A Truck plan

High level requirement:

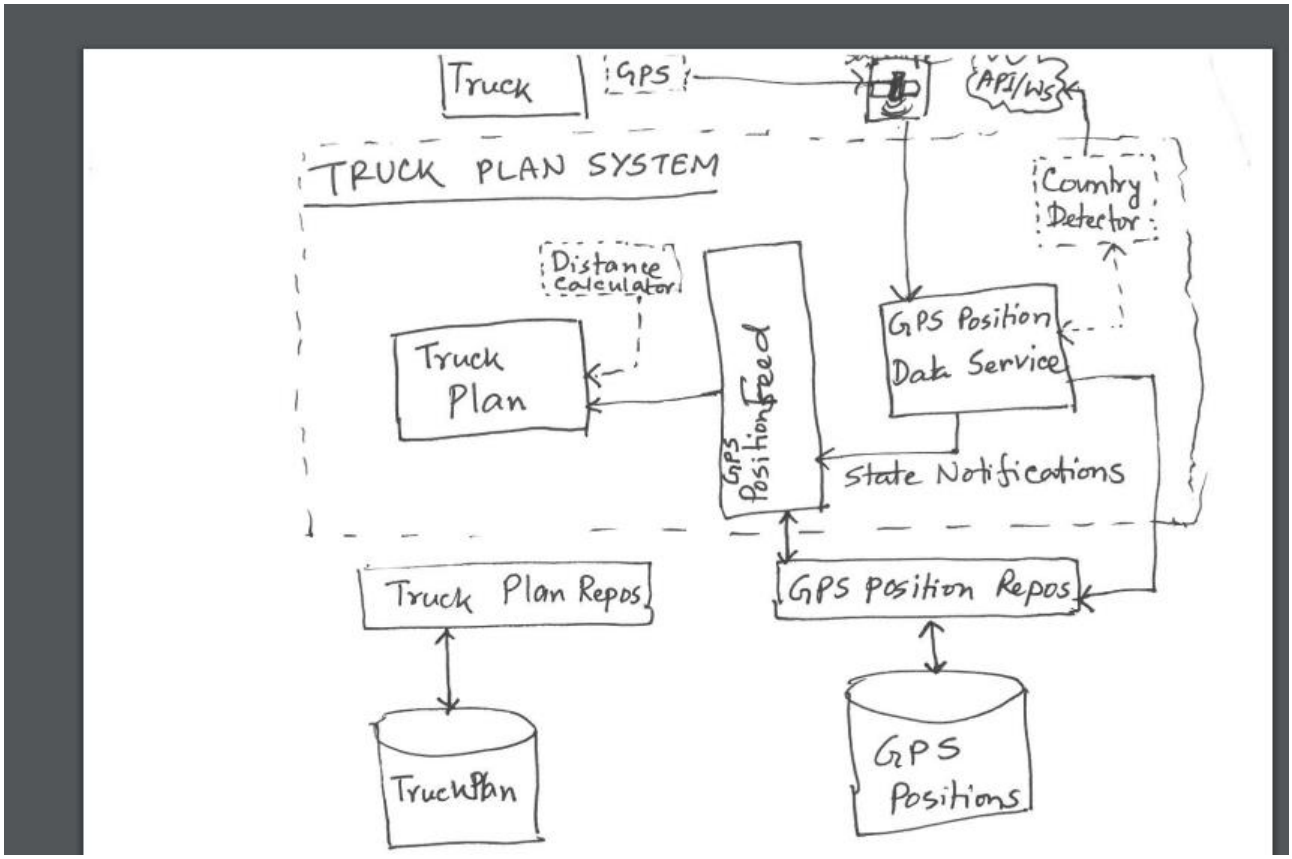
A Truck plan is to keep track of records of a continuous driving of a particular truck on specific date and location information for each single dive on 5 minutes interval during driving

High Level Design:

Using Truck plan system, a driver can update the truck plan

GPSPosition Backend service is responsible to dump data from a single device arriving to the system every 5 minutes for a continuous drive

GPSPosition Backend service should detect the country from coordinates and update database with country which can be used later by truck plan system



Assumptions:

- Each Truck has a fixed GPS Device installed. While GPS device in each truck provides with

positions every 5 minutes, the data also include identity for the truck associated in addition to device id and timestamp. (This is is basically to make the optimized query for truck's positions in present or in history)

- A continuous drive is managed by a single driver.
- GPS device provides positions only while it is activated (probably manually/automated by some signal simulation) for full drive.
- GPSDevice output for positions to the system is raw xml data . And A data service(e.g. WCF windows service) would dump the xml data and/or store into relational database or feed into some kind of Positions feed system
- A single truck plan can start in one country end up in another country.

Database entities:

1) Drivers (id, name, dateofbirth, dateofdeath)

2) Trucks (truck_id, capacity, gpsdevice_id)

3)GpsDevice(device_id,)

4)Drive(DriveId, DriverId, TruckId, StartDateTime, EndDateTime)

5)Positions (GPSDeviceId, altitude, long, timestamp, Coungtry code)

What is missing in the implementation?

1) Unit test

2)Confirmation on accuracy of calculated values because GPS data have been picked up randomly.

3) GPS Position Backend data service

4) Mechanism of state information on GPS position update (every minutes for each device) to GpsPositionFeed by Data service

5) Database implementation