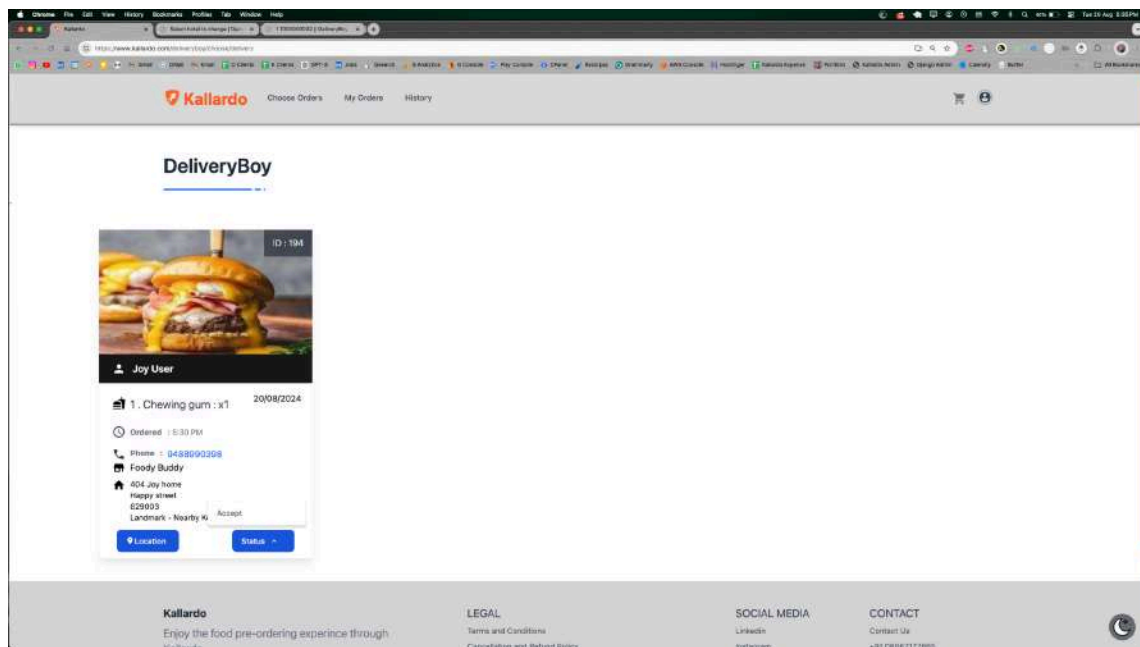
Manage Dine-in and Pickup



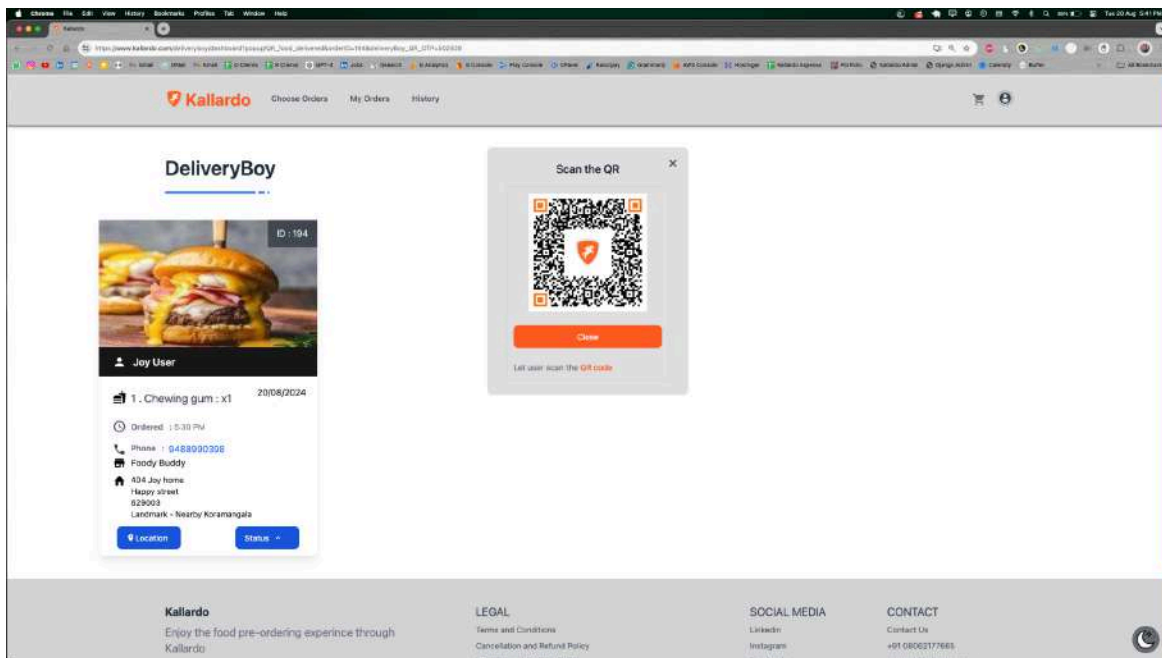
Manage Delivery - Restaurant



Assign Delivery Boy - Restaurant



Delivery Boy Choose Restaurant



QR Code Verify Delivery



Admin View

17. Screenshots - Mobile Application

