Medlife Pharmacy

ER Schema:

Entities, Attributes, and Primary Keys

Company (**cmpName**, cmpPhone, cmpAddress)

Drug (**drgBarcode** ,drgName, drgType, drgDose, drgCode, drgCostPrice, drgSellPrice, drgProductionDate, drgExpirationDate, drgQuantity, ~~*cmpName*~~)

Inventory(**invId** , ~~*drgBarcode*~~, invType, invPrice, invQuantity, invDate)

Bill (**bilId** , bilType, bilPrice, bilQuantity, bilDate, ~~*drgBarcode, cstId, empId*~~)

Customer(**cstId**, cstName, cstPhone, cstDOB)

Employee(**empId**, empName, empPhone, empAddress, empSalary, empPassword)

Relationships, Attributes, Degrees, Participating Entities and Constraints

Produce: binary relationship

      1 Company to 1 or more Drugs

      1 Drug to 1 Company

Purchase: binary relationship

      1 Inventory to 1 Drug

      1 Drug to 0 or many Inventory

Sale: binary relationship

      1 Drug to 0 or more Bills

      1 Bill to 1 or more Drugs

Receive: binary relationship

       1 Customer to 1 or more Bills

       1 Bill to 1 Customer

Assists: binary relationship

       1 Customer to 0 or 1 Employee

       1 Employee to 0 or more Customers

Business Processes

Medlife would like to design a conceptual database to help them store, manage and retrieve data in the most optimum way. Medlife purchases drugs from Drug-making companies and sells them to customers, therefore acting as a middleman to bridge the gap between the two. The business descriptions of Medlife include:

- Each company is described by a unique company name, company phone number, and company address.
- Each drug is described by a unique drug barcode, drug name, drug type, drug dose, drug code, drug cost price, drug sell price, drug production date, drug expiration date, drug quantity, and company name of the drug.
- Each company produces one or many drugs and one drug is produced by only one company because they try to maximize profit by patenting the drugs.
- Each inventory is described by a unique inventory identifier, barcode of the drug that the inventory contains, inventory type, inventory price, inventory quantity, and inventory data.
- Each inventory contains information about one drug, so basically tells us about the availability in terms of quantity, price, etc. of that particular drug.
- Each drug can be a part of multiple inventories as Medlife may buy the same drug multiple times from the manufacturing company.
- Each bill is described by a unique combination of drug barcode and customer id, bill identifier, bill type, bill price, bill quantity, bill date, and an employee identifier that made the sale.
- Each customer is described by a unique customer identifier, customer name, customer phone, and customer date of birth.
- Each customer can receive one or more bills depending on the drugs that he/she buys and the date of purchase, and each bill can only be received by one customer.

- Each employee is described by a unique employee identifier, employee name, employee phone number, employee address, employee salary, and employee password.
- Each customer can either be assisted by an employee or he/she can choose the self-checkout option and not require employee assistance.
- Each employee has to assist multiple customers if they avoid using the self-checkout option.

ER Diagram:

Medlife Pharmacy

Company
cmpName
cmpPhone
cmpAddress

Drug
drgBarcode
drgName
drgType
drgDose
drgCode
drgCostPrice
drgSellPrice
drgProductionDate
drgExpirationDate
drgQuantity
cmpName

Produce

Inventory
invId
drgBarcode
invType
invPrice
invQuantity
invDate

Purchase

Customer
cstId
cstName
cstPhone
cstDOB

Receive

Bill
cstId
drgBarcode
empId
billId
bilType
bilDate
bilPrice
bilQuantity

Sale

Assist

Employee
empId
empName
empPhone
empAddress
empSalary
empPassword