
More Tips and Tricks

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Workshop Format

- **Several small scenarios**
 - What is the problem/goal?
 - Problem Analysis
 - Possible solutions
 - Work-through of complete solution
 - Demonstration
- **You can use these at home!**

EC Missing Pages: Goal

- We would like to use the Edit Check language to add MPQCs
- Apart from the missing page arriving we alone are responsible for managing the MPQCs
- How do we best structure our ECs to do this?

EC Missing Pages: Analysis

- We need to determine when to add and when to delete MPQCs
- `dfaddmpqc()/dfdelmpqc()` work immediately, not when the record is signed off
- A change in keys can require deleting MPQCs we had added before
 - We can use global variables to track the keys

EC Missing Pages: Solution

- Need to squirrel away the keys on plate enter:

```
number saved_pid, saved_plate,  
number saved_visit;  
edit save_keys()  
{  
    saved_pid = @[7];  
    saved_plate = @[5];  
    saved_visit = @[6];  
}
```

EC Missing Pages: Solution (con't)

- We do all MPQC operations (deleting old, adding new) at plate exit
- Whenever we want to remove MPQC notes, we need to remove them from the keys the plate had on entry

EC Missing Pages: Solution (con't)

Palm Quick Ref: Analysis

- We need to figure out how to convert documentation into something Palm device can understand
- We need to load resulting file into the Palm device

Palm Quick Ref: Solution 1

- Use Palm 'Doc' format
 - Many readers available, some good, some not
- Seemed like a reasonable choice
 - Eric had XML -> Doc conversion style sheet
- Ooops...What happened to the links?
 - Many Doc readers don't support links, only bookmarks that you put in yourself

Palm Quick Ref: Solution 2

- iSilo reader software
 - Reads Palm Doc files
 - Also has own format which supports links, images, tables, different fonts, etc.
- HTML -> iSilo conversion software available for Windows, Sparc, other platforms

Palm Quick Ref: Solution 2 (con't)

- Convert XML docs to HTML to iSilo format
- Use Palm Desktop to load into unit or beam it via Infrared
- While we were doing this we found a bunch of other books in Palm format (in case you finish reading all the DataFax documentation!)

Palm Quick Ref: Applications

- You can convert other HTML pages to iSilo format (SOPs, web based reports, etc)

Spell Check: Goal

- Write an edit check function that will allow us to spell check drug names
- If the drug name cannot be found in the table, position to the closest one

Spell Check: Analysis

- Input: A lookup table with all the drug names in it
- For spell checks, a LUT with a single column (drug name) is sufficient
- An edit check to perform the spell check
- Edit check can position to nearest match by using the algorithm parameter on `dflookup()`

Spell Check: Solution

- Lookup table (try and find the pattern):
asa
acetaminophen
ibuprofen
imitrex
...
- Put these in a file called 'drugs.lut'
- Add this line to your DFlutmap:
DRUGNAMES|drugs.lut

Spell Check Solution (con't)

- Create edit check:

```
edit drug_lookup() {
  string m, s="";
  number n;
  # Check to see if drug name exists as-is
  if (dflookup("DRUGNAMES", @T, "", -1)) return;
```

Spell Check Solution (con't)

```
# Display closest match
n = dflength(@T);
s = dflookup("DRUGNAMES", @T, "", n);
# if no selection, add QC, else set @T to name
if (dfblank(s)) {
  if (dfblank(@T) && @(T-1) == 1) {
    m = "Drug name required if response is YES";
    dfaddqc(@T, 1, m, 1, 2, "");
  }
} else
  @T = s;
}
```

Backups: Goal

- Backups are important!
- Disks are getting bigger and backups are taking longer
 - How to organize backups
- How much effort does it take to restore the backup

Backups: Analysis

- One backup tape is ***NOT*** enough!
 - What happens when your machine crashes while overwriting your backup?
 - What happens when your tape goes bad?
- For small sites, doing a full backup on two or more alternating tapes may be enough
- Larger sites may need to do incremental backups
 - Full backups may take too long but are needed from time to time

Backups: Analysis (con't)

- What systems can we use?
 - Full backup on the weekend/end of month
 - Incremental backups each weekday
- If we're lazy and all our incremental backups for the week fit on one tape, we can do that
 - Downside is that if our tape drive munches our weekly tape we've lost all those changes

Backups: Analysis (con't)

- If all our backup fits on a single tape we can use 'cron' to automatically run the backups in the middle of the night
- If they don't all fit, consider a tape jukebox
- Remember tapes wear out – replace them periodically!

Backups: Analysis (con't)

- What backup program to use?
 - tar – simple, backs up all files and subdirectories from a starting directory
 - ufsdump – backs up a file system. Requires separate invocation for each file system you want to back up. Can do incremental backups
 - commercial solutions (e.g. Legato) – Useful for large backup requirements. Fancy options

Backups: Solution

- Monthly full backup on tape 'M'
 - recycled every couple of months
 - level 0 ufsdump (everything)
- Daily backups on tapes 'A' – 'E'
 - one per week (A = week 1, B = week 2, etc.)
 - each holds a week's worth of incremental backups
 - a level 3 ufsdump (changes since last monthly) at beginning and a level 5 ufsdump each day (changes since last level 3)

Backups: Solution (con't)

- To restore whole system:
 - restore last level 0 backup
 - restore last level 3 backup
 - restore last level 5 backup
- Problems:
 - any files that were deleted after the last monthly backup will reappear even through they did not exist at the time the last level 5 backup was done

DataEntry: Goal

- Sometimes we have a number of consecutive fields that should be marked N/A
- It is tedious to do Misc->Mark Data N/A all the time

DataEntry: Solution

- DataFax 3.5 introduces a new feature that allows the user to insert the last missing value used into the current field
- Simply press F4. The current field gets the last missing values and the focus moves to the next field

Export: Goal

- We would like to export the labels along with the data values

Rather than seeing
123|MLR|1

we would like:

123|MLR|Male

Export: Analysis

- DataFax 3.5 has a new DFexport.rpc option that we can use
 - -d applies decoding to all variables
 - :d modifier applies decoding to qualified fields

Export: Solution

- DFexport.rpc -f 10,10:d 254 1 –
2|female
1|male
1|male
- DFexport.rpc -f 7,1:d 254 1 –
99001|dirty
99002|clean
99004|clean

Export: Other tricks

- Export dates in 2 digit year, 4 digit year and julian format

```
DFexport.rpc -f 7,13,13:c,13:j 254 1 -
```

```
99001|03/03/97|03/03/1997|2450510
```

```
99002|04/01/97|04/01/1997|2450452
```

```
99004|01/06/97|01/06/1997|2540600
```

- How many days between 03/03/97 and 01/06/97? $2540600 - 2450510 = 90\text{days}$

Export: Other Tricks (con't)

- Break the patient initials into 3 fields of one character each

```
DFexport.rpc -f 7,8,8:1x3c 254 1 -
```

```
99001|ABC|A|B|C
```

```
99002|JAM|J|A|M
```

```
99004|TRB|T|R|B
```

FaxCenters: Goal

- We want to be able to send a fax to all centers (perhaps with downtime information, etc.)
- We would like to use a Windows word processor to create the fax

FaxCenters: Analysis

- Word processor can generate Postscript to a file by using a Postscript printer driver
- Center fax telephone numbers are in field 5 of the DFcenters file in each study directory
- DFsendfax can be used to transmit Postscript files

FaxCenters: Solution

- Use a word processor to create your fax
- Print it to a file with a generic Postscript printer driver (Apple laserwriter, Adobe Postscript driver work)
- HP Postscript printer drivers often include job control commands at the beginning of the file which confuse the fax software

FaxCenters: Solution (con't)

- Find the centers database for a given study:

```
CENTERSDB=`DFgetparam.rpc -s <study> CENTERS`  
echo $CENTERSDB
```

- Get the fax numbers:

```
NUMBERS=`cut -f5 -d\| $CENTERSDB`  
echo $NUMBERS
```

FaxCenters: Solution (con't)

- Send the faxes:
DFsendfax filename.ps \$NUMBERS