

Columns Within Columns in Reports

TOM MARCELLUS

Got too many fields to fit comfortably in a standard columnar report? Try this derived column technique that groups your fields and really packs in the data.



Application in
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October 1998

Volume 9, Number 10

DURING the Q&A Masters Seminar and National Q&A User Group's Bash last month, I worked with a number of attendees to find answers to their nagging Q&A questions. In upcoming issues, I'll revisit some of these challenges and show you the solutions that got these attendees the results they needed.

In this first installment, I'll take the case of a Q&A user who needed specially-formatted report output. I won't use his particular database and report design here because these were unique to his business. Instead, I'll illustrate the successful techniques using a more generic database.

Let's just say the database includes 13 fields in a columnar report. Now normally, 13 fields means 13 report columns. But in this case there was no way to make the data from all of them fit in a row across the page (even in landscape mode with a tiny 16.6 cpi line printer font). Ideally, he wanted the data grouped in three columns — three lines per column — like the report shown in Figure 1.

Here are the 13 fields we needed to print in three report rows per record:

```
First name, Last name, Title (job title), Company
Address1
Address2
City, State, Zip
Phone number, Extension
Fax number
Email address
```

**Vital Q&A how-to volumes
thought to be extinct are
available again! See page 13**

Because none of the data in any of these fields exceeded 30 characters, I could setup three 30-character columns with a space between each one. And since a Courier 12 monospace font can print 96 characters in eight

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Figure 1. A 13-field columnar report that groups the data in logical blocks. This format packs a lot of data in a relatively small space and prints about 12 records on a normal page.

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inches (12 x 8 = 96), I could safely print the three-column, three-row format you see in Figure 1. For each record, we wanted the person's name, title, and company to print in the leftmost block, followed by the address in the second block, and finally the phone, fax and email address in the last block.

Using these starting parameters, I'll show you two different ways to get the report you see in Figure 1. Both can be done in Q&A 4.0 and 5.0.

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Masters Seminar & Bash a Blast

TOM MARCELLUS

WE all had a great time at the '98 Q&A Masters Seminar and User Group Bash last month in Washington, D.C. A good crowd was on hand (even bigger than last year) and the weekend flew by so fast that suddenly it was Sunday night and time to head home!

If you attended either or both events, please know that your presence was very much appreciated. Your support of these events allows us to meet face to face and share our tips, tricks, and application ideas. Andreas Goebel, the young German who engineered Q&A 5.0, told the group that Q&A events like these just don't happen in Europe, although there are upwards of 10,000 Q&A (F&A) users in Germany alone. Would you believe we discussed holding next year's Masters Seminar and Bash in London! Of course, Alec Mulvey, the U.K.'s resident Q&A Master, was jumping for joy at the thought of it.

Saturday night, about 20 of us trucked out to Mike Bell's new spread deep in the D.C. 'burbs for some terrific chow. He's got enough room *in his basement* for a Bash. Hey — there's a thought!

All in all, it was good to see so many familiar faces and renew old acquaintances. And it was encouraging to talk to so many developers who are still in great demand designing and installing Q&A applications for their clients or companies. ("That's right, Mr. Jones, I can do the application for you in Q&A for \$300 or in Microsoft Access for \$3,000.")

Though we intended to videotape the presentations, the outfit we hired for the job turned out at the last minute not to have the right gizmos for the type of direct monitor-to-Super VHS recording we were after. More's the pity because the presentations were outstanding, even though most of them will appear in *The Quick Answer* in some abridged form or other in the coming months.

But after repeated requests, we did agree to make available some powerful Q&A material that's been lost now for too many years. I'm talking about the highly-acclaimed **Q&A Focus Series** published following the release of Q&A 4.0 in 1992. For more on these magnificent and useful volumes, see page 7 or log onto www.quickanswer.com.

The
Quick
Answer™

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The Quick Answer (ISSN 1052-3820) is published monthly (12 times per year) by Marble Publications, Inc., 1927A Harbor Blvd., Costa Mesa, CA 92627 USA

Cost of domestic subscriptions: 12 issues, \$89; Outside the U.S., \$109; Online edition, \$59. Single copy price: \$11; outside the U.S., \$12.50. All funds must be in U.S. currency. Back issues are available upon request, for the same price as a single copy.

Postage paid at Costa Mesa, CA. **POSTMASTER: Send address changes to The Quick Answer, 1927A Harbor Blvd., Costa Mesa, CA 92627.**

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Quick
Tip

Print First Page Only DOS

When you print a multi-page database record directly from screen with F2 / F10, Q&A

doesn't give you a way to print just the first few screens. Suppose your form has three screen pages you *want* to print, and one or more back pages containing programming or supplementary data you *don't* want to print.

To make Q&A print just the first three screen pages on one sheet of paper, use a macro like this for an HP LaserJet or DeskJet printer:

```
<begdef><altp><f2><dn><dn>m<dn><dn><capsf4>  
27,38,108,49,72<f10><enter><esc><enddef>
```

This Alt-P macro sets the Type of Paper Feed to *Manual*, then contradicts it with a printer control code that tells the printer to feed the paper from the cassette tray. This way, you don't have to manually feed the sheet. The macro escapes after printing the page, returning you to the record.

If you're not using an HP printer, yours should support a decimal control code you can use to get the same result. Check your printer manual or contact its manufacturer. (You probably won't need the printer control code if printing to a dot-matrix printer.)

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Technique 1

For both reports, all 13 fields were made invisible at the Column/Sort Spec. (See Figure 2.)

The first report required just three derived columns:

```
Heading: 30!
Formula: #10 + ", " + #5 + @Txt(30," ")#15 +
        @Txt(30," ")#20
Column Spec: 70,AS,HS(\ )

Heading: 30!
Formula: #25+@Txt(30," ")#30 +@Txt(30," ")#35 +
        ", "+#40+" "+#45
Column Spec: 75,HS(\ )

Heading: 30!
Formula: "Vox "+#50+" Ext "+#55+@Txt(30," ")+"Fax "+#60
        + @Txt(30," ")#65
Column Spec: 80,HS(\ )
```

Fortunately, I was able to squeeze all the formulas in the limited space Q&A 4.0 for DOS allows in derived columns. (In Q&A 5.0, you can expand derived column formula fields to enter far lengthier expressions.)

Here's how the three derived columns work:

The first one tells Q&A to do this: (1) Print the last name, a comma and space, then the first name, then (2) wrap the column and print the title, then (3) wrap the column again and print the company. This column sorts on the last name.

The @Text function adds 30 spaces (*padding*) after each field, forcing the subsequent field to wrap to the next line within the column because the heading fixes the column width at 30 characters. (If your columns were fixed at 40 spaces, for example, you'd have @Text add 40 spaces.)

Q&A will recognize space-padding *following* a column entry, but will remove any spaces at the *beginning* of a column. In other words, wrapped spaces that wind up at the *beginning* of a column are removed, allowing the field to print left-aligned. Using this technique, you can control what prints on each line within a column.

The middle (second) derived column prints the Address1 field, followed on the next line by the Address2 field, then finally the City, State, and Zip fields. Note that the last three fields – City (#35), State (#40), and Zip (#45) – don't require any padding because they print on the last line of that particular block.

The third derived column prints the phone number (#50) and extension (#55) on the first line, the fax number (#60) on the second line, and finally the email address (#65) on the third and final line. Again, the @Text functions add the space padding to force the lines to wrap within the 30 character column, preventing the subsequent line from being pulled up to the current line. Notice the added descriptive text – *Vox* (voice), *Ext*, and *Fax* – to identify what's what in this final column.

Column headings are suppressed with the 30! command, as are the usual dashed separator lines, courtesy of the H(\) command. (\ space.)

Just keep in mind that you need a monospace font for a report like this. Also, with 30-character columns, any included field whose content *exceeds* 30 characters is going to wrap and thus spoil this neat, readable layout. One way to check for this in advance is to run a database search on the pertinent fields using a retrieval expression like this:

```
{ @Len(FName) + @Len(LName) > 28 or @Len(Title) > 30 or
  @Len(Company) > 30 or @Len(Address1) > 30 }
```

Include in the expression all the fields (or combinations, such as the first and last name plus two characters) that could exceed the 30-character column width. If you find any, you might be able to abbreviate them a bit without sacrificing anything.

If you don't mind printing in a smaller font such as 16.6 cpi LaserJet Line Printer, then you'll have enough space for about 132 characters across the page in Portrait mode, or 44 characters per column (assuming three columns). Using the same font in Landscape mode, you'll have room for about 166 characters per line, or 54 per column. So you do have some flexibility here.

By the way, to get a blank line between each record, set your Report Global Format Options to *skip a line* when there's a break on a sorted value. In this case, the sorted value is the last name, but notice that the blank line doesn't appear until after the entire record has printed.

The Define Page for this report is shown in Figure 3. The line drawn on Header line 2 is made with a string of ASCII 196 characters. (Press and hold the Alt key while typing 196 on the numeric keypad.)

Figure 2. The Column/Sort Spec.

Figure 3. The Define Page screen for this report.

Technique 2

Now there's another technique you can use to get essentially the same report, but without pulling up the subsequent line in a column to fill a blank column line. You can see what I mean by looking at the middle column of the last record of the Figure 1 report. Here, the Address2 field in the record is blank, so the City, State, and Zip line are pulled up to fill the void.

With the technique I'll show you next, any blank field will remain blank in its corresponding report column. You might need this. This second report is more complex, though, because it does something else—it prints the report as one large column. And to do this, it must calculate the length of every field value, and pad each corresponding column entry with a *variable* number of spaces to wind up at exactly 30.

This report's Column/Sort Spec and Define Page are identical to the earlier report. The only difference are the derived columns—there are more of them, and they're all invisible except the last one. Here they are:

Heading: 30: Last name, comma, and first name
 Formula: #10+", " + #5 + @Txt(30-(@Len(#10)+@Len(#5)+2)," ")
 Column Spec: 70,I

Heading: 30: Address line 1
 Formula: #25+@Txt(30-@Len(#25)," ")
 Column Spec: 75,I

Heading: 30: Phone number
 Formula: "Vox "+#50+" "+Ext "+#55+@Txt(30-(@Len(#50)+@Len(#55)+8)," ")
 Column Spec: 80,I

Heading: 30: Person's title
 Formula: #15+@Txt(30-@Len(#15)," ")
 Column Spec: 85,I

Heading: 30: Address line 2
 Formula: #30+@Txt(30-@Len(#30)," ")
 Column Spec: 90,I

Heading: 30: Fax number
 Formula: "Fax "+#60+@Txt(30-(@Len(#60)+4)," ")
 Column Spec: 95,I

Heading: 30: Company
 Formula: #20+@Txt(30-@Len(#20)," ")
 Column Spec: 100,I

Heading: 30: City, State, Zip
 Formula: #35+" "+#40+" "+#45+@Txt(30-(@Len(#35)+@Len(#40)+@Len(#45)+2)," ")
 Column Spec: 105,I

Heading: 30: Email address
 Formula: #65
 Column Spec: 110,I

Heading: !-Paid Attendees-
 Formula: #70+#75+#80+#85+#90+#95+#100+#105+#110
 Column Spec: 120,AS,HS(\)

This report's claim to fame is the way it first calculates all three lines in what I'll call three *pseudo-columns* (including the number of padding spaces needed) before printing them all perfectly aligned within the single pagewide column. The difference is that here you have to be *exact* because too much padding will push the adjacent pseudo-column over to the right by a variable amount and you'll wind up with a dog's breakfast.

To get an idea of how this works, take a look at the first derived column. It contains *three* elements—the LName field, a comma and space, then the FName field. To make this "string" occupy *exactly* 30 character spaces in the report, the following formula is used:

```
#10 +", " + #5 + @Txt(30-(@Len(#10)+@Len(#5)+2), " ")
```

After the last name, comma, space and first name, the balance of the column entry is padded with spaces. The number of spaces needed is calculated by adding the lengths of the two values (using @Len), adding 2 for the comma and space, then subtracting the result from the fixed column width of 30. The result is an entry that occupies exactly 30 characters.

Now check out the *sequence* of the derived columns. The first one (name), second one (Address1) and third one (Phone) print in the first row across the entire page. The fourth, fifth, and sixth derived columns print in the second row, and the seventh, eighth and ninth derived columns print in the third row. They don't really print, though, since they're invisible. What you're doing in these derived columns is *formatting* them to print within the large pagewide column defined in the final derived column.

Either report will work in Q&A 4.0 or 5.0, and should work in Q&A for Windows as well, though in Q&A for Windows you could probably use a Freeform report to get the same result.

Of course you could do either report in two columns instead of three, simply by revising your derived columns. And you have other options, such as printing in Landscape mode on 8 1/2 x 11-inch or 8 1/2 x 14-inch paper. (See Table 1.)

With Q&A 5.0 you have even more options because, as I pointed out earlier, your column formulas can be far lengthier.

Portrait 8 1/2 x 11	1 Col	2 Cols	3 Cols	4 Cols
Courier 10	80	39	25	19
Courier 12	96	47	30	23
Line Printer	132	65	43	32

Landscape 8 1/2 x 11	1 Col	2 Cols	3 Cols	4 Cols
Courier 10	100	49	32	24
Courier 12	120	59	39	29
Line Printer	166	82	54	40

Landscape 8 1/2 x 14	1 Col	2 Cols	3 Cols	4 Cols
Courier 10	130	64	42	31
Courier 12	156	77	51	38
Line Printer	215	106	70	52

Table 1. Approximate column widths using various monospace fonts. Assumes all columns are the same width, with one space between columns. Allows for left and right page margins.

Tom Marcellus is the editor of *The Quick Answer*.

The Q&A 4.0 database (WRAP.DTF) included in the download file for Online Edition subscribers contains both reports.

XPosting On Networks

BILL HALPERN

Are you running XPosts in a multi-user environment? Do you wait forever for your XPosts to finish? Does the mere thought of database corruption send shivers down your spine?



ALTHOUGH Q&A 5.0's XPost held much promise, results in some cases have been less than stunning. For example, XPosting over a network to a database with more than one design "generation" can irreparably damage it over a relatively short period of time—and the damage might not be apparent until it's too late. (For more on database "generations," and what to do about them, see October 1996, p.13, January 1997, p. 13, and July 1998, p. 9. Also visit www.johntndow.com for information on the DTFDOCTR utility.)

What's more, XPost's speed can leave much to be desired. XPosting just 10 fields over a network can take as much as half a minute.

Another problem is that although XPosting to a target record *in use* will generate an error message, it's not self-correcting. The data will never be posted unless you re-execute the post. (For a workaround, see "Track Failed XPosts With a Posting Error Log" in the April 1997 issue.)

If you suffer from any of these posting problems, you might want to consider a workaround we implemented for one of our clients running Q&A on a network. In effect, you can avoid the drawbacks of XPosting on a network by using @Macro and @Xlookups to perform a fully automated, *real-time* (as opposed to Q&A 4.0-style Batch Posting) pseudo-XPost.

Below is a sample program the client originally used. Based on a user selection and the contents of the current record's fields, the routine posted six or 12 fields to a master record database. Both databases were stored on a network server. With 1,000 records in the Results.dtf (*post from*) database, and 7,500 records in the master Jobs.dtf (*post to*) database, the operation would take as long as 30-40 seconds (for the six-field XPost) on a Pentium 166Mhz local PC. It was unbearable.

Here's the client's original XPost program in the Results database:

```
>#999:
If #999 = "Y" and @Instr(#375, "Clear") > 0 Then {
Post1 = "Results:";
  Xpost("Jobs", #370, "X#20", Post1, "X#490");
  Xpost("Jobs", #370, "X#20", #6, "X#1020");
  Xpost("Jobs", #370, "X#20", #7, "X#1030");
  Xpost("Jobs", #370, "X#20", #6, "X#1000");
  Xpost("Jobs", #370, "X#20", #7, "X#1010");
  Xpost("Jobs", #370, "X#20", #375, "X#491");
Post1 = ""; #999 = "N"; Goto #376};
If #999="Y" and #375="Average" Then {
Post1 = "Results:";
```

```
Xpost("Jobs", #370, "X#20", Post1, "X#490");
Xpost("Jobs", #370, "X#20", #375, "X#491");
Xpost("Jobs", #370, "X#20", #355, "X#492");
Xpost("Jobs", #370, "X#20", #350, "X#495");
Xpost("Jobs", #370, "X#20", #325, "X#493");
Xpost("Jobs", #370, "X#20", #322, "X#496");
Xpost("Jobs", #370, "X#20", #335, "X#494");
Xpost("Jobs", #370, "X#20", #332, "X#497");
Xpost("Jobs", #370, "X#20", #6, "X#1020");
Xpost("Jobs", #370, "X#20", #7, "X#1030");
Xpost("Jobs", #370, "X#20", #6, "X#1000");
Xpost("Jobs", #370, "X#20", #7, "X#1010");
Post1 = ""; #999 = "N"; Goto #376}; Goto #376
```

Following is the Print-and-Post replacement program we implemented in Results.dtf to work around the XPost routine:

```
>#999:
If #375 <> "" and #999 = "Y"
  Then {Us1("Do You Want To_";1 Print Results;
2 Print&Post Report;3 Post Only;4 Neither", #999)};
If #999 = "_Do You Want To_" Then {#999 = "Y";
Goto #999};
If #999 = "1 Print Results" Then {#999 = "Y"; Post1 = "";
Goto #370};
  Rem("Print-Post Routine");
If #999 = "2 Print&Post Report" Then {
  #999= "Y"; Post1 = "Results";
@Macro("Post From Results");
If #999="3 Post Only" Then {Post1 = "Results"; #999=""};
@Macro("Post Results Only");
If #999 = "4 Neither" Then {#999 = ""; Goto #370}
```

The secrets here are the two conditional @Macro commands. If the user elects to print and post, or post only, the pertinent macro copies the job number to the clipboard, saves the record, gets the appropriate master job record, executes the @XLookups to retrieve the data that was previously XPosted, saves the master record, then returns to the starting record and field. All this takes less than nine seconds on the same network and PC. That's 66% faster—and there are no "database generations" issues to worry about.

Here's the program that gets executed in the *post-to* database:

```
<#20:Rem("Substitute for Results XPost");
If (@Lt(#460, 5) = "Radon" or @Lt(#460, 4) = "Term")
and @Update and @Xlu("Results", #20, "X#370", "X#370") = #20
  Then {
  #490 = @Xlu("Results", #20, "X#370", "post1");
  #491 = @Xlu("Results", #20, "X#370", "X#375");
  #492 = @Xlu("Results", #20, "X#370", "X#355");
  #493 = @Xlu("Results", #20, "X#370", "X#325");
  #494 = @Xlu("Results", #20, "X#370", "X#335");
```

Continues on page 12



EDITED BY GORDON MEIGS
AND WILLIAM HALPERN



Product Code Scanning

I have a client in the window air conditioning business. When he receives a shipment, he would like to use a laptop computer and hand scanner to scan in the model and serial numbers from the codes on the cartons. Is there a way to do this with Q&A? If not, what would you recommend for scanning hardware and software that could be used to scan these, probably into a word processor, where the data could easily be arranged into a delimited format for subsequent import into an inventory type database. (I'm thinking here of the routine shown in *The Q&A Bible* to compile billing statements using a Write ASCII file.) I'd appreciate any ideas you might have.

Bob Brandt via the Internet

The answer depends on what you mean by "codes." If you're referring to commercial product bar codes then, in addition to a hand-held scanning device, you'll need specialized software to convert the bar codes to ASCII character-formatted model and serial numbers. If the model and serial numbers are printed on the cartons in ASCII characters, then obviously no bar code conversion is needed. Either way, chances are Q&A can handle the scanning results directly, though the process would probably be easier if the source data is barcode format and you're using one of the currently available barcode scanners.

What you need to do is set up a database where the first fields are designed to contain the scanning results, then program your scanning device (almost all the good ones are programmable) to send a carriage return or tab following each scan. This way, you can open your database record, move to the appropriate field, then activate your scanner. (You might want to try a trigger-activated scanner for better control.) Voila! — the information is in the Q&A record.

The important thing is to use a scanner that can output (send to your database) ASCII text. We have a client that logs members into their health club by having

them pass their membership cards through a card slot reader which automatically enters the data into the visit log. Another client we have logs in and tracks pieces of equipment to be calibrated from the barcode printed on each piece. Both of these Q&A systems handle more than 500 entries per day with absolutely no manual data input.

Using the Speedfix Patch



I have a question regarding Speedfix for Q&A 5.0. From what I understand, its executable (Speedfix.exe) can be run only in Windows 95. The problem is, we run Q&A strictly in DOS on a Novell network. So, I copied the QA1.EXE file to a new directory on my F:\ drive, copied Speedfix.exe to that same directory then, with Windows running, ran Speedfix.exe to update the QA1.EXE file. My question is, can I now feel safe in copying QA1.EXE back to the original \QA directory? What does this patch actually modify?

Andrew Aronson via the Internet

You're correct in that Speedfix.exe can only be run in Windows 95/98 or NT. QA1.EXE, the main Q&A program file, is the only file the patch touches. Speedfix simply changes the timing sequence in QA1.EXE so that it isn't outpaced by a fast processor. Once you've applied the patch to your QA1.EXE file, you can then safely copy that file to any Q&A program files directory, where it will make Q&A running from that directory processor-speed insensitive. (At this point, Q&A 5.0 no longer needs Speedfix.exe regardless of the operating system.) Our tests show no post-Speedfix degradation of any kind in Q&A's performance. We're currently using Speedfix'd versions of Q&A on both Novell and Windows 95 networks. Works like a charm.

ASCII Export Challenge

Does anyone know how to export a file to Standard ASCII from a Q&A database?—with a catch, though. The data (more than 10 megabytes worth) contains commas,



Stumped?

Send your Q&A questions to @Help, The Quick Answer, Marble Publications, Inc., 1927A Harbor Blvd, Costa Mesa, CA 92627 or email to mailbox@quickanswer.com. Include your name, address, phone, and your Q&A version number (and whether DOS or Windows) and a detailed description of the problem. We'll publish those questions we feel are of general reader interest; individual responses aren't possible.

semicolons, tabs, even carriage returns, so I can't use any of the built-in options Q&A provides. What's more, after subjecting myself to the laborious process of going through the data and changing every delimiter to the pipe character (|), I found that where there should have been only 52 fields, there were now 95. Any help on either of these issues would be greatly appreciated.

Brent Bernstein via the Internet

If the commas or semicolons occur only in your text fields, then you don't have any real problem. Why? Because the Quotes around text option at Q&A's export ASCII Options screen gives you, in effect, an auxiliary delimiter. In other words, exported text values are separated (delimited) by a comma, semicolon, or other character, and further delimited by the quote marks around them. This way, Q&A can recognize and handle any text values that themselves contain quotes or commas. The only requirement is that your target program (the one you'll import the file into) must be able to handle a file containing comma delimited, quotes-around-text data. This is a standard import format, though, and if your target program can import data at all, chances are it supports this format.

If you include in the export non-text fields that contain these characters (such as numbers formatted with commas), don't worry. Q&A will strip out the commas when exporting the field. Q&A will even take care of putting quotes around dates if you select the date format that includes commas. Make a copy of your database and try it. You should be pleasantly surprised. If all else fails, redesign a copy of the database, change the format of all the exportable fields to text, then rerun the export.

Custom Menu Misbehaving

DOS

Is there an issue of *The Quick Answer* that deals with creating custom menu systems, particularly as they relate to the problem of trying to print consecutive labels from the same menu? I have a label-printing macro that runs from a custom menu. I'm convinced I've set up everything correctly, but when consecutive labels are printed from the menu, the second label fails to print due to corruption appearing in the label setup.

Ted Lewis via the Internet

Without more specifics, we can't really tell what's happening with your labels. One of the bugs in custom menus can appear when you start a procedure (invoke a macro) from a custom menu, and the macro ends at a Q&A screen other than the one over which the custom menu was originally superimposed. Q&A won't run the next macro properly, even with Menu Returns set to Yes in the custom menu design. It can be a very tricky problem to troubleshoot. The corruption in the label spec is probably caused by the macro's input because the second

macro was started at the wrong screen and is dumping its keystrokes into the label spec. Without a detailed look at the menu and macros, though, try pressing Esc a bunch of times after the first label is printed, then run the second label's macro to see if it prints the label correctly.

In 1992, just after Q&A 4.0 was released, we wrote a 58-page manual on custom menus that was sold by *The Quick Answer's* publisher. Marble Publications, *The Quick Answer's* current publisher, might still have copies available. (See the Resources sidebar.)

You can also check the Topic Index at *The Quick Answer's* Web site (www.quickanswer.com) for back issues of the newsletter containing tips, articles, and @Help column questions and answers on custom menus. As I recall, several tips appeared in the newsletter that dealt with custom menu glitches such as the one you might be experiencing. (A search for "Custom Menu" should produce good results.) As we understand it, all back issues of *The Quick Answer* are still available for purchase.

Bill Halpern and Gordon Meigs own Professional Computer Technology Associates (PCTA) in Newtown, Pennsylvania. PCTA specializes in data management and supporting systems and services. 215-598-8440, 71023.356@compuserve.com

Resources—

The following large-format (8 ½ x 11) *Quick Answer Focus Series* booklets were published after the release of Q&A 4.0 for the new version. The information in them applies to Q&A 5.0 as well:

- *Q&A Custom Menu Systems* by William Halpern, 58 pp.
- *Programming in Q&A* by Phoebe Spinrad, 66 pp.
- *Q&A Reports* by Gordon Meigs, 74 pp.
- *Q&A and Your Printer* by Gina Novelle, 48 pp.
- *Q&A Database Form Design* by David Dvorin, 55 pp.
- *Q&A Billing Statements and Receivables* by Tom Marcellus, 68 pp.

This comprehensive, illustrated *how-to* series (369 pages in all) was designed for Q&A users at all levels. The booklets contain much Q&A material found nowhere else. (And no Q&A reference library is complete without them.) A few copies of the original editions are still available. When gone, high-quality digital copies will be supplied. Postpaid prices are **\$30** each, **\$75** for three or more, or **\$125** for the set of six reports. (Add \$3 per book if outside the U.S.) If paying by chargecard (VISA, M/C or AMX), you can fax your order to **949-722-9127** or email it to mailbox@quickanswer.com.

—More details at www.quickanswer.com—

When XUserselect Lists Aren't Enough

GORDON MEIGS



Are those 19-character pick-lists proving too scrawny for data entry? Now you can beef 'em up.

DOS
WIN

QA 5.0's external database selection list commands allow relational-like lookups to other databases. A typical use of these commands is to display an alphabetical list of customers by name from a customer database when entering a new order in an orders file.

A problem with these pop-up lists, though, is that they show only up to 19 characters of the names (or other values), which often just isn't enough to choose the right customer. Another problem is that each name Q&A includes on the list must be unique within the first 16 characters. If two or more names *aren't* unique through 16 characters, only one will appear on the list.

Take, for instance, the list of store names on the pick-list in Figure 1. There are actually seven *Allen's Druggtown* pharmacies in the external customer database, but only one appears on the list. So this list is useless. "Well, then," you might say. "Why not take the first 10 characters of the store name, and tack on (concatenate) its unique six-digit account number so you'll have a guaranteed unique 'key index' for the pick-list?"

Though that helps—and in some cases *can* provide enough information to make selection possible—in this case such a technique would produce a pick-list like the one in Figure 2. Unless the user can connect the account number with the right *Allen's Druggtown* location, the odds are seven-in-eight that he will pick the *wrong* pharmacy. What's more, this technique requires an extra field in the external database (for the store/acct# combination), and *still* makes Allen's Drug indistinguishable from the group

of Allen's Druggtowns.

For conditions like this, what you need is a pick-list that displays more information on each customer—enough to distinguish between the various Allen's Druggtown locations. In this case, the street address and city would be very helpful. But how do you get this kind of extended information on an auto-displayed pick-list?

Doing it the old way

Over the years in *The Quick Answer* we've seen various pick-list techniques. Log on to www.quickanswer.com and check the Topical Index under "pick lists." You'll find a number of entries. These lists, however, tend to be "static"—that is, you do something like run a macro every so often that prints, say, your alphabetically-grouped customer lists to a series of disk files. Then, during data entry, you invoke another macro that inserts the appropriate list (disk file) into an expanded field, then make your selection. But this kind of static data can become outdated fast; the pick-list for the order you're entering on Thursday won't show the new customer added earlier in the day if the lists were last updated yesterday. Often, static pick-lists won't do. You need a "live," dynamic pick-list—one that reflects the data in the external database as of *right now*.

Here's where John Dow's DTFDATA comes into play. The utility lets you extract data from any Q&A database (4.0, 4.0 for Windows, or 5.0) in a variety of user-customizable formats and in *real-time*. It even lets you extract data from a Q&A database without having a copy of Q&A, as long as the database isn't password protected, in which case you'll need a User ID and Password.

DTFDATA comes with documentation and demonstration files, including a detailed example of how to create a "live" 78-character-wide pick-list in Q&A 5.0.

What makes it tick?

How does DTFDATA work? As with an XUserselectR statement, you have the user type in a few characters of the customer's name, then press Enter or Tab. This executes an @Shell batch file command that runs DTFDATA with a *specification file* that says which fields to display, in what order, and how to output them to a temporary file. Your Q&A 5.0 program then inserts this file into the expanded field editor and displays instructions to place the cursor on the customer you want, and

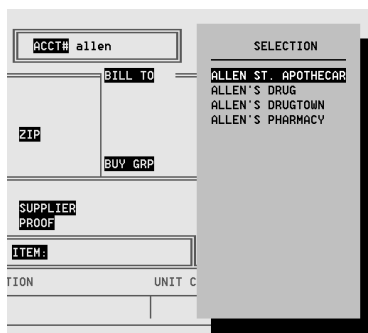


Figure 1. An XUserselectR pick-list of an external file's Store Name field.

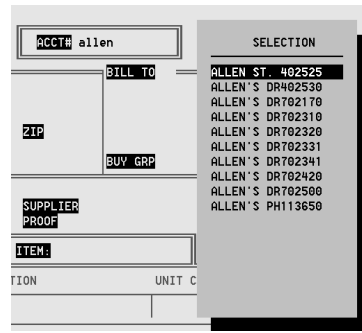


Figure 2. A list based on the Store Name and Account Number fields.

Automate Keyword Field Data Entry

Application in
ONLINE Edition

ERIKA YOXALL



Easy-to-use click-on buttons and pick-lists let you effortlessly add, remove, and auto-sort multiple keyword field entries.



Add— This field will be used as a button. Format it as TU,JC (Text, Uppercase, Justify Center). Set it to a contrasting color at the Change Palette Spec, and set its Initial Value to ADD.

Remove— This field will be used as a button. Format it as TU,JC . Set it to a contrasting color at the Change Palette Spec, and set its Initial Value to REMOVE.

Temp— A one-character invisible field used for calculations. It can be placed anywhere, but since it has no label, I recommend you place it near the Add and Remove buttons.

The External Program entry

From the Q&A Main Menu, choose Utilities / External Programs. For the Menu Option, choose a single character so the macro can just execute it. For this example, I'll simply use "X." (You must have *Automatic Execution* set to Yes for this to work.) For the command line, type C:\QA\Soot.bat %g. Substitute your own path for C:\QA as necessary. Press F10 to save your changes. The %g tells Q&A to pass the contents of the current field out to the external program.

The macro

Add the following *SortIt* macro to your macro file:

```
<begdef><alts><name>"Sortit"<vidon><altf9>X<tab><enddef>
```

Substitute your own menu option for the X. This macro calls the External Program and, when control returns to Q&A (and the macro), tabs to the next field.

The batch file

Using Write, create an ASCII file named Soot.bat in the directory you used for your External Program command line. Soot.bat contains the following commands:

```
@echo off
copy %1 c:\qa\sort.txt
sort c:\qa\sort.txt > c:\qa\sorted.txt
```

The *echo* statement prevents the commands from showing onscreen. The *copy* statement places the field contents passed by the external program call in a file named sort.txt. The *sort* statement uses the DOS Sort command to sort the values in sort.txt and place the results in sorted.txt. Save this batch file with Ctrl-F8.

KEYWORD fields are one of Q&A's most interesting tools. They let you store a list of values, but still deal with each value individually in searches and reports. (See "All About Keyword Fields," May, 1998.)

The problem with keyword fields is that because they contain multiple values, you have enter and edit them by hand. What's more, You can't control what values are typed in or deleted, you can't control the order in which the values appear in the field, and you can't force the user to add the mandatory semicolon between the values.

Or can you?

Keyword fields contain a semicolon-separated list of individual values. You know, like the kind you need to generate Userselect lists. By adding four control fields, an External Program selection, a macro and a batch file, you can control, restrict and sort your keyword fields with a click of your mouse. The demonstration program outlined here (see Figure 1) is designed to restrict the keyword field to hold a series of sorted State abbreviations, but almost any type of value could be used.

The control fields

You'll need the following four fields in your database:

Home— You may already have this field on your form. It's just a one-character invisible field in the upper left corner for the cursor to rest in.

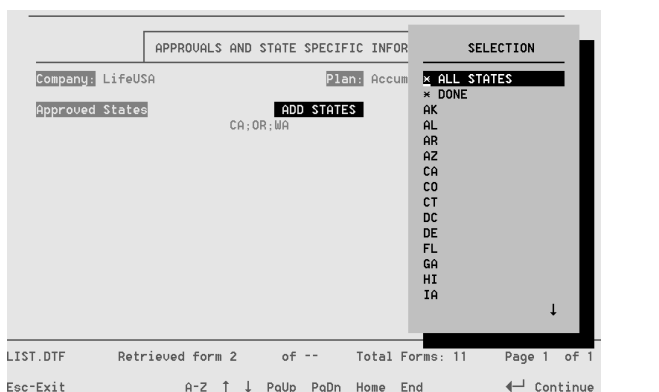


Figure 1. This database features handy click-on field buttons to add and remove states, and automatically sorts the states in the keyword field.

With these pieces in place, you can now add the programming to make it work.

The programming

Place the following programs in the indicated fields:

```
< Add:
If @Left(States, 1) = ";" Then
    States = @Right(States, @Len(States) - 1);
If @Right(States, 1) = ";" Then
    States = @Left(States, @Len(States) - 1);

Temp = @Userselect("* All States;* Done;
AK;AL;AR;AZ;CA;CT;CO;DC;DE;FL;GA;HI;IA;ID;IL;IN;KS;LS;KY;MA;MD;ME;
MI;MN;MO;MS;MT;NC;ND;NE;NH;NJ;NM;NV;NY;OH;OK;OR;PA;RI;SC;SD;TN;
TX;UT;VA;VT;WA;WI;WV;WY");

If Temp <> "*" Done" and Temp <> "*" All States" Then
    If @Instr(States, Temp) > 0 Then
    {
        @Msg( Temp + " Is Already Selected");
        Temp = "";
        Goto Add
    }
    Else
    {
        States = States + ";" + Temp;
        Temp = "";
        Goto Add
    };
    If Temp = "*" All States" Then
    {
        States =
        "AK;AL;AR;AZ;CA;CT;CO;DC;DE;FL;GA;HI;IA;ID;IL;IN;KS;LS;KY;MA;
        MD;ME;MI;MN;MO;MS;MT;NC;ND;NE;NH;NJ;NM;NV;NY;OH;OK;OR;PA;
        RI;SC;SD;TN;TX;UT;VA;VT;WA;WI;WV;WY";
        Temp = "";
        Goto States
    };
    If Temp = "*" Done" or Temp = "" Then
    {
        Temp = "";
        Goto States
    }
}
```

This program checks to see if the first or last character in the keyword field is a semicolon—to avoid getting two semicolons in a row. It then displays a Userselect list of the state abbreviations plus two special values—*All States and *Done. These values are preceded by an asterisk to make them appear at the top of list. Once a value is selected, if it isn't already in the States field, it's added. If *All States is selected, the entire list is placed in the States field. The program continues to display the list until *Done is selected, then it goes to States to sort the values.

```
< Remove:
If @Left(States, 1) = ";" Then
    States = @Right(States, @Len(States) - 1);
If @Right(States, 1) = ";" Then
    States = @Left(States, @Len(States) - 1);

Temp = @Userselect("* Done;" + States);

If Temp <> "*" Done" and Temp <> "" Then
    {
        States = @Del(States, @Instr(States, Temp), 3);
        Goto Remove
    }
Else
    Goto States
```

This program uses the semicolon-separated list of keywords in States to display a list of values to remove from the field. Again, once *Done is selected, control passes to the States fields to sort the remaining values.

```
< States:
If @Left(States, 1) = ";" Then
    States = @Right(States, @Len(States) - 1);
If @Right(States, 1) <> ";" Then
    States = States + ";";

States = @Replace(States, " ", "");
States = @Replace(States, ";", @Chr(10));
@Macro("SortIt")
```

On entering the States field, the leading and trailing semicolons are stripped, the semicolons are replaced with carriage returns to create a list format that DOS can sort, and the SortIt macro is invoked. The macro runs the External Program to sort the list, returns to Q&A, and presses Tab. Use Navigation programming to make the cursor go to the Home field on leaving States.

```
< Home:
If @Instr(States, @Chr(10)) > 0 Then
    {
        States = @Insert("C:\QA\Sorted.txt");
        If @Instr(States, "Echo is on") Then
            States = @Del(States, @Instr(States, "Echo is on"), 11);
        If @Instr(States, "Echo is off") Then
            States = @Del(States, @Instr(States, "Echo is
            Off"), 12);
        States = @Replace(States, "
        ", ";");
        If @Left(States, 1) = ";" Then
            States = @Right(States, @Len(States) - 1);
        If @Right(States, 1) = ";" Then
            States = @Left(States, @Len(States) - 1);
        States = @Replace(States, " ", "");
        Temp = ""
    }
}
```

Home's program checks to see if States has just been sorted by looking for a carriage return. If it finds one, it inserts the sorted text file, replaces the carriage returns with semicolons and does some character replacement to clean up extra semicolons and spaces.

With this technique, you can use buttons and picklists to select multiple values and place them in a keyword field in a consistent, controlled way. The keywords will be sorted alphabetically and formatted correctly. Values can be removed from the field without sacrificing formatting or sort order. Your keyword values can now be as consistent as your regular text field values.

By the way, all the programming in this article was quickly and easily transferred out of my Program Spec to the Windows Clipboard and pasted into this article courtesy of WinClip from Marble Publications!

Erika Yoxall owns Hammer Data Systems in Garrettsville, Ohio, specializing in Q&A and Microsoft Access. Phone/Fax 330-527-4018, hammer@apk.net

The Q&A 5.0 database featured above (LIST.DTF) is in this month's Online Edition download file. The modifiable database is pre-programmed and ready to use. Or, you can add its fields and programming to an existing database. You must add the External Program selection, the SortIt macro, and Soot.bat batch file.

Posting... Continued from page 5

```
#495 = @Xlu("Results",#20,"X#370","X#350");
#496 = @Xlu("Results",#20,"X#370","X#322");
#497 = @Xlu("Results",#20,"X#370","X#332");
#1010 = @Xlu("Results",#20,"X#370","X#7");
#1020 = @Xlu("Results",#20,"X#370","X#6");
#1030 = @Xlu("Results",#20,"X#370","X#7");
#1000 = @Xlu("Results",#20,"X#370","X#6")
}; CNext
```

Finally, here are the two macros:

```
<begdef><nokey><name>"post<sp>from<sp>results"<vidon>
<end><end><end><f11><capsf10>s<capsf4>jobs<enter>
<keystrokes required to get to key field><f12><f10>
<capsf10> s<capsf4>results<enter><end><end><end><f12>
<f10>(keystrokes required to get to the print routine)
<enddef>
*
```

```
<begdef><nokey><name>"post<sp>results<sp>only"<vidon>
<end><end><end><f11><capsf10>s<capsf4>jobs<enter>
(keystrokes required to get to key field)<f12><f10>
<capsf10>s<capsf4>results<enter><end><end><end><f12><f10>
(keystrokes required to get to where you want to be on
the form)<enddef>
```

Hopefully, we might one day see a fix for the database generations problem, and perhaps even some kind of update that will make XPosting faster. Until then, the @Macro/@Xlookup combo I've shown here might serve your network posting needs better than XPost.

Bill Halpern is president of Professional Computer Technology Associates in Newtown, Pennsylvania. His firm specializes data management and supporting systems and services. 215-598-8440, 71023.356@compuserve.com.



Reclaim Q&A Win Database Space

Q&A for Windows doesn't reclaim space in the .DTF file when you delete an input form. Even

Recovering the database doesn't help. (Since Q&A for Windows has no "rename form" capability, to change the name of a form, you have to save it under a new name then delete the original. You may delete more forms than you intended.)

I had a database that grew to 7.3M during extensive form design. After copying the design then the records, it shrunk to just 1.8M. As a rule of thumb, a simple form requires 5K in the .DTF; a "busy" form takes 10K. If the form scrolls down or across, it counts as multiple forms. A large complex form can be 100K.

John T. Dow, jtd@pgh.net, www.johntdow.com

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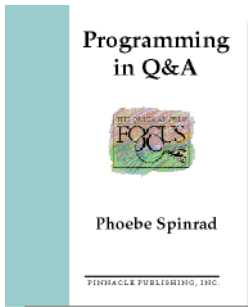
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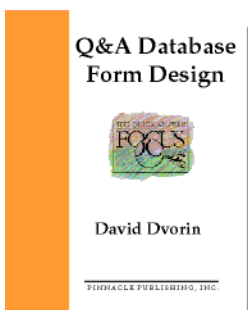
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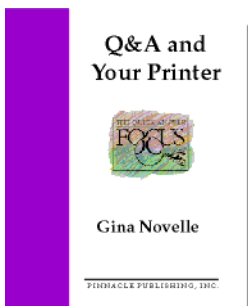
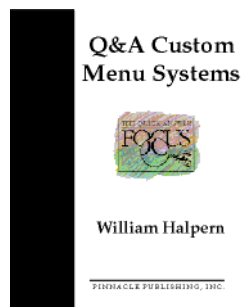
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These volumes were thought to be extinct, but a small cache was recently discovered. When these are sold out, crisp digital photocopies will be supplied.



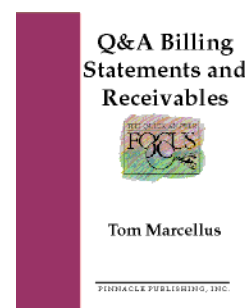
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