

BASES DE DADOS  
L.EIC  
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**Group Project**  
**First Submission**

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# 1 Domain Definition

We are developing the database for the logistics of a paper bag company. The company makes sales, and from each sale an order is created. From that order, we want to save many things. We want to save the client, the items, quantities, prices, identification number, employee that produced each item, machine where each item was produced, date, status, and delivery method.

The items are paper bags, and each type of bag has a paper type, dimensions and a list of machines where it can be produced.

We need to keep track of the employee that produced the items and the machine where it was produced, so that in case a problem arises with the bags, it is possible to know who and where the mistake was made.

From employees, we only want to save their name and identification number. From clients, we want to save that, plus their phone number, e-mail address and physical address.

The company has various warehouses, and each warehouse has certain machines and paper types in stock. We can select in what warehouse a certain item can be produced based on the machines where it can be produced and on the paper type it needs.

## 2 Conceptual Modelling

What follows is the UML diagram we developed for the defined problem domain. We did not use AI tools to help develop this diagram.

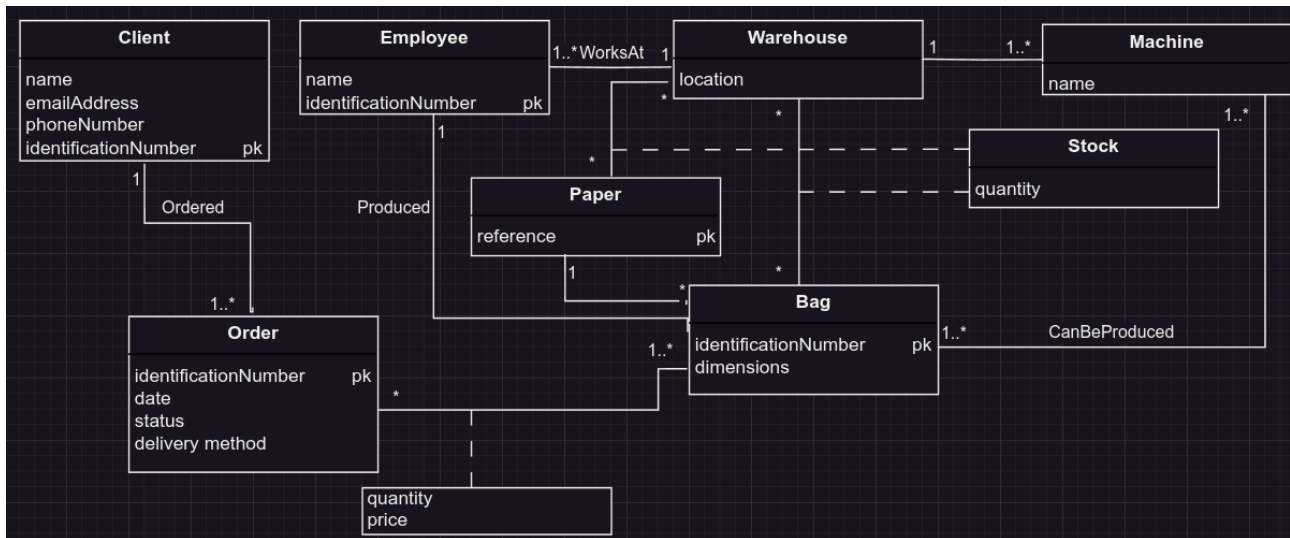


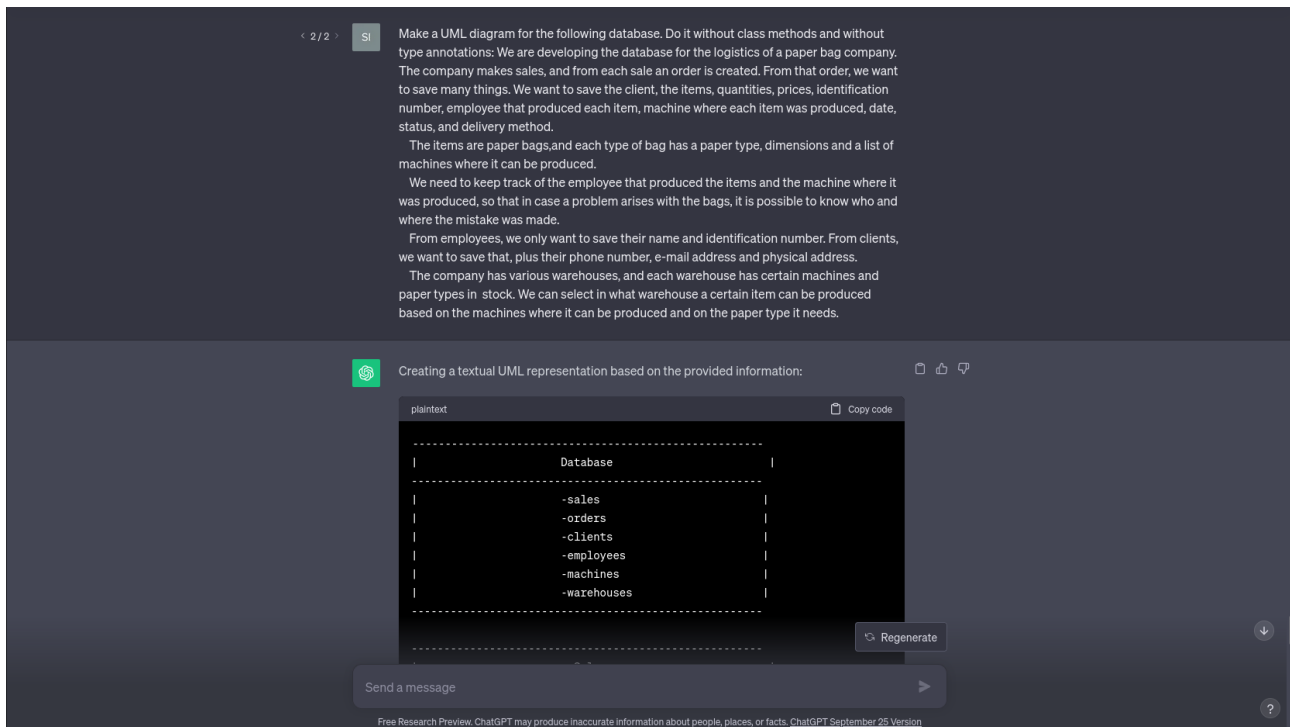
Figure 1: UML diagram, designed using draw.io

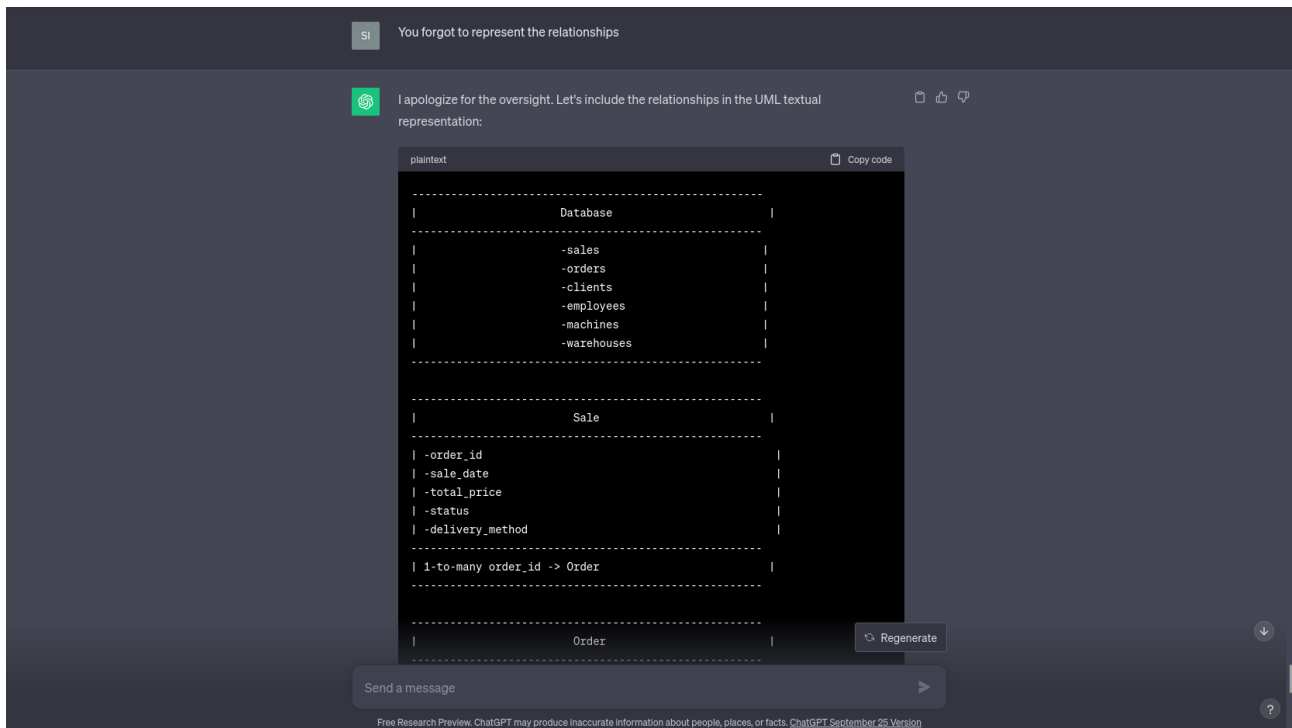
## 3 Generative AI Integration

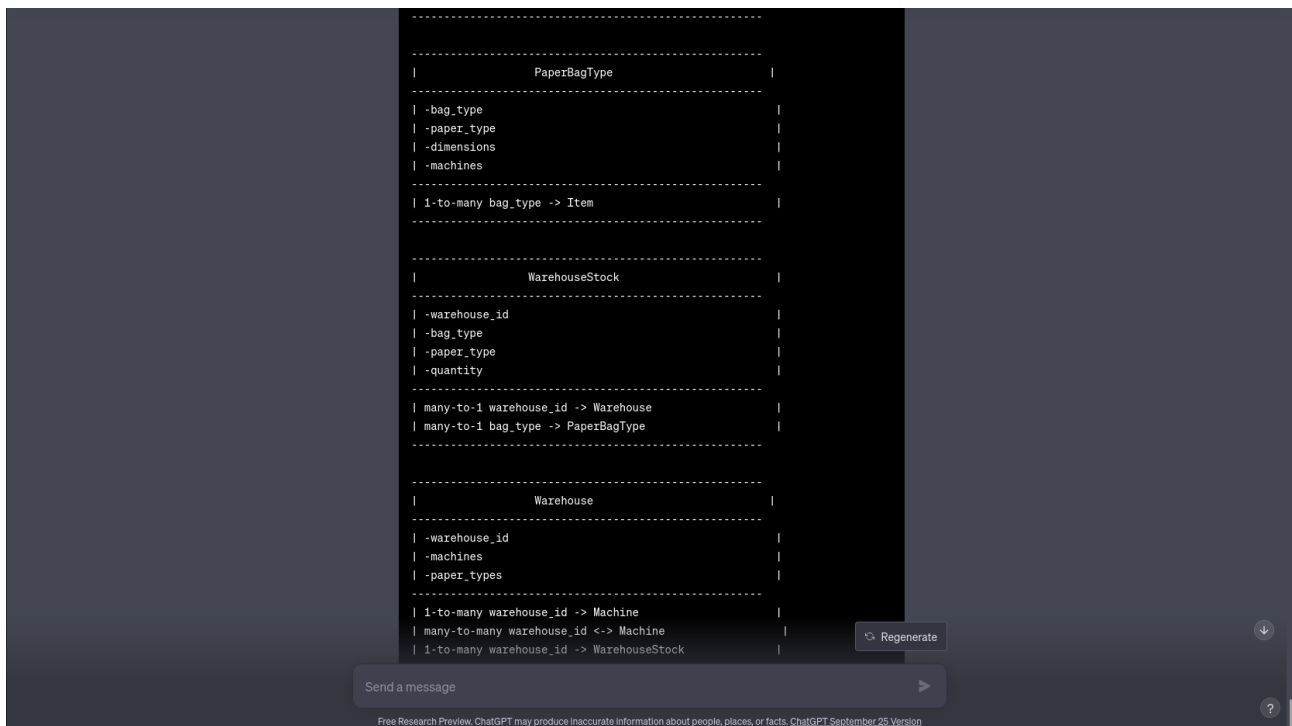
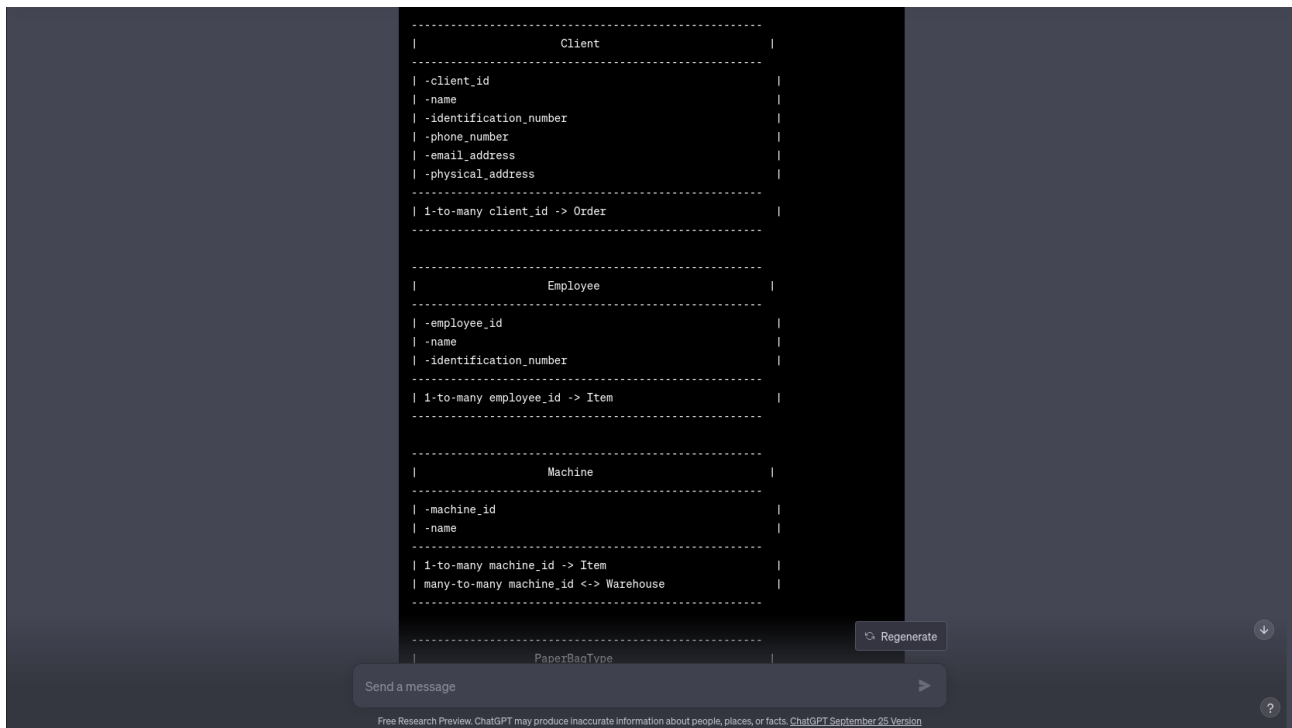
### 3.1 AI Tool Used

For this task, we chose to use ChatGPT. Chatbot GPT-3.5, often referred to as ChatGPT, is a language generation model developed by OpenAI. GPT (Generative Pre-trained Transformer) is a type of machine learning model based on a transformer architecture, and GPT-3.5 is one of the latest and most advanced versions.

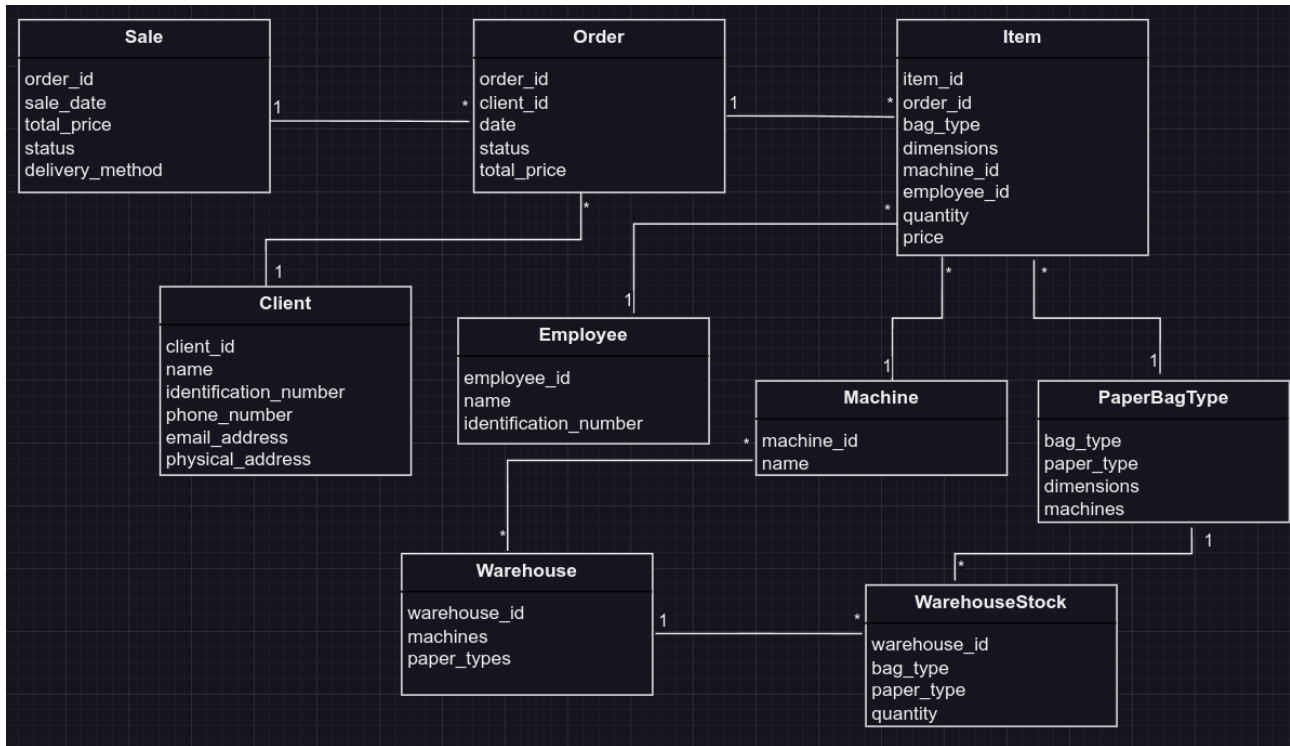
### 3.2 Prompts and Answer







With this, we were able to create a UML diagram also using draw.io for this AI generated model.





### 3.3 Critical Assessment

With the prompts that were given to ChatGPT, it produced a diagram in many ways different to our own.

One of the most notable problems with GPT's model is the different naming conventions for class names and attribute names. If camelCase is used in one, it should also be used in the other.

Some classes that it created would make more sense as association classes instead of normal classes, like WarehouseStock.

At last, there were some attributes that could be omitted because of the relations between classes, such as Item having an order\_id attribute. This does not make much sense, as the relation between Order and Item already exists.