Retail Store Database Management System

Report 1

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Problem Statement

We will build a database system used for retail store management. It can be used to lookup item inventory, deal with customer's return, do sales analysis, maintain the suppliers' information, and so on.
There are many reasons we consider a database rather than excel file: Firstly, it's more convenient to use, more user-friendly. In other words, not everyone are good at operating Excel as a data storage mechanism. Secondly, Excel wouldn't scale well with the data stored growing, the store data would be very large and dynamically increasing. Third, relational databases provide constraints and other benefits which are not available in Excel. Lastly, it would be more difficult to use Excel as storage for website.

Target User
Store, customer and supplier can use this database. Store will be the administrator. Imagine a real-life scenario, a customer Mike want to buy a LG TV, he need to lookup which store has the specific model he want to buy, two days after he bought he is not satisfied with it and return it. The store find this one specific TV model has a high return rate, so they change to another supplier Samsung. All these things need a database system to manage.

Relations Description

There are 6 tables we're going to maintain in this database.
1. Customers
The schema includes Customer_ID, which is the primary key, Customer_Name, Customer_Address, Contact information, Total_Amount_$, Total_Orders and prefer_store_id(which is a foreign key references to Store_store_id)
2. Stores
The schema includes Store_ID, which is the primary key, Address, Contact, ZipCode
3. Items
The schema includes Item_ID, Item_Name, Brand, Suppliers_ID(which is a foreign key references to Suppliers.supplier_id), Store_ID, Unit_Price_$, Quantity, the primary key is (Item_ID,Store_ID)
4. Suppliers
The schema includes Supplier_ID which is the primary key, Supplier_Name, Address, Contact
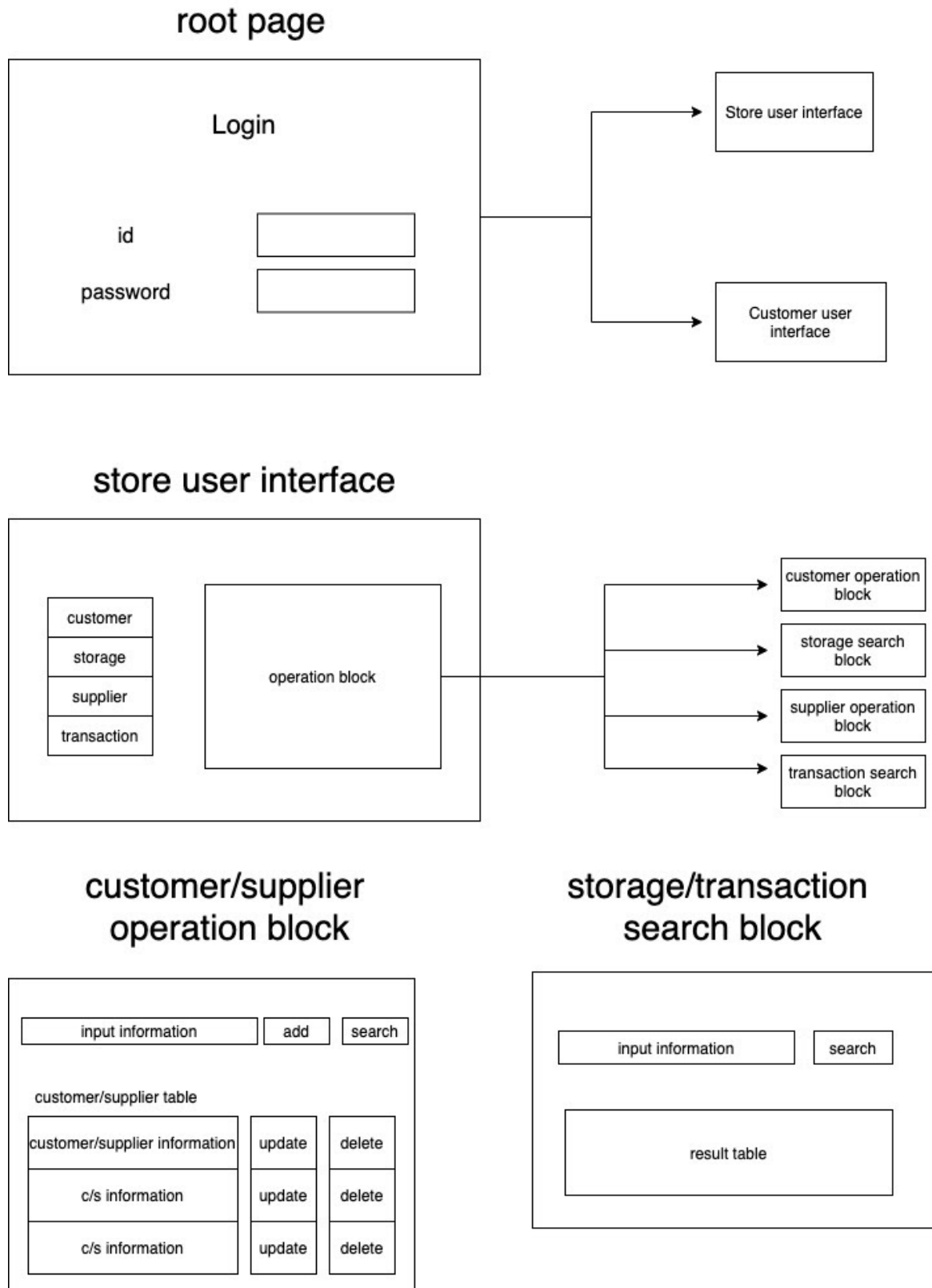5. Order_items
The schema includes Item_ID(which is a foreign key references to Items.Item_ID),Item_Name, Quantity, Bill_Number(REFERENCES Purchases.Bill_Number)
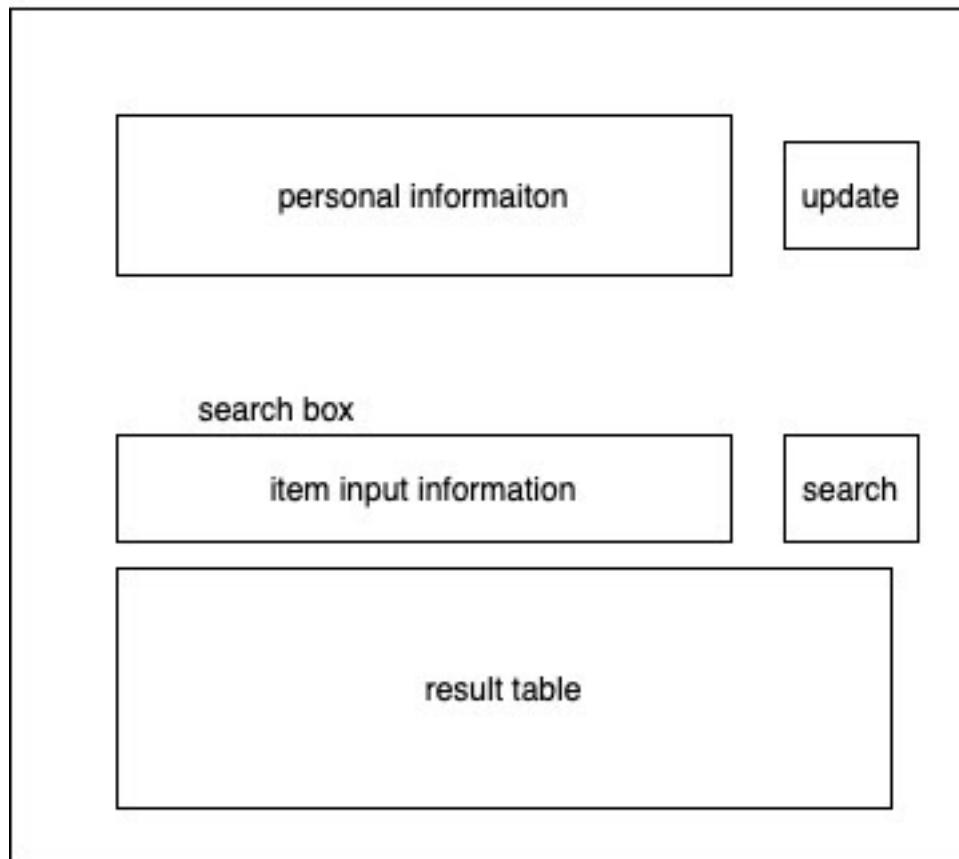6. Purchases
The schema includes Customer_ID(REFERENCES Customers), Bill_Number, which is the primary key, Total_Price_$, discounted_Price,Tax_included_Total.

Web Interface

root page

Login

id

password

Store user interface

Customer user interface

store user interface

customer

storage

supplier

transaction

operation block

customer operation block

storage search block

supplier operation block

transaction search block

customer/supplier operation block

input information	add	search

customer/supplier table

customer/supplier information	update	delete
c/s information	update	delete
c/s information	update	delete

storage/transaction search block

input information	search

result table

customer user interface

| personal informaiton | update |

search box

| item input information | search |

result table

Comment Summary

1. Detailed descriptions of attributes ?
   Datatype ?
   Actions on foreign keys when primary key deleted ?