

A Synopsis on

Apparel Store Management System

*submitted in partial fulfillment of the requirements for
completion of DBMS LAB*

of

TY in Computer Engineering

by

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1. Problem statement

This is a mini project on the Apparel Store Management System, where a complete database consists of the stores(branches), items in each store, customer records, employees present and their respective managers too. In addition, we also have a large number of items with varieties of categories and collections. Also, we have a mapping of customers buying the respective products and stores with the stock of particular items. We also have the record of how the items come to the store from the suppliers, the mode of traveling and tracking the order with the date. A couple of triggers, functions, procedures and cursors are implemented in order to make the database smooth and sophisticated.

Views are also implemented to show the dynamic changes that occur in the database as a whole. This database handles 4 branches of the Apparel Store and this essence is completely felt, when we perform some of join, aggregate and set operations. Overall, we get to see a miniature of real – time Apparel store management.

2. Objectives

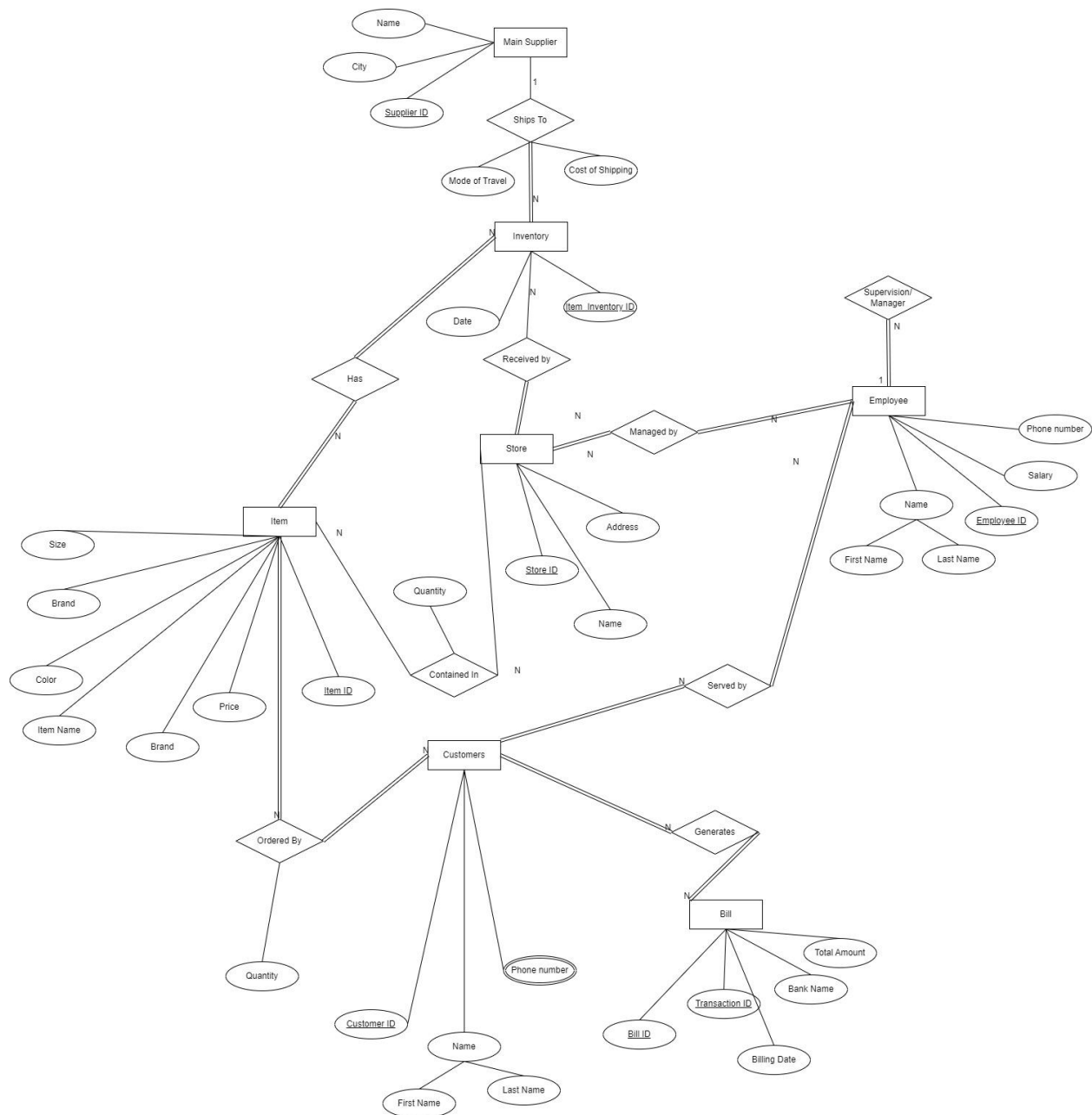
This mini project aims to deliver the real – time essence of Store Management, which is prevalent and widely developed by many software enthusiasts all over the world. The relational database is quite deeply modeled and revealed in a very schematic way. The output of this DBMS is put out in a technical sense to bring out the effectiveness and usefulness of such a model and system. Also, a front end for this project is made using streamlit in order to access and perform CRUD operations in a simple way. This also creates a high reachability for the software. Though the challenges to build the queries are high, MySQL rather supports all these in a sophisticated way with the help of the reserved keywords and clauses provided by them.

3. Functional Requirements

- a. Product Management:
 - i. Add new products.
 - ii. Update product details.
 - iii. Remove products.
- b. Order Handling:

- i. Take customer orders.
- c. Inventory Control:
 - i. Monitor product quantities.
 - ii. Get alerts for low stock.
- d. Customer Interaction:
 - i. Record customer details.
 - ii. Keep track of purchases.
- e. Basic Reports:
 - i. View sales data.
 - ii. See popular products.

4. ER Diagram



5. Reducing Functional dependencies:

- a. 1NF form: Relation must not have multi-valued attributes

To solve this: we can create a new row for each of the values of the multi-valued attribute to convert the table into the 1NF.

But, this process will waste unnecessary space as multiple mobile numbers have very low importance. Thus, I have converted the multi valued Phone_number attribute to a simple attribute.

b. 2NF form: Elimination of partial dependencies

It must not contain any partial dependency, i.e., all non-prime attributes are fully functionally dependent on the primary key.

In my ER diagram, all attributes in the relations and tables are fully dependent on the primary key.

c. 3NF form: Eliminating transitivity

No non-prime attribute is transitively dependent on the primary key. We have 'Store' dependent on Item which is dependent on Inventory. This transitivity needs to be removed while converting to relational model.

6. Relational Schemas