

Using a spreadsheet as a database – what works, what doesn't work

Using Excel as a database – and when to move it to Access

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Spreadsheets really shine when doing “what if” analysis. Change a strategic number and the results ripple throughout the sheet. For example, you could very quickly look at different results in monthly mortgage payments by changing the mortgage rate or the number of months the payments will be spread over.

However, a spreadsheet works well as a database only up to a point. This article is intended to help you determine whether you have reached the point where moving from an Excel spreadsheet to an Access database would be to your advantage.

First let's discuss what type of database could work well in Excel. A simple name and address list is an example. It would be best if the fields (columns) were somewhat discrete. Separation of last and first names and city, state, and zip codes into separate columns rather than combining them for address line labels is the better way of setting it up. (There is, by the way, code available that will parse combined fields out to separate columns.) The database features in Excel work best if you have a header row containing the field name at the top of each column.

Excel provides an automatic form which makes it easier to look at just one record or row of the database. Choose 'Form' from the 'Data' menu and it will pop up. The width of the fields for this form seems to depend on the width of the widest column. So, try changing your column widths if the fields are too wide or narrow.

Excel provides an easy way of filtering out records – such as choosing just records for a particular city or state – provided, of course, that the city and state are in their own discrete columns. Choose 'Filter' from the 'Data' menu, then select 'AutoFilter.' A dropdown box will appear next to each field name. Click on it and you will see one instance of each different entry for that column. Choosing from that list will limit what shows on the screen to just records with that entry.

You can also sort records by choosing 'Sort' from the 'Data' menu and, there are some more advanced options, such as data validation available, from this menu as well. However, there is no report mechanism for producing mailing labels from this list. You would need to do that by merging the data in a Word document.

Databases needs are frequently not as simple as our address list example, and can start to get convoluted pretty fast if we try to do much more than the uncomplicated database functions we have described so far.

Consider moving your database into Access or creating it there if your needs include:

- Screen forms arranged in a particular way, or that do not show all fields
- Keeping your data consistent in particular fields
- A “bulletproof” application for routine entry by unskilled workers
- Linked tables to avoid data redundancy
- More than one person using the data at the same time
- Keeping old data for future reference

Avoiding data redundancy is probably the biggest reason for using Access instead of Excel. We have used an invoicing system as an example of how to avoid this problem in our article *Four Mistakes that Beginners Make with Access*. Simply stated, if your data needs include a one-to-many relationship such as one customer, many invoices, or one invoice, many line items, then a spreadsheet simply will not do the job for you.

Spreadsheets are much more “in your face” than are databases. They are straightforward in showing exactly what you have. That works well in a simple situation, but not beyond that. If yours is more involved than the simple example we have used here, you should consider getting expert advice regarding the design of your basic database structure before spending a lot of time trying to make it work. Getting it right upfront will save you a huge amount of time and effort further down the line as your database grows and develops.

The spreadsheet was a revolutionary tool back in the 1980s. It was a quiet revolution. PCs were brought into business offices through the back door by accountants and bookkeepers because they eliminated a lot of drudge work.

At a time when I was a PC support person in a nontraditional systems department (in about 1983) I recall that I all but dragged a man from accounting down the hall to see a demonstration of how a spreadsheet works on a PC. He reluctantly left his work, which consisted mostly of using a calculator to add up the numbers in the rows and columns on paper ledgers, and then filling in the answers with a pencil. He and I were the last to arrive at the demonstration, and so we stood at the back of a small group of people that were seated in front of a PC.

The demonstration began, and we watched the totals automatically change on the screen when a number in one of the cells was changed. The man immediately turned to me and asked, “What do I have to do to get one of these.” It was like magic to him and as soon as he got a PC, his work life was drastically changed.

Like a kid with a hammer wanting to use it even where a screwdriver would be a more effective tool, spreadsheets soon became a multipurpose office tool. In addition to doing the spreadsheet “what if” analysis, they were used as word processors and primitive databases. Today, many people continue to use Excel as a database even though it would be more appropriate to for the data to be in Access.

The moral of the story is – be sure the tool you are using is appropriate for the job to be done.