Customer Review and Feedback System

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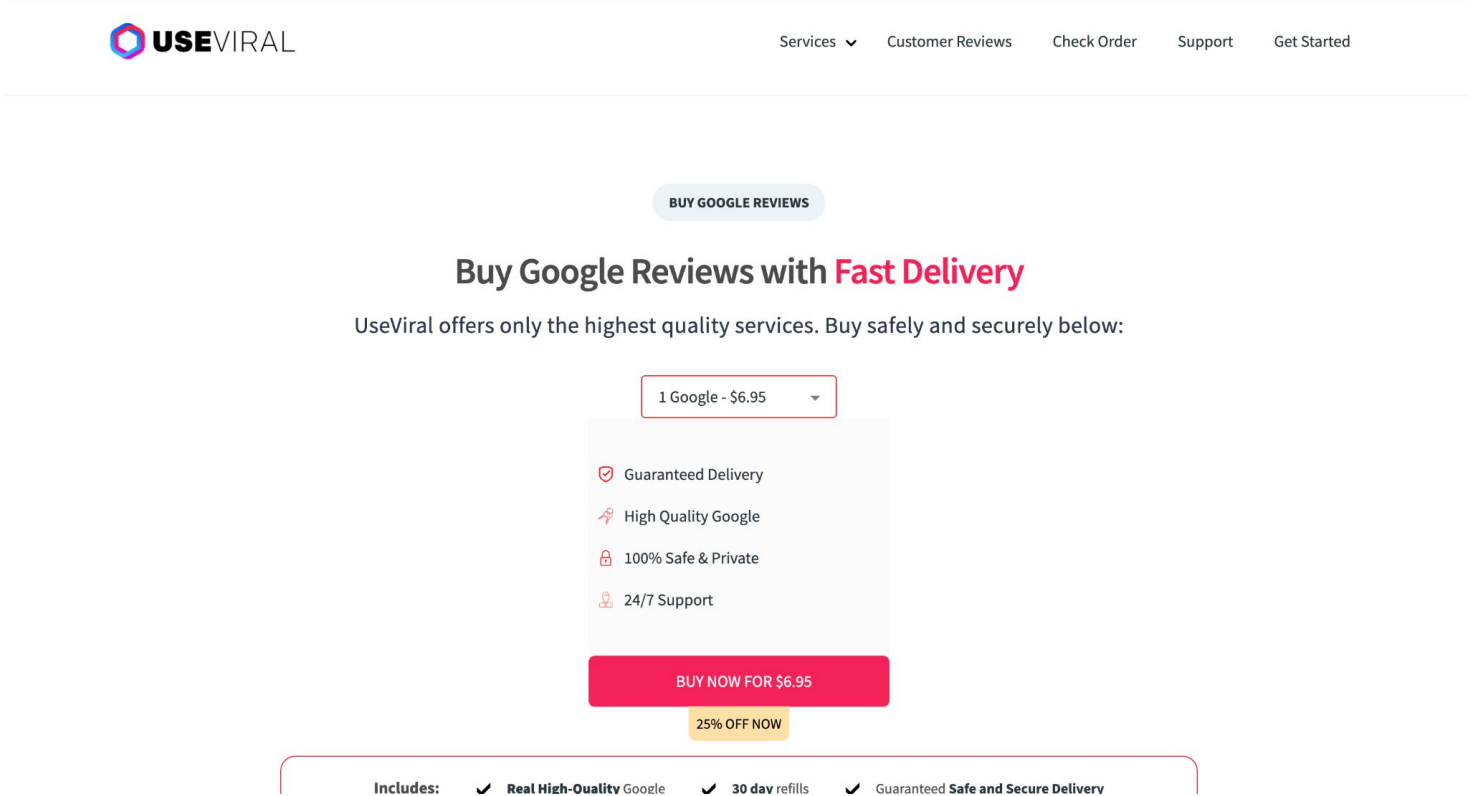
Problem statement

- Vulnerability to Manipulation
  - The system is vulnerable to unethical actions like misleading users, using review bots, and dishonestly boosting ratings.
- Impact on Decision-Making
  - Manipulative tactics leading to false reviews can deceive customers, impacting their choices in areas such as dining, purchases, and other decisions..
- Emergence of Fraudulent Organizations
  - Specialized groups involved in fraud, like posting fake reviews from numerous accounts, make it challenging to distinguish between authentic and manipulated feedback.
- Lack of Authentication Mechanisms
  - Current systems often lack robust mechanisms to verify that reviews genuinely reflect the reviewer's actual physical presence at the business's location.

Fake review boosting

Boosting service



Objective

- To develop a system that ensures accuracy and dependability in customer reviews, increasing confidence among customers and businesses.
- To enhance customer trust in the review system by encouraging transparency, accuracy, and effective elimination of manipulated or fraudulent reviews.
- To collect relevant and informative data in order to continuously improve the accuracy and usefulness of the review system.

Scope

- User Scope:
  - Registered business information within the application.
  - Usable email or social media account for authentication purposes.
- System Scope:
  - Robust user authentication system to ensure secure access control.
  - Geolocation tracking functionality to monitor user locations.
  - Advanced algorithm to validate when a user is eligible to provide a review.
- Development Scope:
  - Employment of Visual Studio Code, NodeJS, and NextJS for efficient application development.
  - Integration of Prisma and MongoDB for robust data modeling.
  - Implementation of Clerk for user authentication management.
  - Git Bash for version control
  - Vercel environment for deployment

Existing system

Existing system

1. User Authentication:
    a. Google Review: Exclusive authentication through Google accounts.
    b. Yelp: Diverse authentication options, including Google, Apple, and email accounts.
    c. TripAdvisor: Limited options, users can login only through email accounts.
2. Rating System:
    a. Google Review: Allows users to provide an overall rating.
    b. Yelp: Offers a detailed rating system, allowing users to rate categories like food, service, and environment.
    c. TripAdvisor: Users have the flexibility to provide an overall rating only.
3. Map Integration:
    a. Google Review: Integrates seamlessly with Google Maps API for a comprehensive view of nearby businesses.
    b. Yelp: Utilizes maps API to display nearby businesses along with individual ratings on the map.
    c. TripAdvisor: No map integration, relies on a list-based approach.

Existing system

4. Business Listing Ownership:
    a. Google Review: Users can upload and register businesses; ownership claims not explicitly highlighted.
    b. Yelp: Users can register businesses; business owners have the option to claim and manage their listings.
    c. TripAdvisor: Similar to Yelp, users can register businesses, and owners can claim their listings.
5. Fraud Protection:
    a. Google Review: Leverages Google algorithms for automated detection of fake reviews.
    b. Yelp: Implements consumer alerts, identifying abnormal activity or traffic on business profiles.
    c. TripAdvisor: Relies on user reports without an algorithm for fraud detection.

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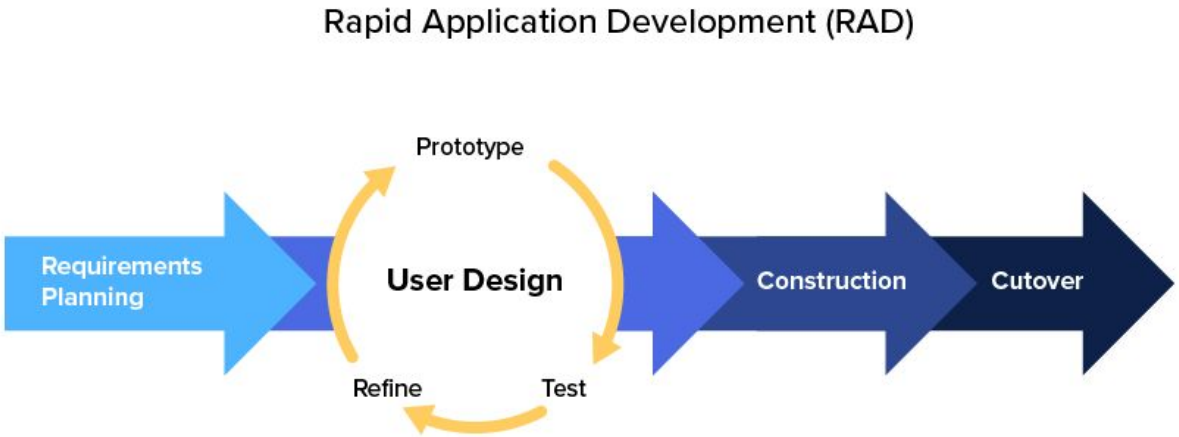
Proposed Solution

1. Registration Process
2. QR Code Verification
3. Login
4. Geolocation Technology
5. Real-Time Relevance

Methodology



Functional Requirement

- The system should able to login manage user registration and user authentication.
- The system should allow users to submit their reviews and experiences through the system.
- The system should utilize geolocation technology to confirm the physical presence of the reviewer at the business during operating hours.
- The system should provide a dashboard for businesses to view analytical review.
- The system should include a reporting mechanism for users to flag inappropriate content or suspected fraudulent activities.

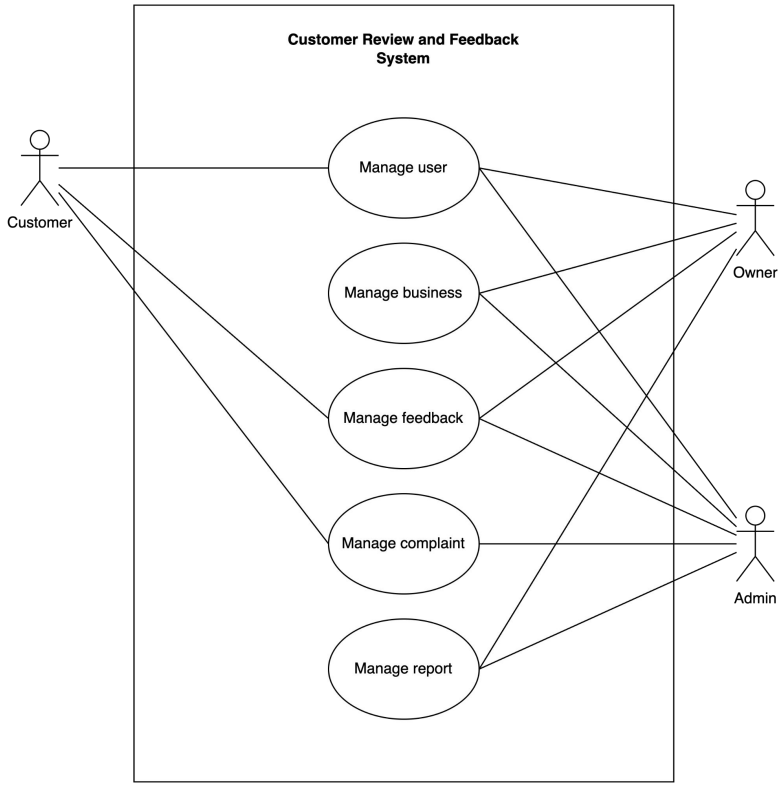
Non Functional Requirement

- Implement robust security measures, including secure authentication, authorization mechanisms, data encryption, and protection against common security threats, to ensure the confidentiality and integrity of user data
- Design with a user-friendly interface, intuitive navigation, and clear feedback mechanisms to ensure ease of use. Conduct usability testing and comply with accessibility standards to cater to a diverse user base.
- Exhibit optimal performance, with a response time of under two seconds for critical operations, providing a seamless user experience and handling potential increases in user load without significant degradation.

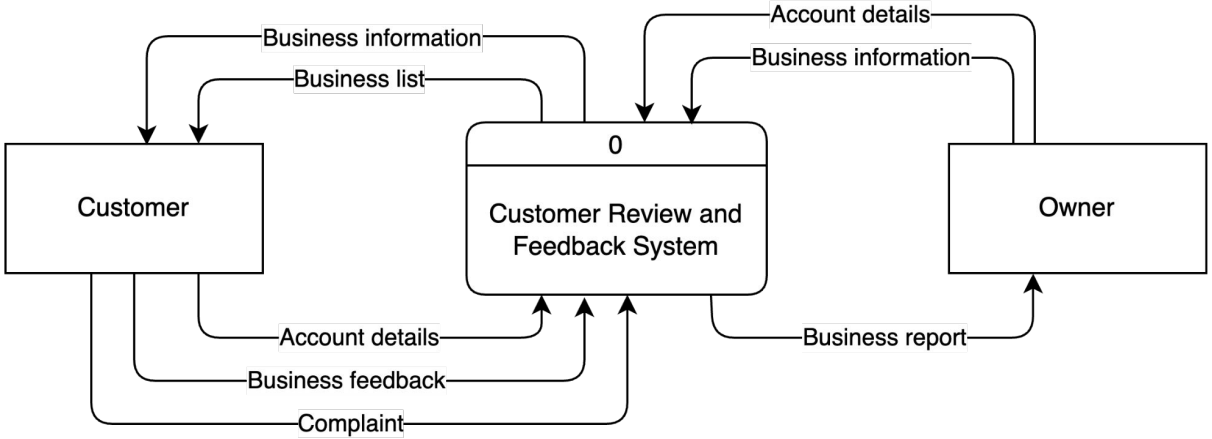
Limitation and Constraint

- Internet Dependency Constraint
- Geolocation Precision Constraint
- User Engagement Reliance and Hesitancy Constraint

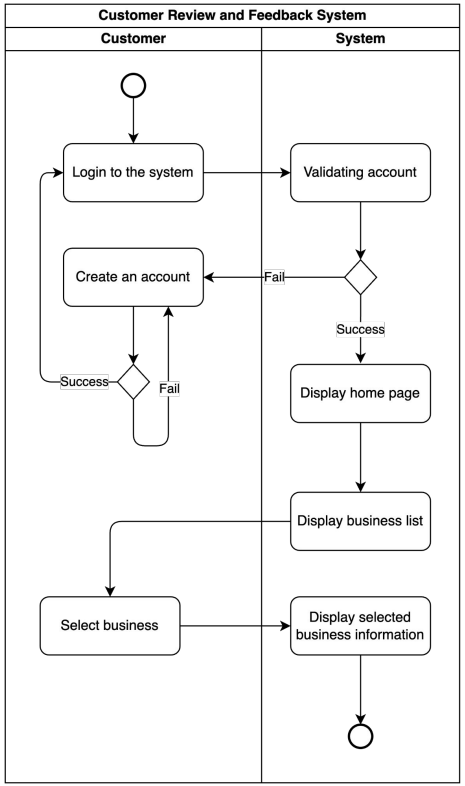
Use case


Customer Review and Feedback System
Manage user
Manage business
Manage feedback
Manage complaint
Manage report
Customer
Owner
Admin

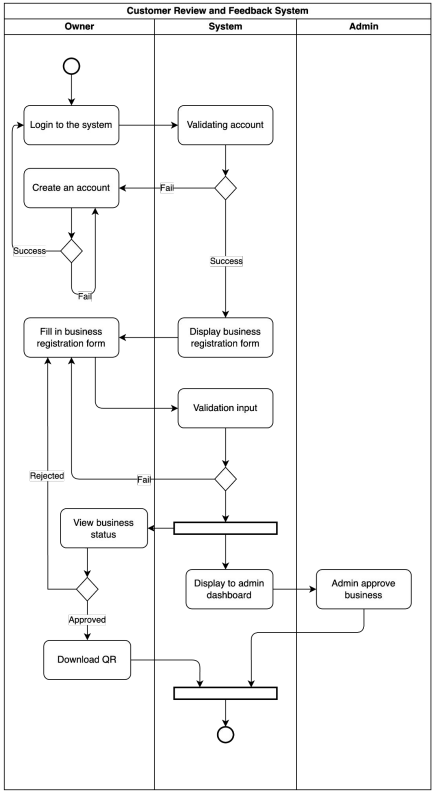
Context diagram



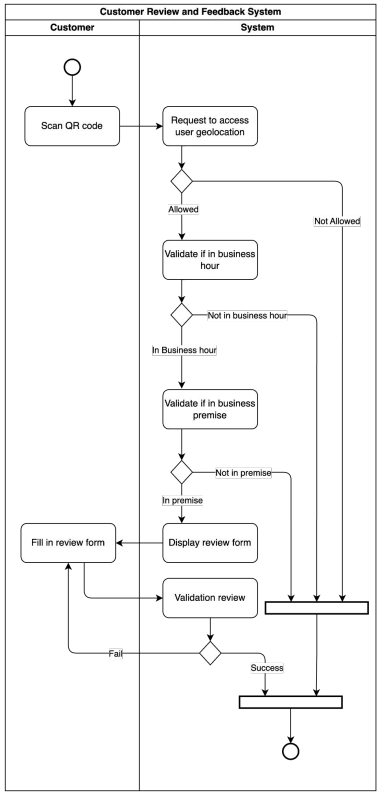
Activity diagram (View business)



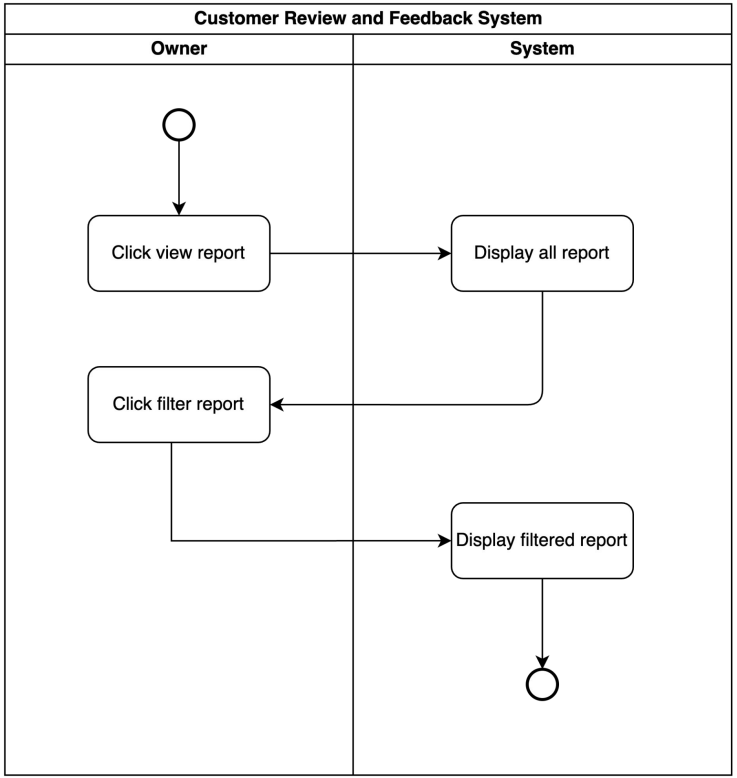
Activity diagram (Add business)



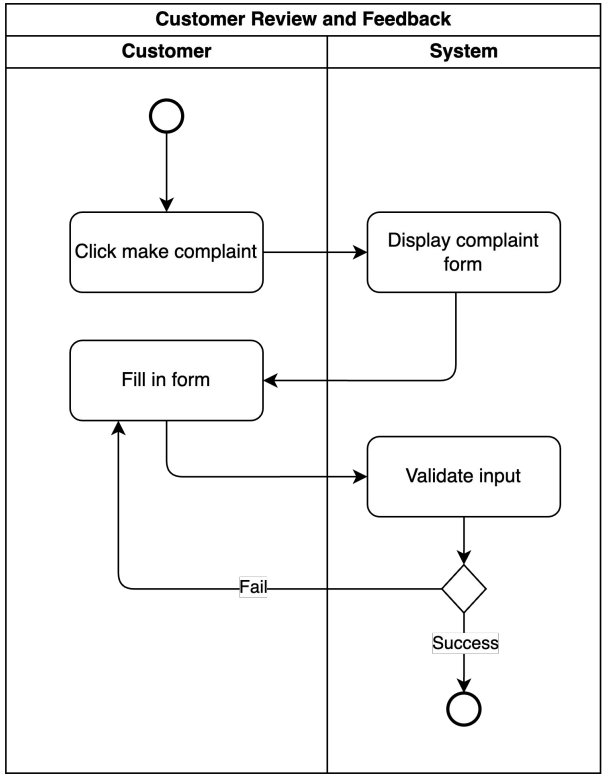
Activity diagram (Add review and feedback)



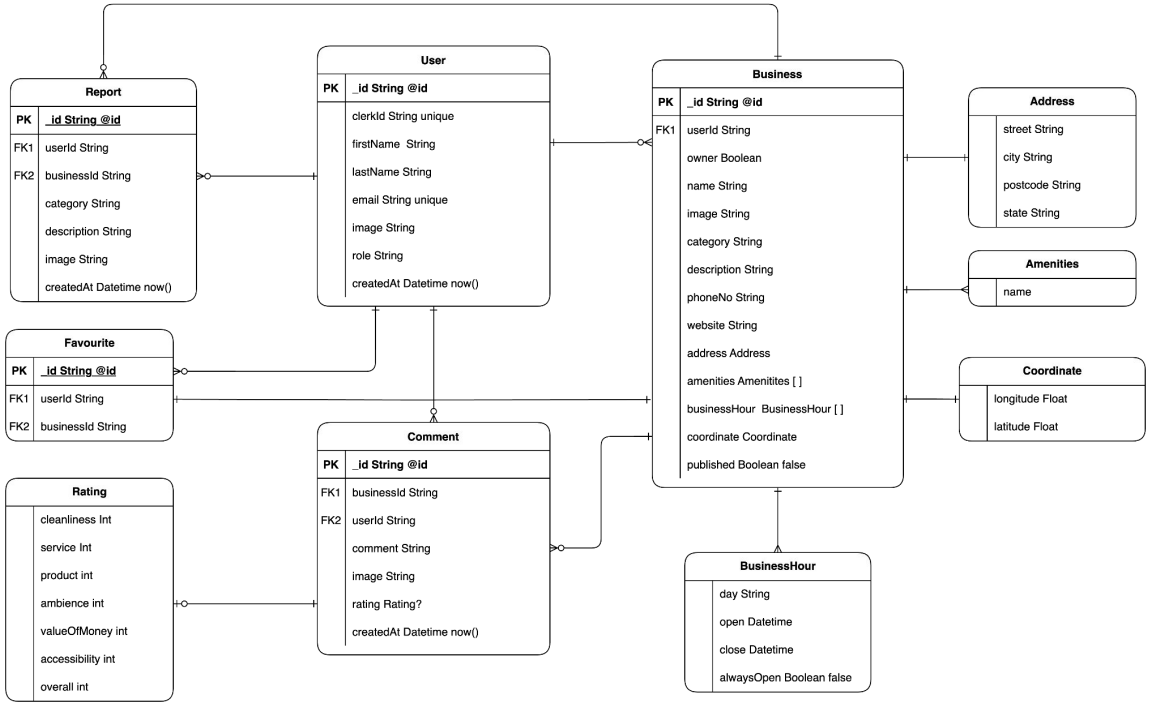
Activity diagram (View report)



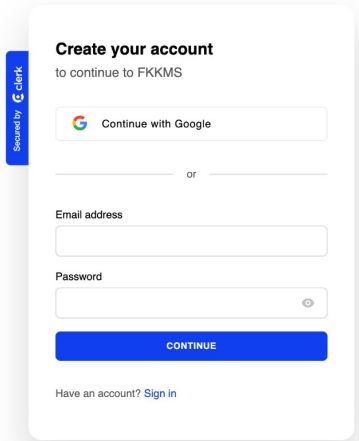
Activity diagram (Make complaint)



Entity Relationship Diagram (ERD)

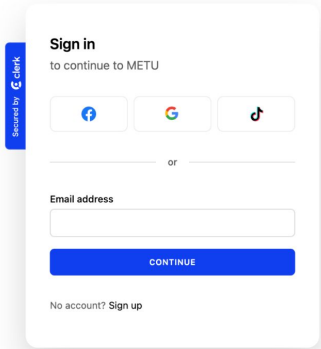


Graphic user interface



Graphic user interface

< Back to home



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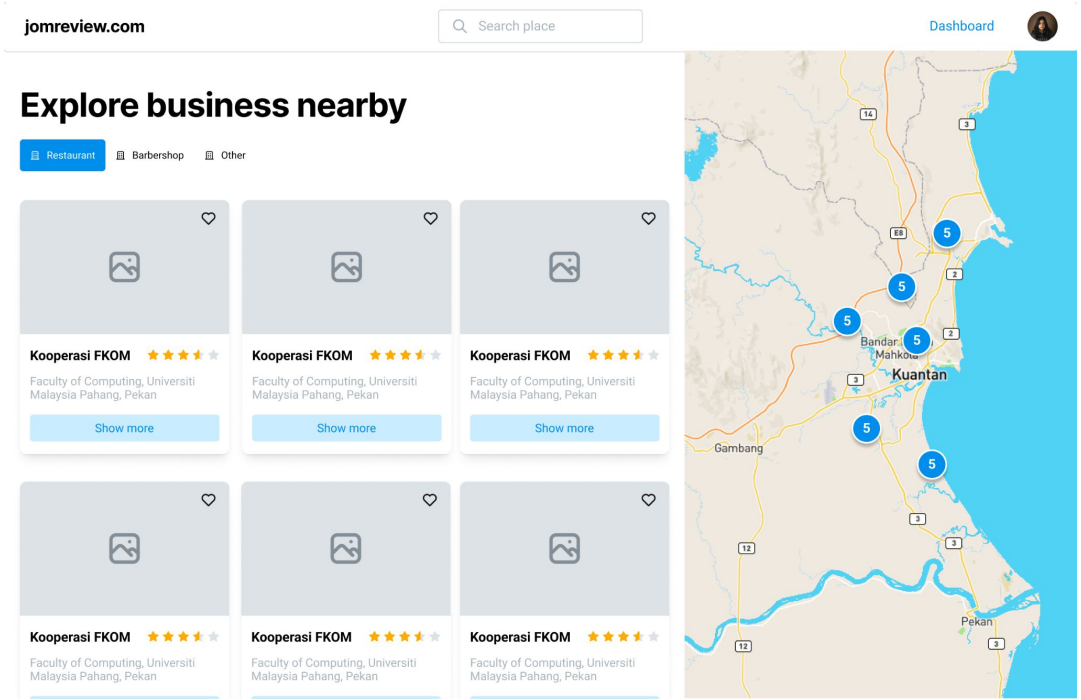

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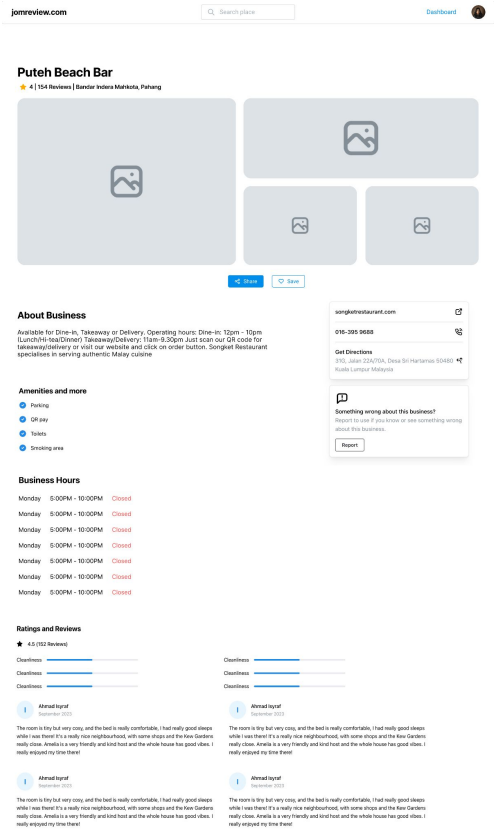

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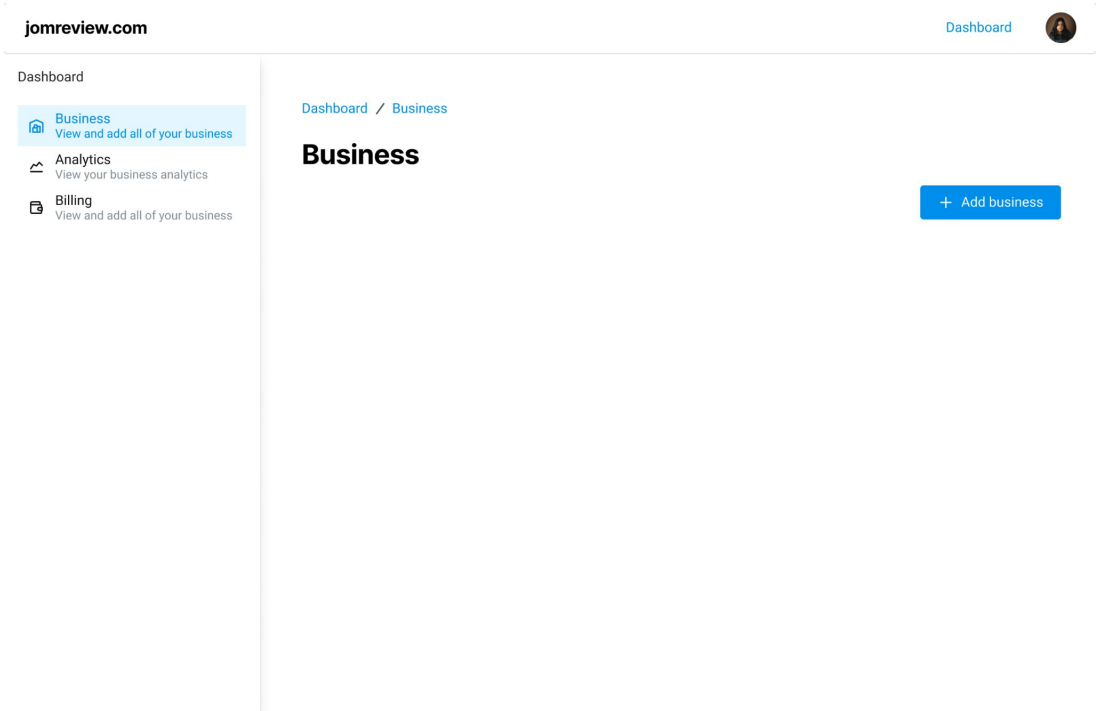

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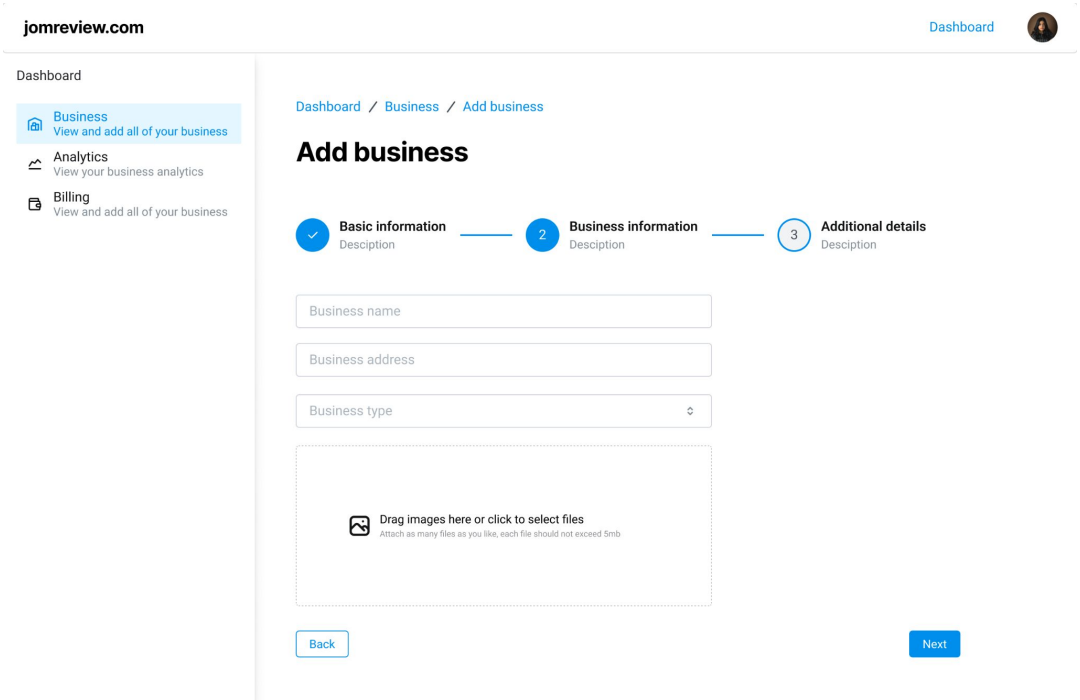

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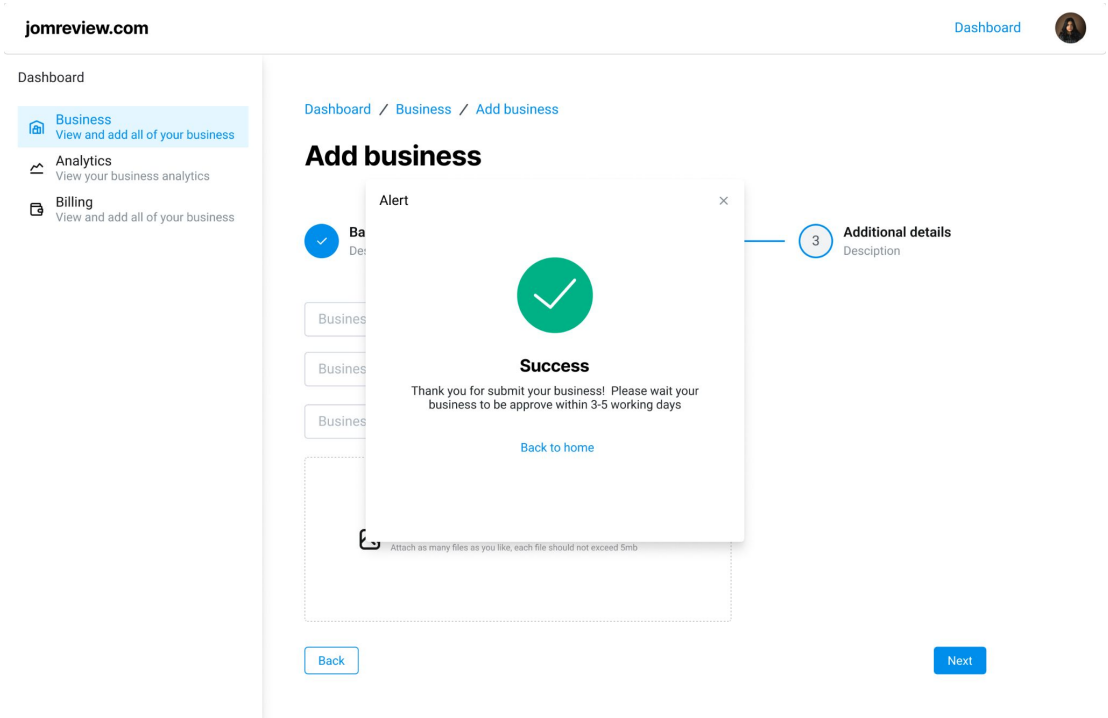

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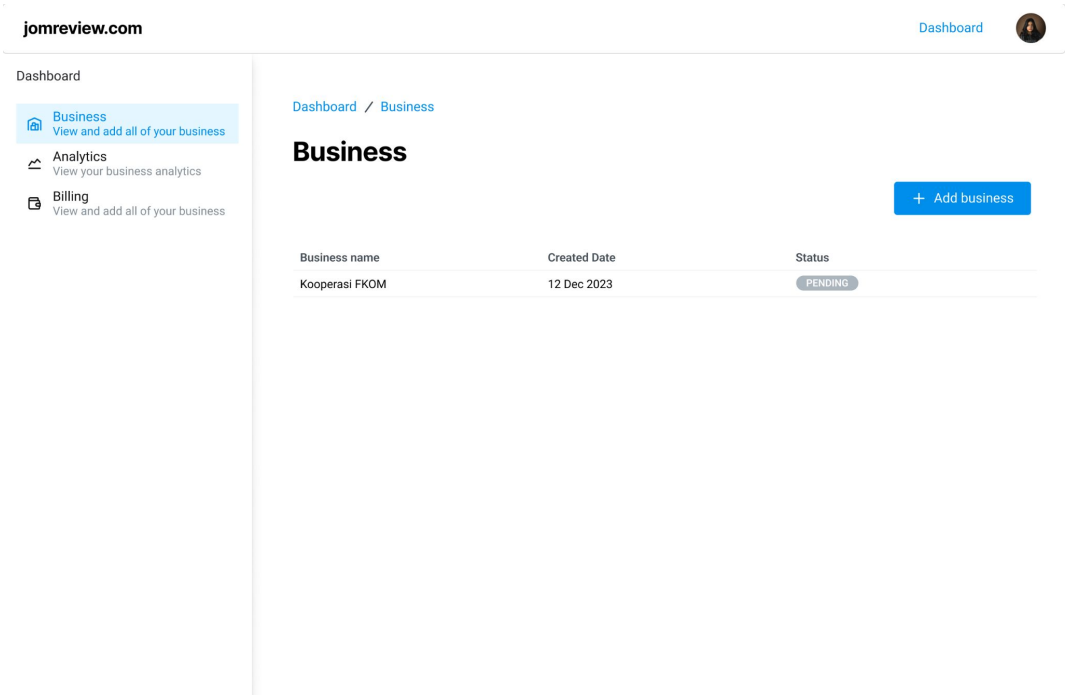

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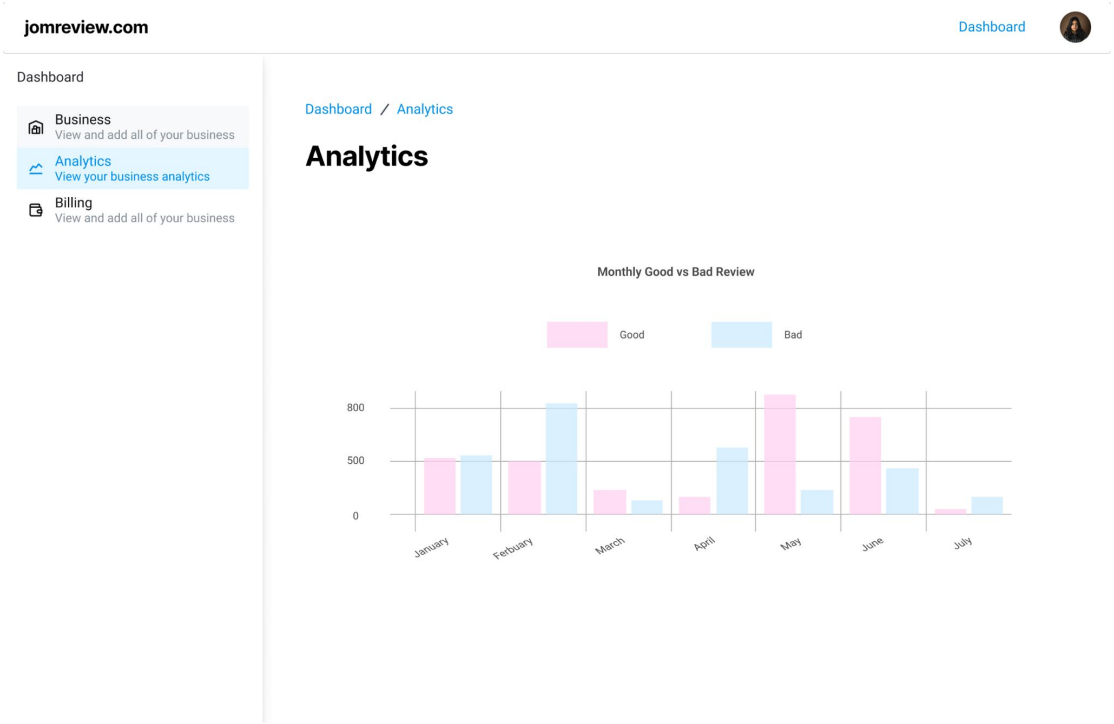

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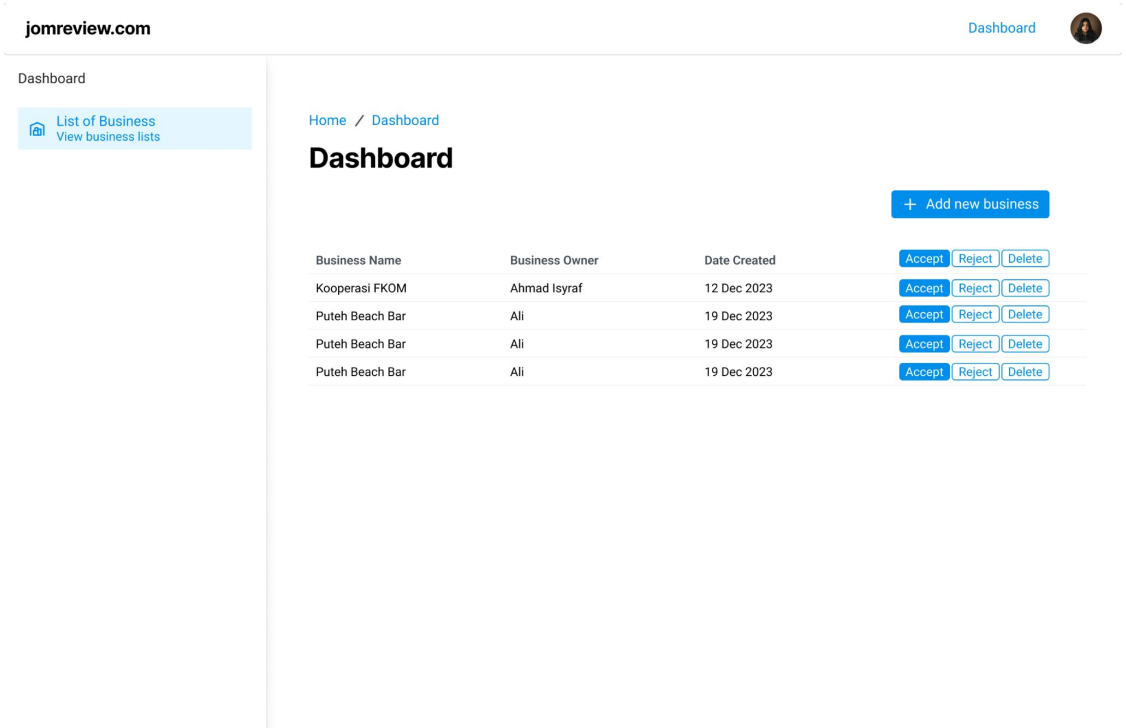
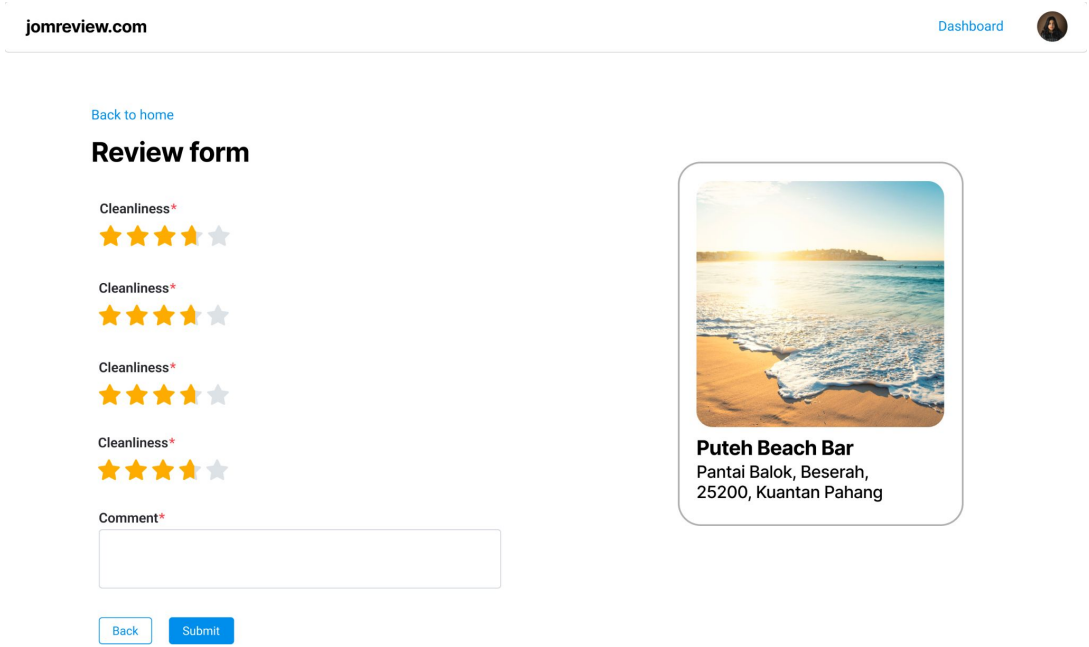
Graphic user interface