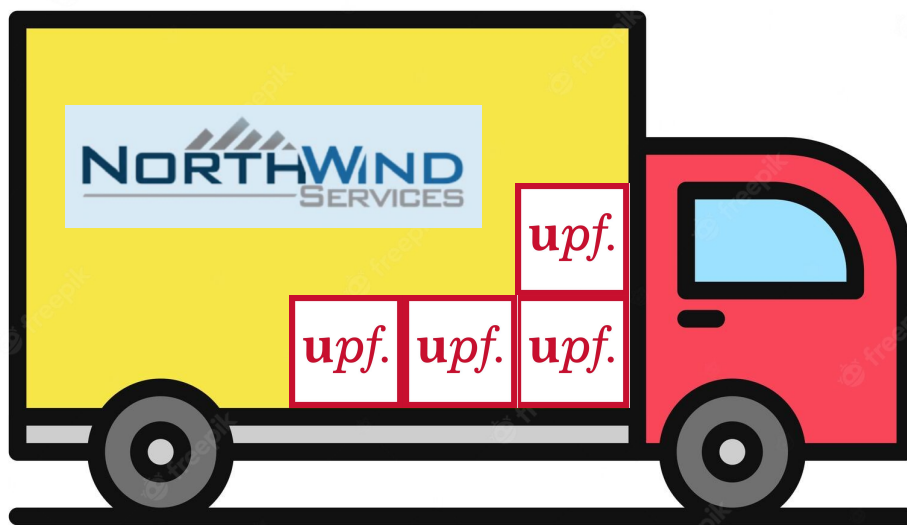


DATABASES - Report LAB 2



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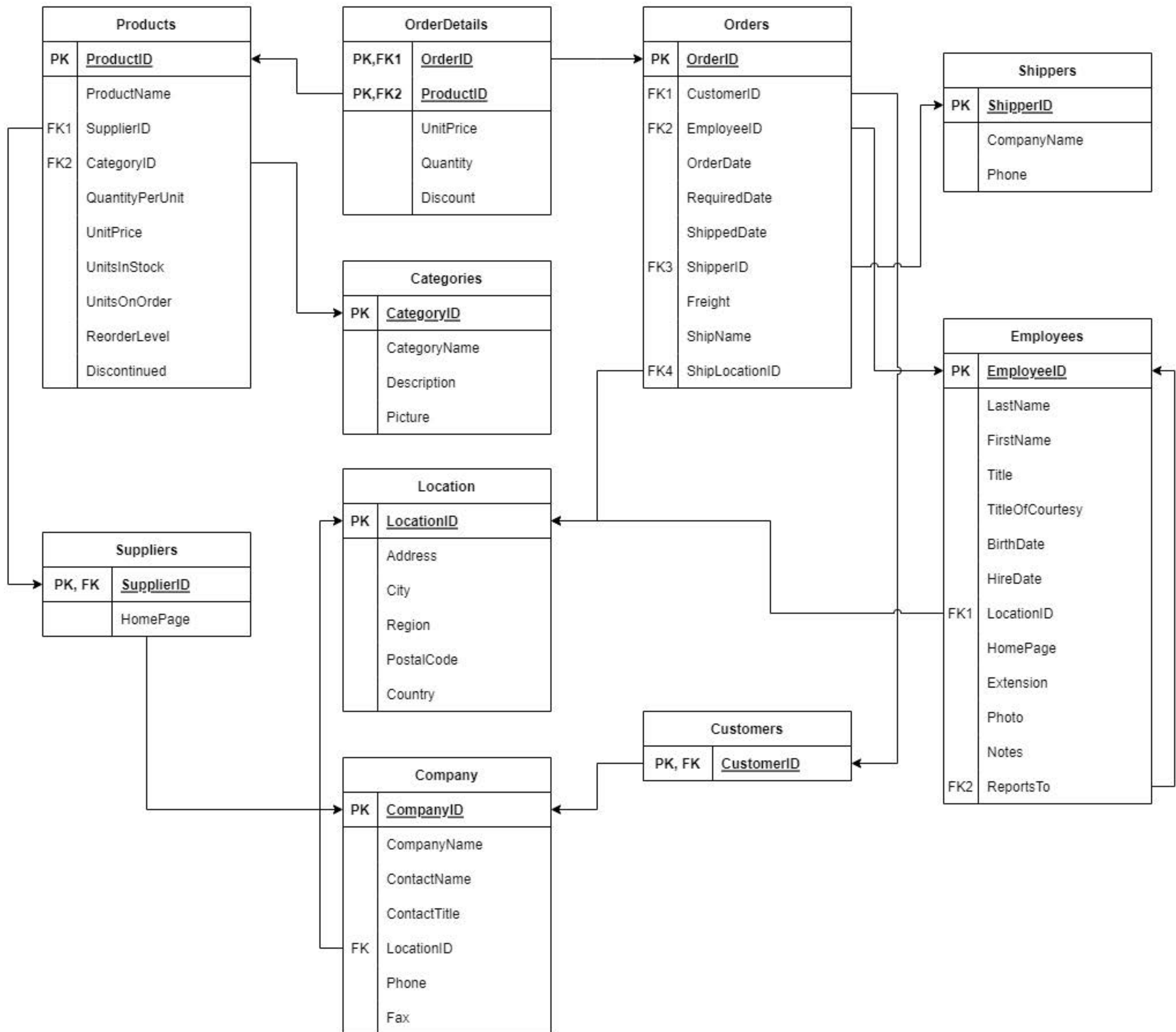
The aim of this report is to justify the improvements applied to the provided relational model in this second lab. After doing these changes following the ER model, we also created a conceptual model of the database based on the relational model, trying to give it a more hierarchical structure. Both models can be suitably visualised down below.

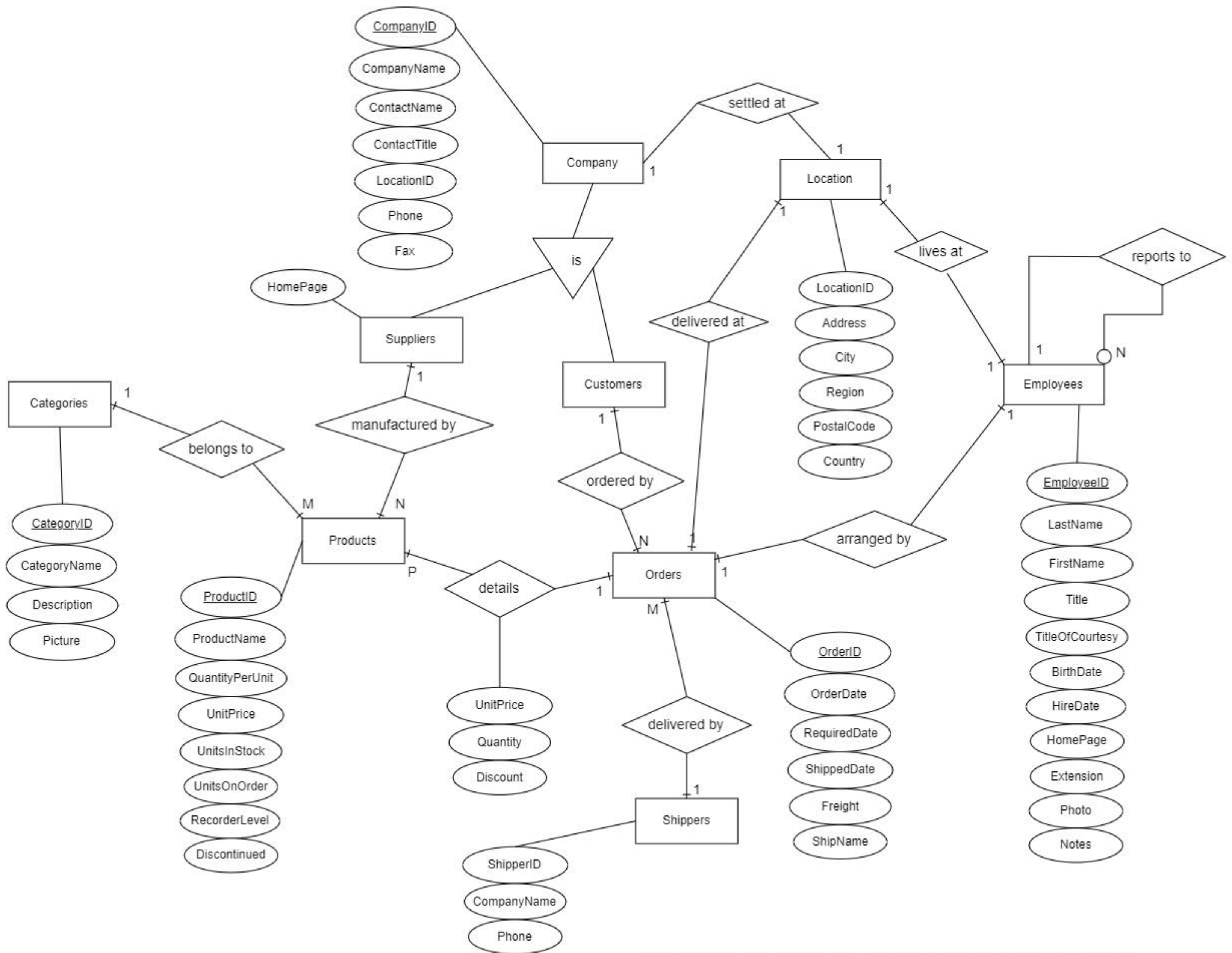
First of all, we noticed the attributes' repetition on the relations 'Suppliers' and 'Customers'. In fact, all attributes were repeated, excluding 'HomePage' in 'Suppliers'. In order to solve this unfortunate mistake, we created a new relation called 'Company', which generalises both relations just mentioned. This way, 'Customers' and 'Suppliers' inherit from 'Company' and there is no need of repeating the attributes. In addition to this, it would have been nice to add the relation 'Shippers' as a company, but we did not consider it necessary, as 'Shippers' has only two attributes out of the six present in 'Company'.

On the other hand, it was also noticeable the five repeated attributes ('Address', 'City', 'Region', 'PostalCode', 'Country') in the relations 'Employees', 'Orders', 'Suppliers' and 'Customers' (joined into 'Company'), regarding their locations. In order to optimise this occurrence, we thought it was appropriate to create a new relation called 'Location', in which we would add these five attributes.

Concerning the conceptual model, the idea has been to adequate it as much as possible to the relational. There is an entity for every relation, except for the relation 'OrderDetails', which is represented as a relationship, together with its corresponding attributes. Particularly, we had some issues with the new relation 'Location' because at the beginning we wanted to place it as a relationship, but that made no sense because there is no connection between the locations of the companies, the employees, and the orders. Besides, notice that the supervisor employee has been expressed as a recursive relationship.

Finally, for the rest of entities and relationships, they have the corresponding attributes, cardinalities, and obligations. Moreover, notice that there is no obligation for the companies to have a location, because they could also work online.





Note: The repeated letters N, M or P do not represent necessarily the same number, they were used just for simplicity