PROYECTOS DE INGENIERÍA Y GESTIÓN DEL SOFTWARE

REPORT NUMBER	**9**
TEAM NUMBER	**24**
TITLE	**Domain model and repository**
DATE	**11/05/2025**

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1. **Domain model:**

The diagram represents the core entities and relationships of the **Fleet Track** system. The main entities are:

- **Users**: represent system accounts, linked 1-to-1 with Drivers.
- **Drivers**: hold personal and license information and may be assigned to a Vehicle.
- **Vehicles**: central to the system, related to Drivers, Incidents, Maintenance Records, Schedules, and Vehicle Reviews.
- **Maintenance Records** and **Schedules**: track vehicle servicing history and future plans.
- **Incidents**: log events involving vehicles and optionally drivers.
- **Vehicle Reviews**: daily pre-checks submitted by drivers.

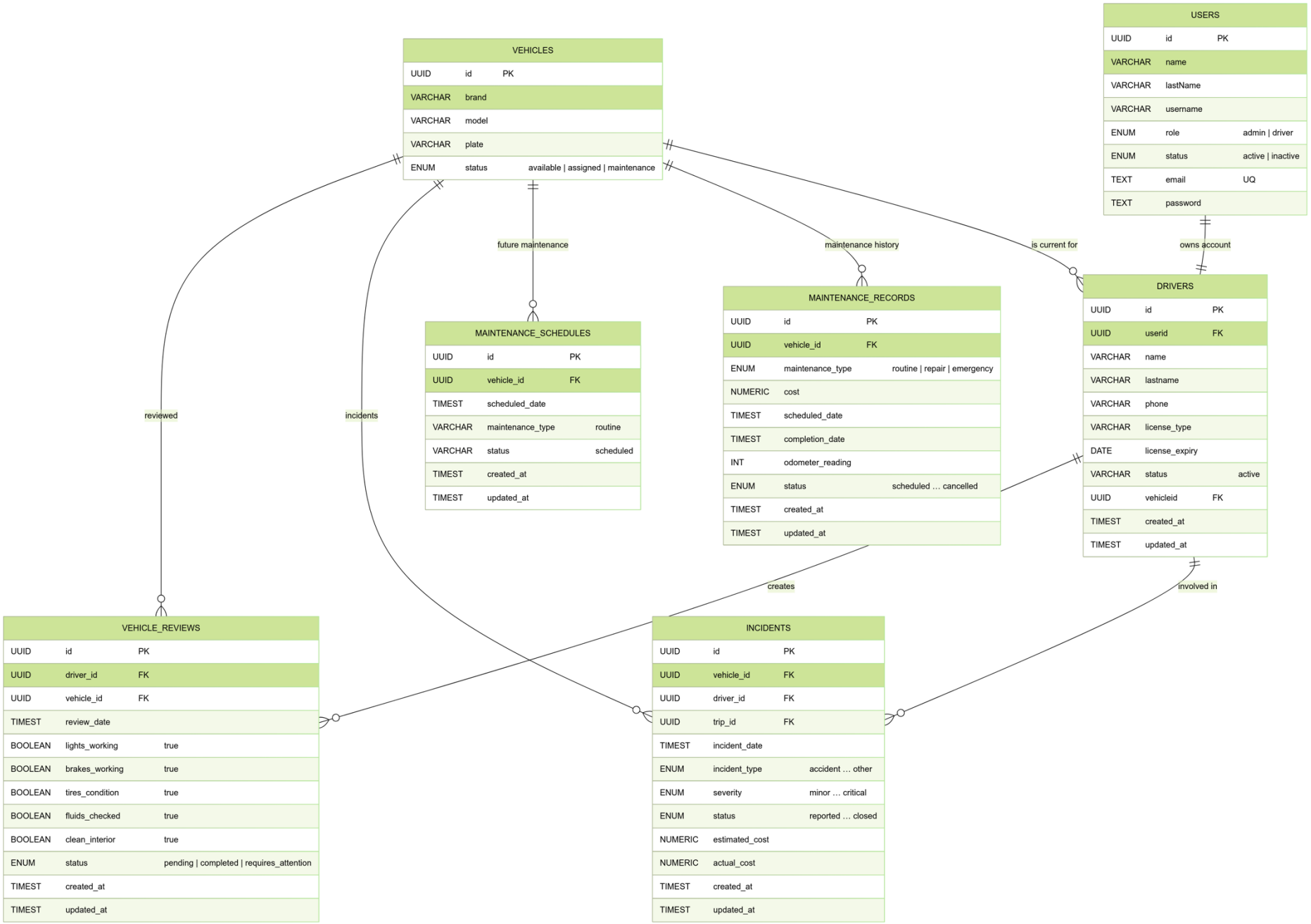
Relationships are enforced via foreign keys, ensuring data consistency across assignments, usage, and operational events. This model supports tracking, maintenance planning, and driver accountability.

Online version: https://www.mermaidchart.com/raw/777914d7-84e3-498c-894d-8fa318030c99?theme=light&version=v0.1&format=svg

PNG version:

Instructions:

Elaborate a domain model (class diagram, entity-relationship or similar) with the entities, relationships, and restrictions within your software. Include a link to the repository of your prototype.


USERS
UUID id PK
VARCHAR name
VARCHAR lastName
VARCHAR username
ENUM role admin | driver
ENUM status active | inactive
TEXT email UQ
TEXT password
VEHICLES
UUID id PK
VARCHAR brand
VARCHAR model
VARCHAR plate
ENUM status available | assigned | maintenance
owns account
is current for
future maintenance
maintenance history
reviewed
incidents
DRIVERS
UUID id PK
UUID userid FK
VARCHAR name
VARCHAR lastname
VARCHAR phone
VARCHAR license_type
DATE license_expiry
VARCHAR status active
UUID vehicleid FK
TIMEST created_at
TIMEST updated_at
MAINTENANCE_SCHEDULES
UUID id PK
UUID vehicle_id FK
TIMEST scheduled_date
VARCHAR maintenance_type routine
VARCHAR status scheduled
TIMEST created_at
TIMEST updated_at
MAINTENANCE_RECORDS
UUID id PK
UUID vehicle_id FK
ENUM maintenance_type routine | repair | emergency
NUMERIC cost
TIMEST scheduled_date
TIMEST completion_date
INT odometer_reading
ENUM status scheduled … cancelled
TIMEST created_at
TIMEST updated_at
creates
involved in
VEHICLE_REVIEWS
UUID id PK
UUID driver_id FK
UUID vehicle_id FK
TIMEST review_date
BOOLEAN lights_working true
BOOLEAN brakes_working true
BOOLEAN tires_condition true
BOOLEAN fluids_checked true
BOOLEAN clean_interior true
ENUM status pending | completed | requires_attention
TIMEST created_at
TIMEST updated_at
INCIDENTS
UUID id PK
UUID vehicle_id FK
UUID driver_id FK
UUID trip_id FK
TIMEST incident_date
ENUM incident_type accident … other
ENUM severity minor … critical
ENUM status reported … closed
NUMERIC estimated_cost
NUMERIC actual_cost
TIMEST created_at
TIMEST updated_at

2. **Link to the repository**: https://github.com/FleetTrackPigs/fleet-track

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