

Project Overview: Lightning TMS Development and Feature Completion

Please Note: This document outlines the current state of the Lightning Transportation Management System (TMS), which is under active development. Many features described are either incomplete or not yet implemented. This overview serves as a development blueprint rather than a description of a finished product.

This document details the planned and partially completed features of the Lightning Transportation Management System (TMS), a comprehensive solution designed to streamline all aspects of a modern trucking and logistics operation. The system uses role-based access to provide each team member with the specific tools and information needed to perform their duties efficiently.

I. Core System and User Management

- **User and Role Administration:** A robust system for adding users and assigning specific roles, including Dispatch, Planner, Customer Service, Maintenance, Billing, Payroll, Safety, and Equipment. Manager-level permissions are available for each role.
- **Comprehensive User Profiles:** Detailed user profiles serve as a central repository for system access, HR, and payroll information. Each user has secure login credentials.
- **Role-Based Access Control:** Administrators can customize permissions and data visibility for each role, ensuring users only access information relevant to their job functions.

II. Departmental Functions and Workflows

- **Customer Service:** This module initiates load management. Customer Service Representatives (CSRs) build new loads, associating them with customer origins and destinations. They have full visibility of customer details, load information, and trailer pools. Loads are assigned a "Responsible Party" for billing and are released to the planning department when ready.
- **Planning:** Planners use a dedicated interface to view all available loads. Their primary view includes a map displaying the real-time location of all drivers and trailers. While the system recommends suitable drivers, planners can assign any available driver. They can view driver availability (PTA/PTO) and manage freight within assigned regions. A relay builder facilitates complex, multi-leg journeys.
- **Dispatch:** The dispatch module provides a focused view for managing assigned drivers through a driver-centric list and a real-time location map. Dispatchers can view driver details, assigned trucks, and current and future loads. They are responsible for setting a driver's Projected Time Available (PTA).
- **Maintenance & Equipment:** This centralized function tracks and manages all maintenance for the company's fleet of trucks and trailers.
- **Billing:** The billing department generates invoices for completed loads, which are sent to the "Responsible Party" designated by Customer Service.
- **Payroll:** This module processes payroll for all company drivers and internal employees, utilizing data from user profiles.

- **Safety & Compliance:** The safety department has broad system visibility, focusing on driver logs, equipment status, permits, and fuel records.

III. User Interface (UI) and User Experience (UX)

- **Branding and Customization:** The application features the customer's logo and is branded as "Lightning."
- **Modernized Interface:** The layout utilizes the full screen width for an immersive experience. Date and time pickers have been updated to an intuitive clock-style format.
- **Theming and Personalization:** Multiple themes are available, each with a light and dark mode. Administrators manage system-wide theme settings, while individual users can toggle between light and dark modes for their personal view.
- **Intuitive Navigation:** The redesigned menu system uses context-sensitive drop-downs to streamline navigation and improve workflow.
- **Interactive Maps:** Maps feature clickable asset tags (trucks, trailers) for quick access to detailed information. A feature allows users to expand clustered pins to view all assets at a single location.

IV. Technical Features and Functionality

- **Driver Log Management:** The system accurately calculates Hours of Service and features a graphical grid display for driver logs that mirrors traditional paper logs. It correctly processes ongoing duty statuses, treating an open-ended log entry as a continuous event until a new status is entered.
- **Load Management:** The system captures all critical load data, including pickup and delivery times, and integrates Google Maps to calculate mileage. A "check call" feature allows drivers to submit status updates via a mobile app, which are then reflected in the load details.
- **Data Import/Export:** A robust reporting system allows users to export data to CSV format. The application also supports the bulk import of customers, equipment, users, and drivers from CSV files, with templates provided to ensure correct formatting.
- **Administrator Controls:** A dedicated settings screen allows administrators to configure company-specific information and add custom fields that are integrated throughout the application.
- **API and External Access:** An API has been developed to connect with the forthcoming driver mobile app. A customer-facing portal is also available for clients to check the status of their loads.
- **User Support:** The system includes integrated, context-sensitive help documentation on each page. A comprehensive user manual is also available, with an editor for administrators to keep it current.