Data modeling and Databases F18

Assignment #2: ER Diagram design decisions

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Decisions:

       We decided to store history of all orders, charging and workshop events and requests of details.

       We decided that history of all orders, charging and workshop events and requests of details are in form of logs. Any event is connected with involved units and also has ID and date time.

       We decided to use inheritance in terms of logs. We created entity set RECORD from which any log is inherited.

       We decided to allocate every unit(User, Car, Workshop, Charging station, Provider) at certain location. We are sure that it will help processing data via location.

Explaining cardinalities:

       One user can place one order, an order can be placed only by one user at one moment of time.

       One car can execute only one order at one moment of time.

       Car can have only one charge by one charging station at one time. The charge is not shared with other cars.

       Car can be repaired only by one workshop at one moment of time.

       Provider can provide one detail to one workshop at one moment of time.

       Users, providers, charging stations, workshops have locations. Each of them can have only one location. However, one location can have many users, providers, charging stations and workshops. For example, a six users in the same location can order two cars.

Full name | ID | Username

User

Car ID | User ID

Car order

Model | ID | Username

Car

Amount of available sockets | ID | Price

Charging station

Phone number | Email

Phone number | Email

1 — Place — 1

1 — Executed by — 1

1 — Need

1 — Need — 1

1 — Performed by — 1

Time of charging | Types of plugs

Charge

Car ID | CS ID

Repair

Workshop ID | Car ID

City | Country

Location

GPS | Zip Code

N — Has — 1

1 — Has — N

ISA

Record — Date Time

ID

1 — Performed by — 1

Car parts available

Workshop

Availability of timing

ID

1 — Has — N

Workshop ID | Provider ID

Details

1 — Need

1 — Provided by — 1

Name | Phone number

Provider

1 — Has — N

Types of car parts | ID

1 — Has — N