# ACCESS ⟨⟨⟨⟨⟨⟨

By Patricia Cox

# Data Integrity and Efficiency

As you work with your database applications over time, they take on a life of their own. One thing leads to another, and you'll continually find ways to expand on the simple concept you began with when you created the database. If you don't, then often your boss does. You may find that the data you need is already available in another source, you're experiencing errors in data entry, or you want to maintain the database but can't make changes when others are using it.

Keep in mind:

◆ You never have to enter the same data twice.

◆ Once you have data, protect it.

◆ If someone else has the data, use it. Don't duplicate existing data in your database unless there's a very good reason for doing so.

◆ Create a structure that allows for changes.

Another good principle to keep in mind is to use existing data whenever you can. Reasons to use existing data include:

◆ It isn't that interesting to reenter data.

◆ It's easy to make a human error as
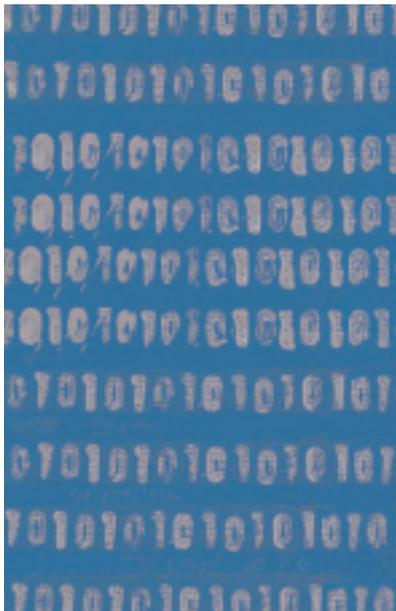
you enter data.

◆ If you have the same data in two places, the possibility of error grows exponentially.

## Prevent Errors in Entering Data

Whenever possible, create dropdown lists for entering data in forms. You can make useful tables that include lists of your commonly entered items. To do this:

1. Create a new query that includes the field you want to use for the table.

2. In Design View, click the Totals button to group the field in order. This yields a list of unique data entries for this field.

3. Change the query to a Make Table query and run it.

The resulting table will include a list of the values that were entered in the original table. To set up a combo box for entry into the original table, open the original table in Design View. Click on the field you used in the query. On the Lookup tab, select Combo Box.

See Figure 1 for an example of using a combo box with input from a table named State that contains a list of state names. This is a good way to avoid typos. When you enter data in the table, you'll be able to use a dropdown to select the state name. When you make an auto form for this table, a dropdown will be set up in the form for you to use when you enter data in the form.

## Use Existing Data Sources

In the June 2009 column, we discussed how to link to data in other Access

databases. Another thing you can do is link to existing data in other data sources, such as data warehouses. To do this, you use a tool called ODBC (Open Database Connectivity). This involves getting your technology department to set up a connection for you to directly access tables in a larger data source than you can create. Generally they will give you read-only access to the data. This is what you want them to do. It keeps you from making big mistakes that are difficult to recover from, such as inadvertently deleting data. Once you have an ODBC connection, you can link to the tables and then access them much like you do the tables you create. You won't be able to make changes in Design View or add and modify fields, but you can use the data in queries and make reports.

## Create a Front-end and Back-end Database File

Sometimes it's useful to create a front end and back end to your database structure. The back end holds the data tables, and the front end holds the queries, reports, forms, and macros to



**Figure 1. Setting up a combo box for table entry**
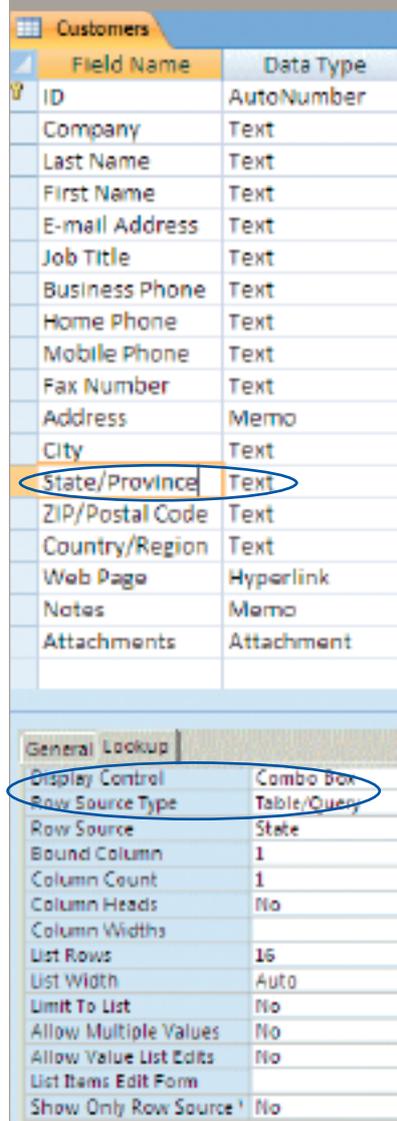
process the data. The front-end database links to the data in the back end and is the one that users access. This enables you to create changes to your database in the back end before you copy them to the front-end database where people are working. This can also be a useful structure if you have one set of data and multiple users who need different forms and reports. You can create several front ends for one back-end data source.

Starting with the August column, we will begin discussing a year-long project that will take a concrete example and build a database that applies what we have been covering in this column. Next month we'll take a look at Access 2010, which will be released soon. **SF**

*Patricia Cox has taught Excel and Access to management accounting students and other college majors and has consulted with local area businesses to create database reporting systems since 1998. She is also a member of IMA's Greater Milwaukee Chapter. To send Patricia a question to address in the Access column, e-mail her at kathrynmann@tds.net.*