ANNEXURE - II

KOCHI METRO RAIL LIMITED

Customer Management System

SCOPE OF REQUIREMENTS

Project Title: Customer Management System for KMRL

Project Overview:

The objective of this project is to create a mobile-friendly web-based system that simplifies the management of rental spaces in Kochi Metro Stations for customers. The existing manual process and all the existing data available in physical format need to be migrated to the new system. By migrating to a digital system, customers will have access to accurate rental and utility charge information in a more convenient and user-friendly way.

The system should have a user-friendly interface that allows customers to view their rental agreements, payment history, and invoices. Customers should be able to access this information on their mobile devices or computers from anywhere, at any time. It should also offer features that allow customers to manage their rental spaces more easily, such as the ability to update their contact information, request maintenance services, and report issues.

On the admin side, the system should include tools to manage rental contracts, create invoices, manage utilities, process payments, monitor rental payments, and generate reports. The system should provide administrators with real-time updates on rental payments, overdue payments, and maintenance requests.

To facilitate seamless payment processing and communication with customers, the system should be integrated with payment gateways, as well as email and SMS gateways. This will enable customers to make payments online using their preferred payment method and receive automated reminders about upcoming payments and overdue payments.

To ensure the system is effective, it should be built with a secure platform that protects customer information. It should also be designed with user-friendly navigation and intuitive interfaces to simplify the rental process. Additionally, the system should be scalable to accommodate future growth and changes to the rental program.

Scope of Requirements

The scope for the customer side and the admin side have been listed down separately.

Customer Side Functionality:

Registration

- The system should allow the customer to create an account by providing their personal information and kiosk space details.
- Customers should provide a valid email address and phone number during the registration process.
- Prospective customers should also be able to register interest for vacant spaces.
- Customers should be able to create only one account using a unique email address.

Login

- The platform shall allow the customer to log in to their account using their email/phone and password.
- The platform shall verify the customer's credentials before allowing them to access their dashboard.
- The platform shall prompt the customer to reset their password in case they forget it.

Dashboard

- Upon logging in, the system should direct the customer to their dashboard, which shall display their bills, payment details, maintenance requirements, and documents.
- The system should display the customer's dashboard in a user-friendly interface.
- The system should allow the customer to view their dashboard on both desktop and mobile devices.
- It should also display any notifications or alerts related to their rental spaces.

Alert Messages & Notifications

- The system should send alert messages to the customer through email and SMS.
- It should send alert messages to the customer on the due date for rent payment, paid and unpaid bills, and interest inclusion.
- It should allow the customer to customize their alert preferences.

Document Upload

- The system should allow the customer to upload soft copies of documents that are accessible by the system.
- It should allow the customer to upload documents in popular formats such as PDF, DOC, and JPG.
- It should ensure the security and confidentiality of the customer's documents.

Invoice Details

- The system should allow the customer to access their bill details, which shall include information regarding:
  - Security deposit paid
  - Rent Paid
  - Utilities - electricity & water
  - Common Area Maintenance
  - History of bills and invoices

- It should display the customer's bill details in a clear and organized manner.
- It should allow the customer to filter their bill details by date, type, and status.
- It should allow the customer to download their payment details in a PDF or CSV format

Rental Space Management

- The system should allow customers to view their rental spaces and manage them.
- Customers should be able to view rental contracts and other relevant documents of their rental spaces (kiosk/office)
- Customers should be able to submit interest for vacant spaces. It should allow the customer to search and filter available spaces based on their preferences.
- Customers should be able to view the information about the available spaces, including the location, size, and price.
- The system should notify the customer of new available spaces or any other customers that make their space available

Rent Payment

- The system should allow customers to make rent payments online using various payment methods like Card, UPI, etc.
- The system should send automated notifications for overdue payments. These notifications should include details of the overdue payment and any penalties or fees associated with late payments.

Grievances

The customer should be able to address their grievances. It should have different sub sections:

- Contract Discontinuation Request: Customers should be able to raise a request to discontinue their rental contract if necessary. The system should provide a simple and easy-to-use interface to raise this request and receive feedback.

- Utilities-Related Grievances: Customers should be able to raise grievances related to utilities, such as electricity, water, or other maintenance-related issues. The system should provide a simple interface to submit these grievances and track their status until they are resolved.

- Common Area Maintenance Grievances: Customers should be able to raise grievances related to common area maintenance, or other common-area upkeep issues. The system should provide an interface to submit these grievances and track their status until they are resolved.

Admin Side Functionality:

Role Based Access Control:

The system should provide separate login credentials for each role, and each role should have access to only those features and data that are relevant to their job responsibilities.

- Admin
- Finance
- Alternate Revenue
- Data Entry team

System should allow login using email/mobile number.

Dashboard:

The dashboard for the system admin should provide a high-level overview of the rental space management system. It should display important metrics, alerts, and other relevant information that the admin needs along with graphs and charts to help the admin visualize the data and manage the system efficiently.

Features to be displayed in the dashboard:

- Overview of Rental Spaces
- Utilities Management
- Rent Payment

- Alerts and Notifications
- Invoices
- Reports

Rental Contracts:

- The system should provide a feature to create and manage rental contracts.
- It should be able to incorporate the existing rental contracts which have different variants (for office & kiosks)
- The rental contract should include
  - Customer name
  - Station address
  - Kiosk/ Office Space Identification number
  - Rent amount
  - Start and end date of the term
  - Electricity and water charges

- It should be capable to understand the terms and conditions mentioned in the contracts.
- Should be capable to include a mezzanine, terrace, or shadow area along with an existing rental contract.
- The auction/ tender details along with the dates need to be captured along with the rental contract.
  For Auction (Date, auction no, auction notice no, auction ref no, final allotment order no)
  For Tender (Date, RFP no, RFP ref no, LOA no)
- It should automatically calculate the total rent due for the rental period.

Rental Space Management

- The system should allow admin to view all rental spaces and manage them.
- System should allow the admin to insert and delete office areas/kiosks.
- Identification codes for each area should have, add and edit options.
- The ability to add, edit, or delete additional spaces, such as a mezzanine, terrace, or shadow area, along with and existing rental space.
- The system should provide provision notify the customer of new available spaces or any other customers that make their space available

Utilities Entry:

- Provision to record water and electricity readings.

- The provision should be given to the data entry team, they should be able to do it using their mobile devices and the data should be captured into the system along with the provision to upload the photograph of the readings.
- Based on the readings captured, invoice needs to be generated for different customers.
- The readings taken by the data entry team should be approved by finance team before invoice generation. Multiplication factor needs to be considered for electricity charge invoice generation in certain spaces.

Invoice Generation:

- The system should generate invoices for customers based on the rental contract details.
- The invoice should include:
    o Invoice date
    o Rental amount (Monthly/Quarterly): This includes the rent for the space along with the electricity and water charges.
    o Rental period: The due date should be specified clearly, and a late fee is issued if the customer is unable to pay.
    o Payment details: Payment method (Card, UPI, etc.), Invoice number, and Kiosk number
    o Contact information: Name, address, phone number of the customer

- The system should also allow the admin to customize the invoice as per the customer's requirement.

Escalation Clause:

- System should be capable to do the rental increment as per the escalation clause mentioned in each of the rental contract, (and generate invoice accordingly) which guarantees KMRL to increase the base rent when the agreement is renewed at the end of its term.

Payment Processing:

- The system should allow customers to make payments online using various payment methods like Card, UPI, etc.
- It should automatically update the payment record, and the customer should receive a payment receipt.

Alert Messages:

- The system should send alerts to customers for upcoming rent due dates and late payment reminders.
- The alert messages should be sent through multiple channels such as email, SMS, and push notifications.
- Alerts should be color-coded as follows: 5 days before the due date: Green alert, 3 days before the due date: Yellow alert, 1 day before the due date: Red alert.
- If a customer fails to pay rent after 14 days from the due date, the system should include interest in the invoice, and a message alert should be sent.
- The system should also allow the admin to customize the alert messages as per the customer's needs.

Reports:

- The reports should show the rent paid by each customer, revenue made from each rental space and other relevant metrics.
- Revenue made from each space/kiosk at each metro station.
- Payment reports
    - Deposited amount by each customer till date
    - Kiosk revenue collected from a particular station/financial year
    - Office space revenue collected from a particular station/financial year
- Sales Report: The app should provide a sales report that displays the number of rented spaces, rental amounts and security deposits received.
- It should also provide access to various documents provided by the customers, including Allotment and Handover Letter, RFP Document, Drawings, Agreement, etc.
- The reports should be customizable and available in multiple formats PDF, CSV, and Excel.

Grievance Redressal

- Grievances raised by customers under different heads needs to be listed (rent, electricity, water, common area maintenance). The concerned department should be notified of the complaint, and they should have the provision to respond to the customer within a specified time frame.
- The system should maintain a log of all complaints raised by customers and their resolution status for future reference and analysis.

Payment Gateway Integration:

- The system must be integrated with a reliable and secure payment gateway to facilitate seamless payment processing and provide customers with multiple payment options.
- Email and SMS gateway integrations also needs to be done.

Future Scope:

Integration with KMRL's SAP system

The system should be integrated with KMRL's SAP system to enable seamless data exchange between the two systems. The integration should be done through secure APIs and should comply with the relevant standards and regulations.

Technical Details:

- The web based system needs to be mobile friendly.
- Programming language: The system should be developed in Python/ Java.

Hosting Infrastructure:

The infrastructure for hosting the system will be hosted on an AWS VM, which will be provided by KMRL. The system development team will be responsible for setting up and configuring the necessary infrastructure on the VM. This will include installing the required software and configuring security settings to ensure the customer data and payment information is secure.