**Research**

**Document**

*Crossyn Automotive BV*

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## 1. Most Appropriate Database Type

### 1.1 What is a relational database?

A relational database is a type of database that stores and provides access to data points that are related to one another. They are based on the relational model that stores data in tables, where each row is a record which a unique ID called key. The columns of the table hold attributes of the data, and each record usually has a value for each attribute, making it easy to establish the relationships among data points

### 1.2 What is a NoSQL database?

NoSQL, is an approach to database design that enables the storage and querying of data outside the traditional structures found in relational databases. While it can still store data found within relational databases, it just stores it differently compared to a relational database. Instead of the typical tabular structure of a relational database, NoSQL databases, house data within one data structure, such as JSON document. Since this non-relational database design does not require a schema, it offers rapid scalability to manage large and typically unstructured data sets.

### 1.3 What is the type of data that is going to be stored in the database?

The trips that we are going to build are consisted of data packets that are received by each car. We think that it is unnecessary to store every packet that is used for creation of the trips, because there will not be any additional use of them. Every trip has a vehicle that it has been executed with, therefore it is good to use a relational database to connect each car with the trips that have been made using it.

Additionally, a vehicle can also be connected with a fleet, which has a fleet owner, or with a user.

In conclusion, the most rational choice for the occasion is to use a SQL database for storing the data we receive and create.

### 1.4 Strategies for research

Library research

We explored the data that was given to us and checked what other people with similar cases have used in terms of databases

Field research

The application is structured in such a way that the data we receive and create is related in most cases.