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The first step in the development of our project was the **abstraction** process, in which we have determined that the main *objects* (related to the domain of the problem) we want to emphasise our database are the **entities** you’re seeing in this diagram (PERSONA, CLIENTE, EMPLEADO, SERVICIO, LUGARTURISTICO, EVENTO, HOTEL, RESTAURANTE, ACTIVIDAD, MULTIMEDIA, SEMANA, SPONSOR, HABITACION).

We think that it is important to follow up SEMANA so that our database can have a way to organise events according to a weekly calendar (one of the assumptions we mentioned before is all events have a weekly frequency, so we have not contemplated events that may happen only one time).

A similar analysis has been done with the entities ACTIVIDAD, MULTIMEDIA, SPONSOR in order to achieve the proposed goals of the project mentioned in the presentation.

Once the abstraction model was completed, we proceeded with the ER model (entity-relationship) as you can see. It shows all entities and relationships between them as well as their attributes.

On top we have the entity PERSONA which has all attributes shared by CLIENTE and EMPLEADO. These last two entities would inherit all the attributes from PERSONA. Each person would be identified by an id (this would guarantee uniqueness among people). EMPLEADOs would also have legajo and rol as attributes. CLIENTEs would have usuario and contrasenia for those belonging to this class of PERSONA. It is relevant to say that we have decided to use this structure so that ONE persona would be either EMPLEADO OR CLIENTE, but not both.

Next we have the entity SERVICIO which would represent what an EMPLEADO would sell (relationship VENDE) and what a CLIENTE would purchase (relationship COMPRA). This last relationship has three attributes: fecha, formaDePago and monto.

One SERVICIO may include a LUGAR or an EVENTO or a HOTEL or a RESTAURANTE. But also, it may include any combination of them, or all of them.

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The final step was to transform the entity-relationship model into the **relational model** on MySQL Workbench.

Again, on top we have the same structure for PERSONA, CLIENTE and EMPLEADO. The last two inherit the PRIMARY KEY of PERSONA.

The table EMPLEADO would have 3 registers (idPersona, legajo and Rol). EMPLEADO is related to PERSONA by idPersona so we could show up all the attributes FROM PERSONA on the EMPLEADO table.

That is to say we could show all PERSONA that are EMPLEADO.

The same with CLIENTE.

Relationships COMPRA and VENDE are many-to-many so when we converted them, they became new tables with their own **foreign-keys** (inherited from the entities they relate).

As we’ve said before, SERVICIO is what an EMPLEADO sells and what a CLIENTE buys. We want to follow up that information too. And we want to know what each SERVICIO sold by TucuMax includes. To accomplish this, each SERVICIO would be identified by its idServicio, and it would have as attributes the name(s) of each kind of servicio included in it. Same considerations as in the ER model.