Group: ITP24R_B2_08

Activity 1

Tea Estate Management System for Bio Tea Factory

Team Members

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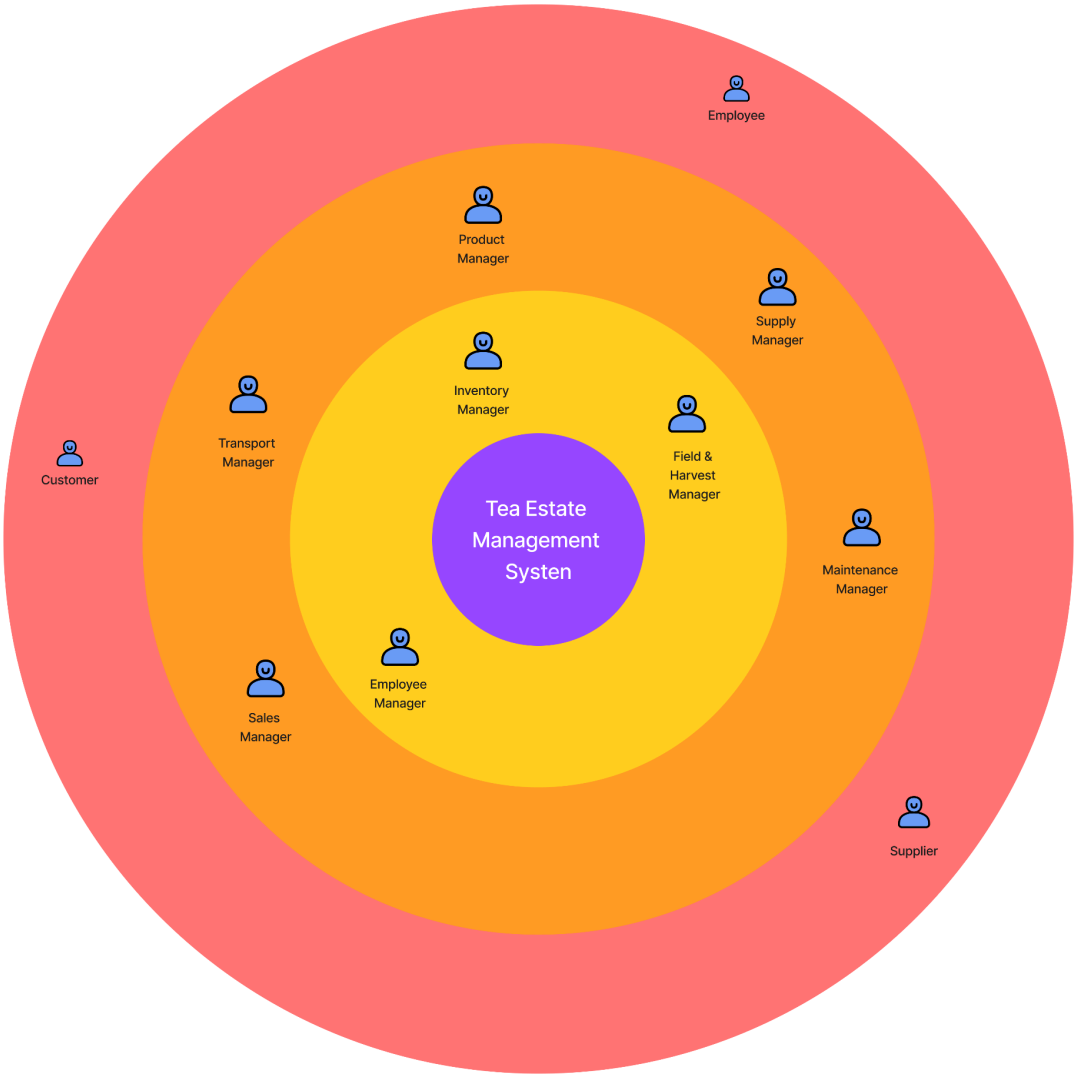
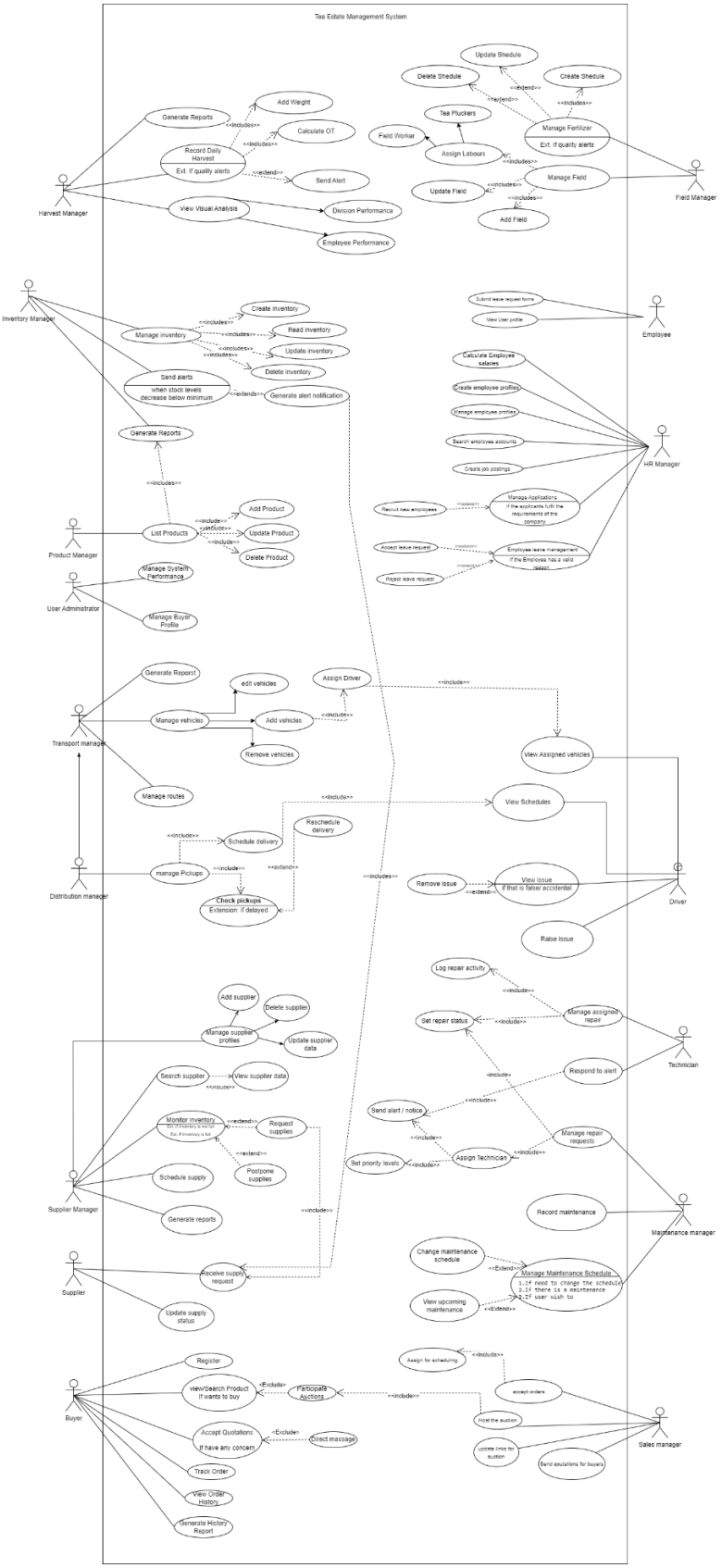
Onion Diagram



Use Case Diagram



IT22001252 - Employee Management

Stake Holders:

- Human Resources Manager
- Employee

User Stories:

- As the HR Manager, I want to create Employee profiles so that, I can view, update, delete and search employee data.
- As the HR manager, I want to view leave request forms so that, I can approve or reject leave requests of Employees.
- As an Employee, I want to send a leave request form to the HR Manager so that I do not need to ask for leave manually.

Functional Requirements (FRs):

- Create Employee user profiles,
- View and search Employee data.
- View the Employee leave request form, and accept or reject requests.
- View new applicants' Application forms.
- Calculate salary according to the designation of the employee and allowances.
- Update Employee data.
- Delete Employee data.
- Security – Only authorised personnel can make changes in The Employee management system.

Non-Functional Requirements (NFRs):

- User-friendliness – User-friendly interface to manage user profile data.
- Performance – How the system works with large amounts of data.
- Performance – The system should allow applicants to submit forms at the same time without any delay.
- Performance – Response time for any user action should not exceed 3 seconds.
- Daily backup of employee data.

Technical Requirements (TRs):

- The system should be able to work with all web browsers and mobile devices.
- The system should be able to show real-time Notifications.

Use Case Descriptions:

Use case name	Manage Employee profile data.	
Goal	The Manager can manage all employees' user profiles.	
Pre-conditions	The manager has to log into the system with login credentials.	
Post-conditions	Update and save user data.	
Primary actor	HR Manager	
Overview	This allows the manager to keep track of all employee data.	
Basic Path	**Step**	**Action**
	01	HR Manager clicks the login button on the system
	02	The system asks for the login credentials.
	03	The System redirects the HR Manager to the Employee Dashboard.
	04	HR Manager types the Employee ID on the search bar.
	05	HR Manager rechecks the ID and clicks the search button.
	06	The system searches the employee database for a matching ID.
	07	The system shows the profile of the Employee with the matching ID.
	08	HR Manager clicks the Update Profile button.
	09	The system shows the data of the Employee in a form.
	10	HR Manager changes the data of the employee and clicks the save button.
	11	The system saves the new data in the database.
Alternative Path	**Step**	**Branching actions**
	03. a	If the login credentials are not correct the system redirects to the login page with the message Username or Password Invalid.
	06. a	If the ID does not match the database the system shows a message invalid Employee ID.
NFRs	The system should be able to work with large amounts of data without reducing performance.	
TRs	The system should work with all web browsers and mobile devices.	

Use case name	Employee Leave Management.	
Goal	The Manager can accept or reject leave requests	
Pre-conditions	The manager has to log into the system with login credentials.	
Post-conditions	Accept the leave request	
Primary actor	HR Manager	
Overview	This allows the Human Resource manager to accept or reject leave requests from employees which enhances the efficiency of employee-related tasks and also keeps track of the number of leaves of each employee.	
Basic Path	**Step**	**Action**
	01	HR Manager clicks the login button on the system
	02	The system asks for the login credentials.
	03	The System redirects the HR Manager to the Employee Dashboard.
	04	HR Manager clicks the Leave Requests button.
	05	HR Manager redirects to the Leave Request dashboard.
	06	The system shows all the requests from Employees.
	07	HR Manager clicks on the leave request of the employee.
	08	HR Manager reads the request form from the Employee.
	09	HR Manager clicks on the accept button to accept the leave request.
	10	HR Manager clicks the Log Out button to log out from the system.
	11	The system shows the message, Request Accepted to the Employee.
Alternative Path	**Step**	**Branching actions**
	03. a	If the login credentials are not correct the system redirects to the login page with the message Username or Password Invalid.
	09. a	If the request for the leave is not a valid reason the manager rejects the leave request.
	09. b	The system shows the message Request rejected to the Employee.
NFRs	Response time for any user action should not exceed 3 seconds	
TRs	The system should work with all web browsers and mobile devices.	

Use case name	Submit leave request forms.	
Goal	Employee sends leave request form to the manager.	
Pre-conditions	The employee has to log into the system with login credentials.	
Post-conditions	Send leave request form.	
Primary actor	Employee	
Overview	This allows employees to request leave using the system without having to manually ask for leave from their manager which enhances the efficiency of employee-related tasks.	
Basic Path	**Step**	**Action**
	01	The employee clicks the login button on the system
	02	The system asks for the login credentials.
	03	The Employee Enters the login credentials
	04	The system redirects to the User Profile page.
	05	The employee clicks on the Leave request button.
	06	The system redirects to the leave request form.
	07	The Employee fills the form with valid data and the reason for the leave request.
	08	The Employee clicks the submit button to send the request.
	09	The system shows the Form Submitted to the Employee.
	10	The Employee logs out from the system.
Alternative Path	**Step**	**Branching actions**
	03. a	If the login credentials are not correct the system redirects to the login page with the message Username or Password Invalid.
	07. a	If the leave request form is not completed the system keeps the submit button disabled.
	09. a	If the system fails to submit the form the system shows a message Form not submitted.
NFRs	The system should allow to submission of multiple leave request forms from multiple employees at the same time without affecting performance.	
TRs	The system should work with all web browsers and mobile devices.	

IT22088550 - Inventory Management

Stakeholders:

- Inventory Manager
- Supplier Manager
- Harvest Quality Manager
- Product Manager

User Stories: Inventory Manager

- As an Inventory Manager, I want to track raw and processed tea inventory so that adequate stock levels are ensured.
- As an Inventory Manager, I want to send automated alerts when inventory levels drop below reorder points so that the stock can be replenished.
- As an Inventory Manager, I want to generate reports on inventory trends and consumption patterns so that accurate decisions can be made.
- As an Inventory Manager, I want to track usage of daily utilities and large stocks like fuel and fertiliser.

Requirements:

Functional Requirements (FRs):

- Track raw tea and processed tea inventory - Inventory Manager
- Manage daily utilities and large stocks - Inventory Manager
- Set and manage reorder points - Inventory Manager
- Generate automated alerts and notifications when stock level drops below minimum - Inventory Manager
- Provide graphical representations of inventory trends - Inventory Manager
- Generate automated dynamic reports - Inventory Manager, Product Manager
- Maintain a secured system - all stakeholders

Non-Functional Requirements (NFRs):

- System should be accessible any time.
- User interface should be intuitive and user-friendly.
- System should generate dynamic reports in real-time.
- Data access control measures should be robust.
- High performance.

Technical Requirements (TRs):

- Compatibility with web browsers and mobile devices.
- Integration with existing ERP systems.
- Scalability to handle increasing inventory volumes.
- Data backup and recovery mechanisms.

Use Case Descriptions:

Use Case Name		Manage Inventory
Actor		Inventory Manager
Goal		To effectively manage and track the inventory of tea within the factory
Overview		It involves monitoring the stock levels of various types of tea held in the factory's inventory, ensuring adequate supply to meet production demands and customer orders.
Pre-conditions		Tea inventory system is accessible and operational and inventory data is entered and up-to-date
Post-conditions		Inventory records are updated with any changes made during the management process.
Basic path	**Steps**	**Action**
	1	Inventory manager accesses the inventory management system
	2	System displays current inventory levels of different tea types.
	3	Manager adds, updates or deletes inventory records based on incoming or outgoing tea stock.
	4	System recalculates and updates available quantities.
	5	Manager logs out from the system.
Alternative path	**Steps**	**Branching Action**
	3a	An error message is displayed, and the manager retries the update process.
NFR		The system should be capable of handling simultaneous updates from multiple users
TR		The system response time for updating inventory should be less than 3 seconds.

Use Case Name		Send Alerts When Stock Levels Drop to Minimum
Actor		Inventory Manager, System
Goal		To notify relevant personnel when the stock levels of tea drop below a specified minimum threshold.
Overview		It involves monitoring tea inventory levels in real-time and triggering alerts to notify responsible parties when stock levels approach or fall below the minimum threshold.
Pre-conditions		Minimum stock thresholds are defined for each type of stock.
Post-conditions		Alerts are sent to the designated managers.
Basic path	**Steps**	**Action**
	1	System continuously monitors tea inventory levels.
	2	When inventory of a particular tea type falls below the defined minimum threshold, system generates an alert.
	3	Alert is sent to the specific manager
Alternative path	**Steps**	**Branching Action**
	3a	System retries sending the alert after a specified interval.
NFR		The alert system should have at least 99% reliability in sending notifications.
TR		The alert should be sent within 10 seconds of inventory dropping below the minimum threshold.

IT22639776 - Transport Management

Stake Holders:

- Transport Manager
- Distribution Manager
- Driver

User Stories:

- As a Transport Manager, I want to add new trucks to the system, including their specifications and capacities, so that they can be utilized for transportation tasks effectively.
- As a Distribution Manager, I want to receive notifications about pickup and delivery times for orders, along with details about the assigned trucks and drivers.
- As a Driver, I want to receive clear instructions and schedules for my daily routes, including details about pickup locations, delivery addresses, and any special instructions.

Functional Requirements (FRs):

- Transport Managers can add new trucks with model, capacity, and registration details.
- View and update truck conditions and maintenance records.
- Automatically schedule pickups based on order size and urgency.
- Notify clients about pickup and delivery times, including truck and driver details.
- Enable rescheduling of pickups and deliveries in case of delays.
- Generate daily schedules for harvest transportation, assigning tractors based on availability and optimized routes.
- Allow Distribution Managers to manage routes and optimize transportation efficiency.
- Find trucks, check daily workloads, and generate reports on vehicle utilization and route efficiencies.

Non-Functional Requirements (NFRs):

- The UI should be intuitive and require minimal training.
- Support real-time updates and notifications with minimal latency.
- Recover quickly from failures or interruptions.
- Scale horizontally to handle more trucks, drivers, and tasks without performance issues.

Technical Requirements (TRs):

- Use a scalable NoSQL database (e.g., MongoDB) for transportation data.
- Develop using modern web technologies (e.g., HTML5, CSS3, JavaScript, React) for cross-browser compatibility and responsive design.

Use Case Description:

Use case name	**Add a New Vehicle**	
Goal	The transport Manager Adds a new vehicle	
Pre-conditions	The manager has to log into the system with login credentials.	
Post-conditions	Adding a new vehicle	
Primary actor	The Transport Manger	
Overview	This allows the Manager to add a new vehicle to system and assign a driver to the vehicle. By that, the system will consider the vehicle for future pickup schedulings and also for the scheduled maintainings	
Main Scenario	**Step**	**Action**
	01	Transport manager clicks the login button on the system
	02	The system asks for the login credentials.
	03	The System redirects the transport manager to the Transport Dashboard.
	04	Transport manager clicks the Add Vehicle button.
	05	Transport manager redirects to the Adding new vehicle forum.
	06	Transport manager fill out the forum by adding the vehicle details.
	07	Transport manager clicks on the assign a driver option under the vehicle forum..
	08	Transport manager is given all the driver details with assign button.
	09	Transport manager selects the driver and click on assign button
	10	The system includes the driver's id to the forum
	11	Transport manager clicks on confirm button to confirm the vehicle details
	12	System validates the data and update the database,by giving a vehicle id for the new vehicle
	13	The assigned driver will get a notification about new vehicle.
Extensions	**Step**	**Branching actions**
	03. a	If the login credentials are not correct the system redirects to the login page with the message Username or Password Invalid.

	08. a	If there are no any available drivers, the transport manager will be notified.
	12. a	If the data did not got validated, the system will reject the forum and generate an error message.
NFRs	The notifications should be realtime	
TRs	The data should be stored in an structured manner with references.	

Use case name	**Schedule a pickup**	
Goal	Allow distribution manager to schedule a new pickup	
Pre-conditions	The manager has to log into the system with login credentials.	
Post-conditions	Schedule a pickup	
Primary actor	The Distribution Manager	
Overview	Scheduling a new pickup is a main task in the system. Once the scheduling is done, the system will keep the track of pickups, distributed times and vehicles	
Main Scenario	**Step**	**Action**
	01	Distribution Manager clicks the login button on the system
	02	The system asks for the login credentials.
	03	The System redirects the Distribution Manager to the Transport Dashboard.
	04	Distribution Manager clicks the Schedule a pickup button.
	05	Distribution Manager redirects to the Scheduling portal.
	06	Distribution Manager fill out the forum by giving scheduling details.
	07	Transport manager clicks on the schedule button
	08	The system will validate the data and create the scheduling.
	09	System will check the order que and assign the order to the scheduled pickup for delivery
	10	Syetem will update the order owners about scheduled picking ups with the driver and vehicle details

Extensions	**Step**	**Branching actions**
	03. a	If the login credentials are not correct the system redirects to the login page with the message Username or Password Invalid.
	08. a	If the data did not got validated, the system will reject the forum and generate an error message.
NFRs	The system should be reliable	
TRs	The process of the data should work efficiently.	

Supply Management – IT22639844

Stake Holders:

- Supplier Manager
- Supplier

User Stories:

- As the Supplier Manager, I want to create supplier profiles so that I can view, update, delete, and search supplier data.
- As the Supplier Manager, I want to view supply requests so that I can manage the inventory and schedule supplies.
- As the Supplier Manager, I want to monitor inventory levels so that I can ensure timely restoking.

Functional Requirements (FRs):

- Create Supplier Profiles.
- View and Search Supplier
- Update Supplier Data
- Delete Supplier Data.
- Automated Supply Scheduling.
- Monitor Inventory Levels.
- Delay Supply Loads if Inventory is Full.

Non-Functional Requirements (NFRs):

- User friendliness – User-friendly interface for managing supplier and inventory data.
- Performance – Handle large amounts of data efficiently
- Scalability – Support the addition of new suppliers and increased inventory without performance degradation.
- Maintainability – Should be easy to maintain and update

Technical Requirements (TRs):

- Database – A robust relational database to store supplier and inventory information.
- User Interface – A web-based user interface for easy access by managers and suppliers.
- Notifications – Email or SMS notofications for supply requests and schedule change

Use case Scenarios:

Name	Order Supplies	
Summary	To request supplies from suppliers	
Priority	5	
Pre-conditions	The Supplier Manager is logged in with the permission to order supplies, and inventory levels indicate a need for supplies	
Post-conditions	A supply order is sent to the selected suppliers.	
Primary actor	Supplier Manager	
Trigger	Inventory levels drop below a specific threshold, prompting the need for supplies	
Main Scenario	**Step**	**Action**
	01	The Supplier Manager navigates to the “Order Supplies” section in the system.
	02	The system displays a list of suppliers and their available supplies.
	03	The Supplier Manager selects the suppliers and the supplies needed.
	04	The Supplier Manager specifies the quantity of each supply needed.
	05	The Supplier Manager submits the supply order request.
	06	The system validates the order details.
	07	If the order details are valid, the system sends the supply order request to the selected suppliers.
	08	The system displays a confirmation message to the Supplier Manager
Extensions	**Step**	**Branching actions**
	06.a	If the order details are invalid, the system displays an error message.
	06.b	The Supplier Manager corrects the errors and resubmits the supply order request.

Name	**Add Supplier**	
Summary	To add a new supplier profile to the system	
Priority	5	
Pre-conditions	The Supplier Manager is logged into the system and has necessary permissions add suppliers	
Post-conditions	A new supplier profile is created and stored in the system.	
Primary actor	Supplier Manager	
Trigger	The Supplier Manager needs to add a new supplier to the system	
Main Scenario	**Step**	**Action**
	01	The Supplier Manager navigates to the “Add Supplier” section in the system.
	02	The system shows a form to enter supplier details.
	03	The Supplier Manager fills in the required details. (name,contact info, type of supplies, company name)
	04	The Supplier Manager submits the form
	05	If the details are valid, the system creates and saves the supplier profile.
	06	The system shows a confirmation message.
Extensions	**Step**	**Branching actions**
	05.a	If the information are invalid, the system shows an error message.
	05.b	The Supplier Manager corrects the errors and resubmits the form.

Field and Harvest Management – IT22635266

Stakeholders:

- Field Manager
- Harvest Manager
- Inventory Manager
- Sample Tester
- Labour

User Stories:

- As a Field Manager, I want to manage tea fields and assign labor to each field so that I can ensure proper resource allocation and management.
- As a Field Manager I want to shedule the fertilizer routine so that I can ensure the fields get appropriate nutrients at the right times.
- As a Harvest Manager, I want to record the quantity and quality of tea leaves harvested each day so that I can maintain accurate documentations and calculate overtime allowances provided.
- As an Harvest Manager, I want to analyze employee performance and field division performance so that I can identify top performers, areas needing improvement and compare productivity among the fields.
- As a Harvest Manager, I want to generate timely reports on field and harvest data so that I can provide insights to management for strategic decision-making.
- As a Field Manager, I want to receive notifications when there are any problems related to the harvest in a particular field so that I can to take necessary actions.

Functional Requirements:

- Manage tea fields and assign labours to specif fields.
- Log the quantity of tea leaves harvested daily.
- Update inventory levels based on daily harvest records.
- Provide Visual representations (graphs, charts) of employee and field performance metrics.
- View performance data by various criteria such labour, fields and time period.
- Generate periodic reports on field and harvest data.
- Trigger notifications when a large proportion of poor or diseased leaves are harvested in a specific field.
- Suggest fertilizer management interventions, such as changing scheduled fertilizer levels.

Non-Functional Requirements:

- Ensure availability of the for users at any time.
- Simple and easy user interface.
- Accurate and precise information.
- Quick responses while handling large amount of data.

Technical Requirements:

- Responsive web design techniques to ensure compatibility with both desktop and mobile devices.
- Capable of integrating with external systems within the application.
- Role-based access control to restrict access to features and data based on user roles.

Name	**Manage Field**	
Summary	Field manger adds a new field, assigns labours and creates a fertilizer shedule.	
Priority	5	
Pre-conditions	Field manager should have access to the system.	
Post-conditions	A new field is added and data can be stored into that.	
Primary actor	Field manager	
Trigger	When a new field is need to be added to the system.	
Main Scenario	**Step**	**Action**
	01	Field manager logs into the system.
	02	System displays Field managers portal.
	03	Field manager selects add new field option.
	04	System navigates to Add field page.
	05	Field manager enter valid field data and clicks on add field button.
	06	System displays a message that Field added successfully.
	07	Field manager then enters Manage labours section.
	08	System navigates to page displaying existing divisions and labours assigned to them.
	09	Field manager assigns labours to the newly added field by selecting assign labours option.
	10	Field manager adds available labours and clicks on save changes button.
	11	System displays a success message.
	12	Field manager then enters Manage Fertilizer section.
	13	Field manager creates a new schedule for the field and save the changes.
	14	System displays a success message and redirects back to main menu.
	15	Field manager logs out of the system.
Extensions	**Step**	**Branching actions**
	1a	System notifies login credentials invalid.
	1b	System shows forgot password option and allows user to recover password.
	11a	System displays an error message if no labours available.

<table>
<tr><td>Name</td><td colspan="2">Record Daily Harvest</td></tr>
<tr><td>Summary</td><td colspan="2">Harvest mananager records the quantity of leaves and saves it to the database.</td></tr>
<tr><td>Priority</td><td colspan="2">5</td></tr>
<tr><td>Pre-conditions</td><td colspan="2">Harvest manager should have access to the system.</td></tr>
<tr><td>Post-conditions</td><td colspan="2">Data is stored to the database and overtime allowance is also calculated.</td></tr>
<tr><td>Primary actor</td><td colspan="2">Harvest manager</td></tr>
<tr><td>Trigger</td><td colspan="2">When the lea leaves are bought from the field and classification and scaling begins.</td></tr>
<tr><td rowspan="14">Main Scenario

Extensions</td><td>Step</td><td>Action</td></tr>
<tr><td>01</td><td>Harvest manager logs into the system.</td></tr>
<tr><td>02</td><td>System displays Harvest managers portal.</td></tr>
<tr><td>03</td><td>Harvest manager selects Daily Log option.</td></tr>
<tr><td>04</td><td>System navigates to daily harvest recording page.</td></tr>
<tr><td>05</td><td>Harvest manager selects the field the he is going to enter data.</td></tr>
<tr><td>06</td><td>System displays the details of the labours working in the selected field.</td></tr>
<tr><td>07</td><td>Harvest manager enter harvest records respective to the labour who harvested.</td></tr>
<tr><td>08</td><td>Harvest manager then clicks on Save changes and Update OT button.</td></tr>
<tr><td>09</td><td>System updates the Inventory as well as Employee salary database.</td></tr>
<tr><td>10</td><td>System displays a success message and redirects back to main menu.</td></tr>
<tr><td>11</td><td>Harvest manager logs out of the system</td></tr>
<tr><td>Step</td><td>Branching actions</td></tr>
<tr><td>1a</td><td>System notifies login credentials invalid.</td></tr>
<tr><td>1b</td><td>System shows forgot password option and allows user to recover password.</td></tr>
</table>

IT22633422- Maintenance and Repairs Management

Stakeholders:

1. Maintenance Manager
2. Technician
3. Driver

User Stories:

- As the Maintenance Manager, I want to manage maintenance and repair tasks so that I can assign technicians, schedule routine maintenance, and track progress.
- As a Technician, I want to receive notifications and log maintenance activities so that I can address repair requests and update the maintenance manager on progress.
- As the Maintenance Manager, I want to maintain records of machinery and vehicles so that I have complete information for maintenance operations.

Functional Requirements (FRs):

- View and assign repair requests to technicians.
- Schedule routine maintenance tasks (weekly/monthly).
- Receive notifications for reported issues and scheduled tasks.
- View upcoming maintenance schedules and next maintenance times.
- Set priority levels for maintenance tasks.
- Log and update the status of maintenance and repair tasks.
- Search maintenance tasks by machine, vehicle, or time period.
- Receive notifications for assigned repair requests.
- Update the status of repairs (in progress, completed).
- Log maintenance activities for machinery and vehicles.
- Generate and view maintenance reports.
- Store basic data for each machine and vehicle (name, ID, type).
- Store assigned driver information for vehicles.
- View and update machinery and vehicle records.

Non-Functional Requirements (NFRs):

- **User Friendliness:** The system should have a user-friendly interface to manage maintenance tasks and records efficiently.
- **Performance:** The system should handle large amounts of data without delays and allow multiple users to perform tasks simultaneously.
- **Maintainability:** The system should be easy to maintain and update as needed.

Technical Requirements (TRs):

- The system should be compatible with all web browsers and mobile devices.
- The system should support real-time notifications and updates for users.

Use Case Scenarios

Use Case Scenario 1: Maintain Records of Machinery and Vehicles

Field	**Description**
Name	Maintain Records of Machinery and Vehicles
Summary	The Maintenance Manager maintains records of all machinery and vehicles, including basic data and assigned drivers.
Priority	1
Pre-conditions	The Maintenance Manager has to log into the system with login credentials.
Post-conditions	Update and save machinery and vehicle records.
Primary Actor	Maintenance Manager
Trigger	The Maintenance Manager wants to update or view records of machinery and vehicles.

Main Scenario	
Step	Action
01	The Maintenance Manager clicks the login button on the system.
02	The system asks for the login credentials.
03	The system redirects the Maintenance Manager to the Machinery and Vehicles Dashboard.
04	The Maintenance Manager selects a machine or vehicle to view or update.
05	The system displays the details of the selected machine or vehicle.

Main Scenario	
06	Maintenance Manager updates the details (e.g., name, ID, type, assigned driver).
07	Maintenance Manager clicks the save button.
08	The system saves the updated details in the database.

Extensions	
Step	Branching actions
03.a	If the login credentials are not correct, the system redirects to the login page with the message "Username or Password Invalid."
05.a	If the machine or vehicle ID does not match the database, the system shows a message "Invalid Machine/Vehicle ID."

Use Case Scenario 2: Assign Technicians to Repair Requests

Field	**Description**
Name	Assign Technicians to Repair Requests
Summary	The Maintenance Manager assigns technicians to repair requests when they are received.
Priority	2
Pre-conditions	The Maintenance Manager has to log into the system with login credentials.
Post-conditions	Update and save technician assignments.
Primary Actor	Maintenance Manager
Trigger	The Maintenance Manager receives a repair request.

Main Scenario	
Step	Action
01	Maintenance Manager clicks the login button on the system.
02	The system asks for the login credentials.
03	The system redirects the Maintenance Manager to the Repair Requests Dashboard.
04	Maintenance Manager views pending repair requests.
05	Maintenance Manager selects a repair request to assign.
06	Maintenance Manager assigns a technician to the repair request.
07	The system sends a notification to the assigned technician.
08	Maintenance Manager sets the priority level for the repair request.
09	Maintenance Manager clicks the save button.
10	The system updates the repair request status and technician assignment in the database.

Extensions	
Step	Branching actions
03.a	If the login credentials are not correct, the system redirects to the login page with the message "Username or Password Invalid."
07.a	If no technicians are available, the system shows a message "No Technicians Available."

Use Case Scenario 3: Record Routine Maintenance Schedules

Field	**Description**
Name	Record Routine Maintenance Schedules
Summary	The Maintenance Manager schedules and records routine maintenance tasks for machinery and vehicles.
Priority	3
Pre-conditions	The Maintenance Manager has to log into the system with login credentials.
Post-conditions	Update and save maintenance schedules.
Primary Actor	Maintenance Manager
Trigger	The Maintenance Manager wants to set or update routine maintenance schedules.

Main Scenario	
Step	Action
01	Maintenance Manager clicks the login button on the system.
02	The system asks for the login credentials.
03	The system redirects the Maintenance Manager to the Maintenance Schedules Dashboard.
04	Maintenance Manager selects a machine or vehicle for routine maintenance scheduling.
05	The system displays current maintenance schedules for the selected item.
06	Maintenance Manager updates or sets a new maintenance schedule.
07	Maintenance Manager sets the frequency (e.g., weekly, monthly).
08	Maintenance Manager clicks the save button.
09	The system sends notifications to relevant technicians based on the schedule.

Main Scenario	
10	The system updates the maintenance schedule in the database.

Extensions	
Step	Branching actions
03.a	If the login credentials are not correct, the system redirects to the login page with the message "Username or Password Invalid."
05.a	If the selected machine or vehicle ID does not match the database, the system shows a message "Invalid Machine/Vehicle ID."

IT22236500 - Sales and Order Management

Stake Holders:

1. Sales Manager
2. Buyer
3. Inventory Manager
4. Purchase Manager

User Stories:

- As a sales manager, I want to host auction meetings with buyers so that I can deal with the prices and impress buyers to make orders.
- As a sales manager, I want to accept or decline orders after the auction to control the sales process and ensure that orders are feasible.
- As a sales manager, I want to provide invoices as soon as I accept an order, allowing customers to confirm it.
- As a sales manager, I want to assign pickups for accepted orders so that the delivery process is well-mannered.
- As a sales manager, I want to make dynamic pricing adjustments to respond to market changes.
- As a sales manager, I want to update the inventory regarding orders so that all the details of the orders are automatically updated.
- As a sales manager, I want to visualize sales separately in graphs to analyze sales items, their respective prize, and customer details.

Functional Requirements:

- Create - create invoices/ sales summary reports.
- Read- The sales manager and buyer can view the invoice.
- Update – Update auction meeting links/ update dynamic prize.
- Delete – Delete cancelled orders from the invoice.
- Ability to generate sales details reports.
- Assigned pickup schedule to the accepted orders.

Non-Functional Requirements:

- Intuitive and user-friendly interface for all user roles.
- Quick response time for generating reports and visualizing sales data.
- Ability to handle an increasing number of orders, users, and inventory items without performance issues.

Technical Requirements:

- Web-based applications are accessible through standard web browsers.
- Relational database for storing orders, sales data, inventory levels, and user information.
- Communication Platforms for auctions.
- The system should have backup plans.

Use Case Scenarios:

Name	Create Invoice	
Summary	Sales Manager Create an invoice	
Priority	5	
Pre-conditions	The sales Manager wants to conduct a meeting with the buyer	
Post-condition	The system shows the list that the created invoice	
Primary Actor	Sales Manager	
Main scenario	Step	Action
	01	The sales manager clicks the login button in the system
	02	Manager login to the system using user credentials.
	04	The system directs to the sales and order dashboard
	05	The sales manager clicks the start auction button on the dashboard.
	06	The manager discusses with the buyers and deals with the best price.
	07	The Manager will select the best price with the customer.
	09	After selecting the customer, the manager will create an invoice for the customer using the auction details form.
	10	The manager sends the invoice to the customer via the purchase manager.
	11	Enter invoice details to inventory.
	12	Sales Manager clicks the Log Out button to log out from the system.
Extensions	Step	Branching Action
	02. a	If the username is invalid, the system prompts an error message saying “Invalid user name”

	05. a	The system displays “your internet connection is not stable”

Name	Generate Sales summary report	
Summary	The Sales manager can deliver a sales summary report based on sales history, winning buyer & details of the auctioned.	
Priority	4	
Pre-conditions	The Sales Manager logs into the system.	
Post-condition	The Sales Manager can view a sales summary report.	
Primary Actor	Sales Manager	
Main scenario	Step	Action
	01	The sales manager clicks the login button in the system
	02	Manager login to the system using user credentials.
	04	The system directs to the sales and order dashboard
	05	The sales manager clicks the generate report button on the dashboard.
	06	Then using all the details manager can create and generate a report.
	07	After that sales manager can view the generated summary report.
	09	Sales Manager clicks the Log Out button to log out from the system.
Extensions	Steps	Branching Action
	02. a	The system alerts the user if the login credentials are invalid.

IT22175366 - Product Management

Stakeholders:

- Buyers
- Purchase Managers
- Application Administrators

User Stories:

- As a Product manager, I want to list products for sale so that buyers can purchase them.
- As a Product manager, I want to update or delete product listings so that the information remains accurate.
- As a Product manager, I want to create tracking order details so that buyers can track their orders.
- As an order manager, I want to finalise prices during conferences so that we can proceed with sales.
- As an order manager, I want to send quotations to selected buyers so that they can confirm their purchase.
- As a buyer, I want to register for the system so that I can access its features.
- As a buyer, I want to view and search product details so that I can find what I need.
- As a buyer, I want to participate in auctions so that I can bid on products.
- As a buyer, I want to accept quotations so that I can confirm my purchase.
- As a buyer, I want to track my orders so that I can stay informed about their status.
- As a buyer, I want to see my order history so that I can review past purchases.
- As a buyer, I want to generate reports about my daily, monthly, and yearly order history so that I can analyse my buying patterns.

Functional Requirements (Frs):

- The system should allow the Product manager to list products.
- The system should enable Product managers to update or delete product listings.
- The system should enable order managers to finalise prices.
- The system should allow order managers to send quotations to buyers.
- The system should allow buyers to register.
- The system should allow buyers to view and search product details.
- The system should enable buyers to participate in auctions.
- The system should allow buyers to accept quotations.
- The system should allow buyers to track their orders.
- The system should display buyers' order history.
- The system should generate daily, monthly, and yearly order history reports for buyers.

Non-Functional Requirements (NFRs):

- The system should have a user-friendly interface for managing product listings and orders.
- The system should ensure the accuracy and integrity of product information.
- The system should provide real-time updates on auction status.
- The system should be available 99.9% of the time.

Technical Requirements (TRs):

- The system should support compatibility with major web browsers.

Use case Scenarios:

Name	Manage Product Listings	
Summary	This use case describes how a product manager adds, updates, and deletes product listings in the marketplace.	
Priority	1	
Pre-conditions	The product manager has the necessary permissions to manage product listings.	
Post-conditions	Buyers can see the most current product listings.	
Primary actor	Product Manager	
Trigger	The product manager decides to add, update, or delete a product listing.	
Main Scenario	Step	Action
	01	The product manager navigates to the "Add Product" section.
	02	The system displays a form for entering product details (name, description, price, quantity, etc.).
	03	The product manager fills in the required details and submits the form.

	04	The system saves the new product information and confirms the addition.
	05	The product manager navigates to the "Manage Products" section and selects a product to update.
	06	The system displays the current details of the selected product.
	07	The product manager modifies the necessary details and submits the updates.
	08	The system saves the updated product information and confirms the changes.
	09	The product manager navigates to the "Manage Products" section and selects a product to delete.
	10	The system prompts the product manager to confirm the deletion.
	11	The product manager confirms the deletion.
	12	The system removes the product listing and confirms the deletion.
Extensions	Step	Branching actions
	03.a	If add Invalid Input The system detects invalid or incomplete information.
	03.a	The system displays an error message and prompts the product manager to correct the input.
	03.a	The product manager corrects the information and resubmits the form.