**Knowledge Transfer Document**

## **Overview :**

### This document serves as a comprehensive guide for understanding and operating the Loyalty Program System developed for a busy restaurant setting. This system is designed to enhance customer engagement and increase sales through a user-friendly interface for both customers and cashiers. The system includes AI-driven features, personalised customer engagement, analytics and operates seamlessly in both online and offline modes.

## **Functional Requirements :**

### **Stakeholders :**

* **Super Admin**
  + **Platform:** Web
  + **Main Roles:** Create Admins, manage subscriptions, oversee all admins.
* **Admin**
  + **Platform:** Web
  + **Main Roles:** Create cashier accounts, control organisations, send promotions, view customer data
* **Cashier**
  + **Platform:** Android Tablet
  + **Main Roles:** Input transaction details, assist customers in redeeming loyalty points
* **Customer**
  + **Platform:** Android Tablet
  + **Main Roles:** Enter contact number, view loyalty points received

### **System Interconnection :**

* Both customer and cashier tablets will run the loyalty app.
* Upon opening the app on the cashier's tablet, the app will also launch on the customer's tablet. Alternatively, the customer can manually open the app.
* The customer inputs their contact number, which reflects their information on the cashier's tablet.
* The cashier enters the transaction amount, configures loyalty points, and assists in redeeming points.
* The customer can view their accumulated loyalty points and their earnings.

## **Super Admin Panel :**

### **Manage Admins :**

* **Add Admins:** Create new administrators with credentials sent via email.
* **Edit Admins:** Modify existing admin details with update notifications.
* **Delete Admins:** Remove admin data (recoverable).
* **Login as Admin:** Super Admin can log in as any admin to view their details.

### **Manage Subscriptions :**

* **Add/Edit/Delete Plans:** Super Admin can manage subscription plans.
  + **Fields:**
    - Subscription Type (Monthly & Yearly)
    - Free Trial Period (days)
    - Subscription Amount ($)
  + **Buttons:** ADD, EDIT, DELETE

## **Admin Panel :**

### **Sign In :**

* Admins sign in using their email ID and password provided by the Super Admin**.**

### **Side Tabs :**

* **Dashboard**
  + **Analytics:** Insights into customer data, loyalty points, redemptions, and promotions.
  + **Visualisations:**
    - Total Customer Sign-Ups
    - Loyalty Points Spend (Monthly)
    - Loyalty Points Redemption (Weekly)
    - Growth Rate (Daily, Weekly, Monthly)
    - New Sign-Ups (Time Periods)
    - Total Revenue Generated
    - Total Points Issued and Redeemed
    - Total Spent per Member
    - Amount Spent (Weekly/Monthly)
    - Spending Trends (Monthly/Yearly)
    - Engagement Rate
    - Average Transaction Amount
* **Customer Info**
  + View and export customer data (CSV).
  + Calculate and display member expenditure and loyalty points.
* **Loyalty Points Settings**
  + Set criteria for rewards (discounts) based on transaction amounts.
  + Fields: Transaction Amount, Loyalty Points ($), Start Date, End Date
  + Button: Done
* **Promotions**
  + Send promotions via SMS.
  + Apply filters (Age).
  + Message Space: Enter promotional messages.
* **Subscriptions**
  + Choose between Monthly and Yearly plans.
  + Process payments via Stripe.
  + Button: Pay Now
  + Alerts for Free Trial and Plan Expiry.
* **Manage Cashier**
  + Add, edit, and manage cashier details.
  + Fields: Name, Contact Number, Image, Date of Birth, Email ID, Password
  + Buttons: Add, Edit, Delete
* **Settings**
  + Customise brand name, logo, theme colours, and welcome message.
  + Button: Edit, Add (only for Welcome Message)
* **Sign Out**
  + Admins can sign out from the panel.

## **Customer Tablet :**

### **Welcome Screen :**

* **Display welcome message : "**WELCOME TO LOYALTY APP**".**

### **Log In :**

* Customers log in by entering their contact number and name via a digital keyboard.
* New customers can use earned points on their second purchase.

## **Cashier Tablet :**

### **Welcome Page :**

* **Display welcome message : "**WELCOME TO LOYALTY APP**".**

### **Log In :**

* Cashiers input their credentials provided by the admin**.**

### **Connect with Customer Tablet :**

* Enter code displayed on the customer's tablet to connect.

### **Total Loyalty Points Redeemed :**

* Display total points redeemed**.**

### **Sign Out :**

* Cashiers can sign out from the interface.

## **Development Notes :**

* Ensure smooth synchronisation between customer and cashier tablets.
* Implement robust error handling for network issues.
* Use secure encryption for storing and transmitting sensitive data.
* Optimise the interface for ease of use and quick navigation.
* Regularly update personalised customer engagement and accurate analytics.

## **Future Enhancements :**

* Integration with additional marketing channels (e.g., social media).
* Advanced AI features for predictive analytics and customer behaviour insights.
* Expansion to support multiple languages for broader accessibility.
* Enhanced security features, including two-factor authentication for admins and cashiers.

**Database Design** : Check Entity-Relationship Diagram (ERD)

<https://dbdiagram.io/d/Loyalty-App-658198cb56d8064ca05087c6>

**Downloaded Database** **File** :

<https://drive.google.com/file/d/1rdhKQPEPoXjdMVD2U2vciSZzsHhuFan9/view?usp=sharing>

**Backend Project Zip File :**

<https://drive.google.com/file/d/1jiGdFn5aVAWeM6ZYFPz2tbNrCK-SdIZ-/view?usp=sharing>  
**Backend** **Project Setup Commands** :

* First install the node modules using command (npm install) .
* Create the Database using command - npx sequelize-cli db:create
* Run the Migration - npx sequelize-cli db:migrate
* Run the Seeder - npx sequelize-cli db:seed:all
* Project Serve command - npm start

**Frontend Cashier App Zip File :**

<https://drive.google.com/file/d/1Zi3xXnmWW5HE5hYFw1fxcrn3BnTzbLOq/view?usp=sharing> **Frontend Customer App Zip File :**

<https://drive.google.com/file/d/1352MWL_KVsze0bZrRBAed7SwbtggRTtY/view?usp=sharing>

**Front End** **Project Setup Commands** :

* First install the node modules using command (npm install)
* Project Serve command - ionic serve