

Design Document

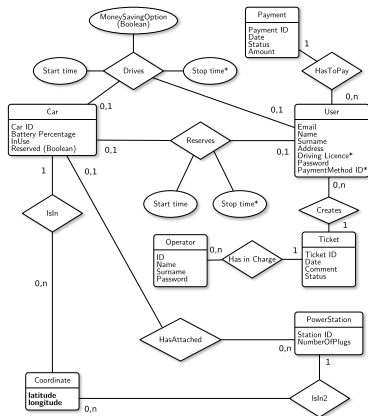
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Data management

- We opted for a **centralized approach** since our **data model** is very small and interconnected and we do not need different types of data models (eg. SQL and noSQL).
- We chose a **SQL approach** because it offers an easy and **standardized language** for queries, and grants **ACID** properties.



- All **algorithms** needed in the project are trivial but the one dealing with uniform repartition of cars in the city.
- This problem has been studied a lot and there are in literature various algorithms that solve it.
- They are mainly based on **mixed integer linear programming** techniques and in particular [1] presented a complete **model**. In [2] is presented a **greedy algorithm** that achieves almost the same result.

Figure 5 Flowchart of the Relocation Algorithm

Requirements traceability

The **map** is neither injective nor surjective. In fact some **requirements** need more than one **module** to be satisfied and **modules** achieve the satisfiability of many **requirements**. The correspondence is summarized in the figure.

