

1. Selected use case: Dispatcher assigns delivery drivers and views delivery status.

Dispatcher assigns delivery drivers and views delivery status. This use case is important as it aligns with a high-priority client requirement which is managing deliveries efficiently. Also, It provides a substantial value to the dispatchers of the client company. Currently, this is done manually using spreadsheets. It is inefficient and unreliable and causes delivery setbacks which affects their customers' satisfaction. This is a foundational use case, and the implementation of subsequent use cases depends on its successful completion.

2. Use case description:

Use Case ID:	1.1		
Use Case Name:	Dispatcher assigns delivery drivers and views delivery status.		
Created By:	Erandi Madawalagama	Last Updated By:	Erandi Madawalagama
Date Created:	26/11/2024	Date Last Updated:	05/02/2025

Actor:	Dispatcher
Description:	Dispatcher assigns deliveries to drivers and views delivery status (e.g, Ready to Dispatch, In Transit, Driver Assigned, Completed) to coordinate a streamlined delivery operation.
Preconditions:	<ol style="list-style-type: none">1. Delivery data (e.g, Delivery ID, Address, Initial Status, Schedule) is generated by an external ERP system (Sales and Logistics mgt.).2. Driver details (e.g, Driver ID, Contact, Availability) are entered into the system by the external ERP system (HR).3. Dispatcher has valid credentials to login and access the module.4. Customer adding special instructions/rescheduling should occur before scheduled delivery date.
Postconditions:	<ol style="list-style-type: none">1. Dispatcher can assign deliveries to drivers.2. Dispatcher can view the delivery status.
Priority:	High
Frequency of Use:	Frequent (approx. 5-6 times per each order)
Normal Course of Events:	<ol style="list-style-type: none">1. The dispatcher clicks the delivery list included in the Dispatcher's Homepage. <i>The system, displays a list of deliveries categorized by status (e.g., ready to dispatch, driver assigned, in transit, completed)</i>2. The dispatcher uses the filtering and sorting options to view pending deliveries scheduled within the next 24 hours. <i>The system applies the filter and sorting criteria, refreshing the list to display the relevant deliveries.</i>3. The dispatcher selects a delivery from the filtered list and open the Driver ID dropdown list.

	<p><i>System fetches available driver data and display dropdown list populated with available drivers.</i></p> <p>4. Dispatchers select an available driver from the dropdown menu and click "Save".</p> <p><i>The system validates the selected driver's availability. Once validated, it performs the updates on driver and delivery tables (e.g, Adjust the driver's daily delivery quota in the driver table. Updates the delivery table to set the delivery status as "Driver Assigned" and associates the selected driver with the delivery). Then system displays "Driver assigned successfully, and Driver's daily quota updated".</i></p> <p>5. The dispatcher enters a specific Delivery ID into the search bar and clicks "Search."</p> <p><i>The system retrieves and displays the delivery record matching the entered Delivery ID.</i></p>
Alternative Courses:	<p>1.1.AC.1. The dispatcher selects a delivery from the list where a driver has already been assigned. They select a new driver from the dropdown menu and click "Save."</p> <p><i>The system unassign previous driver, verifies the availability of the newly selected driver and updates the driver and delivery tables. The delivery status remains "Driver Assigned".</i></p>
Exceptions:	<p>1.1.EX.1. The dispatcher searches for a delivery using a Delivery ID that does not exist or has been deleted.</p> <p><i>System displays an error message, such as "Delivery not found. Please verify the Delivery ID". Prompts the dispatcher to re-enter the ID or clear the search criteria.</i></p> <p>1.1.EX.2. The system encounters an issue while updating the driver or delivery tables (e.g., database connection issue / Driver Unavailable).</p> <p><i>System displays relevant error message: "Unable to save changes. Please try again later or contact support." or "Selected driver is unavailable, please select a different driver".</i></p>
Includes:	1. Login authentication
Special Requirements:	1. A user-friendly interface for delivery assignment to reduce user errors and save time.
Assumptions:	<p>1. Dispatcher wishes to assign deliveries online.</p> <p>2. Dispatcher wishes to view the status of delivery without having to call the driver for updates.</p>
Notes and Issues:	1. Monitoring driver location on a map, real-time delivery status, and handling failed deliveries to be added in a future sprint after implementation of the Driver module.

3. Method:

- Development Approach: Object-Oriented Design and MVC architecture.
- Development Model: Agile (scrum) model which supports incremental development and delivering working software in sprints. Sprint 1 consists of use cases 1.1 and 2.1 which will be completed and integrated for this assessment.
- Programming Languages & Frameworks:
HTML5, CSS, JavaScript, JQuery 3.7.1, Bootstrap 5.3.3, PHP 8.3
Tools & Technologies: NetBeans IDE 24, MariaDB (managed via phpMyAdmin), Apache 2.4.58 (Web Server), Git 2.47.1, PHPUnit 9.6.22 (for Unit Testing), Burp Suite Community Edition 2024.11.2 (for Security Testing), Selenium WebDriver (for Integration Testing), Composer (for dependency management), Visual Studio Code (for testing and Git integration)
Modelling & Design Tools: Visual Paradigm (for system and process modeling)
- Testing: Perform unit tests using PHPUnit, Component testing using Selenium and Security testing using Burp Suite.
- Team Collaboration- Number of team members is two:
 1. Erandi Madawalagama (CB015490) - Use Case 1.1(Dispatcher assigns delivery drivers and views delivery status)
 2. Sandeepa Ellawala (CB015489) - Use Case 2.1 (Customer Manages Scheduled Deliveries on the Customer Portal)
- Integration Plan: The team will integrate the two use cases and perform integration testing as part of Sprint 1 deliverables.