Assignment #1: Domain Description

1. Overview

You are asked to produce a database design for a company that provides car-sharing services. Cars are self-driving and users can rent them to get from point A to destination B. In this part, you are required to come up with a domain description in the form of requirements, context diagrams and use-case diagrams. The specification below cannot be considered complete and you are encouraged to extend it.

2. Specifications

A car sharing company owns a park of self-driving vehicles. The company rents out the vehicles to customers who pay for the services.

Each customer is identified by a unique username and should have the following attributes:

- Full Name
- Username
- Email
- Location of residence (Country, City, Zip code)
- Phone Number

A company also runs a network of charging stations. There will be an option to find the nearest charging station according to the location. Each charging station is identified by a UID and should have the following attributes:

- GPS location
- Amount of available sockets
- Price or Cost of regarding charging amount
- Shape and Size of Plugs
- Time of charging

A company also runs workshops which repair cars. Workshops have providers of car parts which are from other companies. Each workshop is identified by WID and should have the following attributes:

- Workshop location
- Car parts available according to the car type
- Availability of timing

There is also a provider of car parts who provides car parts to workshops. Each provider has unique company id and should have the following attributes:

- Name of the provider
- Address of the provider
- Phone number of the provider
- Types of car part which the provider provides

From the above descriptions, you will realize that the entities are disconnected. You need to find a way to connect entities by identifying a missing entity set and designing relationships so that the whole diagram is connected. Implement your idea and make this connection.

3. Goals

1) Study the domain: At this stage, you will need to provide answers to the following - how your system functions, which entities it has and how they will be related to each other, what is the level of detailization. Support and explain any choices you make.

2) Describe the domain: Now you can describe the created domain using the tools of domain description that were presented in the lab sessions.

4. Deliverables

1) Shall statements

2) Context diagram

3) Use-case diagram

5. Grading

1) Correctness - 50%

2) Completeness - 50%