Creating an Advanced Query Using More than One Relation

What about queries that require information residing in two or perhaps several different relations? Access can handle those too. We just have to tell it where to get the information and make sure that the tables that need to reference each other have relationships already defined. For example, say we wanted to put the *Supplier Name* instead of the *Supplier ID* into a query that shows *Raw Material ID* and *Raw Material Name* and where Solomon Enterprises gets these items. We would need the *Raw Material* relation and also the *Supplier* relation and would want Access to take the *Supplier ID* from the *Raw Material* relation and match it to the *Supplier ID* in the *Supplier* relation to find the correct *Supplier Name.*

The above query would involve two tables. But Access can handle information from many tables in one query, so let's look at a more complex example. Say the accounts receivable manager at Solomon is trying to sort out a problem with order numbers. So, the manager wants to know the following information:

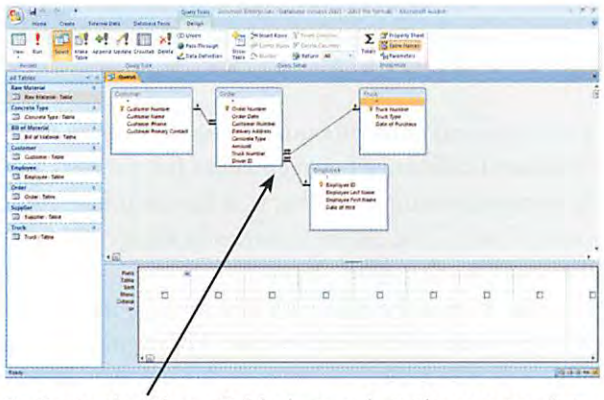
- All order numbers
- Date of orders
- Where the goods were delivered
- The contact person at the delivery destination
- Which truck was involved in each delivery
- Who drove the delivery truck

We need to start by determining which relations to use. The fields we need are in the *Order, Customer, Employee,* and *Truck* relations. So these are the ones we'll use.

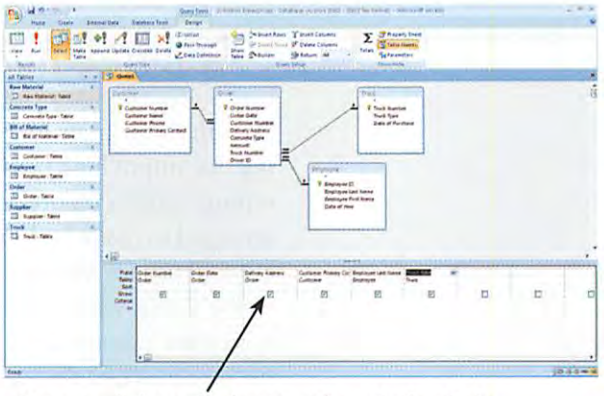
Table	Fields
Order	*Order Number* *Order Date* *Delivery Address*
Customer	*Customer Primary Contact*
Employee	*Employee Last Name*
Truck	*Truck Type*

We'll follow the same set of steps as we did when creating the simple query using one relation and make some modifications along the way to generate a more complex report (see Figure J.18).

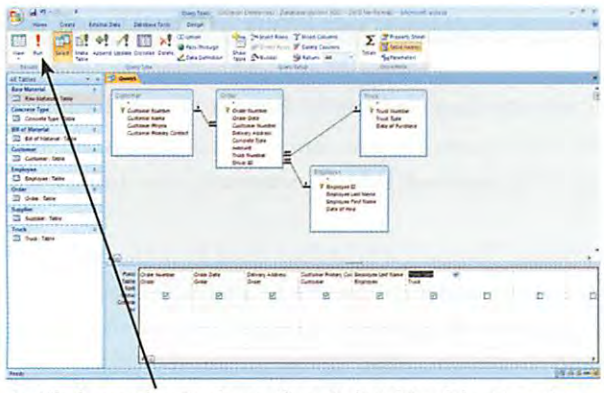
1. Click on **Create** in the menu area and then **Query Design** in the button bar area.
2. In the **Show Table** dialog box, select the appropriate relation names (*Customer, Order, Employee,* and *Truck*), clicking on **Add** each time, and then close the **Show Table** dialog box. Here, as the tables that are linked by primary and foreign keys appear in the palette, they are joined by lines with the 1 beside the table that has the primary key and the infinity symbol (∞) near the table that has the foreign key. These symbols are showing you the 1:M relationships.
3. Drag and drop the fields that you want from the appropriate relation into the QBE grid in the order that you want.
4. Click on the exclamation point (**Run**) in the button bar.



2. From the **Show Table** box, select the appropriate tables-*Customer, Order, Employee,* and *Truck.*



3. Drag and drop *Order Number, Order Date, Delivery Address,Customer Primary Contact, Employee Last Name, and Truck Type into* the QBE grid.



4. Click on the Exclamation Point **(Run)** button to execute the query.

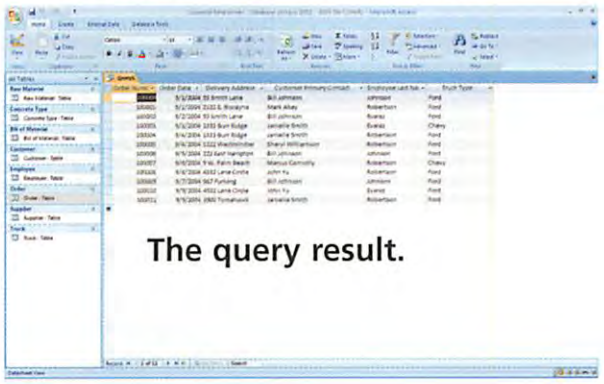


Figure J.18
Creating an Advanced Query Using More than One Relation

And that's it. It's not significantly more difficult than using just one relation. The critical part in using multiple tables in a query is to make sure that the tables are linked correctly. Creating queries is not all that difficult using a QBE tool such as we have been doing in the previous three query examples. You simply need to take some time and practice creating queries. So, take some time here before learning how to create reports to create some queries. Below, we've listed some queries you can perform. Once you perform them, compare your results with a classmate to ensure that both of you are performing the query correctly.

1. Show all customers by only *Customer Number, Customer Name,* and *Customer Primary Contact.*
2. Show all orders by only *Order Number, Delivery Address, Amount,* and *Truck Number.*
3. Show all raw materials by only *Raw Material ID, Raw Material Name,* and *QOH.*
4. Show the following information for all raw materials: *Raw Material ID, Raw Material Name,* and *Supplier Name.*
5. Show the following information for all orders: *Order Number, Delivery Address, Amount,* and *Driver ID.*
6. Show the following information for all concrete types: *Concrete Type, Type Description, Raw Material ID,* and *Unit.*
7. Show the following information for all orders that have more than 4 for *Amount: Order Number, Order Date, Delivery Address,* and *Truck Number.*
8. Show the following information for all orders using *Truck Number* 111: *Order Number, Order Date,* and *Delivery Address.*

Generating a Simple Report

Now that you know how to create a database and construct queries, let's see about making the output look better. The fundamental difference between tables (or queries) and reports is that a report is designed for human consumption; that is, it has the information arranged so that it looks nice and is easy to read. The output includes headings and footers, and usually includes page numbers and the date of the report.

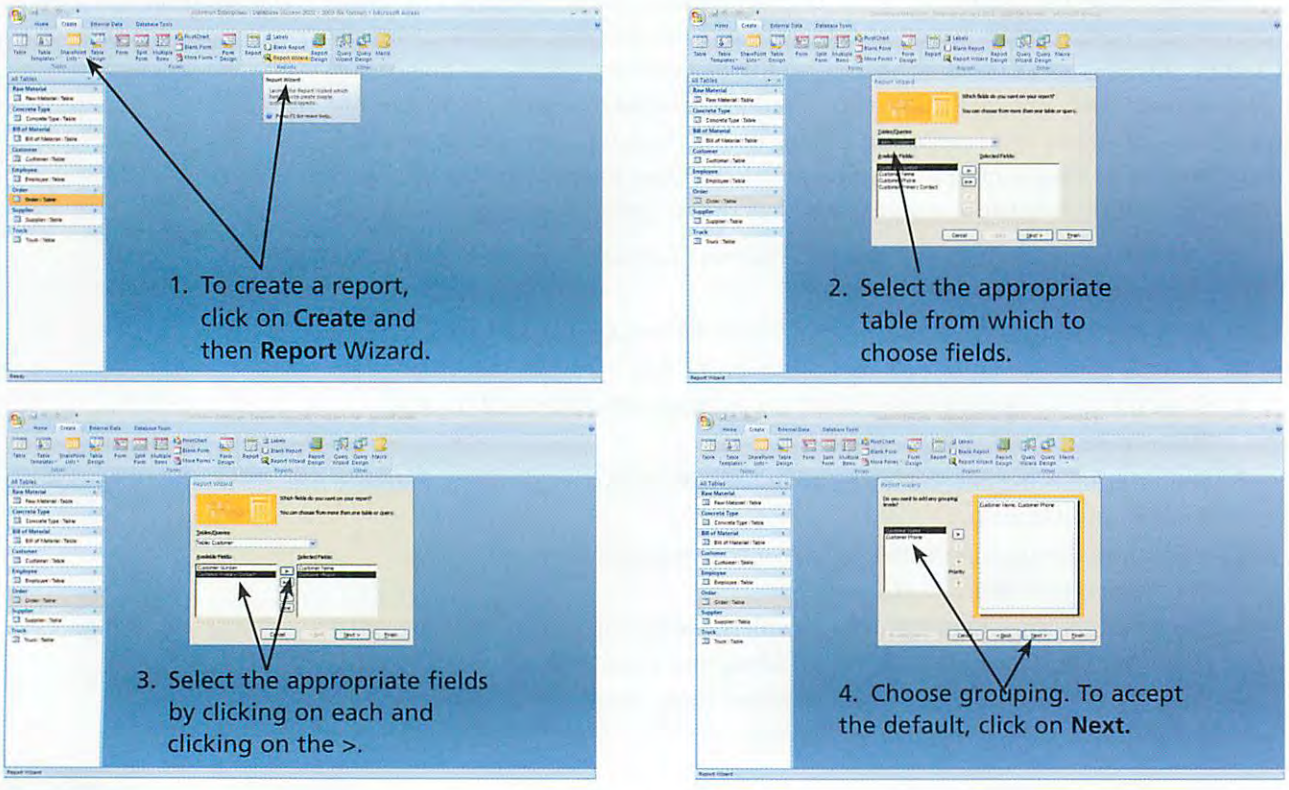
We'll start with a fairly simply example. As was the case with tables and queries, you can create a report using the Design View or the appropriate wizard. We're going to use the report wizard first to create a simple report and then a more complex one that we will modify using the Design View.

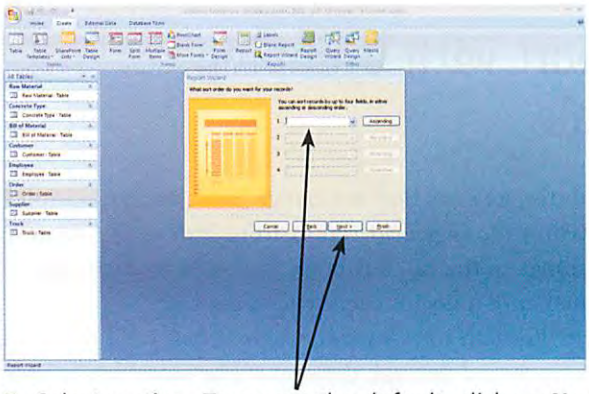
Let's say we want a report showing all our customers' names and phone numbers. This involves only one table, since both of the fields we want are in the *Customer* relation. To create this report, we followed the steps below (see Figure J.19 on this page and J.20 on the next page):

1. Click on **Create** in the menu area and then click on the **Report Wizard** button.
2. Choose tables and/or queries: This screen lets you choose which table or query you want to show in your report. We selected **Table:Customer** in the **Tables/ Queries** box.
3. Choose fields: In this screen you can choose the fields you want from the tables and/or queries you chose in the previous step. So, under **Available Fields,** we selected *Customer Name* and clicked on the greater-than sign (**>**) to the right. Next, we selected *Customer Phone* and clicked once more on the greater-than sign (**>**).
4. Grouping: This screen allows you to specify grouping of information. Here we accepted the default by clicking on **Next >** .

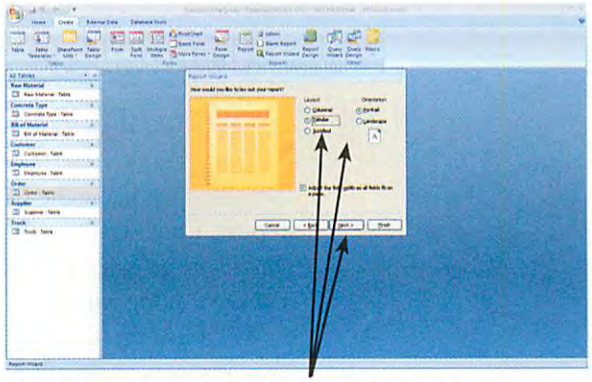
Figure J.19

Creating a Report Using One Relation

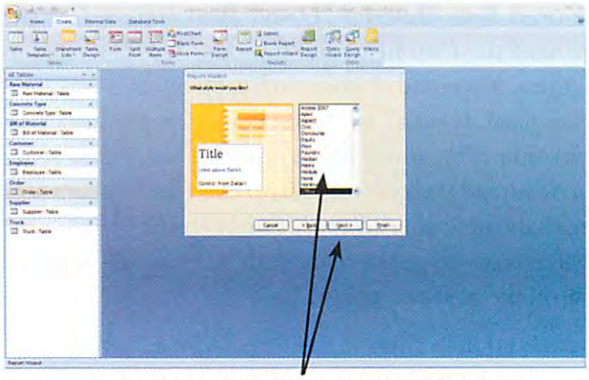




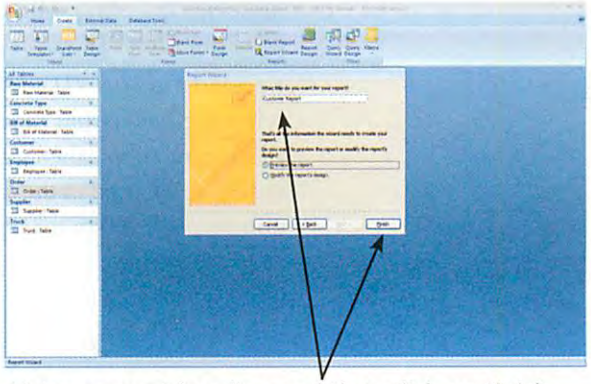
5. Select sorting. To accept the default, click on **Next.**



6. Select layout and orientation of the report. To accept the default, click on **Next.**



7. Select a report style. Then click on **Next.**

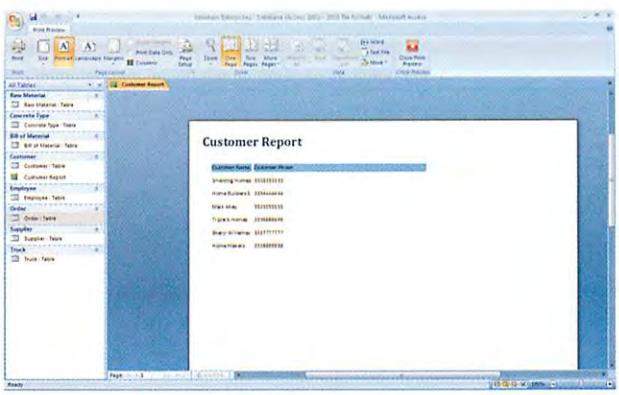


8. Enter a report heading and then click on **Finish.**

Figure J.20
Creating a Report Using One Relation

5. Sorting: This screen allows you to specify sorting of information. We chose not to sort so we clicked on **Next >**.
6. Layout and orientation of the report: This screen allows you to select layout and page orientation. Again, we accepted the default and clicked on **Next >**.
7. Style of report: This screen allows you to choose from among predefined report styles. Once more we accepted the default and clicked on **Next >**.
8. Report header: This screen allows us to enter a title for the report. So, we entered "Customer Report" (without the quotation marks) in the title box and clicked on **Finish.**
9. The report: The report shows all customers and their phone numbers along with the settings that were selected in the wizard steps (see Figure J.21 on the next page).

What you'll then see is a screen representation of your report (see Figure J.21). It includes only the two fields of information we requested in the style we chose in a more polished form than you get by simply printing a query with the same two fields.



The report, although crude, shows all customers by name and phone number.

Figure J.21
The Completed Report

Generating a Report with Grouping, Sorting, and Totals

Now that we know the basic procedures, let's see how we can generate a more complex report. Look again at the *Supply Chain Management* report from *Extended Learning Module C* on page 144. It has groupings of the raw materials that go into each type of concrete along with totals for the number of units for each type of concrete.

We'll use the same process as we did with the *Customer Report,* but we'll do more than just accept default options as we proceed through the steps. The first thing to note about our *Supply Chain Management* report is that it requires more than one table. In fact, from the *Concrete Type* relation, we need *Concrete Type* and *Concrete Description;* from the *Raw Material* relation we need *Raw Material ID* and *Raw Material Name;* from the *Bill of Material* relation we need the *Unit* field; and from the *Supplier* relation we need *Supplier ID* and *Supplier Name.* We could choose each table in turn and then select the fields from each one that we need. Instead, we'll first construct a query using all these relations, then transform the result of the query into a report. The process is the same one we used in the *Creating an Advanced Query Using More than One Relation* section on page 450 in the text. We named the new query *Supply Chain Query.*

Once we have our query ready, we're ready to generate the report. Here are the steps (see Figures J.22 and J.23 that follow on the next two pages).

1. Click on **Create** in the menu area and then click on the **Report Wizard** button.
2. Choose tables and/or queries: In the **Tables/Queries** box, select **Query:Supply Chain Query.**
3. Choose fields: Under **Available Fields,** select all fields in the query by clicking on the double greater-than sign (**>>**).
4. Top-level grouping: The next screen allows us to choose the ordering of information for presentation, also known as "grouping information." You'll notice in Figure J.22, in the top right-hand screen, that Access has already preselected a grouping for us. As it happens, Access has done the groupings we want (by *Concrete Type* and *Type Description*), so we accepted the default and clicked on **Next >.**
5. Further grouping: The next screen lets you specify groups within the top grouping of *Concrete Type.* Since we don't want any subgrouping, we clicked on **Next >.**

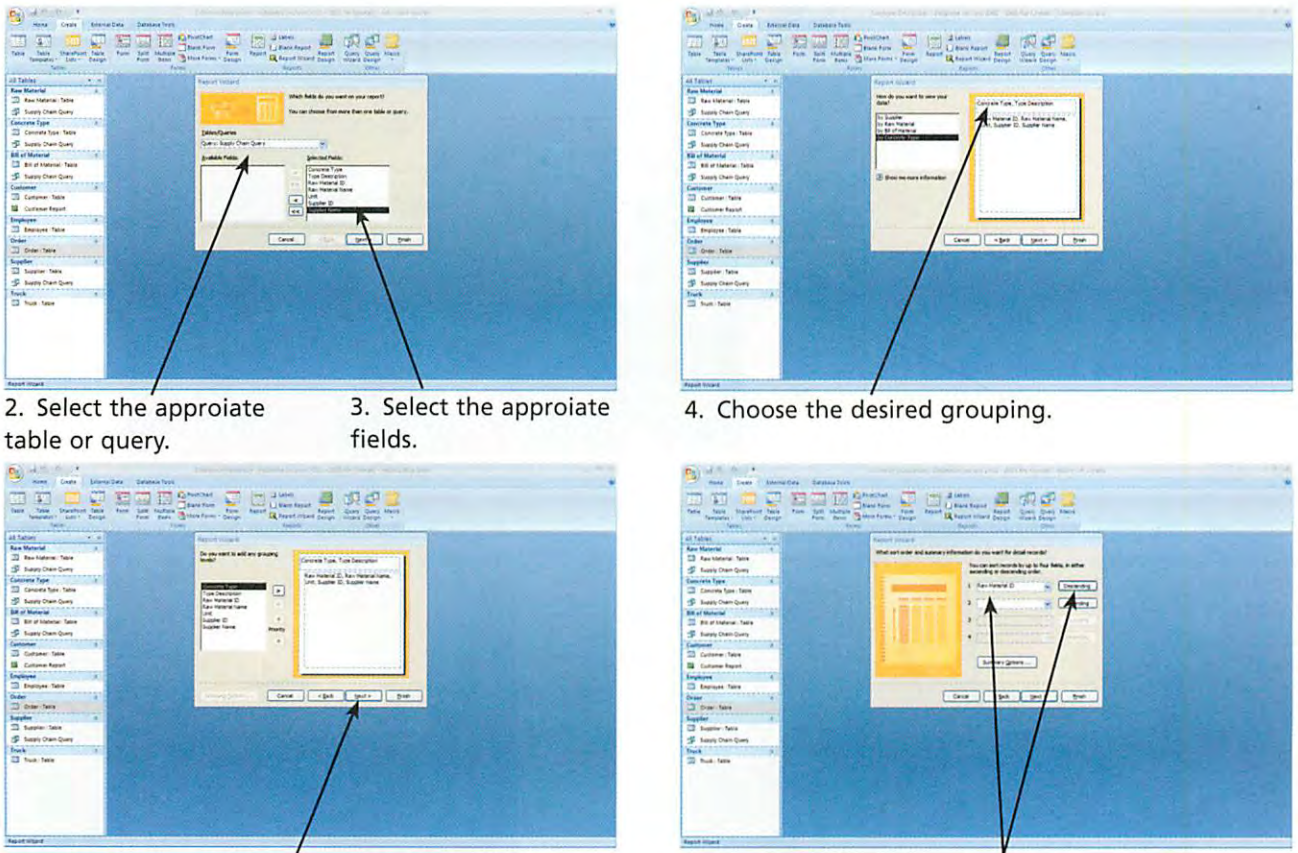
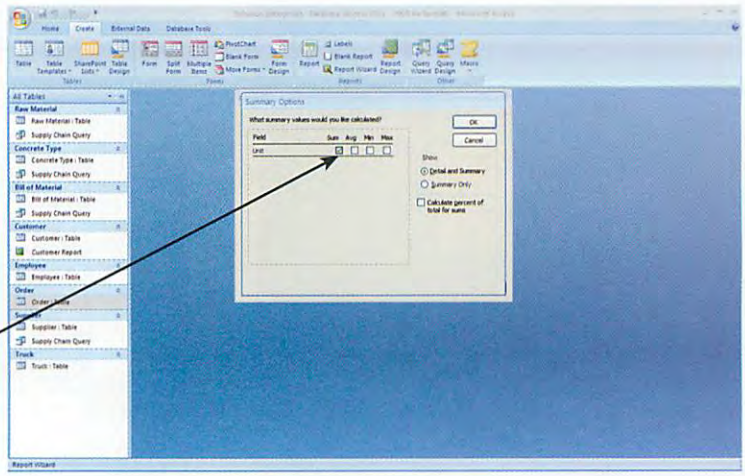
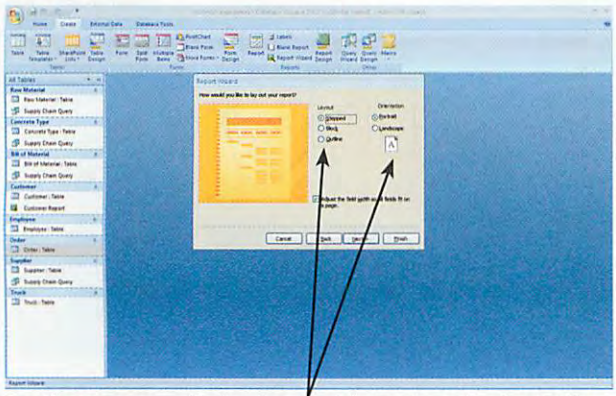


Figure J.22
Creating a Report with, Grouping, Sorting, and Totals

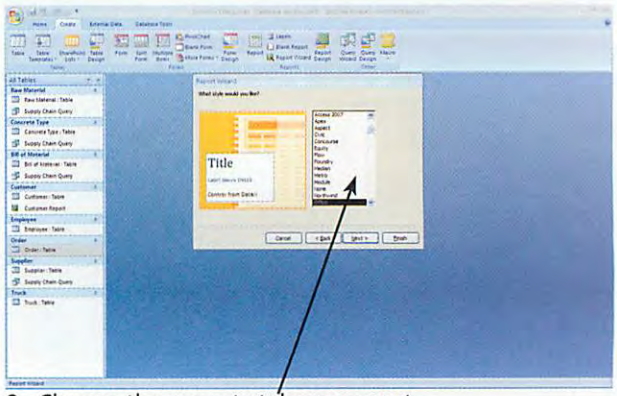
6. Sorting: Next we have a chance to sort our information. Here we'll specify that the raw material information appear in alphabetical order based on *Raw Material ID*. Since water is the least significant of the raw materials, in the sense that it's freely available, we chose to put it last in the list. Therefore, we clicked in box 1 and used the arrow button to bring *Raw Material ID* into the box. Then we clicked on the **Ascending** key to change it to **Descending.**
7. Totaling: The sorting screen that we saw above also has a **Summary Options** button. We clicked on that and chose to **Sum** *Units* and to show **Detail and Summary.** Then we clicked on **OK** and **Next >.**
8. Overall structure of report: Here we accepted **Stepped,** the default **Layout,** and **Portrait** as the page **Orientation.** Lastly, we clicked on **Next >.**
9. Style of report: Here we can choose from various report styles. We chose **Office** and then clicked on **Next >.**
10. Report heading: Here we entered "Supply Chain Management Report" (without the quotation marks) for the heading and clicked on **Finish.**
11. The report: Here the report shows all the information from the wizard steps.



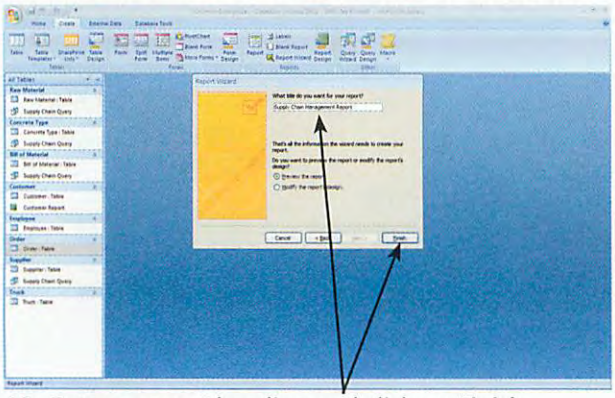
7. In the previous screen, click on **Summary Options** and check the **Sum** box for *Unit*.



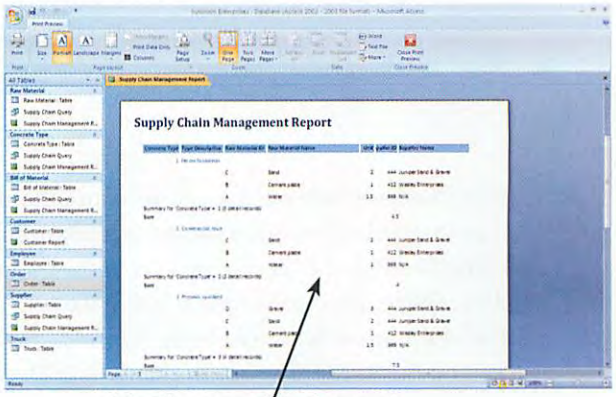
8. Choose your desired report layout and orientation.



9. Choose the report style you want.



10. Enter a report heading and click on **Finish.**



11. The completed report

Figure J.23

Creating a Report with Groupings, Sorting, and Totals

Look at the final screen in Figure J.23. You can see that all the information we wanted is there, grouped and sorted as we specified. The problem is that the presentation isn't aesthetically pleasing. See Figure J.24 for a closer look. Note the column headings. They appear incomplete and seem to be overlapping each other. The concrete *Type Description* entries are truncated. The word "Sum" is far away from the number. Some of the names of suppliers are truncated. The report has a *Grand Total* which we don't need since it makes no sense in this context.

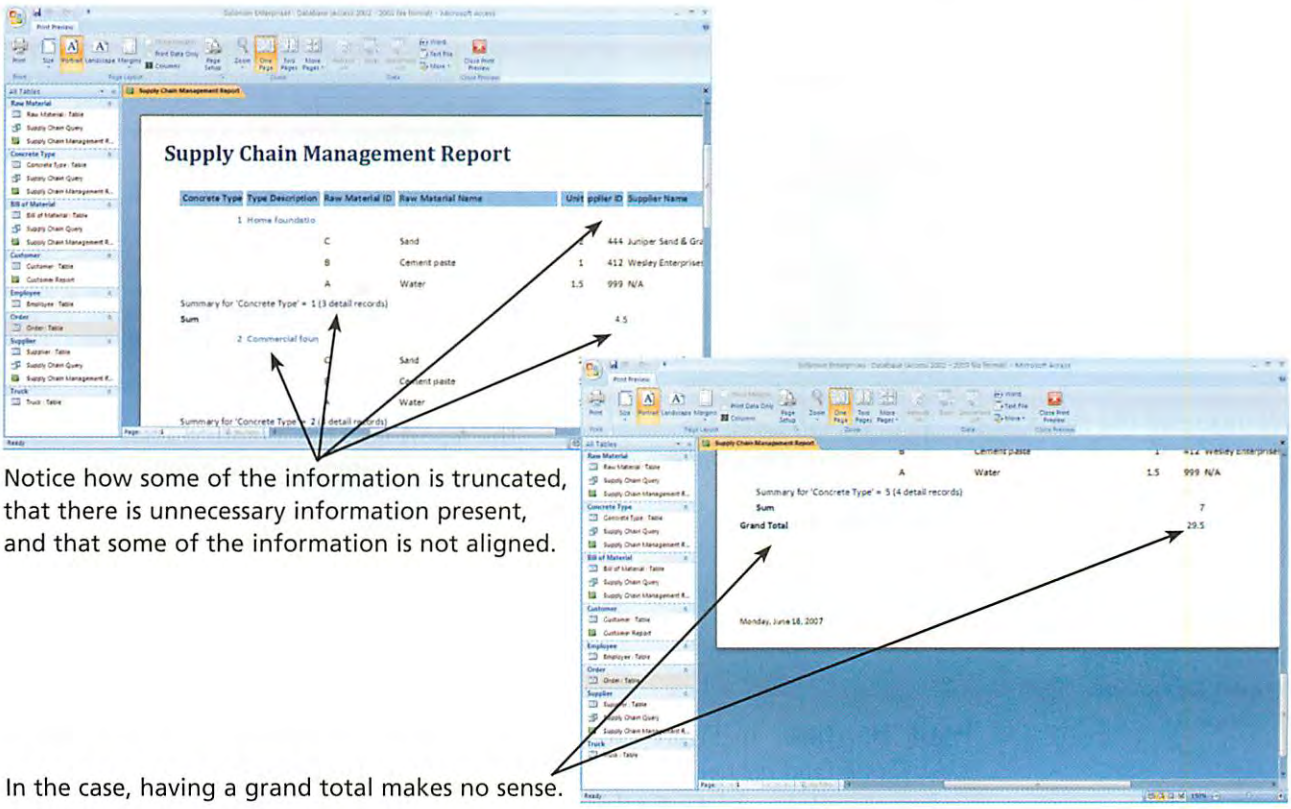
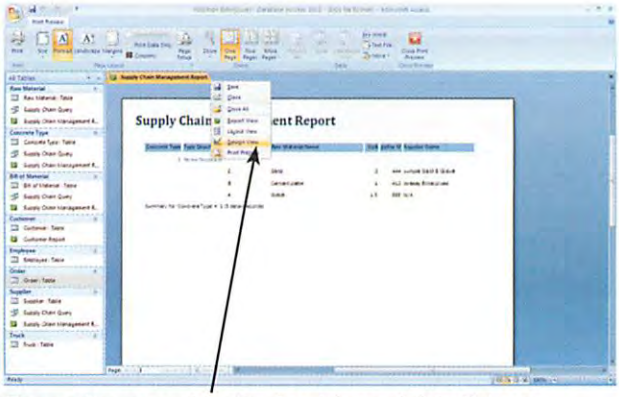
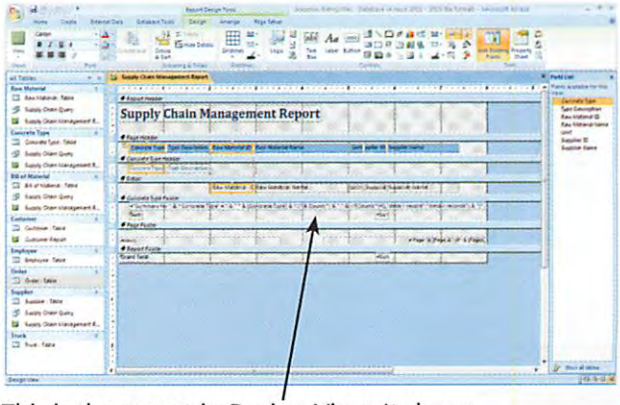


Figure J.24
The *Supply Chain Management* Report Generated by the Report Wizard

We can fix these things and implement other presentation enhancements by using Design View of the report. So, while still seeing the *Supply Chain Management* report on screen, we right-clicked on the **Supply Chain Management Report** tab and selected **Design View** (see Figure J.25). The Design View screen divides the report into the following sections: *Page Header, Concrete Type Header* (as specified in step 7 of the report generation process), *Detail, Concrete Type Footer* (as specified in step 6), *Page Footer,* and *Report Footer.* By clicking on the boxes within these dividers, we can change their text, font, color, size, position, etc.

Figure J.25
The *Supply Chain Management* Report in Design View





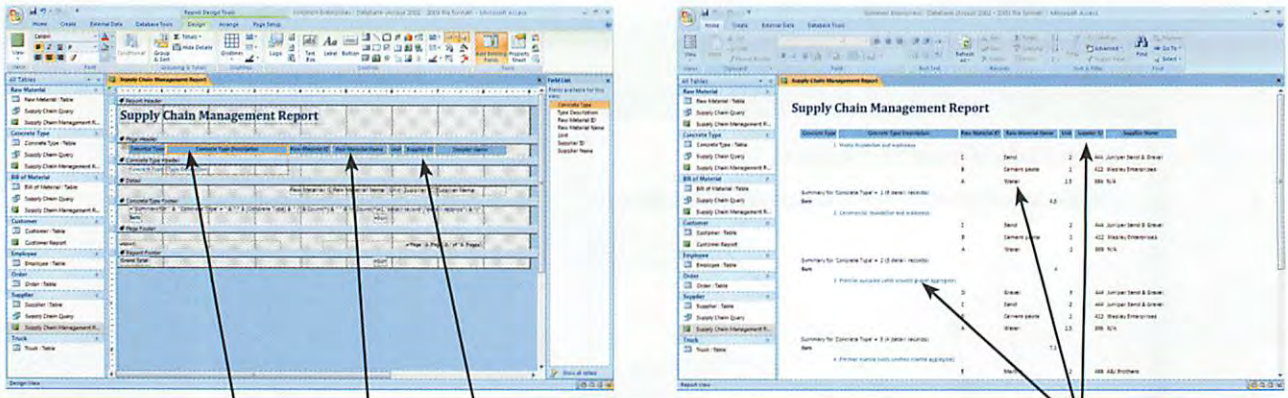


Figure J.26

Changing the ***Page Header*** Section of the Report

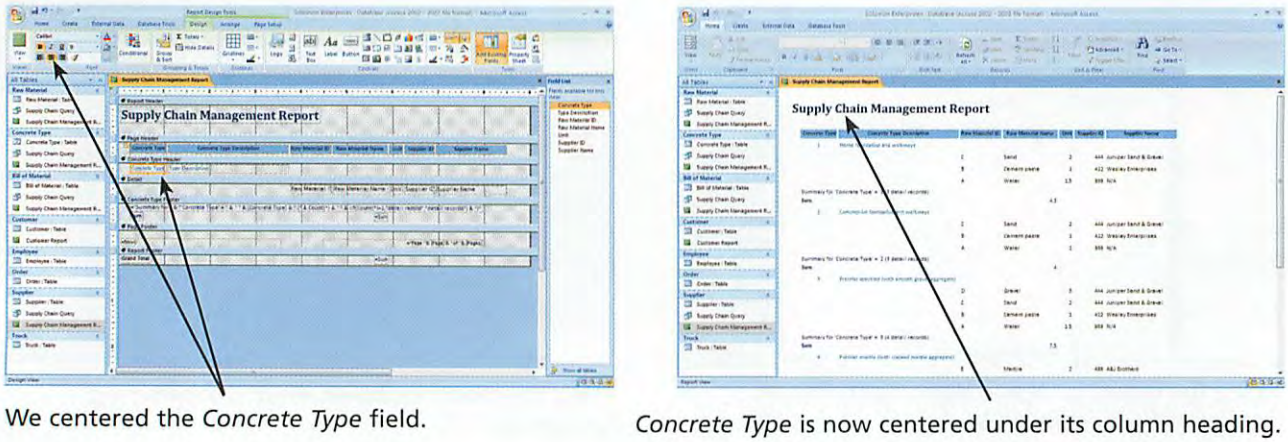
PAGE HEADER In Figure J.26, you can see that we increased the length of *Type Description* (and changed it to read "Concrete Type Description"). The net effect of making the title box longer for this page header is that it also increased the length of the *Type Description* field in the *Concrete Type Header*. Similarly, we increased the length of the *Supplier ID* title box so that it wouldn't be truncated. Finally, we centered the text in several of the title boxes to make them more appealing.

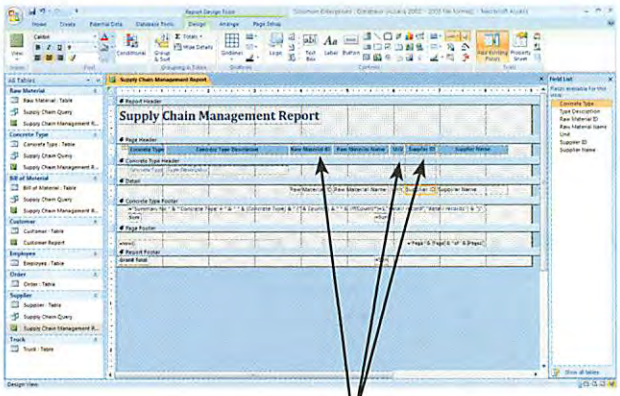
To see the effect of our changes in the report, we right-clicked on the **Supply Chain Management Report** tab and selected **Report View.** We toggled back and forth between Design View and Report View as we made our changes.

CONCRETE TYPE HEADER In Figure J.27, you can see that we made only one change within the *Concrete Type Header* section. That was to center the *Concrete Type*. To do that, we clicked in the *Concrete Type* box within the *Concrete Type Header* section and then clicked on the **Center** button in the upper left part of the screen.

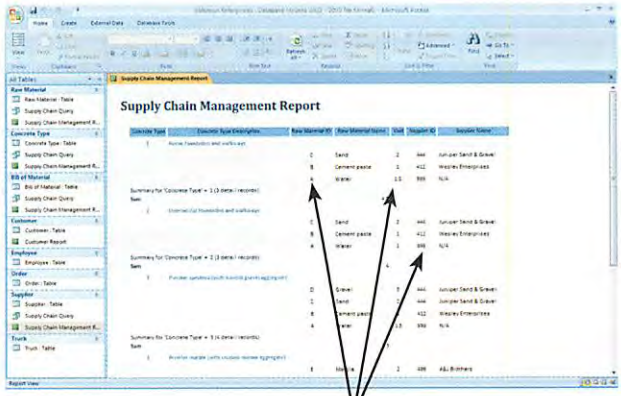
Figure J.27

Changing the *Concrete Type Header* Section of the Report





We centered the information in *Raw Material ID, Unit,* and *Supplier ID.*



The centered information

Figure J.28

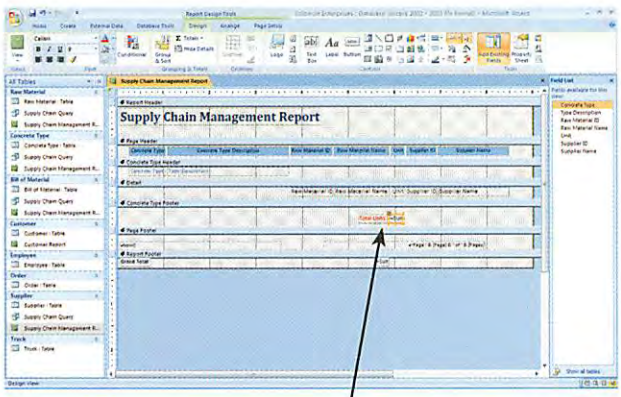
Changing the **Detail** Section of the Report

DETAIL In the *Detail* section, the only changes we made were to center the information in the *Raw Material ID, Unit,* and *Supplier ID* fields (see Figure J.28). We achieved this by following the same set of steps that we did to center *Concrete Type* in the *Concrete Type Header* section.

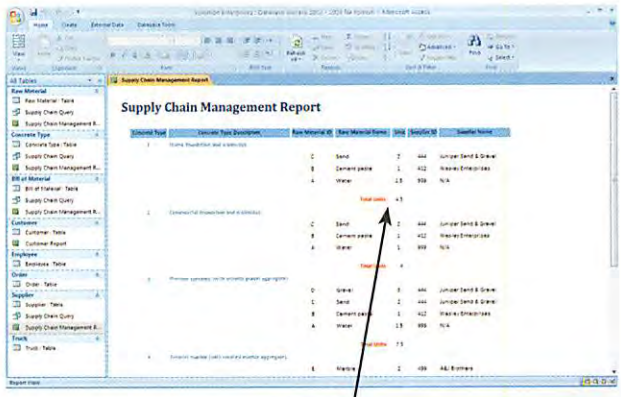
CONCRETE TYPE FOOTER The top box in the *Concrete Type Footer* section of the report in Design View shows details of the summary lines of the report and shows the *Concrete Type* and the number of records for each type of concrete. We removed that by right-clicking on the box and selecting **Delete,** and you can see the result in Figure J.29. We changed the contents of the **Sum** label box to "Total Units" written in red font, and then moved it close to where the total value appears. We also changed the color of the font in the box with the total value — the one with "=Sum([Unit])." We moved both of these boxes so they look better in the report.

Figure J.29

Changing the ***Concrete Type Footer*** Section of the Report



We changed *Sum* to *Total Units,* changed its color, and moved it closer to the actual total.



The result

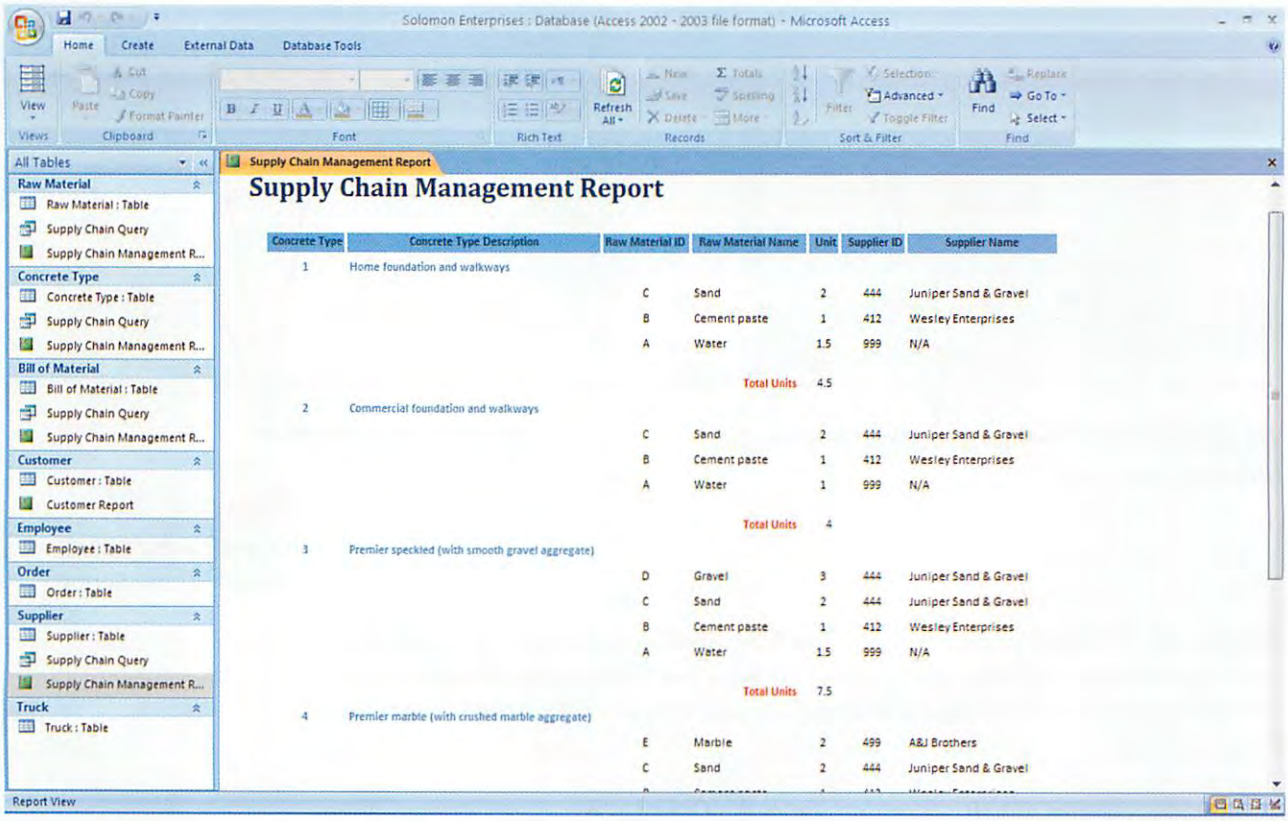


Figure J.30

The Completed Report

PAGE AND REPORT FOOTERS In the *Page Footer* section, the box with "=Now()" is the command that places the date at the bottom of each page of our report. The box to the right keeps track of the current page and the total number of pages.

The first box in the *Report Footer* section puts the label "Grand Total" at the end of the report, and the box to the right places the grand total value of all the units in the report at the end of the report. This doesn't make any sense in our context, so we can delete both of these grand total boxes.

Figure J.30 shows the revised *Supply Chain Management Report*. It's much tidier, more informative, and more pleasing to the eye. You can do much more with reports in the Design View. You can put in totals, averages, and lots of other things. We'll leave this for you to investigate on your own.

Creating a Data Input Form

Our last task in this database is to design an input form to simplify the task of entering new information. Let's create an input form for new orders. It's actually quite simple. Here are the steps (see Figure J.31):

1. Click on the *Order* table on the left side of the screen.
2. Click on **Create** in the menu and then click on the **Form** button.

Access then presented us with the input form you see in Figure J.31. It's not exactly pretty, but its ready for use. You can move through the records with the arrow keys across the bottom. When you reach the end of the list of records, you'll get a blank input form.

You can also change the structure of the form by right-clicking on the **Order** tab and then selecting **Design View.** It will be similar to the Design View for working with reports. And you have similar functionality — you can make field areas longer or shorter, change text colors, add and remove fields and labels, and so on.

That ends or brief tour of Microsoft Access. It's not really that difficult a package to learn. The most difficult part is correctly defining the structure of your database. Actually implementing your design in Access is comparatively simple after that. We recommend once again that you reread *Extended Learning Module C* if you intend to become a designer as well as a user of database applications. "Using" is the easy part; "designing" is the challenging part.

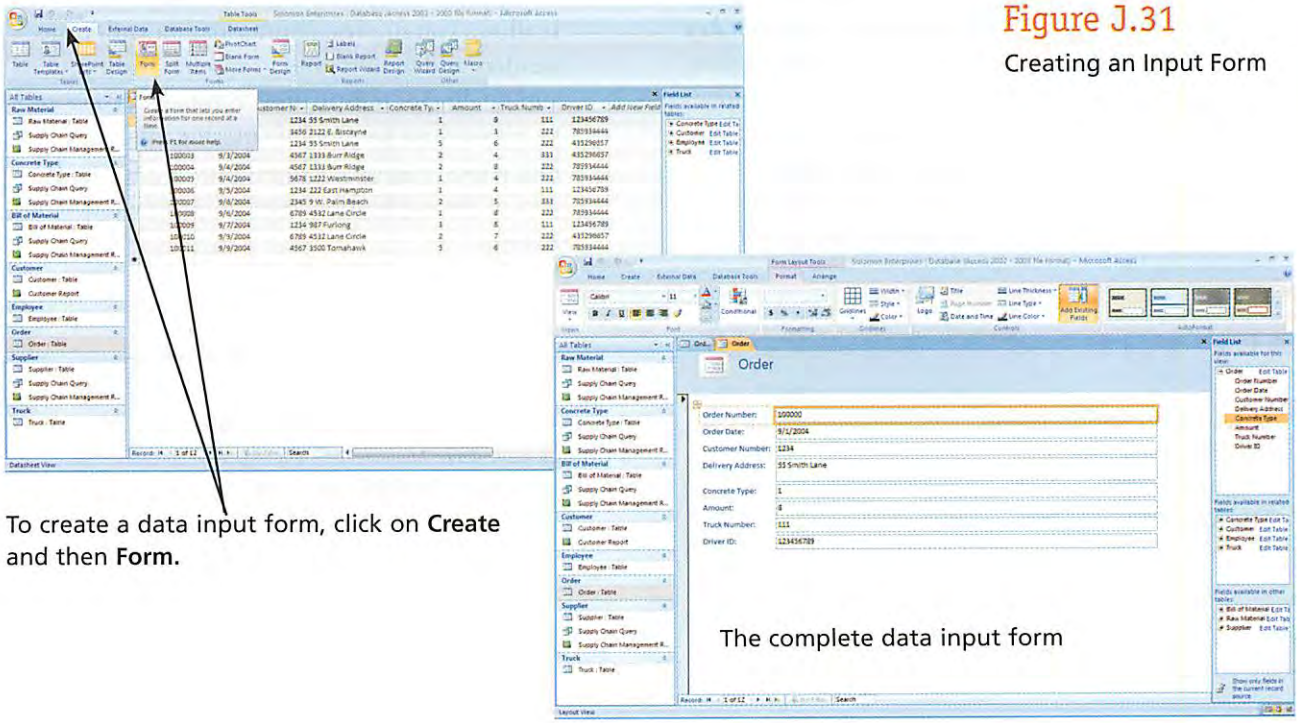


Figure J.31
Creating an Input Form

Summary: Student Learning Outcomes Revisited

1. **Identify the steps necessary to implement the structure of a relational database using the data definition language provided by Microsoft Access.** Using a data definition language to implement a database is the fourth and last step in designing a database. It first requires that you use the data dictionary to create the structure of each table, assigning each one a primary key, and defining what type of information the fields will hold, how large they will be, and many other properties. The ***data dictionary*** contains the logical structure for the information in a database. A ***primary key*** is a field (or group of fields in some cases) that uniquely defines each record. A ***composite primary key*** consists of the primary key fields from two ***intersecting relations.*** An intersection relation (sometimes called a ***composite*** relation) is a relation you create to eliminate a many-to-many relationship. You must also define the relationships among the tables, including their foreign keys. A ***foreign key*** is a primary key of one file (relation) that appears in another file (relation). You must also consider ***integrity constraints***—rules that help ensure the quality of the information. For this you use the *Enforce Referential Integrity* feature of Access to stipulate that no information may be entered as a foreign key unless that information already exists as a primary key.
2. **Demonstrate how to use the data manipulation subsystem in Access to enter and change information in a database and how to query that information.** When the tables and their fields have been defined and the relationships between pairs of tables have been established, you can enter information into the tables. Then you can construct queries to view the information in multiple ways, i.e., you can ask questions of the information. The simplest way to do this is to use Access's QBE tool. ***A query-by-example (QBE) tool*** helps you graphically design the answer to a question.
3. **Explain the use of the application generation subsystem in Access to create reports and data entry screens.** To create professional-looking reports you must use the report generator in the application generation subsystem of Access. It allows you to present information with page headers and footers, and grouping, sorting, and totaling of information. Similarly, to create an easy-to-use method of entering information into tables, you create input forms. This is also part of the application generation subsystem of Access.

Key Terms and Concepts

Composite primary key, 439
Data dictionary, 434
Foreign key, 441
Integrity constraint, 437
Intersection (composite) relation, 439
Primary key, 437
Query-by-example (QBE) tool, 447

Assignments and Exercises

1. **ENTER NEW EMPLOYEE INFORMATION** It's likely that Solomon Enterprises would need to enter the information for a new employee. Create a new input form to enter Employee ID, Employee Last Name, Employee First Name, and Date of Hire. Design the form so that the information appears in tabular form and has Sandstone background.
2. **WHAT ARE THE INGREDIENTS FOR PREMIER MARBLE CONCRETE?** Write a query to show how many units of each raw material are in concrete type 4. Print out the name of the concrete type, its ID, the name of the raw material (not its ID), and the number of units of each of the raw materials.
3. **INVENTORY REPORT** Create a report that shows how many units Solomon Enterprises has of each of the raw materials. Don't include water (hint: you want all *Raw Material* fields that do not equal *water*). Choose your own layout and page orientation.
4. **SORT QUERY INFORMATION** The Datasheet view of a query allows you to sort the information in that query. Try this out with the *Order* relation. Download the Solomon Enterprises database from the Web site that supports this text: www.mhhe.com/haag. (Select XLM/J. The name of the file is **XLMJ_Solomon_Enterprises.mdb.**) Click on the **Queries** tab and open the *Order* relation in Datasheet view. Sort the table alphabetically on *Employee Last Name.* Place your cursor anywhere in the column you want to sort by (in this case *Employee Last Name*), and click on the sort-ascending button. It has an "A" above a "Z" with an arrow pointing downwards.
5. **FILTER QUERY INFORMATION** You can request Access to show you any other occurrences of a data item that is in the same column. Use the same file you needed for question 4 above. You can download it from the Web site for this text: www.mhhe.com/haag. (Select XLM/J. The name of the file is XLMJ_Solomon_Enterprises.mdb.) Filter the information so that only those records in which the truck is a Ford appear. To do this click in the Truck Type column on any one of the occurrences of Ford. Then, click on the Filter by Selection button (that's the button in the button bar with the funnel and a lightning strike). You will instantly see only the three records where the truck is a Ford. To return the data to its previous state, click on Remove Filter button (that's the button that has the funnel without any other symbol). If you click on this button again, it will reapply the filter.

Group PROJECTS

CASE 1: ASSESSING THE VALUE OF CUSTOMER RELATIONSHIP MANAGEMENT

TREVOR TOY AUTO MECHANICS

Trevor Toy Auto Mechanics is an automobile repair shop in Phoenix, Arizona. Over the past few years, Trevor has seen his business grow from a two-bay car repair shop with only one other employee to a 15-bay car repair shop with 21 employees.

Trevor wants to improve service and add a level of personalization to his customers. However, Trevor has no idea who his best customers are, the work that is being performed, or which mechanic is responsible for the repairs. Trevor is asking for your help. He has provided you with a spreadsheet file, **TREVOR.xls,** that contains a list of all the repairs his shop has completed over the past year including each client's name along with a unique identifier. The spreadsheet file contains the fields provided in the table below.

Column	Name	Description
A	CUSTOMER #	A unique number assigned to each customer.
B	CUSTOMER NAME	The name of the customer.
C	MECHANIC #	A unique number assigned to the mechanic who completed the work.
D	CAR TYPE	The type of car on which the work was completed.
E	WORK COMPLETED	What type of repair was performed on the car.
F	NUM HOURS	How long in hours it took to complete the work.
G	COST OF PARTS	The cost of the parts associated with completing the repair.
H	TOTAL CHARGE	The amount charged to the customer for the repair.

Your analysis should include (1) Trevor's best customers (top 10 in terms of volume and revenue); (2) Trevor's worst customers (bottom 10 in terms of lowest volume and lost revenue); and (3) the mechanics that perform the repairs for each customer.

SOME PARTICULARS YOU SHOULD KNOW

1. As you consider the information provided to you, think in terms of what information is important. You might need to use the existing information to create new information.
2. In your analysis, provide examples of the types of marketing campaigns Trevor should offer his most valuable customers.
3. Upon completing your analysis, please provide concise yet detailed and thorough documentation (in narrative, numeric, and graphic forms) that justifies your recommendations.
4. File: **TREVOR.xls** (Excel file).

CASE 2: ANALYZING THE VALUE OF INFORMATION

AFFORDABLE HOMES REAL ESTATE

In late 1995, a national study announced that Eau Claire, Wisconsin, was the safest place to live. Since then, housing development projects have been springing up all around Eau Claire. Six housing development projects are currently dominating the Eau Claire market: Woodland Hills, Granite Mound, Creek Side Huntington, East River Community, Forest Green, and Eau Claire South. These six projects each started with 100 homes, have sold all of them, and are currently developing phase 2.

As one of the three partners and real estate agents of Affordable Homes Real Estate, it is your responsibility to analyze the information concerning the past 600 home sales and choose which development project to focus on for selling homes in phase 2. Because your real estate firm is so small, you and your partners have decided that the firm should focus on selling homes in only one of the development projects.

From the Wisconsin Real Estate Association you have obtained a spreadsheet file that contains information concerning each of the sales for the first 600 homes. It contains the following fields:

Column	Name	Description
A	LOT #	The number assigned to a specific home within each project
B	PROJECT #	A unique number assigned to each of the six housing development projects (see table to follow)
C	ASK PRICE	The initial posted asking price for the home
D	SELL PRICE	The actual price for which the home was sold
E	LIST DATE	The date the home was listed for sale
F	SALE DATE	The date on which the final contract closed and the home was sold
G	SQ. FT.	The total square footage for the home
H	# BATH.	The number of bathrooms in the home
I	# BDRMS	The number of bedrooms in the home

The following numbers have been assigned to each of the housing development projects:

Project Number	Project Name
23	Woodland Hills
47	Granite Mound
61	Creek Side Huntington
78	East River Community
92	Forest Green
97	Eau Claire South

It is your responsibility to analyze the sales list and prepare a report that details which housing development project your real estate firm should focus on. Your analysis should cover as many angles as possible.

SOME PARTICULARS YOU SHOULD KNOW

1. You don't know how many other real estate firms will also be competing for sales in each of the housing development projects.
2. Phase 2 for each housing development project will develop homes similar in style, price, and square footage to their respective first phases.
3. As you consider the information provided to you, think in terms of what information is important and what information is not important. Be prepared to justify how you approach your analysis.
4. Upon completing your analysis, please provide concise, yet detailed and thorough, documentation (in narrative, numeric, and graphic forms) that justifies your decision.
5. File: **REALEST.xls** (Excel file).

CASE 3: EXECUTIVE INFORMATION SYSTEM REPORTING

POLITICAL CAMPAIGN FINANCE

When it comes to campaign finance, Americans want a system that minimizes the influence of "fat cats" and organized money, that keeps campaign spending at sensible levels, that fosters healthy electoral competition, that doesn't take advantage of wealthy candidates, and that doesn't require candidates to spend all of their waking hours raising money.

Indeed, the much maligned congressional campaign finance system we have now is itself a product of well-intended reform efforts, passed by Congress in 1974 to achieve these ideals. Dozens of new reform plans have emerged during the 1990s that also reach for these goals. Yet, no reform scheme, however well intended, is likely to produce a perfect congressional campaign finance system.

The city of Highlands Ranch, Colorado, wishes to organize its campaign contributions records in a more strategic format. The city council is considering various executive information system packages that can show them overall views of the contribution information as well as give them the ability to access more detailed information. You have been hired to make recommendations about what reports should be available through the soon-to-be-purchased executive information system.

The table below is a list of the information that will be the foundation for the reports in the proposed executive information system. To help you develop realistic reports, the city has provided you with a spreadsheet file that contains specific contributions over the last six months.

Column	Name	Description
A	DATE	The actual date that the contribution was made
B	CONTRIBUTOR	The name of the person or organization that made the contribution
C	DISTRICT	The district number that the councilperson belongs to
D	AMOUNT	The amount of the contribution
E	TYPE	The description type of where the contribution amount was given
F	COUNCILPERSON	The councilperson's name
G	PARTY	The councilperson's political party

What the city council is most interested in is viewing several overall reports and then being able to request more detailed reports. So, as a consultant, your goal is to develop different sets of reports that illustrate the concept of drilling down through the information provided. For example, you should develop a report that shows overall campaign contributions by district (each of the eight different districts) and then also develop more detailed reports that show contribution by political party and contribution by type.

SOME PARTICULARS YOU SHOULD KNOW

1. The council would much rather see information graphically than numerically. So, as you develop your reports, do so in terms of graphs that illustrate the desired relationships.
2. As you consider the information provided to you, think in terms of overall views first and then detailed views second. This will help you develop a logical series of reports.
3. If you wish, you can explore a variety of software tools or functions to help you create the reports. Then prepare your presentation using a presentation graphics package that lets you create a really great presentation of your recommendations.
4. Again, your goal is not to create reports that point toward a particular problem or opportunity. Rather, you are to design a series of logical reports that illustrate the concept of drilling down.
5. File: **CONTRIBUTE.xls** (Excel file).

CASE 4: BUILDING VALUE CHAINS

HELPING CUSTOMERS DEFINE VALUE

StarLight is a Denver-based retailer of high-quality apparel, shoes, and accessories. In 1915, with money earned in the Colorado gold mines, Anne Logan invested in a small downtown Denver shoe store. A few years later, Anne expanded her business by adding fine apparel. Today, StarLight has 97 retail stores and discount outlets throughout the United States. Since the beginning, StarLight's business philosophy has reflected its founder's beliefs in exceptional service, value, selection, and quality. To maintain the level of service StarLight's customers have come to expect, the company empowers its employees to meet any customer demand, no matter how unreasonable it may seem. With so many stores, it's difficult for Cody Sherrod, StarLight's vice president for Business Information and Planning, to know the level of service customers receive, what customers value, and what they don't. These are important questions for a retailer striving to provide the finest customer experience and products while keeping costs to a minimum.

Cody decided a value chain analysis would be helpful in answering these questions. So, customer surveys were designed, distributed, completed, collected, and compiled into a database. Customers were asked to value their experience with various processes in the StarLight value chain. Specifically, for each value chain process, customers were asked whether this area added value to their experience or reduced the value of their experience. Customers were asked to quantify how much each process added or reduced the value of the services they received. Using a total of 100 points for the value chain, each customer distributed those points among StarLight's processes. The survey results in the database consist of the fields shown in the table on the next page.

Field Name	Description
Survey ID	An ID number uniquely identifying the survey
VA/VR	A field that identifies whether the current row of information reflects a value-added response or a value-reducing response
Date	Survey response date
Mgmt/Acctg/Finance/Legal	Customer value experience, if any, with management, accounting, finance, and the legal departments
HR Mgmt	Customer value of the attitude and general personnel environment
R&D/Tech Dev	Customer perceived value of the quality of research and technology support
Purchasing	Customer value placed on the quality and range of product selection
Receive and Greet Customers	Customer value placed on initial contact with employees
Provide Direction/Advice/Info	Customer value placed on initial information provided by employees
Store Location/Channel Availability & Convenience	Customer value placed on location, availability, and convenience
Product Display/Site or Catalog Layout	Customer value placed on aesthetic appeal of merchandise display and layout
Sales Service	Customer value placed on quality of service provided by sales associates
Marketing	Customer value placed on the effectiveness of marketing material
Customer Follow-up	Customer value placed on postsales service and follow-up

Cody has asked you to gather the raw survey material into two value chains, the value-added chain and the value-reducing chain. You'll create chains that summarize the survey information and size the process areas proportionately as described in Chapter 2. Specifically, your job is to perform the following:

1. Create queries or reports in the provided database to summarize the value-added amounts and the value-reducing amounts for each process.
2. Draw two value chains using that summary information to size the depicted area for each process. Use the value chains in Chapter 2 as reference.
3. Compare the value-added and value-reducing process percentages. Do they correlate in any way? If so, why do you think that is? If not, why not?
4. In the table description provided, a dashed line is drawn between the "purchasing" process and the "receive and greet customers" process. Processes above the line are considered support processes, while processes below are considered primary processes. Create a database query to compare how customers value the total of support processes versus primary processes. Do this for both value-added and value-reducing processes. Do the results make sense or are they surprising? Explain your answer.

SOME PARTICULARS YOU SHOULD KNOW

1. Remember that the total value-added/value-reducing amount for each process must equal 100 percent.
2. The survey values in the database are not percentages although the sum of all responses for a given survey equals 100.
3. File: **STARLIGHT.mdb** (Access file).

CASE 5: USING RELATIONAL TECHNOLOGY TO TRACK PROJECTS

FOOTHILLS CONSTRUCTION

Foothills Construction Company is a Denver-based construction company that specializes in subcontracting the development of single family homes. In business since 1993, Foothills Construction Company has maintained a talented pool of certified staff and independent consultants allowing the flexibility and combined experience required to meet the needs of its nearly 300 completed projects in the Denver metropolitan area. The field of operation methods that Foothills Construction is responsible for as it relates to building include structural development, heating and cooling, plumbing, and electricity.

The company charges its clients by billing the hours spent on each contract. The hourly billing rate is dependent on the employee's position according to the field of operations (as noted below).

Figure GP.1 shows a basic report that Foothills Construction managers would like to see every week concerning what projects are being assigned as well as a summary of assignment hours and changes. Foothills Construction organizes its internal structure in four different operations: Structure (500), Plumbing (501), Electrical (502), and Heating and Ventilation (503). Each of these operational departments can and should have many subcontractors who specialize in that area.

Figure GP.1
Foothills Construction Project Detail

PROJECT

FOOTHILLS CONSTRUCTION PROJECT DETAIL

PROJECT NAME	ASSIGN DATE	EMP LAST NAME	EMP FIRST NAME	JOB DESCRIPTION	ASSIGN HOUR	CHARGE/HOUR
Chatfield						
	Thursday, February 10, 2005	Jones	Anne	Heating and Ventalation	3.4	$84.50
	Thursday, February 10, 2005	Sullivan	David	Electrical	1.8	$105.00
	Friday, February 11, 2005	Frommer	Matt	Plumbing	4.1	$96.75
	Saturday, February 12, 2005	Newman	John	Electrical	1.7	$105.00
	Saturday, February 12, 2005	Bavangi	Terry	Plumbing	4.1	$96.75
Summary of Assignment Hours and Charges					15.10	$1,448.15
Evergreen						
	Thursday, February 10, 2005	Smithfield	William	Structure	3.0	$35.75
	Thursday, February 10, 2005	Newman	John	Electrical	2.3	$105.00
	Thursday, February 10, 2005	Nenior	David	Plumbing	3.3	$96.75
	Friday, February 11, 2005	Marbough	Mike	Heating and Ventalation	2.6	$84.50
	Saturday, February 12, 2005	Johnson	Peter	Electrical	2.0	$105.00
	Saturday, February 12, 2005	Newman	John	Electrical	3.6	$105.00
	Saturday, February 12, 2005	Olenkoski	Glenn	Structure	1.9	$35.75
Summary of Assignment Hours and Charges					18.70	$1,543.65
Roxborough						

Page: 1

Because of the boom in home sales over the last several years, Foothills Construction has decided to implement a relational database model to track project details according to project name, hours assigned, and charges per hour for each job description. Originally, Foothills Construction decided to let one of its employees handle the construction of the database. However, that employee has not had the time to completely implement the project. Foothills Construction has asked you to take over and complete the development of the database.

The entity classes and primary keys for the database have been identified as the following:

Entity	Primary Key
Project	Project Number
Employee	Employee Number
Job	Job Number
Assign	Assign Number

The following business rules have also been identified:

1. A job can have many employees assigned but must have at least one.
2. An employee must be assigned to one and only one job number.
3. An employee can be assigned to work on one or more projects.
4. A project can be assigned to only one employee but need not be assigned to any employee.

Your job is to be completed in the following phases:

1. Develop and describe the entity-relationship diagram.
2. Use normalization to assure the correctness of the tables (relations).
3. Create the database using a personal DBMS package (preferably Microsoft Access).
4. Use the DBMS package to create the basic report in Figure GP.1.

SOME PARTICULARS YOU SHOULD KNOW

1. You may not be able to develop a report that looks exactly like the one in Figure GP.1. However, your report should include the same information.
2. Complete personnel information is tracked by another database. For this application, include only the minimum employee number, last name, and first name.
3. Information concerning all projects, employees, and jobs is not readily available. You should, however, create information for several fictitious systems to include in your database.
4. File: Not applicable.

CASE 6: BUILDING A DECISION SUPPORT SYSTEM

CREATING AN INVESTMENT PORTFOLIO

Most experts recommend that if you're devising a long-term investment strategy you should make the stock market part of your plan. You can use a DSS to help you decide what stocks to put into your portfolio. You can use a spreadsheet to do the job. The information you need on 10 stocks is contained in a Word file called **STOCKS.doc.** This information consists of

1. Two years of weekly price data on 10 different stocks.
2. Stock market indices from
   - The Dow Jones Industrial Average
   - NASDAQ Composite
3. Dividends and cash flow per share over the last 10 years (Source: Yahoo Finance).

Using this information, build a DSS to perform stock analysis consisting of the following tasks:

1. Examine Diversification Benefits
   A. Calculate the average return and standard deviation(s) of each of the 10 stocks.
   B. Form six different portfolios: two with two stocks each; two with three stocks each; two with five stocks each.

   Answer the following questions using your DSS:

   - How does the standard deviation of each portfolio compare to the (average) standard deviation of each stock in the portfolio?
   - How does the average return of the portfolio compare to the average return of each stock in the portfolio?
   - Do the benefits of diversification seem to increase or diminish as the number of stocks in the portfolio gets larger?
   - In the two-stock and five-stock portfolios what happens if you group your stocks toward similar industries?

2. Value Each of the Stocks
   A. Estimate the dividend growth rate based on past dividends.
   B. Estimate next year's dividend using this year's dividend and the estimated growth rate.
   C. Generate two graphs, one for past dividends and one for estimated dividends for the next five years.

SOME PARTICULARS YOU SHOULD KNOW

1. When performing your calculations, use the weekly returns. That is, use the change in the price each week rather than the prices themselves. This gives you a better basis for calculation because the prices themselves don't usually change very much.
2. File: **STOCKS.doc** (Word file).

CASE 7: ADVERTISING WITH BANNER ADS

HIGHWAYSANDBYWAYS.COM

Business is booming at HighwaysAndByways, a dot-com firm focusing on selling accessories for car enthusiasts (e.g., floor mats, grill guards, air fresheners, stereos, and so on). Throughout the past year, HighwaysAndByways has had Web site management software tracking what customers buy, the Web sites from which customers came, and the Web sites customers went to after visiting HighwaysAndByways. That information is stored in a spreadsheet file and contains the fields in the accompanying table. Each record in the spreadsheet file represents an individual visit by a customer that resulted in a purchase.

HighwaysAndByways is interested in determining three items and has employed you as a consultant to help. First, HighwaysAndByways wants to know on which Web sites it should purchase banner ad space. Second, HighwaysAndByways wants to know which Web sites it should contact to determine if those Web sites would like to purchase banner ad space on the

Column	Name	Description
A	CUSTOMER ID	A unique identifier for a customer who made a purchase
B	TOTAL PURCHASE	The total amount of a purchase
C	PREVIOUS WEB SITE	The Web site from which the customer came to visit HighwaysAndByways
D	NEXT WEB SITE	The Web site the customer went to after making a purchase at HighwaysAndByways
E	TIME SPENT	The amount of time that the customer spent at the site

HighwaysAndByways Web site. Finally, HighwaysAndByways would like to know which Web sites it should develop reciprocal banner ad relationships with; that is, HighwaysAndByways would like a list of Web sites on which it would obtain banner ad space while providing banner ad space on its Web site for those Web sites.

SOME PARTICULARS YOU SHOULD KNOW

1. As you consider the information provided to you, think about the levels of information literacy. In other words, don't jump to conclusions before carefully evaluating the provided information.
2. You don't know if your customers made purchases at the Web site they visited upon leaving HighwaysAndByways.
3. Upon completing your analysis, please provide concise yet detailed and thorough documentation (in narrative, numeric, and graphic forms) that justifies your recommendations.
4. File: **CLICKSTREAMS.xls** (Excel file).

CASE 8: ASSESSING THE VALUE OF OUTSOURCING INFORMATION TECHNOLOGY

CREATING FORECASTS

Founded in 1992, Innovative Software provides search software, Web site accessibility testing/repair software, and usability testing/repair software. All serve as part of its desktop and enterprise content management solutions for government, corporate, educational, and consumer markets. The company's solutions are used by Web site publishers, digital media publishers, content managers, document managers, business users, consumers, software companies, and consulting services companies. Innovative Software solutions help organizations develop long-term strategies to achieve Web content accessibility, enhance usability, and comply with U.S. and international accessibility and search standards.

Innovative Software has a 10-year history of approximately 1 percent in turnover a year and its focus has always been on customer service. With the informal motto of "Grow big, but stay small," it takes pride in 100 percent callbacks in customer care, knowing that its personal service has been one thing that makes it outstanding.

Innovative Software has experienced rapid growth to six times its original customer-base size and is forced to deal with difficult questions for the first time, such as, "How do we serve this

many customers? How do we keep our soul—that part of us that honestly cares very much about our customers? How will we know that someone else will care as much and do as good a job as we have done?" In addition, you have just received an e-mail from the company CIO, Sue Downs, that the number of phone calls from customers having problems with one of your newer applications is on the increase.

As customer service manager for Innovative Software, your overriding goal is to maintain the company's reputation for excellent customer service, and outsourcing may offer an efficient means of keeping up with expanding call volume. Innovative Software is reviewing a similar scenario, that of e-BANK, which outsourced its customer service in order to handle a large projected number of customers through several customer interaction channels. Although e-BANK had excellent people, it felt that its competencies were primarily in finance, rather than in customer service and that it needed to have the expertise that a customer-service-focused company could offer. e-BANK also discovered that it was cost effective to outsource its customer service center.

Additionally, the outsourcing approach was relatively hassle-free, since e-BANK did not have to set up its own call center.

SOME PARTICULARS YOU SHOULD KNOW

1. Create a weekly analysis from the data provided in **FORECAST.xls.**
2. The price of the products, the actual product type, and any warranty information is irrelevant.
3. Develop a growth, trend, and forecast analysis. You should use a three-day moving average: a shorter moving average might not display the trend well and a much longer moving average would shorten the trend too much.
4. Upon completing your analysis, please provide concise yet detailed and thorough documentation (in narrative, numeric, and graphic forms) that justifies your recommendations.
5. File: **FORECAST.xls** (Excel file)

CASE 9: DEMONSTRATING HOW TO BUILD WEB SITES WITH HTML

Building a good Web site is simple in some respects and difficult in others. It's relatively easy to learn to write HTML code. Building an effective and eye-catching Web site is a horse of a different color. That is to say, there is a stretch between just using the technology and using the technology to your best advantage.

Your task in this project is to build a presentation (using presentation graphics software such as Microsoft PowerPoint) that achieves two goals. First, your presentation should show your audience how to write simple HTML code to create a Web site. Your presentation should include the HTML code for

- Text formatting (bold, italic, and the like)
- Font families and sizing
- Font colors
- Background colors and images
- Links
- Images
- Numbered and bulleted lists

Next, your presentation should provide the audience with a list of guidelines for creating an *effective* Web site. For this, you should definitely embed links into your presentation that go to Web sites that illustrate good Web site design, displaying examples of both effective and ineffective designs.

SOME PARTICULARS YOU SHOULD KNOW

1. In a file called **HTML.doc,** we've provided many links to Web sites that teach you how to write HTML code.
2. In a file called **DESIGN.doc,** we've provided many links to Web sites that teach you how to design Web sites effectively.
3. Files: **HTML.doc** and **DESIGN.doc** (Word files).

CASE 10: MAKING THE CASE WITH PRESENTATION SOFTWARE

INFORMATION TECHNOLOGY ETHICS

Management at your company is concerned about the high cost of computer crime, from lawsuits over e-mail received to denial-of-service attacks and hackers breaking into the corporate network to steal information. You've been asked to make a presentation to inform your colleagues of these issues. Develop a presentation using a presentation package such as Microsoft's PowerPoint.

You can choose your presentation's emphasis from the following topics:

- Ethics as it relates to IT systems
- Types of crime aimed at IT systems (such as viruses)
- Types of crime that use IT systems as weapons (such as electronic theft of funds from one account to another)
- Security measures, how good they are, what they cost, how expensive they are to implement
- Electronic monitoring of employees (from employer and employee standpoints)
- Collection and use of personal information on consumers

SOURCES OF INFORMATION

- In the file **ETHICS.doc,** you'll find sources for the topics listed above.
- The Web is a great place to find lots of information.
- Most business publications, such as *BusinessWeek, InformationWeek, Fortune,* and *The Wall Street Journal,* frequently have good articles on ethics, cybercrime, and security. You can get some of these articles on the Web.
- General news publications such as *Newsweek* and *USA Today* print articles on these topics.

Your task is to weave the information you find into a coherent presentation using graphs and art where appropriate.

SOME PARTICULARS YOU SHOULD KNOW

1. Content Principles
   - Each slide should have a headline
   - Each slide should express one idea
   - Ideas should follow logically

2. Design Principles
   - Follow the "Rule of 7," which is no more than 7 lines per slide and 7 words per line
   - Keep it simple
   - Keep it organized
   - Create a path for the eye
   - Divide space in an interesting way
   - Use at least 30-point type
   - Use color and graphics carefully, consistently, and for a specific purpose
   - Use high-contrast colors (black/white, deep blue/white, etc.)
3. File: **ETHICS.doc** (Word file)

CASE 11: BUILDING A WEB DATABASE SYSTEM

WEB-BASED CLASSIFIED SYSTEM

With the emergence of the Internet as a worldwide standard for communicating information, *Gabby's Gazetteer,* a medium-size community newspaper in central Colorado, is looking to enter the electronic commerce market.

In the listing of classified ads, advertisers place a small ad that lists items they wish to sell and provide a means (e.g., telephone number) by which prospective buyers can contact them.

The nature of a sale via a newspaper classified system goes as follows:

- During the course of the sale, the information flows in different directions at different stages.
- First, there is a downstream flow of information (from seller to buyer)—the listing in print on the newspaper. (Thus, the classified ad listing is just a way of bringing a buyer and seller together.)
- When a potential purchaser's interest has been raised, then that interest must be relayed upstream, usually by telephone or in person.
- Finally, a meeting should result that uses face-to-face negotiation to finalize the sale—if the sale can be agreed upon.

By placing the entire system on the Internet, the upstream and downstream communications are accomplished using a Web browser. The sale becomes more of an auction, because many potential buyers, all with equal status, can bid for the same item.

Any user who is trying to buy an item can

- View items for sale
- Bid on an item they wish to purchase

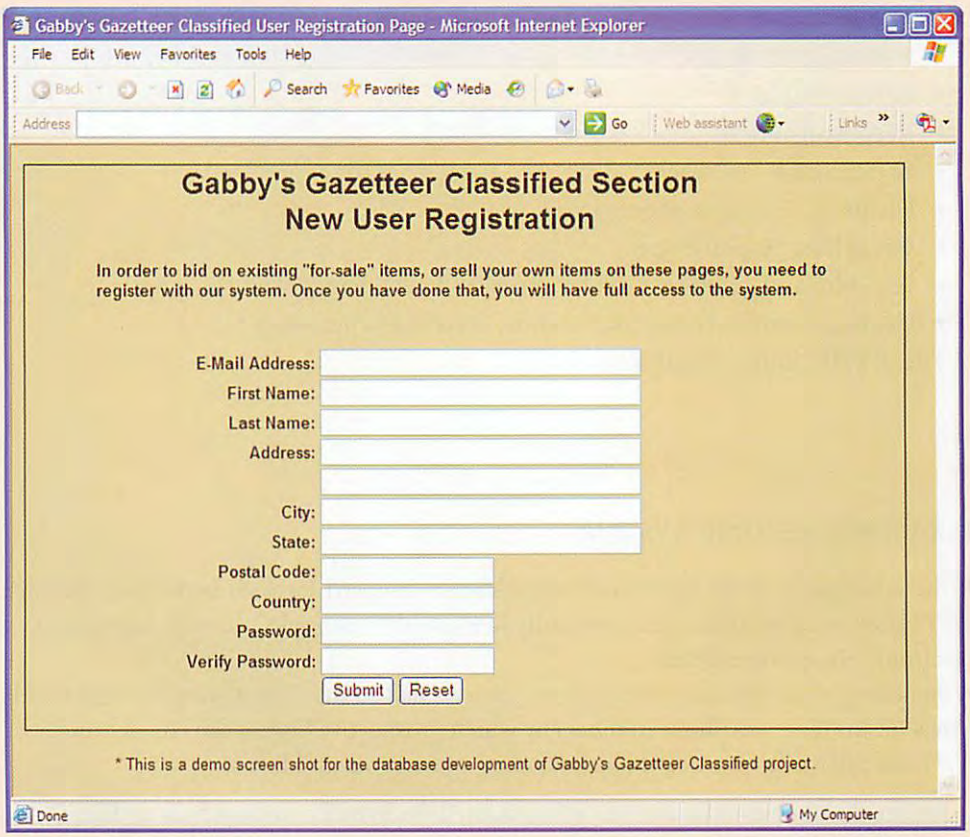
Any user who is trying to sell an item can

- Place a new item for sale
- Browse a list of the items that he or she is trying to sell, and examine the bids that have been made on each of those items
- Accept a bid on an item that he or she is selling

This system should also allow users to do some very basic administrative tasks, such as

- Browse the listings to see what is for sale
- Register with the system (users can browse without registering; but they must register if they want to sell an item or bid for an item)

Figure GP.2
Gabby's Gazetteer Classified Registration System



- Log on to the system
- Change their registration details

Your job will be to complete the following:

1. Develop and describe the entity-relationship diagram for the database that will support the above activities.
2. Use normalization to ensure the correctness of the tables.
3. Create the database using a personal DBMS package.

SOME PARTICULARS YOU SHOULD KNOW

1. Use Figure GP.2 as a baseline for your database design.
2. File: Not applicable.

CASE 12: CREATING A DECISION SUPPORT SYSTEM

BUY VERSUS LEASE

A leading supplier of grapes to the wine-producing industry in California, On the Vine Grapes, wants to expand its delivery services and expand its reach to market by increasing its current fleet of delivery trucks. Some of the older vehicles were acquired through closed-end leases with required down payments, mileage restrictions, and hefty early termination penalties. Other vehicles were purchased using traditional purchase-to-own loans, which often resulted in high depreciation costs and large maintenance fees. All vehicles were acquired one at a time through local dealers.

On the Vine Grapes has asked you to assist in developing a lease/buy cost analysis worksheet in order to make the most cost-effective decision. Currently the director of operations, Bill Smith, has identified a 2005 Ford F-550 4x2 SD Super Cab 161.8 in. WB DRW HD XLT as the truck of choice for the business. This vehicle has a retail price of $34,997.00 or a lease price of $600/month through Ford Motor Credit Company.

Here are some basic fees and costs that you need to factor in:

1. Lease Costs	
Refundable security deposit	$500
First month's payment at inception	$500
Other initial costs	$125
Monthly lease payment for remaining term	$600
Last month payment in advance	No
Allowable annual mileage	15,000
Estimated annual miles to be driven	20,000
Per mile charge for excess miles	0.10
2. Purchase Costs	
Retail price including sales taxes, title	$34,997
Down payment	$4,000
Loan interest rate	8.75%
Will interest be deductible business or home equity interest?	Yes
Is the gross loaded weight of the vehicle over 6,000 lbs?	Yes
3. Common Costs and Assumptions	
Total lease/loan term	36
Discount percent	8.75
Tax bracket—combined federal and state	33%
Business use percentage	100%

SOME PARTICULARS YOU SHOULD KNOW

1. In the file **BUYORLEASE.xls** is a template you can use to enter the information. There is also a sheet that has been developed to assist you with the annual depreciation for an automobile.
2. Create a detailed summary sheet of the lease/buy option for On the Vine Grapes.
3. File: **BUYORLEASE.xls** (Excel file).

CASE 13: DEVELOPING AN ENTERPRISE RESOURCE PLANNING SYSTEM

PLANNING, REPORTING, AND DATA PROCESSING

The State Annual Report on Enterprise Resource Planning and Management was developed to provide a comprehensive view of the management and use of technology by the Higher Educational System of Colorado. This report shows the statewide issues surrounding information technology, priorities for the ensuing two years, initiatives and projects, performance management, and the information technology resources utilized to support the business processes of Higher Education during fiscal year 2004–2005. A comparison report is also generated to produce a percentage change in funds from fiscal year 2003–2004 to fiscal year 2004–2005.

Chief information officer (CIO) for the Department of Higher Education, David Paul, was required to report the estimated expenditures for technology across five appropriation categories: Employee Salaries/Benefits, Other Personal Services (OPS—noncareer service employees with no permanent status), Expenses (all hardware purchases under $1,000, travel, training, and general office expenses), Operating Capital Outlay (OCO), and Data Processing Services. Most of these performance management initiatives have been measured using manual processes. Several reporting units documented the need for automated measurement tools in the future to take advantage of the full opportunities for improvement. David Paul has asked you to assist him in organizing this information and calculating some of the requirements established by the State Board of Education. Along with the appropriation categories mentioned above, each institution is categorized according to status (2 Year, 4 Year Public, or 4 Year Private). This will aid in the overall analysis for current and future resource planning.

SOME PARTICULARS YOU SHOULD KNOW

1. You need to create a detailed report for:
   a. Summary of overall change from 2003–2004 fiscal year (FY) to 2004–2005 FY
   b. Percentage of budget allocated to data processing services
   c. Percentage of 2 year, 4 year public, and 4 year private institutions allocating resources to data processing services
2. Develop a graphical representation of the percentage of 2 year, 4 year public, and 4 year private institutions allocating resources to data processing services
3. File: **COLORADOHIGHERED.xls** (Excel file)

CASE 14: ASSESSING A WIRELESS FUTURE

EMERGING TRENDS AND TECHNOLOGY

"Intelligent wireless handheld devices are going to explode, absolutely explode over the next several years."—Steve Ballmer, CEO, Microsoft.

Wireless, mobility, small form factor, pervasive computing, the anytime network—whatever name you choose—it's here. The price of easy-to-handle devices which provide access to a variety of applications and information is rapidly falling while the efficiencies of such devices are increasing. More and more, the business user is looking to use mobile devices to perform tasks that previously could be handled only by the desktop PC. End-user adoption is skyrocketing. The next 18 months will demonstrate a true growing period for mobile computing as the world changes to one characterized by the mobile user.

As this market sector grows, software and information companies are evolving their products and services. Wireless mobility and associated functionality provide new market opportunities for both established companies and new entrants to increase efficiency and take advantage of new revenue possibilities. The services to Internet-enabled mobile devices create a vast array of new business opportunities for companies as they develop products and services that utilize location, time, and immediate access to information in new and innovative ways.

Some of the lower profile topics that are currently being developed at this time include:

- Hard drives for wireless devices
- Global-roaming movement
- Mobile power supplies that run on next-generation fuel cells

All three could bring about significant changes in the wireless space.

You have been asked to prepare a presentation using a presentation package such as Microsoft's PowerPoint. Using the list of wireless solution providers and manufacturers provided in WIRELESS.htm, select at least two developers and create a presentation that will emphasize the following topics:

1. What are the current products or services under development?
2. What is the target market for that product or service?
3. What are the key features that product or service will bring to the wireless industry?
4. Which provider/manufacturer/developer seems to be the first to market with their product?
5. How is the wireless product or service content being delivered?
6. Are the products or services able to deploy interactive multimedia applications to any digital wireless device, on any carrier, or across any type of network?
7. Are there any new privacy concerns that are being discussed in relation to the new products or services? (These can include concerns from being able to track users' preferences, purchasing history or browsing preferences, or the capability to track a user's physical location while using a wireless device.)
8. How does this product or solution affect the global marketplace?
9. What is the current retail price for the wireless products or solutions?
10. Is current bandwidth available to the wireless industry a concern?

Your task is to weave the information you find into a coherent presentation using graphs and art where appropriate.

SOME PARTICULARS YOU SHOULD KNOW

1. Content Principles
   - Each slide should have a headline
   - Each slide should express one idea
   - Ideas should follow logically
2. Design Principles
   - Follow the "Rule of 7"—no more than 7 lines per slide and 7 words per line
   - Keep it simple
   - Keep it organized
   - Create a path for the eye
   - Divide space in an interesting way
   - Use at least 30-point type
   - Use color and graphics carefully, consistently, and for a specific purpose
   - Use high-contrast colors (black/white, deep blue/white, etc.)
3. File: **WIRELESS.htm** (html file)

CASE 15: EVALUATING THE NEXT GENERATION

DOT-COM ASPS

E-business is creating a new set of challenges not only for dot-com start-ups but also for well-established brick-and-mortar companies. Driven by the need to capture increasing shares of business online, IT managers take the first step by deciding on a commerce application. Then they face the most important decision: whether to assign implementation, deployment, and application hosting to internal IT resources or to contract for these services with an ASP.

A few years ago, no one had even heard the term *application service provider (ASP).* Now the ASP market is a certified phenomenon. In the short space of two years, the concept of leasing applications to businesses has grown to an interesting but unproven proposition in an ever-expanding industry.

You have been hired by Front Range Car Rental, a major car rental company in Colorado, to research ways to use technology to leverage more business. The company needs a Web service written which transacts reservations on its back-end mainframe system. This Web service will need to be made available to airline partners to integrate the travel booking process. When consumers book a flight, they are also given the option to reserve a car from the airline site. The rental details will need to be captured and transported to the car rental company's Web service, which processes the reservation. This new capability will help the car rental company to drive more bookings and achieve a competitive advantage in a highly commoditized market.

The major task that Front Range Car Rental needs you to research is what the cost benefits would be for in-house implementation and an ASP deployment. You have been given an analysis spreadsheet, **DOTCOMASP.xls,** with all the detailed information; however, you will need to use the Internet in order to find current price information. Another file, **DOTCOMASP_SEARCH.htm,** has been developed for you with a list of search engines that will provide you with a focal point for your research.

SOME PARTICULARS YOU SHOULD KNOW

1. All ASPs are not created equal. Here are some questions to help you identify their strengths, weaknesses, capabilities, and core competencies.

   - Does the ASP offer full life-cycle services, including proof-of-concept, installation, operations, training, support, and proactive evolution services?
   - What is the ASP's depth and breadth of technical expertise? What are the company's specialties?
   - Where and how did key technical staff obtain their expertise?
   - Does the ASP have actual customers online and if so, what results have they achieved?
   - Does the ASP offer service-level agreements and what are the penalties for SLA violations?
   - Specifically, how does the ASP's infrastructure deliver:

     High availability (uptime)?
     Assured data integrity?
     Scalability?
     Reliability?
     High performance?
     Security and access control?

   - Does the ASP offer 24 × 7 technical support to end users? Escalation procedures? High-priority problem resolution? Dedicated account managers?
   - Can the ASP provide development expertise to customize the applications?
   - How does the ASP handle updates? Adding product modules?
   - Is the ASP capable of assisting with add-on projects such as bringing a new factory online or adding a new supplier?
   - Can the ASP provide a comprehensive suite of integrated applications (versus a single application)?

2. File: **DOTCOMASP.xls** (Excel File) and **DOTCOMASP_SEARCH.htm** (html file)