

CASE STUDY

Loyalty Club



THOUGHTS

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Loyalty Club

The objective of this project is to design and implement a comprehensive loyalty application specifically for a club, exclusively on the Android platform. The app aims to enhance customer engagement and retention through various features, including digital loyalty cards, menu updates, reservation capabilities, and interactive elements.

Digital Loyalty Cards

The loyalty app provides digital loyalty cards to encourage repeat customers and foster customer retention. Members can easily access their loyalty status and rewards through the app.

Menu and Specials Updates

The app features a dynamic menu section, allowing club owners to update users on the latest offerings, promotions, and special deals. This ensures that customers are always informed and engaged with the club's offerings.

Reservations

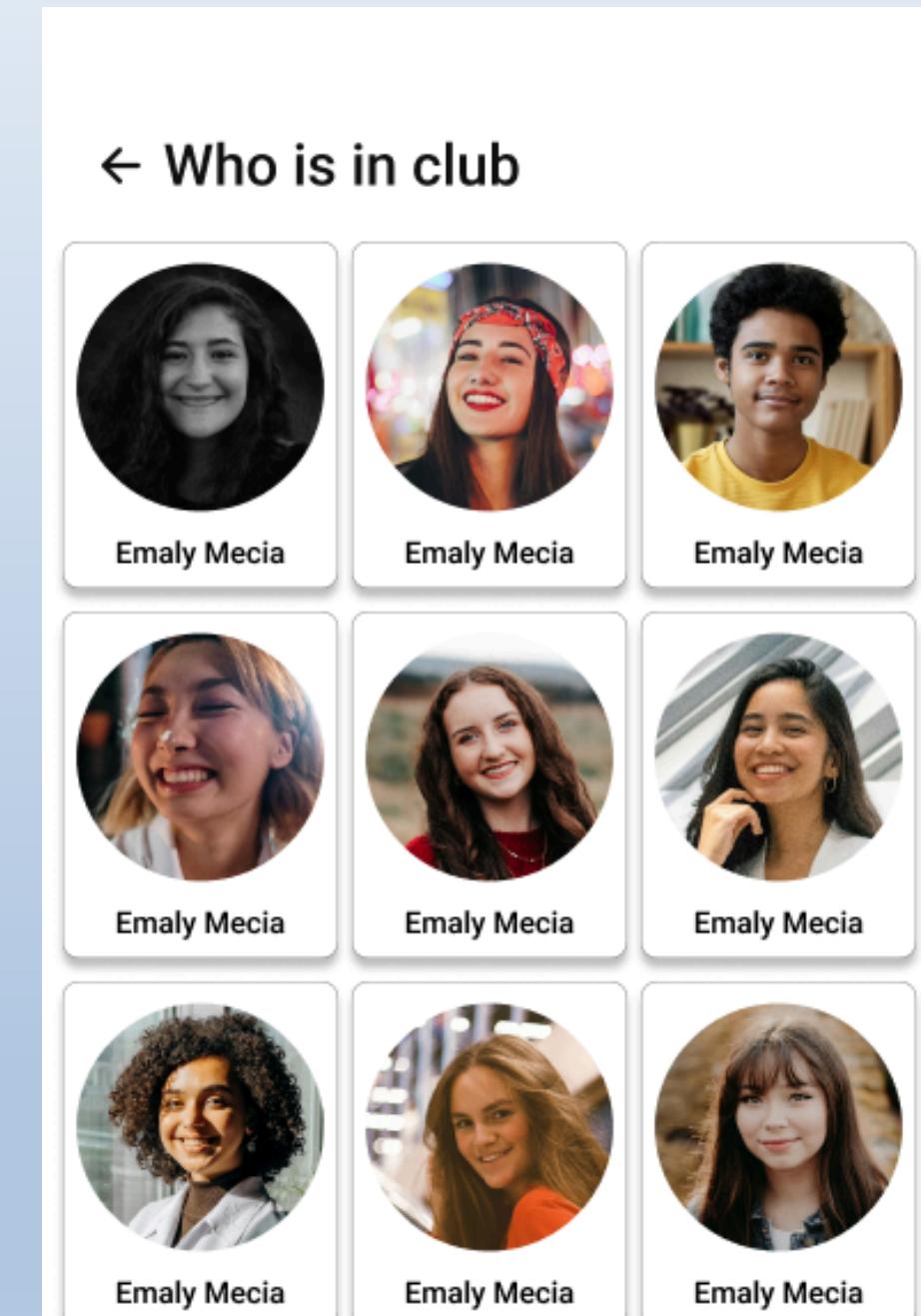
To streamline the dining experience, the app allows customers to book tables quickly and efficiently. Users can reserve their spots in advance, enhancing convenience and satisfaction.

Customer Feedback Questionnaire

A built-in questionnaire feature gathers essential customer feedback. This feedback loop enables the club to make informed decisions based on user preferences and experiences.

Notifications

The app sends notifications to alert users of new updates, special deals, and important information. For example, upon entering the club, users receive notifications prompting them to check their scratch cards.



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Scratch Cards

An interactive "Scratchy" feature keeps customers engaged. When users enter the club, they receive three scratch cards that they can scratch for potential rewards. This gamification element enhances the overall experience and encourages repeat visits.

Notifications

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Scratch and Gift Cards

Upon entering the club, users receive three scratch cards with a notification redirecting them to the cards. This feature ensures a seamless user experience. Additionally, users can view their available gift cards, which are level-specific and added by the admin.

QR Code Scanning Instructions

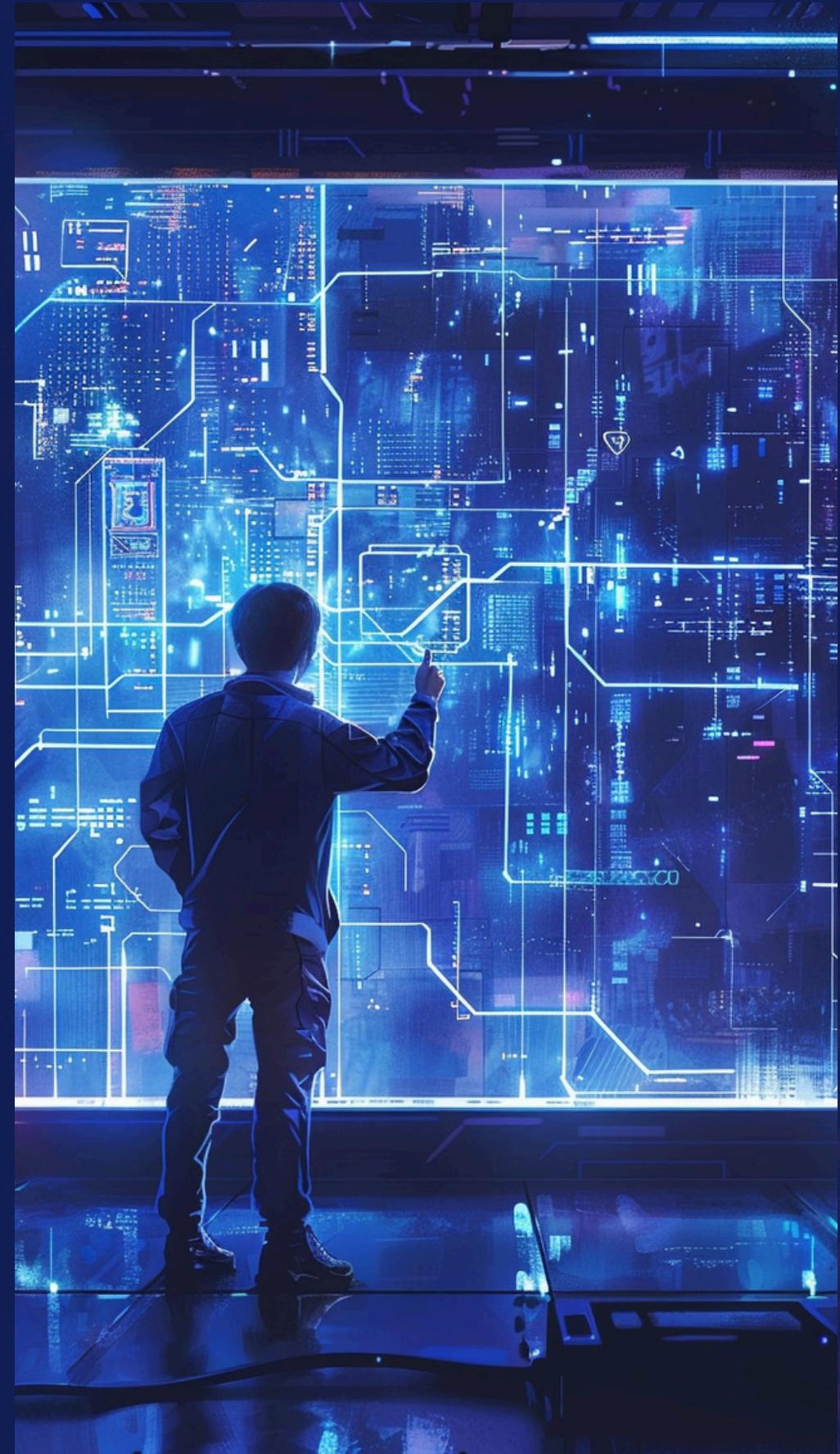
For admin users, the app provides a straightforward process for scanning QR codes, adding points to user accounts, and notifying them of rewards. The scanning process is user-friendly and prompts users to enable camera permissions as needed.

Card Selection Logic

The app intelligently selects which scratch cards to present based on predefined success rates. For instance, a card with a 10% success rate will only be shown to 10 out of 100 users, ensuring fair distribution aligned with user engagement goals.



Challenges and Solution



- **Ensuring User Engagement**

The challenge was to maintain a consistent and appealing design across all devices. Keeping users engaged with the app regularly to enhance loyalty..

- **Efficient Communication:**

Ensuring real-time updates and notifications for customers. Balancing the gamified scratch card system to keep rewards fair and exciting.

- **Cross-Platform Compatibility**

Developing the app for both Unix and Windows with a unified user experience was essential. Utilizing node modules allowed us to efficiently develop for both platforms while ensuring high performance and smooth functionality.

- **End to End Security**

JSON Web Tokens (JWT) are a compact, URL-safe means of representing claims to be transferred between two parties. JWT provides a powerful method for securing authentication in Node.js applications. Its stateless nature, combined with signature verification and customizable claims, makes it an excellent choice for modern web applications. By implementing JWT correctly, developers can enhance the security of their applications while providing a seamless user experience. We always follow best practices, such as using strong secret keys, implementing token expiration, and securing storage mechanisms.

Technologies Used



- **Cloud Hosting** – AWS (Amazon Web Services) for reliable and scalable cloud infrastructure.
- **Backend Development:** Node.js and MySQL for scalability and real-time interactions.
- **Frontend Development:** Flutter for seamless cross-platform development
- **Payment Integration:** Stripe for secure transactions and tipping.
- **Geo-Location Services:** Google Maps API for accurate and real-time location tracking
- **SSL Certification** – For secure data transmission and encryption of user information.
- **Push Notifications** – Firebase Cloud Messaging for real-time notifications.
- **User Data Encryption** – AES-256 encryption for protecting user data at rest and in transit.
- **Real-Time Messaging** – WebSocket protocol for instant communication between users.

Technologies Used



Cloud hosting

AWS (Amazon Web Services) for reliable and scalable cloud infrastructure.



User Data Encryption

AES-256 encryption for protecting user data at rest and in transit.



Node JS

Single Thread Back-End able to withstand thousand request per second.



My SQL

Seamless Relational Database with Atomicity, Concurrency, Integrity and Durability.



Google Maps

Google Maps

Navigate your world with Google Maps—where every journey starts with a tap!



Firebase

Build fast, scale effortlessly, and connect with confidence!



Stripe

Where Payments Flow Seamlessly!



Flutter

One Code, Every Platform.

Commercial Benefits



- Simplicity: Unlike Procore, the system was designed for a straightforward experience, minimizing unnecessary complexity.
- Scalability: Built to grow with companies, offering multiple tiers of access and functionality.
- The loyalty application for the club provides a robust platform for enhancing customer engagement and retention. With features tailored to meet customer needs and improve their overall experience, the app represents a significant step forward in how clubs can utilize technology to foster loyalty and satisfaction.
- By focusing on user interaction through gamified elements and efficient communication, the app not only meets the needs of the club but also aligns with the modern consumer's expectations for convenience and engagement.
- This application sets a new standard for loyalty programs in the hospitality industry, making it easier for clubs to connect with their members while providing value and enhancing the overall experience
- Improved Communication: The dynamic updates and notifications kept customers informed and engaged, increasing satisfaction.
- Streamlined Operations: Reservation capabilities and QR code scanning improved overall efficiency for both customers and the club.



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