

## Chapter 1

# Getting to Know Forms and Reports

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### *In This Chapter*

- ▶ Introducing forms
  - ▶ Understanding reports
  - ▶ Using forms and reports together
  - ▶ Introducing queries to your forms and reports
  - ▶ Looking for extra add-ons
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**W**ithout forms and reports, an Access database is just a jumble of hard-to-use information. But with really good forms and reports, that same database becomes both informative and a joy to use. Well-designed forms and reports make your Access databases into something that's far beyond the ordinary in utility, ease of use, and flexibility.

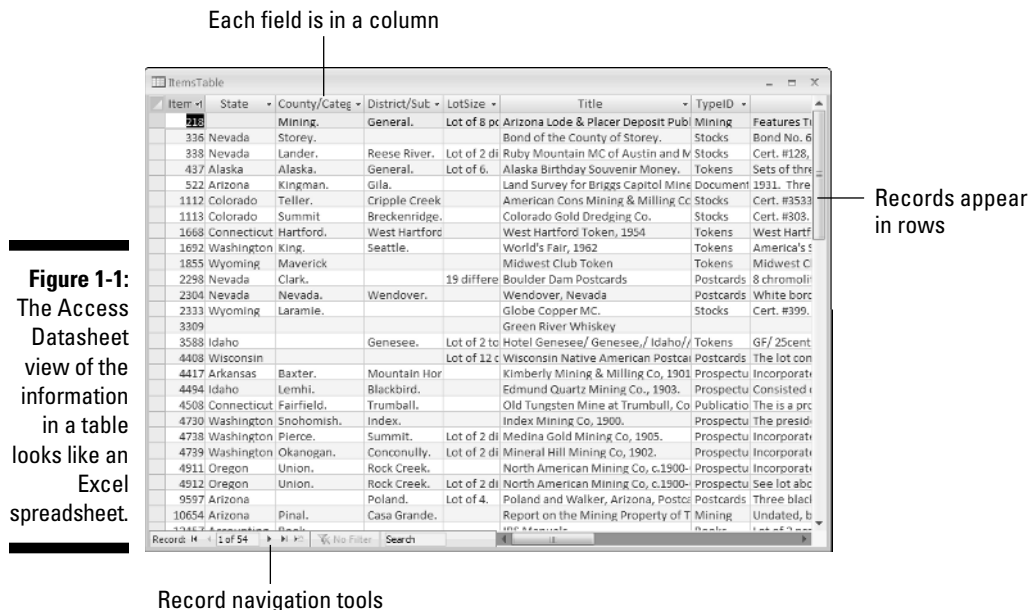
If you've been playing around with Access for a while, you have probably at least tried to create some forms and reports. Maybe some of your efforts didn't seem too bad, but you've probably had your share of frustration, too. Creating forms and reports that really do what you want them to do can be an awfully exasperating experience.

In this chapter, I show you a number of interesting things about forms, reports, and their sidekick queries so that you can see what each of them can do and why they're all important. You see how queries can greatly enhance the capabilities of forms and reports. I finish up the chapter by very briefly mentioning some really cool tools (find out even more about them in Chapter 20).

## *Finding Forms Fascinating*

In order to understand the importance of forms in an Access database, begin by looking at the alternative. Figure 1-1 shows the *Datasheet* view of a typical

Access table. (A *table* is the structure in which Access stores information in your database.) The Datasheet view looks an awful lot like an Excel worksheet. You are likely pretty familiar with this view of a database because it seems as though almost everyone's first attempt at a database is to just create a list in a spreadsheet. Welcome to the "if the only tool you have is a hammer, everything looks like a nail" club!



In Datasheet view, each record is displayed in a single row, with columns for each of the database fields. Even though this view of the data is probably pretty familiar, it isn't very convenient. For one thing, unless you're keeping track of only a little information about each item, it's really hard to see an entire record in Datasheet view because everything has to fit into one row. That means you have to scroll back and forth to see all of the fields. Depending on the length of each field, sometimes you can't even see the entire contents of a single field on-screen. And don't even think about seeing a single record wrap around and take up multiple rows — making everything fit on-screen simply is not an option.

Of course, some other factors make the Datasheet view pretty inconvenient for most purposes. Can you imagine how little fun it would be to scroll through screen after screen trying to find a specific record in Datasheet view? Now imagine that instead of finding a single record, you want to find a dozen or so related records in a table containing 10,000 or more records. It's almost enough to make you want to move to a desert island where there aren't any computers, isn't it?

Fortunately, there's a good solution at hand in the guise of *forms*. Access forms provide a much more convenient way for you to interact with your database. Learning to create great forms is certainly going to be a lot easier than packing up your stuff for that move to a desert island. The following sections give you a look at some of the ways forms can help you.

## *Streamlining data input with forms*

No database has much value until it contains information. You wouldn't be able to get any useful data from an empty database, so a very important task in creating a database is inputting your data. Sure, you might have some existing data that you can import, but even that data required input at some point.

Entering data into a table in Datasheet view really isn't much fun. You first have to open the table and then locate the record where you want to enter your data. Maybe you're adding to an existing record, or perhaps you're adding a new record right after the last existing one in the datasheet. When you've selected the correct record, you have to move the insertion point to each field in turn and type in the information. It's easy to accidentally start typing into the wrong field — especially if the table layout doesn't quite match the layout of the information you're entering (and how often do you see data on paper that doesn't match the layout of the table?).

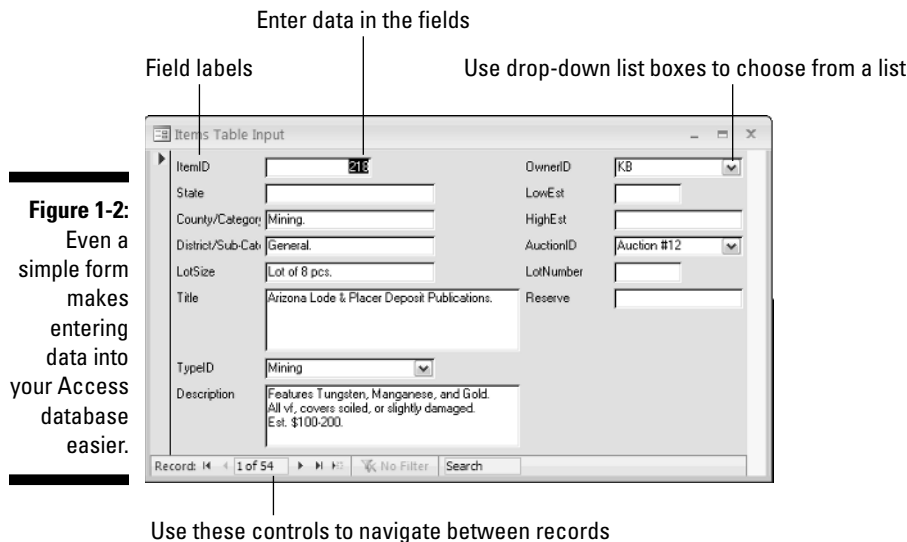
Forms can make inputting data much easier in several ways:

- ✓ **Forms typically have labels that make seeing exactly which field you're filling in far easier.**
- ✓ **Forms can have drop-down lists so that you simply choose the proper information from the list without worrying about mistyping the data.**
- ✓ **Forms are usually laid out with plenty of room to see all the fields in a record.** That makes keeping track of which record you're entering a much easier task.
- ✓ **You can easily create forms for special purposes, such as entering data in specific sets of fields.** In this case, the form might not need to include all of the fields; when you use only what you need, you end up with a simpler, less confusing form.
- ✓ **Forms don't have to be laid out using the same field order as the table.** This is an especially handy feature if you're inputting data that is laid out quite differently than your table.
- ✓ **You can set up forms to validate the data so that users can't mess up your database by entering bogus information.**

Even if some of these form features seem a little bit beyond your interests or immediate needs right now, don't worry — you'll find out about all of them and get many more great ideas in the chapters that follow.

## Entering data with the Form Wizard

Using a form to enter data into an Access database is much easier than entering data directly into a table in Datasheet view. Figure 1-2 shows a simple form you might create with the Form Wizard in Access. In this case, the form is not optimized in any way — it appears the way the wizard created it.



If you compare the form shown in Figure 1-2 with the Datasheet view shown in Figure 1-1, you can see pretty easily how much more convenient the form is for entering data. Each of the fields is clearly labeled (even if the Form Wizard didn't quite figure out the proper size for a couple of the labels). Here are a couple of ways that the Form Wizard makes entering data easier:

- ✓ **Easy movement between fields:** You can move between the fields by clicking the field you want or by pressing the Tab key. Because the fields are labeled, you can easily move to specific fields, skipping the fields you don't want to use for now.
- ✓ **Easy movement between records:** You can use the navigation controls at the bottom of the form to navigate between records. This feature is just like the navigation controls you commonly use, but with a notable exception: In forms, pressing Page Down moves you to the next record, and Page Up moves you to the previous record. In Datasheet view, Page Down and Page Up move you to a new screen page of records. (The number of records you jump depends on how many records are visible on the screen, and this can change depending on how you display the datasheet window. Don't you just love the inconsistency?)



In Datasheet view, you can use the Up-Arrow and Down-Arrow keys to move a single record at a time, but in a form, the arrow keys move the insertion point between fields.

- ✓ **Customizable drop-down lists:** Because you can modify the underlying table with *lookup fields* (fields that enable a user to select from a list of predefined values — see Chapter 17), you can ensure that the fields contain specific values that are found in related tables. For example, in Figure 1-2, the TypeID, OwnerID, and AuctionID fields can contain only specific values that are found in some related tables; the possible values for these fields appear in the drop-down lists in these boxes. Rather than typing an entry in these fields (and risking errors due to mistyping), you simply choose a value from the drop-down list.
- ✓ **Larger input areas:** To make entering longer values easier, the wizard provides larger input areas (in this case the Title and Description fields). In fact, if you type more information than can fit into the on-screen display of one of these fields, Access automatically adds a scrollbar along the right side of the field so that you can view the entire value. How's that for handy?



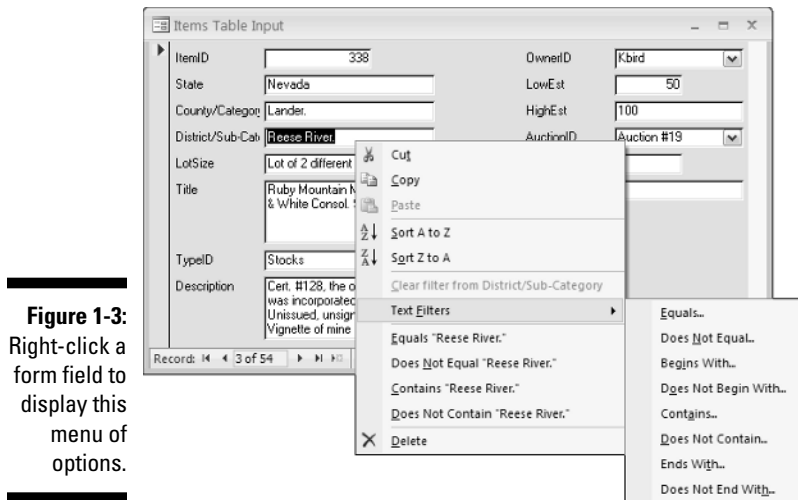
The database I use in these examples contains some features, such as lookup fields, that you might not yet be using in your Access databases. I explain all of the special features in later chapters as appropriate so that you will be able to incorporate them into your databases.

## Editing information with forms

Forms are also much handier than the Datasheet view for editing existing database information. When you're editing information, forms retain all of the advantages they offer when you're first entering data, of course, but some additional features are especially useful for editing. As Figure 1-3 shows, if you right-click a form field, Access pops up a very handy context menu that provides some really cool options.

The pop-up menu commands are extremely helpful for editing the filters.

- ✓ **Sort A to Z:** Choose this option to sort the records of a selected field in ascending alphabetical order. For example, if you originally decided to view the data shown in the State field and chose to sort the results in ascending alphabetical order, Alabama appeared first. This and the next option are best used in a secondary field after you have applied a filter (note the many filter variations that appear in the context menu) because these options won't have any effect in a filtered field.
- ✓ **Sort Z to A:** Choose this option to sort the records in descending order.
- ✓ **Text Filters:** To filter the data, select the field you want filtered and right-click. Access then proposes a set of appropriate text filters. (Other types of fields, such as number fields, will have different filters.)



**Figure 1-3:** Right-click a form field to display this menu of options.



Be sure to use the Clear Filter command (from the pop-up menu) when you finish editing records. Otherwise you may find yourself confused later when the form doesn't display all of the records that you know should be in your database.

## *Viewing data by using forms*

You can use a form when you simply want to view the data without entering new information or editing existing records. The same pop-up menu that appears when you right-click on a form field is just as handy when you simply want to view the records, too.

## *Recognizing Why Reports Rock*

Okay, so forms are great, but what about reports? The following sections look at some of the ways that you can use reports; they're well worth the effort it takes to create them.

## *Using reports to show results*

One very useful purpose for reports is to show results that aren't otherwise displayed in a table format. You can create a report to see important details at a glance. Figure 1-4 shows an example of a report that summarizes results

from an auction database created in Access. In this case, the report summarizes by state, with sum, average, minimum, and maximum results.

**Figure 1-4:**  
Access  
reports can  
include  
totals and  
other  
types of  
calculations.

Auction Summary by State	
Summary for 'State' = Alaska (2 detail records)	
Sum	\$75.00
Avg	\$75.00
Min	\$75.00
Max	\$75.00
Arizona	
Summary for 'State' = Arizona (4 detail records)	
Sum	\$136.00
Avg	\$45.33
Min	\$30.00
Max	\$75.00
Arizona Territory	
Summary for 'State' = Arizona Territory (2 detail records)	
Sum	\$500.00
Avg	\$250.00
Min	\$200.00
Max	\$300.00
Arkansas	
Summary for 'State' = Arkansas (2 detail records)	
Sum	\$181.00
Avg	\$90.50
Min	\$25.00
Max	\$155.00
California	

Figure 1-4 provides a good example of how a report can provide information that simply doesn't appear on its own in an Access table. Tables don't summarize the data from a collection of records, so unless you want to sit down with a calculator to figure out such details, you should create reports to get this kind of information from your database.

## *Using reports to present data in a professional format*

You might not need all the information Figure 1-4 includes. You might, for example, simply want a list that provides a snapshot of what's in your database. This is especially true if you want to distill complex information quickly and efficiently for your boss or client. If you just want to check things over for yourself, open a table and click the Print button (choose a small table so you won't waste paper). If you want to show off your data for others, the extra effort of creating a report makes sense for several good reasons:

- ✓ **Providing a professional layout:** Unless you're printing the data from a very small and simple table, the results of printing directly from a table's datasheet view probably won't fit the width of your paper. Good luck trying to make sense of the resulting printout!
- ✓ **Easing report navigation:** You can easily include page numbers and dates on your reports — in fact, the Access Report Wizard adds this information automatically. Keeping track of a report that has dates and

page numbers printed on it is much easier — especially if you have a limited amount of time to orally guide others through your exhaustive 100-page report.

- ✓ **Presenting data in a logical format:** You can use as much or as little room as necessary for the fields on a report to accommodate the amount of data that's in each record. Compared to the single line for each record on a printout of a table's Datasheet view, this feature alone is worth the effort.
- ✓ **Adding a title:** Including a title on a report is easy. With a title, you'll be able to figure out the purpose of the report early on a Monday morning before your first cup of coffee kicks in.

## *Using reports to show data analysis*

Of course, you can summarize data in an Access report, but that's just the tip of the iceberg in terms of the types of data analysis you can do. Here are just a few examples of some other ways you can use a report to analyze the information in an Access database:

- ✓ **Compare similar results:** You can produce a report that shows how each salesperson's results compare to the average of all of your company's representatives.
- ✓ **Compare data over time:** You can use a historical sales report to determine which ice cream flavors to stock at each of your ice cream stands.
- ✓ **Predict opportune moments:** You can use a report to show how temperature patterns affect the populations of various types of pests and use this information to predict the best time to send out flyers for your extermination business.
- ✓ **Determine the best course of action:** You can create a report that tells you whether it's worthwhile to set up a calling committee for your club's annual meeting based on an analysis of the results from several past meetings.

## *Using reports to preserve the moment*

In most cases, an Access database is constantly changing as new data is entered, existing data is edited, and old data is deleted. Sometimes, though, you may have good reasons to preserve a record of exactly how things were at a particular moment in time. Consider these possibilities:

- ✓ If you maintain the membership list for the local branch of your favorite club, you know that sometimes members can be a bit slow about renewing their memberships. I've seen instances in which members have



come back after several years away. Keeping all of the past members in the database may not always be reasonable, but having an end-of-year membership report stored away is a useful way to keep the data in case you need it again in the future.

- ✓ If you run a small business, you probably want to keep track of your exact inventory at various times of the year. A dated report of your inventory stored offsite could be extremely valuable if you ever needed to file an insurance claim after an untimely disaster or did a one-on-one with the tax man.
- ✓ If you go into business with someone else, an Access report showing exactly which items you contributed to the business could save some arguments in the event you later split up. (Sure, you both know now that the extremely rare Babe Ruth baseball card is yours, but wouldn't it be nice to be able to prove it when your former partner tries to sell it for \$10,000?)

Even if you do keep the printouts, it's also a good idea to keep backup copies of your database in case of an emergency. But be very careful that you don't accidentally overwrite your current database file with an old copy if you do need to open your old file; you can easily destroy months or even years of work if you're careless.

## *Seeing Why Both Forms and Reports Have a Place*

Forms and reports seem somewhat similar in that they both provide ways to look at data that aren't available in the datasheet view of a table. Do you really have to learn how to create both of them? Yes. Using forms and reports isn't an either/or proposition.

Even though forms and reports share some characteristics, they do have important differences, and your databases will lack a little something if you use one (and not both) of these tools.

Here's a list of things you should know about choosing reports or forms:

- ✓ **If you want to add, remove, or change data in a table, use a form.** Sure, you can filter the data that appears in a report so that it appears as though some of the data has been removed from the database, but that's not the same as actually deleting data.
- ✓ **Use reports to view data in more than one record in a more permanent format.** In general, forms display only a single record at a time. In addition, because reports typically are meant to be printed, and



they often include the date, reports provide a permanent record of the information.

It's not *strictly* true that forms can display only a single record at a time. As you find out in later chapters (such as Chapter 10), some forms that are based on multiple tables can include a section called a *subform* that can display multiple records from the second table in Datasheet view.

- ✓ **Both forms and reports depend on a table (or a query, as discussed in the next section) to provide the information that they display.** You can't create a form or a report unless you first have a table or query to use as a basis for the form or report. One important result of this fact is that Access forms and reports can exist only within an Access database file.



Access forms and reports are usually tied to an Access table (but they can also get their data from a query). When you create a form or a report, the name of the table is saved along with the form or report. If you (or someone else) delete the table, you can't open the form or report associated with it unless you have associated the form or report with a different table.

## Understanding the Value of Queries

I know, the title of this book doesn't mention *queries*, but queries are a fundamental and vital part of making your Access forms and reports really useful. Queries are nothing to be afraid of, and they might end up being your favorite part of Access!

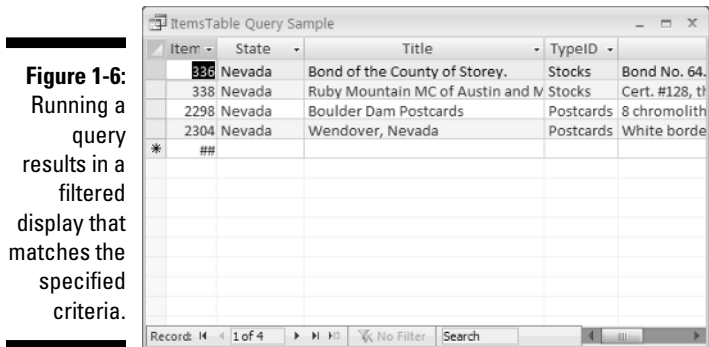
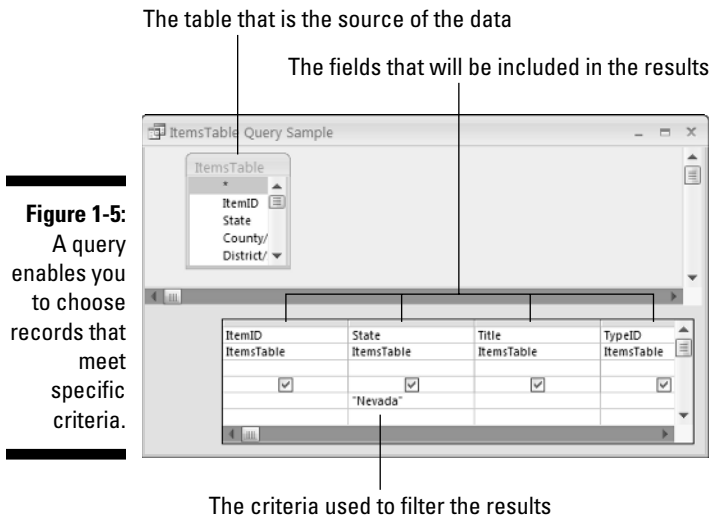
### Introducing the query concept

So just what is a query? In its simplest form, a query acts like a filter; you can use a query to choose specific information that you want to see from a table. A more complex query takes you well beyond the scope of a filter (see Chapter 5). Figure 1-5 shows an example of a basic query, known as a *select query*.

When you run a query, Access displays the results in Datasheet view, as shown in Figure 1-6. In this example, I set the criteria value in the State field to Nevada, and this is reflected in the results shown in Figure 1-6.



The query results in Figure 1-6 are shown in a Datasheet view that looks almost identical to the Datasheet view of an ordinary Access table, with only the title bar as a tip-off that this is really a query. You can, indeed, use a query as a substitute for a table as the basis for a form or a report . . . or for another query!



## Using queries to enhance forms and reports

Because you can use a query as the basis for an Access form or report, you now have a powerful tool that enables you to do otherwise impossible things with those forms and reports. Consider these possibilities:

- ✓ You can create a form that's based on a query that selects records that fall within specific date ranges. For example, say you want to follow up with customers who placed an order last year but who haven't ordered in several months. Use a query.

- ✓ You can create queries that combine data from several tables to produce information that is a composite of the information from those tables. You might want to use this data to create form letters that include new product information for products similar to those ordered in the past by specific customers.
- ✓ You can easily create a query that includes only the orders placed by a specific customer. This is a great tool if the customer wants a record of all its orders in the several months or years.

Because queries are so important, I put information about them throughout the book. In fact, Chapter 2 digs right in to give you a solid basis in queries so that, when you create forms or reports, you know what your options are.

## Queries, Forms, and Reports Basics You Need to Know

In Access, all of your data is stored in *tables*. You can create totally self-contained tables or relate multiple tables so that you can consolidate data efficiently. Databases that work from a single, self-contained table are often called *flat file* databases. Databases that include two or more related tables are called *relational* databases. Fortunately, you use the same tools in Access no matter which type of database you use.



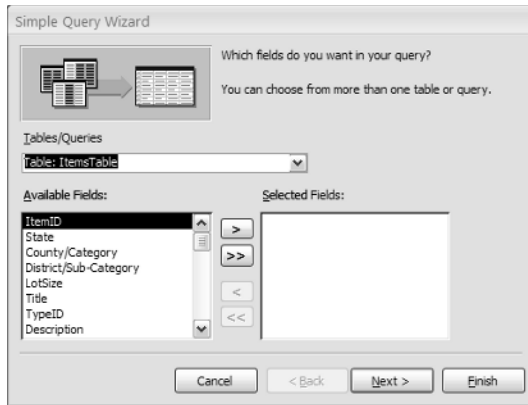
As I mention earlier in this chapter, forms and reports are based on either a table or a query. Queries can be based on tables or even on other queries — although queries based on queries can be kind of confusing to work with.

Access provides two primary methods of creating queries, forms, and reports. You can start with a wizard, as shown in Figure 1-7, or you can create the query, form, or report from scratch by using *design mode*.

Whether you start with a wizard or in design mode, you begin the process of creating a query, form, or report by choosing the table (or tables) you want to use, and then you choose which fields to include. Remember that you can also choose an existing query in place of a table.

In most cases, you can choose as many or as few fields as you like. You are likely to find that some fields in a table (or query) are simply unnecessary. For example, if you want to create a report that summarizes the values of the items in your collection, you don't need to include the field that tracks when you received each item.

**Figure 1-7:** Access has wizards like this one to help you create queries, forms, or reports.



After you select the fields you want to use, the next step depends on which task you're performing. If you're creating a query, you may want to specify criteria or a sort order. If you're creating a form or a report, specify the layout of the form or report. If you're using a wizard to create the form or report, you simply choose from a set of predefined layouts. If you're working in design mode, you need to manually place the fields where you want them.

When your query, form, or report is finished, you name and save the final layout. If necessary, you can always return to the query, form, or report in design mode to make additional changes.



It's easy to become confused when you save objects in Access. Even though you use the standard File→Save command to save queries, forms, and reports, you aren't saving those items outside of Access. The objects are all saved within the Access database file, and you can view those objects only from within Access.

## *Access Add-Ons and Extra Cool Tools*

You may not realize this, but quite a few add-ons and extras are available to help you work with Access. These tools aren't built in to Access, but they do offer an awful lot of help when you're developing an Access database. Most of these add-ons come from third-party developers, although Microsoft does offer a few, too.

Just what can you do with these add-on tools? Here's a sampling:

- ✓ **Document the various objects in your Access database** so that you can easily maintain and correct the database.
- ✓ **Compare Access databases to see how they differ.** You'll find this opportunity invaluable for databases that were created by multiple people on multiple computers.
- ✓ **Repair database corruption** so that you can recover from the problems that always seem to occur just before you plan on doing your backup.
- ✓ **Locate and correct problems that slow down your database.**
- ✓ **Create better forms** using options that you can automatically add to the forms without a bunch of programming.
- ✓ **Turn existing paper forms into electronic ones** that you can use to enter data into an Access database without having to learn a whole new way of working.
- ✓ **Share Access reports with someone who doesn't have Access installed on his or her PC.**
- ✓ **Send Access data to a PowerPoint slideshow.**

I'm certain that at least one of these possibilities has you interested. I'm sure you'll find Chapter 20 to be very useful.