Truck Plan

Scope

Calculate the distance covered based on a truck plan.

Calculate the distance covered by drivers in certain age limit .

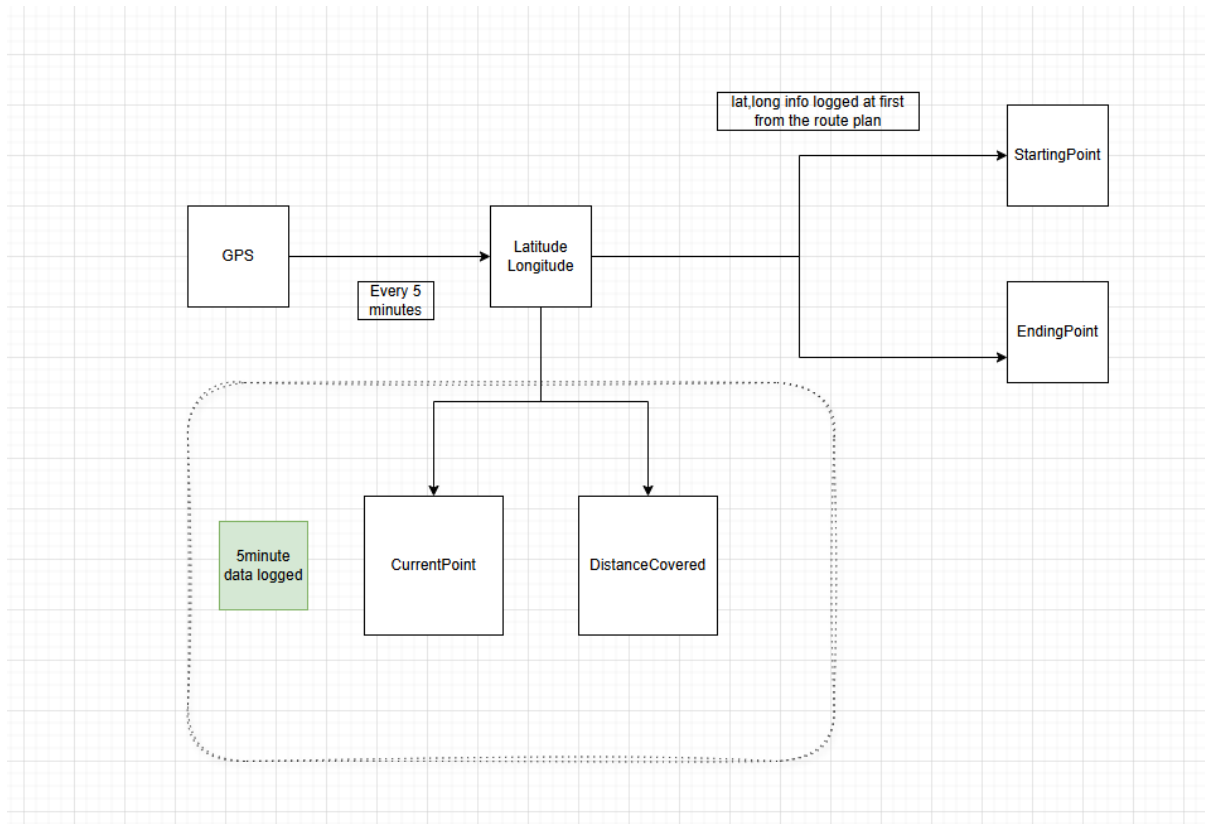Locate the country based on the coordinates available.

Truck plan with the following details

- Truck
- Driver
- Start Time, End Time
- Start Point, Current Point, End point
- Distance Covered in km

Assumptions

- Country is found from latitudes and longitude using an external web service. Nominatim

- Each truck has a GPS device installed. This device provides the system with the current truck position approximately every 5 minutes.

- Dummy data has been added to show some results.

- GPS device is not considered as a different entity as it has been included as a sub domain of Truck.

- Distance is calculated using the haversian formula considering the start position (lat, long) and Current position (lat, long)

- TruckPlan - Distance Calculation.

    o   We get the location details every 5 minutes through GPS.

- o Instead of having a huge collection of Latitudes and Longitudes in Truck Plan, Current position is saved every five minutes and along with that distance is calculated with Current position (lat, long) and Start position (lat, long) and distance covered is also calculated and saved.
- o Every 5 minutes information is logged into a data storage.

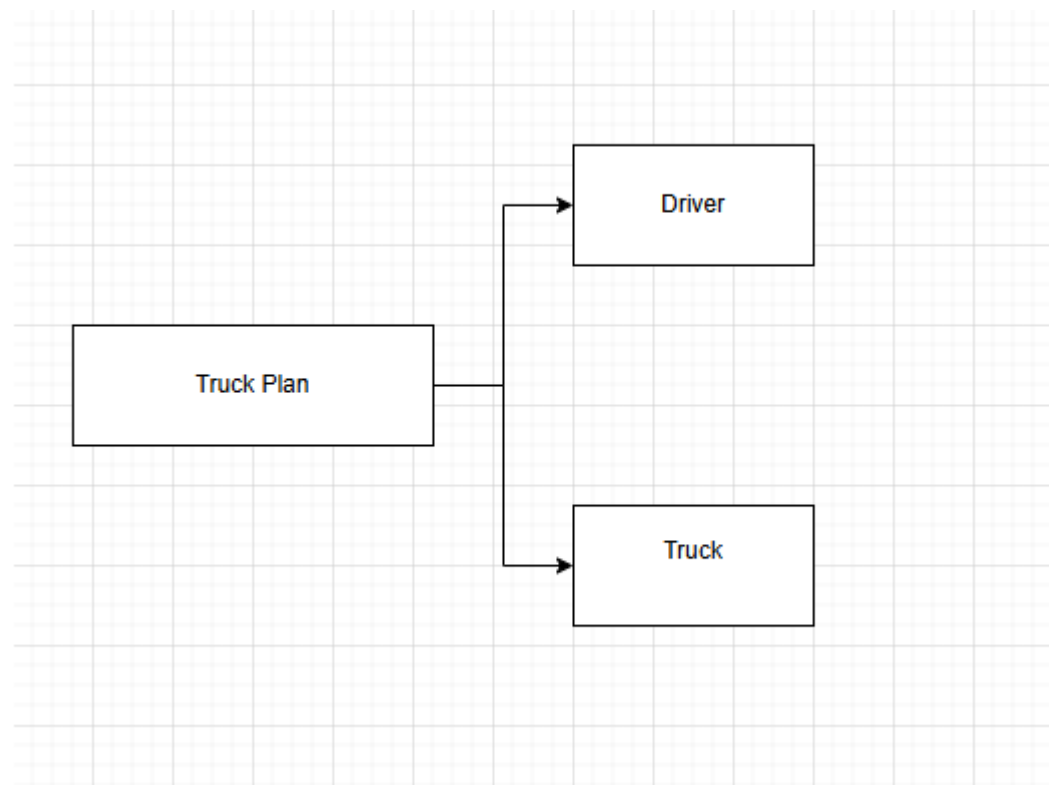

Domain Model

Driver - A person with name and DateofBirth

Truck - Vehicle with GPS device to track the coordinates

TruckPlan - Contains the driver, truck and the truck travel plan which includes

Starting point and dates and subsequent End point and dates

ER Model

Driver `[-]`

| 1 |

- DriverId
- TruckId
- Name
- DateOfBirth

Many

Truck `[-]`

| 1 |

- TruckId
- DriverId
- Gps

Many

Truck Plan `[-]`

- PlanId
- TruckId
- DriverId
- StartTime
- EndTime
- StartPoint
- CurrentPoint
- EndPoint
- DistanceCoveredKm

Many

Many