



西南科技大学

Southwest University of Science and Technology

Subject: Database Principle Course

Topic: Departmental Store Management System

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Department of Computer Science and Technology

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1 Abstract

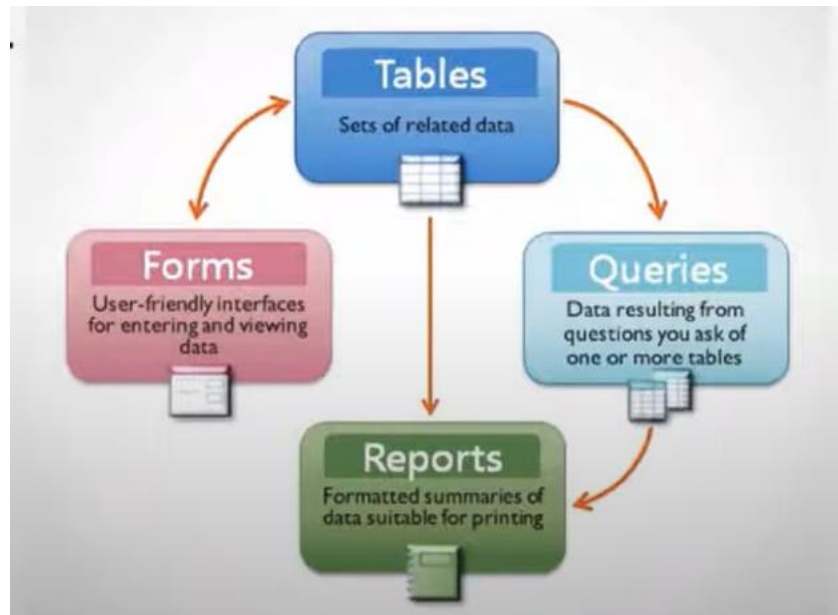
This project develops a Departmental Store Management System (DSMS) is commonly found today at most retail store registers. Store merchandise, identified by a price code is checked out by a cashier who then accepts payment for the item(s). A DSMS is either read by a bar code scanner or manually entered 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

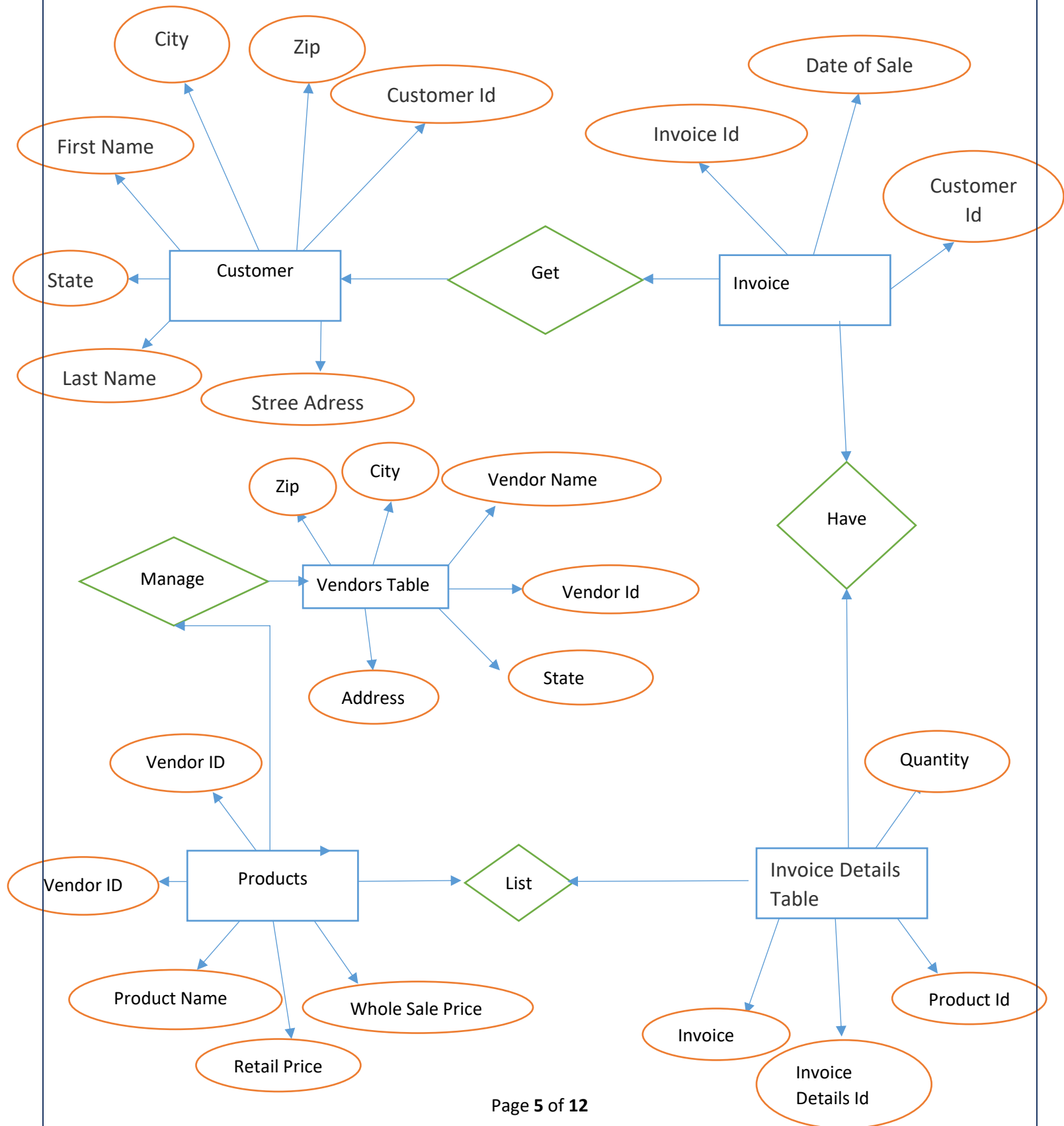
In Table sets of related data to user friendly interface for entering and viewing data in forms .data resulting form questions you ask of one or more tables. This is how queries works in database.in report part formatted summaries of data suitable for printing.



4 Steps of the process

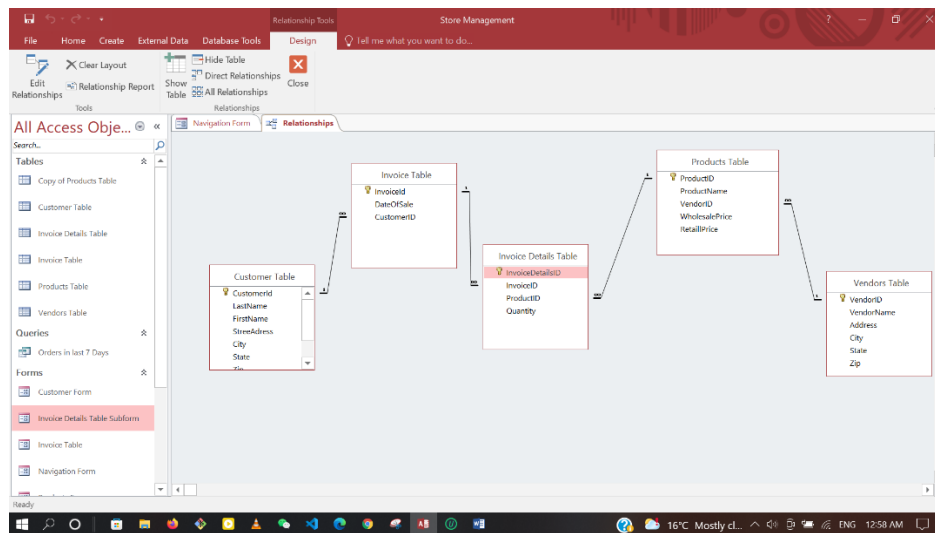
1. Create the table for customers
2. Create the table of vendors
3. Create the table for products
4. Create the tables for the invoices
5. Create the invoices form
6. Create the total price field for order
7. Create a query and report
8. Create a navigation form

5 E-R diagram



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

CustomerID	StreeAdress	LastName	FirstName	City	State	Zip	CustomerSin	FreeShippingStatus
1	321 Mian St	Aynul	Pollob	Mianyang	AZ	67873	12/1/2021	✓
2	99 n Hwy#1	Sanista	Manandar	Mianyang	AZ	85308	12/3/2021	
3	44 w Morland	Matina	Prajapati	Tucson	AZ	82082	12/5/2021	
4	902 BlackWind	Ariful	Palton	Westmorland	CA	98334	12/7/2021	✓
5	62 Appletree	Nayon	Moni	Los Angeles	NY	92002	12/11/2021	
6	1002 Protestan	Shifat	Niloy	Chicago	IL	98776	12/9/2021	
7	22 liberty In	Akul	Asad	Seattle	Wa	87338	12/9/2021	
8	17 clyde	Limon	Prodhan	Boston	MA	09876	12/10/2021	
9	999 Race	Brick	weals	Jackson	MI	40222	12/9/2021	✓
10	999 Race	Azmeri	Ornna	Seattle	AZ	12343	12/1/2021	
11	17 clyde	Shanaz	Ritu	Los Angeles	MA	54635	12/3/2021	
12	22 liberty In	Ammed	Likhon	Westmorland	CA	87574	12/20/2021	
13	62 Appletree	Harry	Potter	Tucson	AZ	98376	12/21/2021	
14	44 w Morland	Jon	Snow	Tucson	GA	74637	12/20/2021	
15	99 n Hwy#1	Jon	Abraham	Mianyang	OH	37363	12/20/2021	✓
(New)								

7.2 Create the form for Customers

Customer Table Form Data:

CustomerID	
LastName	Aynul
FirstName	Pollob
StreetAddress	321 Mian St
City	Mianyang
State	AZ
Zip	67873
CustomerSince	12/1/2021
FreeShippingStatus	<input checked="" type="checkbox"/>

7.3 Create the table for vendors

VendorID	VendorName	Address	City	State	Zip	Click to Add
1	Apple Computer	1 infinite Loop	RedWood City	Ca	98322	
2	Office Depot	88 Corporate	Dallas	TX	28474	
3	Microsoft	43 Microsoft	Redmond	WA	37465	
4	Amazon	77 Millennium	Seattle	Wa	84746	
5	video Games	9 center len	San Francisco	Ca	84846	
6	Atari	40 Highway	san jose	Wa	84846	
(New)						

7.4 Create the form for vendors

Vendors Form Data:

VendorID	4
VendorName	Amazon
Address	77 Millennium
City	Seattle
State	Wa
Zip	84746

7.5 Create the product Table

ProductID	ProductName	VendorID	WholesalePrice	RetailPrice
1	iPhone13	1	\$400.00	\$650.00
2	windows10	3	\$45.00	\$100.00
3	Hp Laser Printe	4	\$90.00	\$240.00
4	mac ai	2	\$14.00	\$30.00
5	Drawing table	6	\$90.00	\$150.00
6	ipad	1	\$1,100.00	\$1,500.00
7	Mac Air	1	\$900.00	\$1,400.00
8	Gamers laptop	4	\$1,500.00	\$1,800.00
9	cpu Fan	2	\$45.00	\$50.00
10	Oculus Rift Vr	4	\$55.00	\$85.00
	(New)		\$0.00	\$0.00

7.6 Create the tables for the invoices

ProductID	Quantity	ProductName	RetailPrice	Subtotal
1	2	iPhone13	\$650.00	\$1,300.00
1	1	iPhone13	\$650.00	\$650.00
2	2	iPhone13	\$650.00	\$1,300.00
6	6	windows10	\$100.00	\$600.00
5	5	Hp Laser Printer	\$240.00	\$1,200.00
2	2	mac ai	\$30.00	\$60.00

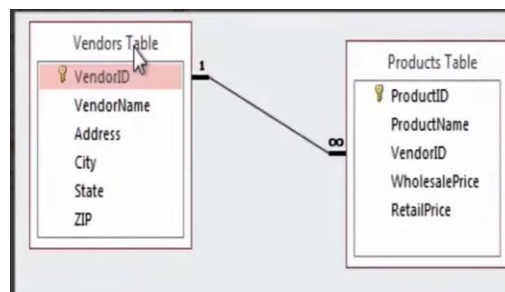
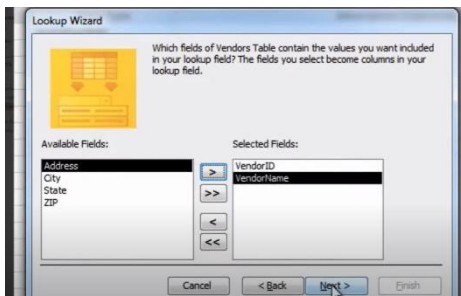
8 Data Operations and Running Results

8.1 Connecting vendor and products Table

The vendor Id field exists in two table:

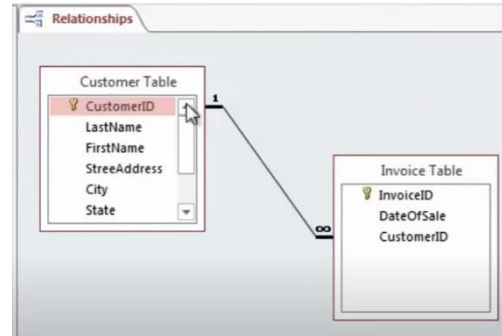
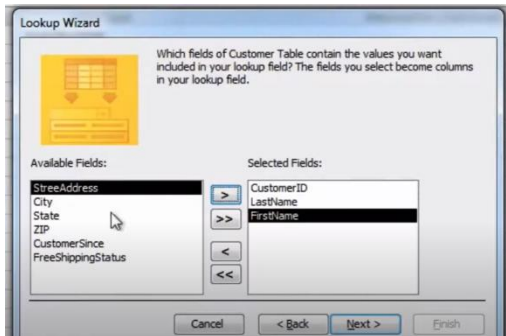
1. The vendor table
2. The products table

We will link these two tables together

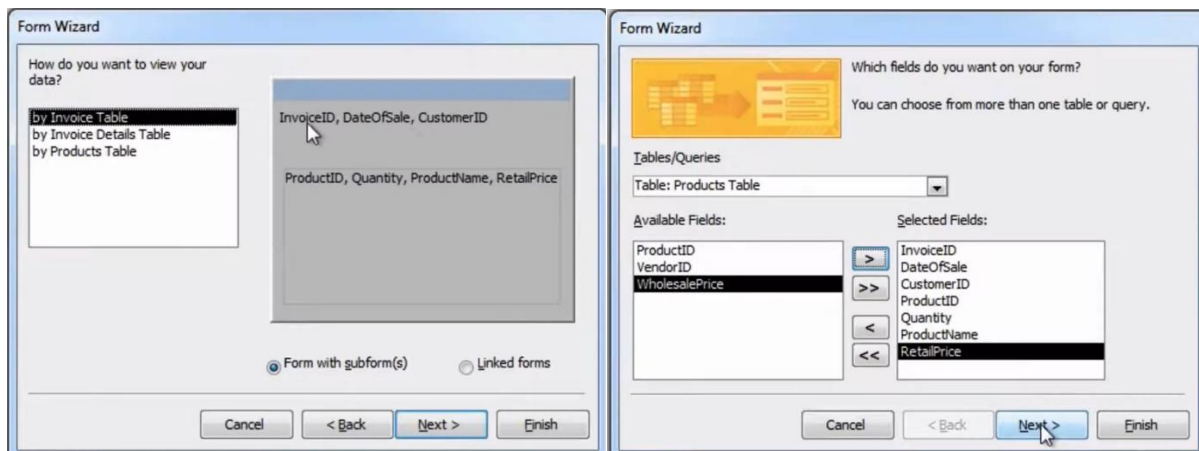


8.2 Connecting customer table and invoice table

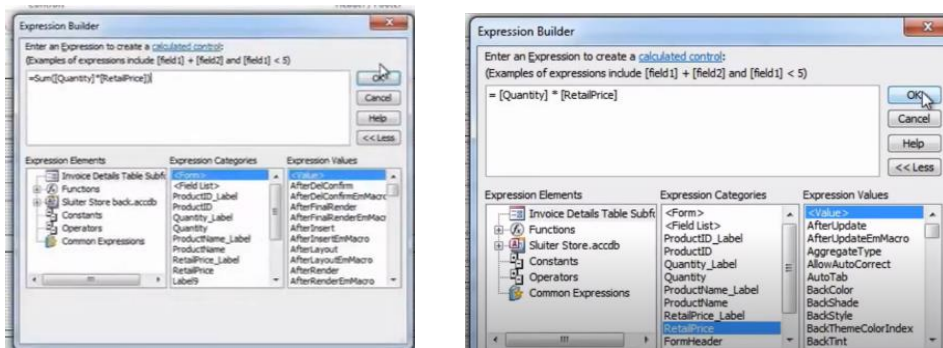
In relational databases, a one-to-many relationship occurs when a parent record in one table can potentially reference several child records in another table. ... The opposite of a one-to-many relationship is a many-to-many relationship, in which a child record can link back to several parent records.



8.3 Procedure of invoice form



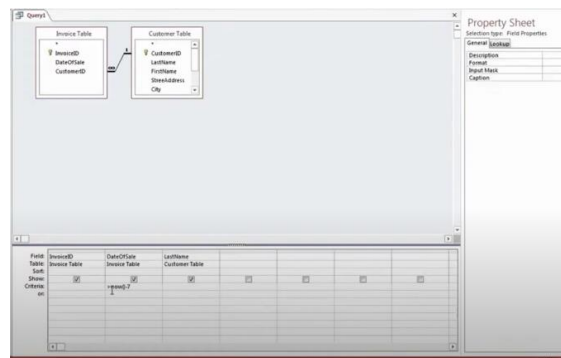
In voice form we can see a sub total columns .so for that we create a calculated field like such a way. We also added a total order field for that we also have another calculated field. And in there we sum thr quantity and retail price.



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.

Invoice Table Orders in last 7 Days Report

Orders in last 7 Days Friday, December 24, 2021 5:15:35 PM

InvoiceId	DateOfSale	LastName
1	12/22/2021	Sanista
2	12/25/2021	Nayon

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.

Navigation Form

Customer Form Products Form Vendors Form2 Invoice Table Orders in last 7 Days Report

Customer Table

Customerid	1
LastName	Aymul
FirstName	Pollob
StreeAddress	321 Mian St
City	Mianyang
State	AZ
Zip	67873
CustomerSince	12/1/2021

9 Advantages of database

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

- Improved data access to users through use of host and query languages
- Improved data security
- Reduced data entry, storage, and retrieval costs
- 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

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