Southwest University of Science and Technology

Subject: Database Principle Course

Topic: Departmental Store Management System

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1 Abstract

This project develops a Departmental Store Management System (DSMS) is commonly found today at most retail store registers. Store merchandise, identified by a price code is checked out by a cashier who then accepts payment for the item(s). A DSMS is either read by a bar code scanner or manually entered by the cashier. At the completion of a sale, a receipt is created for the customer and sales information is collected for the generation of reports at a later time. A DSM system should help you alleviate the daily chores of your business. A DSM system should not interfere or make it harder for you to run your business. In computing, a database is an organized collection of data stored and accessed electronically from a computer system. Where databases are more complex they are often developed using formal design and modeling techniques. Computer scientists may classify database-management systems according to the database models that they support. Relational databases became dominant in the 1980s. These model data as rows and columns in a series of tables, and the vast majority use SQL for writing and querying data. In the 2000s, non-relational databases became popular, referred to as NoSQL because they use different query languages.

2 Introduction

DSMS stands for Departmental Store Management System. This is a rather broad definition that can include merchandising aids, displays and the methods used to enable transactions. In our case, we're talking about the hardware and software that runs both the front counter and back office operations of a business. One of its advantages is the ability to connect remote use with remote resources in an open (where each component is continually open to interaction with other components) and scalable (the system can easily be altered to accommodate changes in the number of users, resources and computing) way, and can also be larger and more powerful given the combined capabilities of the Departmental Store Management System. Components compared to that of Departmental Store Management System. A Departmental Store Management System (DSMS) is an application that executes a collection of protocols to co-ordinate the actions of multiple processes on a network, such that all components cooperate together to perform a single or small set of related tasks. This system is good when one is has an established and wants his/her stores to blinked.
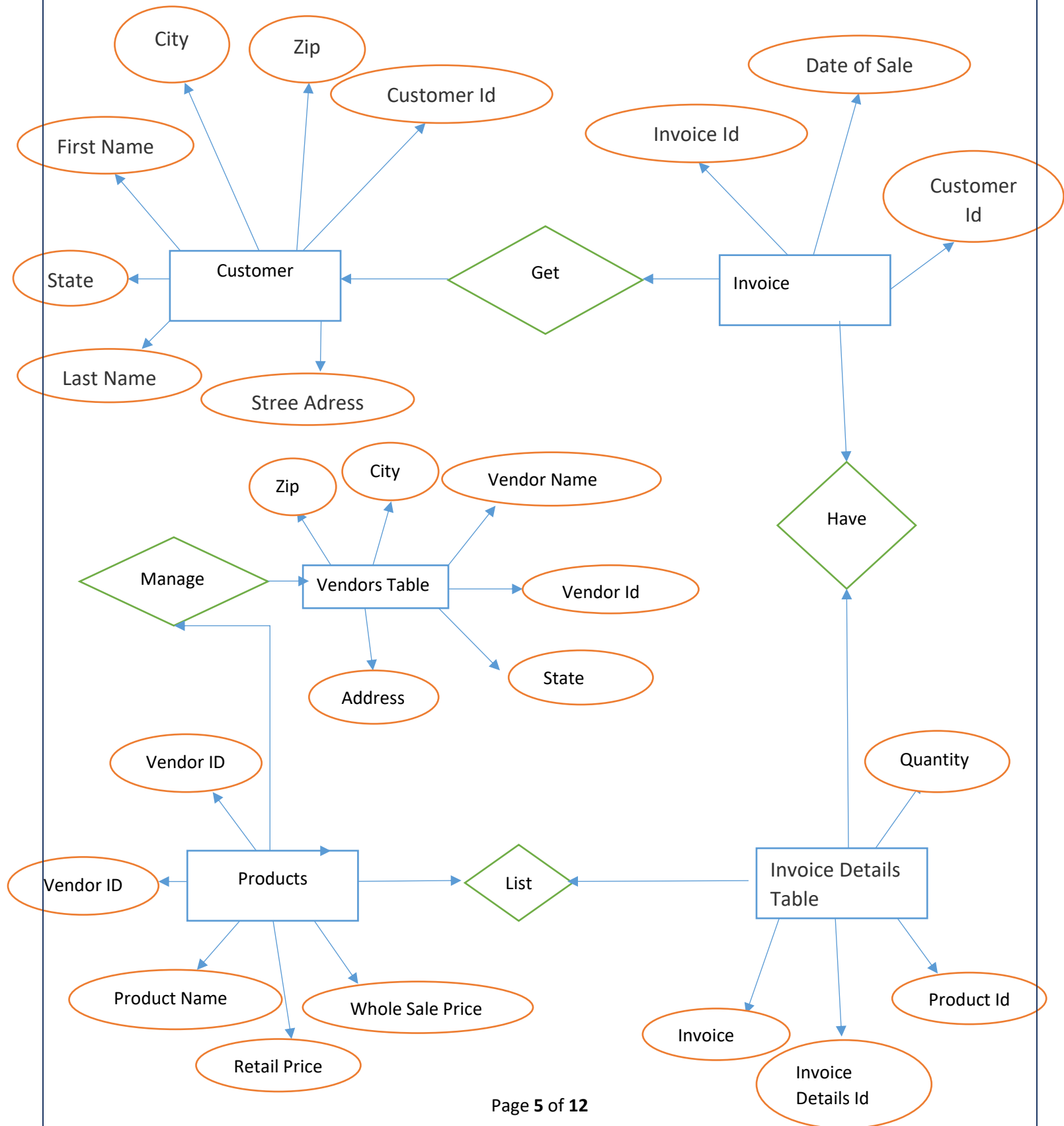
3 Preview of the Database

In Table sets of related data to user friendly interface for entering and viewing data in forms .data resulting form questions you ask of one or more tables. This is how queries works in database.in report part formatted summaries of data suitable for printing.
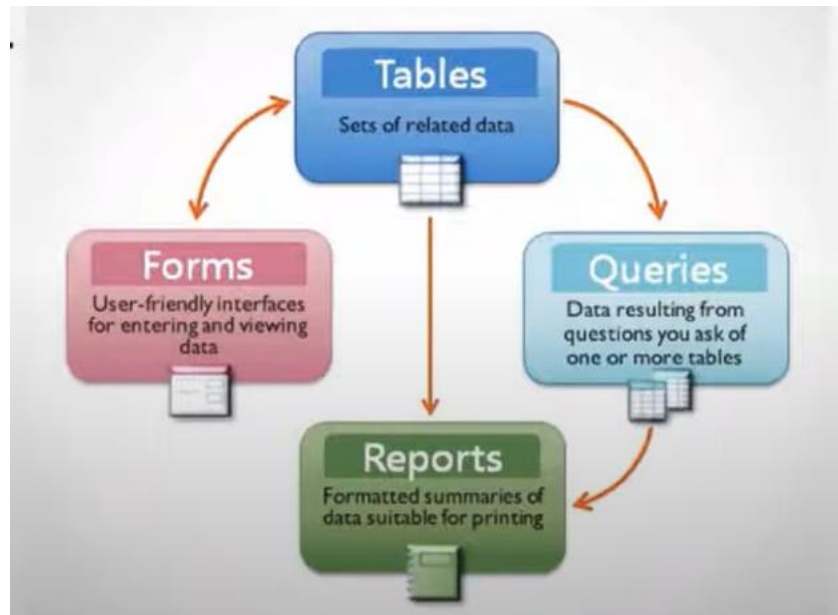

4 Steps of the process

1. Create the table for customers
2. Create the table of vendors
3. Create the table for products
4. Create the tables for the invoices
5. Create the invoices form
6. Create the total price field for order
7. Create a query and report
8. Create a navigation form

5 E-R diagram

City

Zip

Customer Id

Date of Sale

First Name

Invoice Id

Customer Id

State

Customer — Get — Invoice

Last Name

Stree Adress

Zip

City

Vendor Name

Manage — Vendors Table — Vendor Id

Address

State

Have

Vendor ID

Quantity

Vendor ID — Products — List — Invoice Details Table

Product Name

Whole Sale Price

Retail Price

Invoice

Invoice Details Id

Product Id

6 E-R model Transformed into a relational model

In here is the Relationships of each table.in here I showed the relation between every table .in here we also can see how one table is connect to another table and what is the value of the table. Database relationships are associations between tables that are created using join statements to retrieve data. Both tables can have only one record on each side of the relationship. Each primary key value relates to none or only one record in the related table.
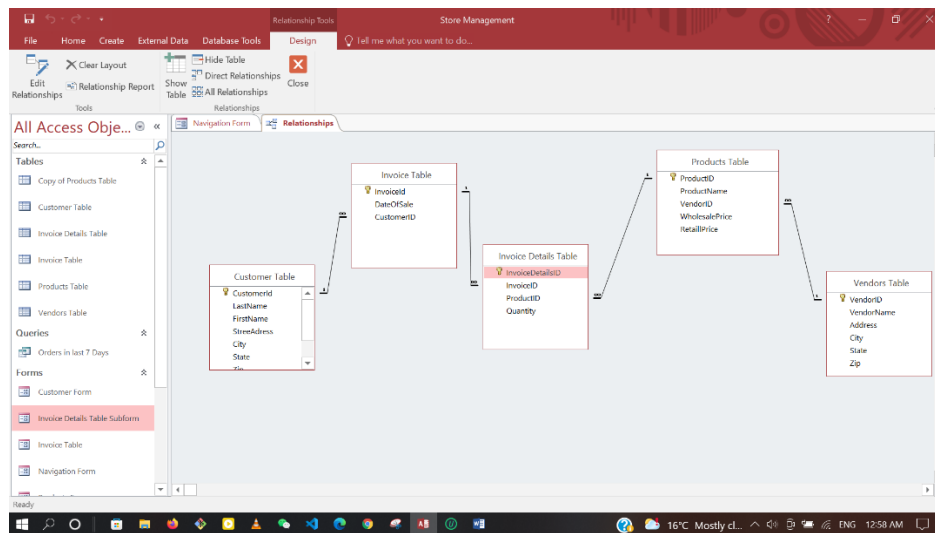
7 Database design process of the database system

7.1 Create the table for customers

7.2 Create the form for Customers

7.3 Create the table for vendors

7.4 Create the form for vendors

7.5 Create the product Table

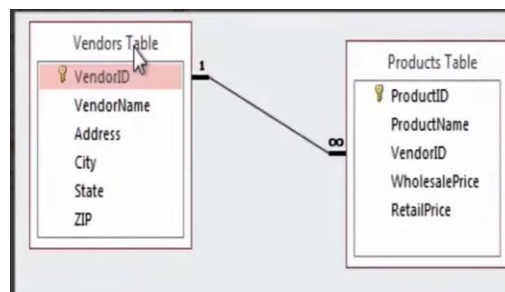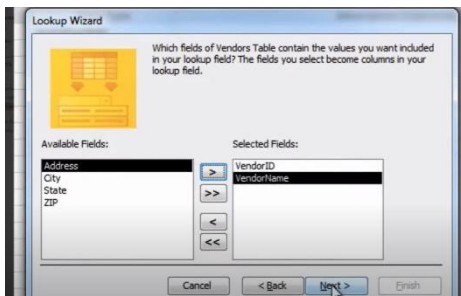## 7.6 Create the tables for the invoices

8 Data Operations and Running Results

8.1 Connecting vendor and products Table

The vendor Id field exists in two table:

1. The vendor table

2. The products table

We will link these two tables together

8.2 Connecting customer table and invoice table

In relational databases, a one-to-many relationship occurs when a parent record in one table can potentially reference several child records in another table. … The opposite of a one-to-many relationship is a many-to-many relationship, in which a child record can link back to several parent records.
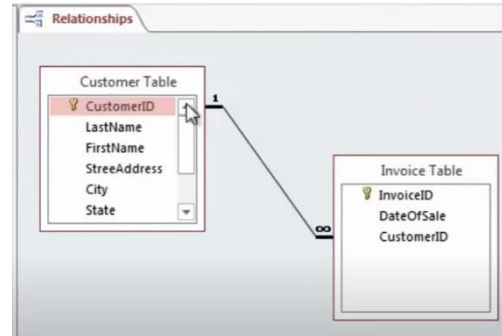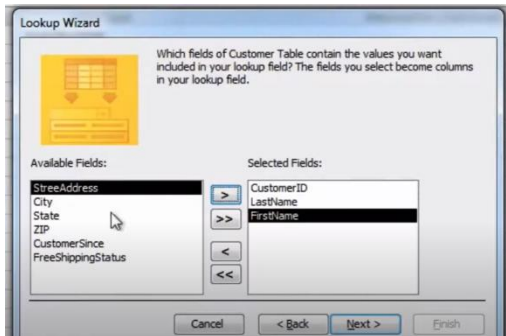
8.3 Procedure of invoice form
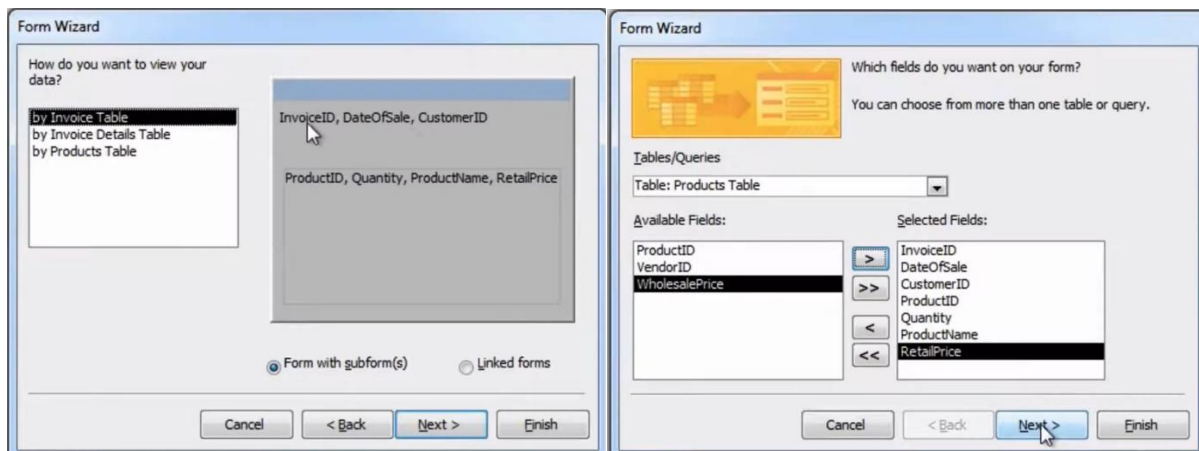
In voice form we can see a sub total columns .so for that we create a calculated field like such a way. We also added a total order field for that we also have another calculated field. And in there we sum thr quantity and retail price.
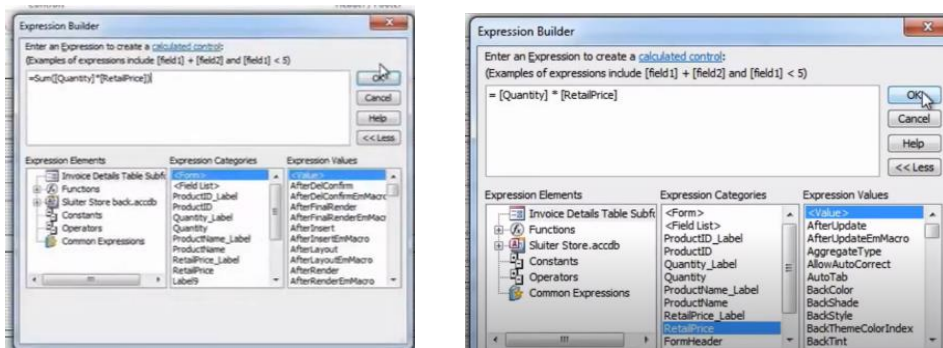
In summary we can see that we create a sum of the sub form and copy the field value to the main form.

8.4 Queries

In database terms, a query is used to retrieve data from the database. Queries are one of the things that make databases so powerful. A "query" refers to the action of retrieving data from your database. Usually, you will be selective with how much data you want returned.
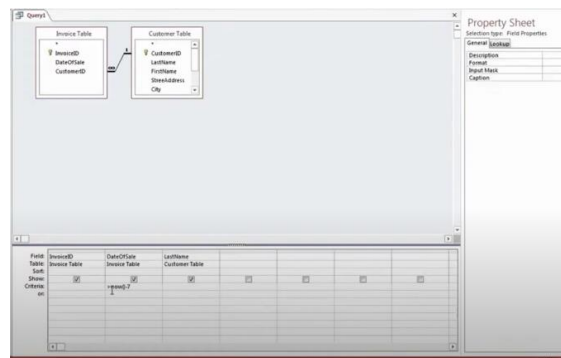

8.5 Report

A database report is the formatted result of database queries and contains useful data for decision-making and analysis. Most good business applications contain a built-in reporting tool; this is simply a front-end interface that calls or runs back-end database queries that are formatted for easy application usage.

8.6 Navigation

A navigational database is the combination of both the hierarchical and network model of database interfaces. Navigational techniques utilize "pointers" and "paths" to navigate among data records. The opposing model is the relational, which uses "declarative" techniques in which you ask the system for what you want instead of how to navigate to it. Traditionally navigational interfaces are procedural, though one could characterize some modern systems like XPath as being simultaneously navigational and declarative.

If we want to create your own navigational structure and make it easier for the users to find the specific objects that they really need, you can build navigation form, which is a form that uses a navigation control so users can use or view forms and reports right from within that main navigation form.

So ,in here we have our all control of our database.

9 Advantages of database

- o Reduced data redundancy
- o Reduced updating errors and increased consistency
- o Greater data integrity and independence from applications programs

- o Improved data access to users through use of host and query languages
- o Improved data security
- o Reduced data entry, storage, and retrieval costs
- o Facilitated development of new applications program[4]

10 Conclusion

While point of sale systems are an integral part of today's commercial workplace, the details and options available for purchase can be mind-boggling to the novice shopper. It is vital to narrow down the numerous selections available in order to find which DSM system will best suit a particular user. Shopping on Agora allows the option of narrowing selections to find the necessary options, in addition to allowing shoppers to buy from sellers worldwide. The sectors that use DBMS are the education sectors, banking & finance sectors, airlines & railway reservation system, telecommunications, HR management sectors, manufacturing sectors, social media, online shopping, credit card sectors.

11 References

[1]   A. N. Runyon, "Submitted By : الرحيم الرحمن الله بسم," *Academia.Edu*, pp. 1–189, 2019, [Online]. Available: https://minerva-access.unimelb.edu.au/handle/11343/56627%0Ahttp://www.academia.edu/download/39541120/performance_culture.doc.

[2]   V. Beal, "What is Database Management System DBMS? Webopedia Definition," 2017. http://www.webopedia.com/TERM/D/database_management_system_DBMS.html (accessed Dec. 24, 2021).

[3]   Wikipedia, "Database - Wikipedia," *Wikipedia*, 2020. https://en.wikipedia.org/wiki/Database (accessed Dec. 25, 2021).

[4]   cl500.net Representative, "Database - Advantages & Disadvantages." http://www.cl500.net/pros_cons.html (accessed Dec. 24, 2021).