

Institute Of Universal Higher Studies

Progress Review



Project Name: Latex Harvesting

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1. User Stories

1.1. Customer Management

Customer Registration

- As a user, I want to register my details in the system, so that I can place orders and manage my profile.
- As an admin, I want to verify and approve new customer registrations, so that only legitimate farmers can access the system.

Latex Order Placement

- As a user, I want to place orders for latex tapping, so that I can manage my latex collection efficiently.
- As a user, I want to specify quantities and desired tapping dates, so that I can plan my production and sales.

Order Tracking

- As a user, I want to track the status of my orders, so that I can stay informed about confirmation, tapping dates, and delivery schedules.
- As a supervisor, I want to update the status of orders, so that farmers are kept informed about their order progress.

1.2. Supervisor Management

Supervisor Registration

- As a supervisor, I want to register my details in the system, so that I can manage my routes and tasks.
- As an admin, I want to approve supervisor registrations, so that only authorized personnel can manage field activities.

Route Assignment

- As an admin, I want to assign specific routes to supervisors, so that I can optimize collection operations.
- As a supervisor, I want to view my assigned routes, so that I can plan my daily activities efficiently.

Daily Planning & Data Collection

- As a supervisor, I want to plan my daily activities, including estate visits and tapping schedules, so that I can organize my work effectively.
- As a supervisor, I want to input data related to latex collection, so that the company has accurate records of quantities, DRC percentages, and sample details.

1.3. Vehicle, Workers, Route Management

Vehicle Management

- As an admin, I want to register and manage details of collection vehicles, so that I can keep track of the fleet's status and maintenance needs.

Worker Management

- As an admin, I want to manage worker assignments, so that I can allocate drivers, helpers, and security personnel effectively.

Route Update

- As a supervisor, I want to update route information as needed, so that collection schedules and estate assignments are always current.
- As an admin, I want to review and approve route updates, so that I ensure optimized and accurate routing.

1.4. Admin Management

Maintenance Scheduling

- As an admin, I want to schedule and track vehicle maintenance, so that the fleet remains operational and safe.

Resource Allocation

- As an admin, I want to allocate resources like vehicles, workers, and equipment, so that operational efficiency is maximized.

1.5. Bill Calculation, Report, and Summary Management

Report Generation

- As a supervisor, I want to generate daily activity reports and performance summaries, so that I can monitor and improve my operations.
- As an admin, I want to generate comprehensive reports on various metrics, so that I can analyze overall company performance.

Data Visualization

- As an admin, I want to visualize data using charts, graphs, and dashboards, so that key metrics and insights are easy to understand.

Summary Analysis

- As an admin, I want to analyze summary data to identify trends and make informed decisions, so that I can drive operational improvements.

Export and Sharing

- As an admin, I want to export reports and summaries in different formats (e.g., PDF, Excel) and share them with stakeholders, so that relevant parties are kept informed.

Billing Calculation

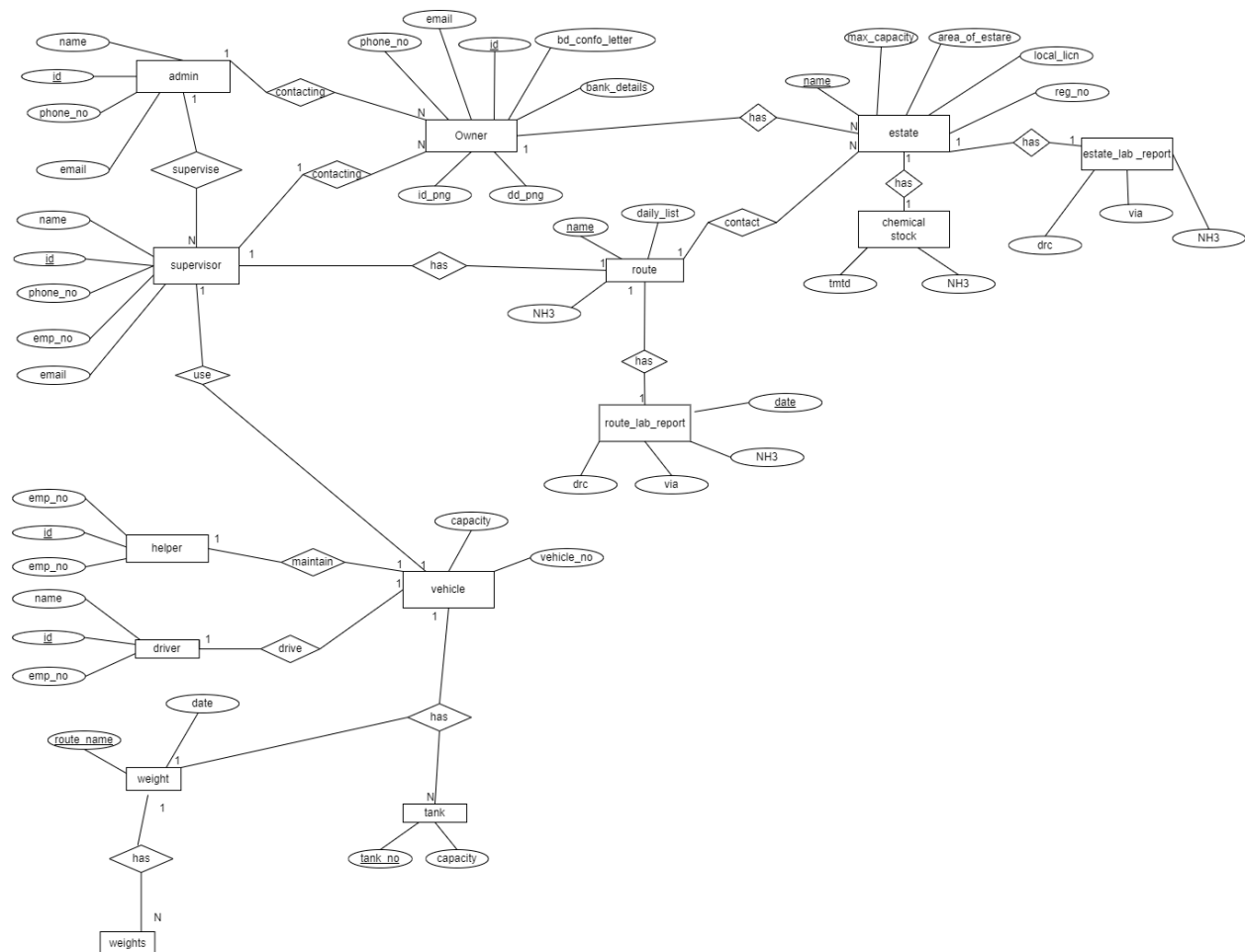
- As an admin, I want to calculate billing based on collected latex quantity and quality parameters, so that invoices are accurate and transparent.
- As an admin, I want to update and send invoices for approval, so that the billing process is streamlined and revenue is optimized.

2. Repository

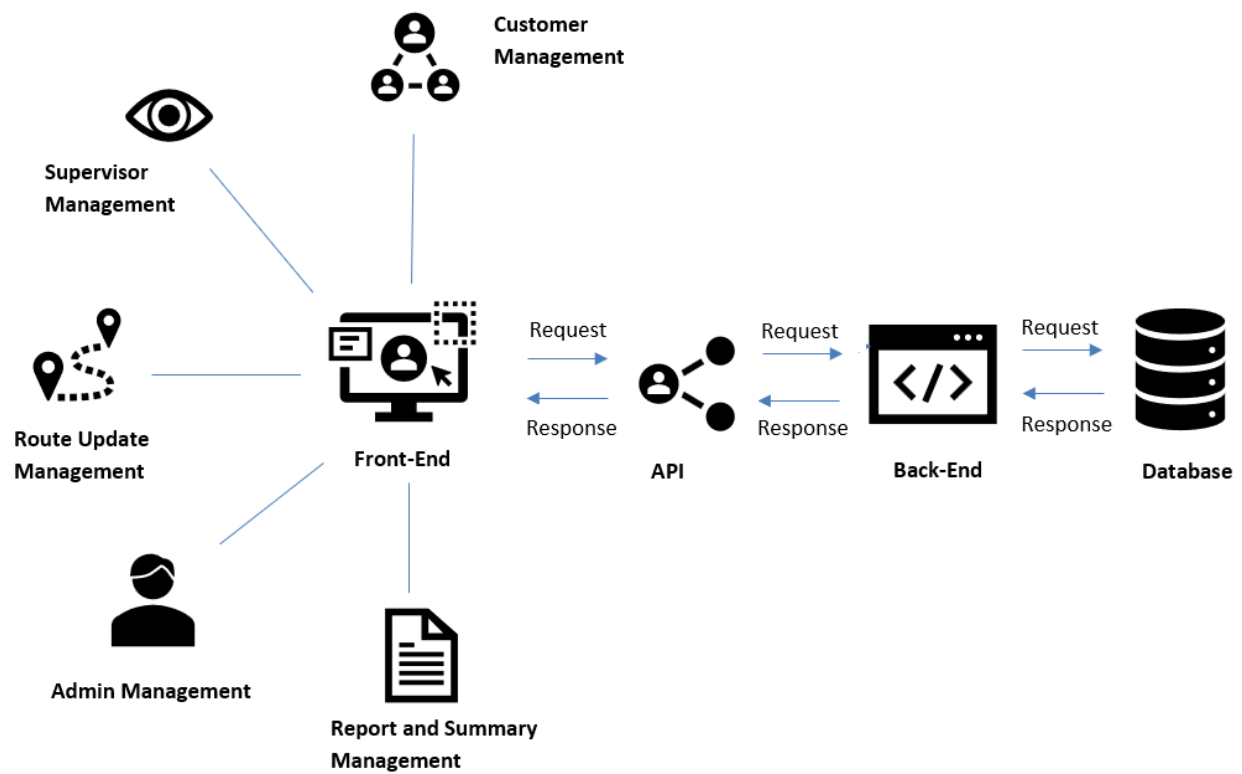
<https://github.com/NaduniH/Latex-Harvesting>

3. ER Diagram

https://app.diagrams.net/#G11OOKZ2qS2l94Qyx9kcQ_Cb011h-PpGey#%7B%22pageId%22%3A%22tvgt7ce5-MZb-TX3bx-8%22%7D



4. System Design Diagram



5. Innovative Parts Of the Project

5.1. Customer Management

Features	Completion Level	
	Frontend	Backend
Home Page	Complete	Complete
Logging & Registration	Complete	Complete
Add, Update, Delete & show data to Customer	Complete	Complete
Terms & Condition	Complete	Not Complete

5.2. Supervisor Management

Features	Completion Level	
	Frontend	Backend
Home Page	Complete	Complete
Logging & Registration	Complete	Complete
Estate Report	Complete	Not Complete
Planning	Complete	Complete
Route table	Complete	Complete
Today Tapping	Complete	Complete
Order	Complete	Not Complete

Sql Query

5.3. Admin Management

Features	Completion Level	
	Frontend	Backend
Home Page	Complete	Complete
Login & Register	Complete	Complete
Add, Update, Delete & show Supervisor	Complete	Complete
Show Dry(Kg),VFA, Chemical Details	Complete	Not Complete

Sql Query

// Admin Register

"INSERT INTO admin_details (name, email, phone, password) VALUES (?, ?, ?, ?)",

SELECT * FROM admin_details WHERE email = ?"

// Supervisor Details Add, Update, Delete and Show

"DELETE FROM supervisor_details WHERE id = ?"

"SELECT * FROM supervisor_details"

"INSERT INTO supervisor_details (name, email, phone, password) VALUES (?, ?, ?, ?)"

"UPDATE supervisor_details SET name = ?, email = ?, phone = ?, password = ? WHERE id = ?",

5.4. Vehicle, Workers, Route Management

Features	Completion Level	
	Frontend	Backend
Add,update,delete Driver	Complete	Complete
Add,update,delete Helper	Complete	Complete

Root arrangement	Complete	Not Complete
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Sql Query

// Driver Details

"DELETE FROM driver_details WHERE id = ?"

"SELECT * FROM driver_details"

"INSERT INTO driver_details (name,contact, email) VALUES (?, ?, ?, ?)"

"UPDATE driver_details SET name = ?, email = ?, contact = ? WHERE id = ?",

// Helper Details

"DELETE FROM helper_details WHERE id = ?"

"SELECT * FROM helper_details"

"INSERT INTO helper_details (name, contact, email) VALUES (?, ?, ?, ?)"

"UPDATE helper_details SET name = ?, email = ?, contact = ?, WHERE id = ?",

5.5. Bill Calculation, Report, and Summary Management

Features	Completion Level	
	Frontend	Backend
Insert Bill	Complete	Complete
Show Bill	Complete	Complete
Update Bill	Complete	Not Complete
Delete Bill	Complete	Not Complete

Sql Query

SELECT SUM(liters) as total_liters FROM sample_details;

SELECT AVG(drc) as average_drc FROM sample_details;

SELECT COUNT(*) as total_samples FROM sample_details;

SELECT estate_no, SUM(liters) as total_liters FROM sample_details GROUP BY estate_no;

SELECT estate_no, COUNT(sample_no) as sample_count, SUM(liters) as total_liters, AVG(drc)
as average_drc FROM sample_details GROUP BY estate_no;

6. Test Cases

Customer Management

Test Case ID	Test Case	Test Case Description	Test Data	Expected Result
01	Customer Registration	Verify that a new customer can register successfully	Name: John Doe Contact Information: john@example.com Address: 123 Rubber Street	The system should save the customer details and display a confirmation message.
02	Latex Order Placement	Verify that a customer can place a latex order	Quantity: 100 liters Tapping Date: 2024-06-10	The system should save the order and display a confirmation message.
03	Order Tracking	Verify that a customer can track the status of their orders	Order ID: 12345	The system should display the current status of the order.

Supervisor Management

Test Case ID	Test Case	Test Case Description	Test Data	Expected Result
01	Route Assignment	Verify that an administrator can assign routes to supervisors	Supervisor ID: 5678 Route: Route A	The system should save the route assignment and display a confirmation message.
02	Daily Planning	Verify that a supervisor can plan daily activities	Estate Visits: Estate 1, Estate 2 Tapping Schedules: 8 AM, 2 PM	The system should save the daily plan and display a confirmation message.
03	Data Collection	Verify that a supervisor can input data related to latex collection	Quantity: 200 liters DRC: 35%	The system should save the data and display a confirmation message.

Admin Management

Test Case ID	Test Case	Test Case Description	Test Data	Expected Result
01	Supervisor Management	Verify that an administrator can register	Name: Jane Smith Contact Information: jane@example.com	The system should save the supervisor details and display a confirmation message.
02	Worker Management	Verify that an administrator can manage	Worker Name: Emily Green 	The system should save the worker details

		worker assignments	Assignment: Helper	and display a confirmation message.
03	Route Update	Verify that an administrator can update route information	Route ID: 4567 New Route: Route C	The system should save the updated route information and display a confirmation message.
04	Maintenance Scheduling	Verify that an administrator can schedule and track vehicle maintenance	Vehicle ID: 5678 Maintenance Date: 2024-06-20	The system should save the maintenance schedule and display a confirmation message.

Vehicle, Workers, Route Management

Test Case ID	Test Case	Test Case Description	Test Data	Expected Result
01	Vehicle Management	Verify that an administrator can register vehicles	Vehicle Registration: ABC-123 Tank Number: TN-01	The system should save the vehicle details and display a confirmation message.
02	Worker Management	Verify that an administrator can manage worker assignments	Worker Name: Robert Brown Assignment: Driver	The system should save the worker details and display a confirmation message.
03	Route Update	Verify that supervisors can update route information	Route ID: 2345 New Route: Route B	The system should save the updated route information and display a

				confirmation message.
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Bill Calculation, Report, and Summary Management

Test Case ID	Test Case	Test Case Description	Test Data	Expected Result
01	Report Generation	Verify that the system can generate various reports	Report Type: Daily Activity Report	The system should generate the report and display it in the specified format.
02	Data Visualization	Verify that the system can present key metrics in a visual format	Metric: Latex Collection Quantity	The system should display the metric in the form of charts and graphs.
03	Summary Analysis	Verify that administrators and supervisors can analyze summary data	Data: Collection Performance, Quality Trends	The system should present the summary data for analysis and display actionable insights.
04	Export and Sharing	Verify that users can export and share reports	Report Type: Monthly Summary Export Format: PDF	The system should export the report in the specified format and allow it to be shared.

7. Innovative Parts Of the Project

Customer Management

- **Blockchain for Customer Data Security:** Ensuring the highest level of data security and transparency using blockchain technology.

Supervisor Management

- **Augmented Reality for Field Supervision:** Utilizing AR glasses or mobile AR apps to provide supervisors with real-time overlays of data and instructions in the field.

Admin Management

- **AI-Powered Decision Support System:** Integrating AI to provide data-driven recommendations for strategic decision-making and policy formulation.

Vehicle, Workers, Route Management

- **Eco-Friendly Route Optimization:** Using algorithms that not only optimize for time and cost but also minimize environmental impact by reducing emissions and fuel consumption.

Bill Calculation, Report, and Summary Management

- **Real-Time Financial Analytics:** Offering real-time analytics and visualization of financial data to enable quick and informed decision-making.

8. Commercialization

We are excited to introduce our revolutionary Rubber Latex Collection Management System, tailored specifically for Lalan Rubbers (Pvt) Ltd. This innovative solution is designed to address the unique challenges faced in your latex collection operations. Our system automates manual processes, optimizes route planning, and provides real-time monitoring of latex quality and quantity, significantly enhancing operational efficiency and reducing costs. With integrated features for customer management, supervisor coordination, vehicle and worker allocation, and comprehensive reporting, our platform ensures that Lalan Rubbers can maintain the highest standards and streamline its workflow seamlessly.

By adopting our Rubber Latex Collection Management System, Lalan Rubbers will benefit from increased accuracy, improved customer satisfaction, and enhanced productivity. This technology will empower your team to make data-driven decisions, optimize resource allocation, and strengthen relationships with farmers, positioning Lalan Rubbers as a leader in the rubber latex

industry. We are confident that our system will not only meet but exceed your expectations, driving your business towards greater efficiency and profitability.

We look forward to the opportunity to discuss how our solution can be integrated into your operations and to demonstrate the transformative impact it will have on Lalan Rubbers.

9. Additional features

Customer Management

- **Automated Notifications:** Automatic reminders and notifications for order status, promotions, and important updates.

Supervisor Management

- **Real-Time Task Tracking:** Live updates on task progress and completion status.
- **Mobile Access:** Supervisors can manage their tasks and workers using a website, ensuring flexibility and efficiency.

Admin Management

- **Centralized Dashboard:** A unified dashboard providing an overview of all operations, performance metrics, and alerts.
- **Access Control:** Role-based access control to ensure that only authorized personnel can access sensitive information.

Vehicle, Workers, Route Management

- **Worker Performance Monitoring:** Track the performance and productivity of workers in real-time.

Bill Calculation, Report, and Summary Management

- **Automated Bill Generation:** Automatic calculation and generation of bills based on predefined criteria and data inputs.
- **Customizable Reports:** Ability to generate customizable reports and summaries for different aspects of the business.