FLEETFLOW

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Project Type: Web-Based Management System

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The Problem

- Current Industry Challenges
- Manual logbooks & spreadsheets
- Poor vehicle availability tracking
- No real-time compliance validation
- Inefficient dispatch decisions
- Lack of financial visibility

OUR SOLUTION – FLEETFLOW

FleetFlow is a centralized, rule-based digital platform designed to:

Manage fleet lifecycle

Automate dispatch validation

Track driver compliance

Monitor maintenance

Analyze financial performance

SYSTEM OVERVIEW

Core Modules

1. Authentication & Role Access
2. Command Center Dashboard
3. Vehicle Registry
4. Trip Dispatcher
5. Maintenance Logs
6. Expense & Fuel Tracking
7. Driver Safety Profiles
8. Operational Analytics

TARGET USERS

Fleet Managers

- Monitor asset lifecycle
- Oversee availability

Dispatchers

- Assign vehicles & drivers
- Validate cargo weight

Safety Officers

- Track license expiry
- Monitor safety score

Financial Analysts

- Analyze operational cost
- Review ROI

LOGIN & ROLE-BASED AUTHENTICATION

Purpose: Secure access

Features:

Email / Password

Forgot Password

Role-Based Access Control (RBAC)

Each user sees only relevant modules.

COMMAND CENTER DASHBOARD

Real-Time KPIs

Active Fleet (On Trip)

Vehicles In Maintenance

Fleet Utilization %

Pending Shipments

Filters

Vehicle Type

Region

Status

This gives instant operational visibility.

VEHICLE REGISTRY (ASSET MANAGEMENT)

CRUD Operations

Each Vehicle Stores:

Model Name

License Plate (Unique ID)

Max Load Capacity

Odometer

Status Control

Available

On Trip

In Shop

Retired

TRIP DISPATCHER MODULE

Trip Creation Workflow

1. Select Available Vehicle
2. Select Available Driver
3. Enter Cargo Weight

Validation Rule

System blocks dispatch if:

CargoWeight > Vehicle Max Capacity

Lifecycle States

Draft → Dispatched → Completed → Cancelled

MAINTENANCE & SERVICE LOGS

Preventative & Reactive Tracking

When a vehicle is added to Service Log:

✔ Status automatically changes to “In Shop”

✔ Removed from dispatcher selection pool

Ensures operational safety.

FUEL & EXPENSE LOGGING

Captured Data

Fuel Liters

Cost

Date

Maintenance Expenses

Automatic Calculation

Total Operational Cost =

Fuel + Maintenance per Vehicle

DRIVER PERFORMANCE & SAFETY

Compliance Logic

License Expiry Tracking

System blocks assignment if expired

Performance Metrics

Trip Completion Rate

Safety Score

Status Options

On Duty

Off Duty

Suspended

Analytics & Reporting

Key Metrics

Fuel Efficiency = km / L

Cost Per KM

Vehicle ROI =

(Revenue – (Fuel + Maintenance)) / Acquisition Cost

Export Options

CSV

PDF

Monthly reports

EXAMPLE WORKFLOW SCENARIO

Add Vehicle (Van-05, 500kg)

Add Driver (License Validated)

Assign 450kg Cargo

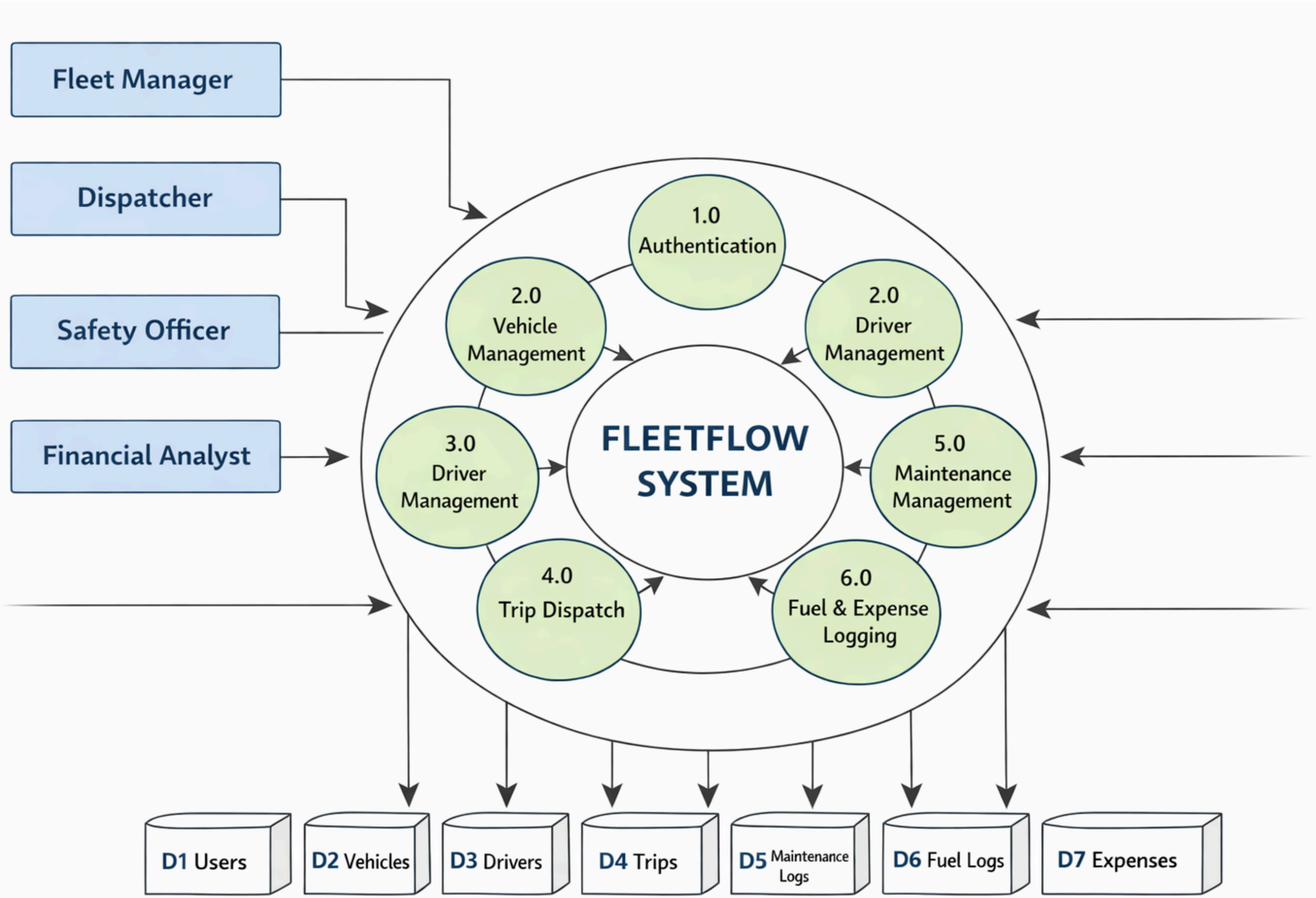
✓ Validation Passed

Vehicle Status → On Trip

Trip Completed → Status Available

Oil Change Logged → Status In Shop

Analytics Auto Updated


Fleet Manager
Dispatcher
Safety Officer
Financial Analyst
1.0 Authentication
2.0 Vehicle Management
2.0 Driver Management
3.0 Driver Management
FLEETFLOW SYSTEM
5.0 Maintenance Management
4.0 Trip Dispatch
6.0 Fuel & Expense Logging
D1 Users
D2 Vehicles
D3 Drivers
D4 Trips
D5 Maintenance Logs
D6 Fuel Logs
D7 Expenses

TECHNICAL ARCHITECTURE

Frontend

Modular UI

Interactive Tables

Status Pills

Backend

Real-Time State Management

Validation Engine

Business Logic Automation

Database

Relational Structure:

Drivers ↔ Trips ↔ Vehicles ↔ Expenses

KEY INNOVATIONS

Rule-Based Dispatch Validation

Automatic Status Synchronization

Compliance Blocking System

Real-Time Cost Calculations

Role-Based System Control

BUSINESS IMPACT

- ✓ Reduced Manual Errors
- ✓ Improved Fleet Utilization
- ✓ Increased Compliance
- ✓ Lower Operational Costs
- ✓ Data-Driven Decisions

FUTURE ENHANCEMENTS

GPS Live Tracking

Predictive Maintenance (AI)

Mobile Driver App

ERP Integration

Real-Time Traffic Optimization

CONCLUSION

FleetFlow transforms traditional fleet management into a:

- Structured
- Automated
- Data-Driven
- Scalable Digital System

It replaces manual inefficiencies with intelligent operational control

THANK YOU..