



NEWSLETTER

Number 64

Established 1974

September 2004

Human Factors in Software Design

REVOLUTIONIZING THE WAY PEOPLE LIVE WITH TECHNOLOGY

By Don Frey

Human factors are one of the most important aspects of software engineering today. Too much software has been designed using a *mechanistic* approach. That is, it is designed by technicians who have carefully crafted the software from a purely technical standpoint without giving adequate consideration to the way users interact with it. We at Frey & Company are intent on emphasizing a *humanistic* approach, which focuses on how people interact with their software. In order for us to produce a quality result, it is imperative that our users provide us with quality feedback in the form of comments, survey information, and other suggestions for improvements.

I would like to offer a few examples of human factors for your consideration.

- Why do we have to go to the *Start* menu in Windows to shut the machine down? That does not make a lot of sense. It is an unnatural action.
- In 1946, accidents were occurring in some airplanes. The landing gear was being retracted after the plane was on the ground. After researching the problem, it was discovered that the switches controlling the flaps and landing gear were next to each other and were identical. Pilots were instructed to raise the flaps after landing to have better braking. In the rush to retract the flaps, the wrong switch was used. The solution was making simple covers for the switches. The flap switch had a wedge shape and the landing gear, a wheel shape. Those simple changes ended the landing gear accidents. The tactile or sensory feedback eliminated the problem.

- The way VCRs are programmed is a good example of poor interfaces. Everyone has stories about them. What one has to go through to program a VCR is very confusing and awkward.
- Anesthesia mortality in hospitals was drastically reduced by minor changes to the design of a popular machine. In the old design, all connecting hoses for drugs, gas, etc. were identical and used the same type of connections to the machine. The design was changed to color code the hoses and have unique connections for each hose type. These changes eliminated errors in connecting the patient to the unit. Anesthesia deaths were cut in half by this relatively minor machine redesign.

Would you consider the preceding examples of operator errors or design deficiencies?

At our recent users conference, I requested our attendees to complete a questionnaire, which asked them to list the three most common mistakes made when they used each of the software products. This is what our users told us.

The most common error in the BUCS fund accounting system was the use of an incorrect expense account when paying bills. The 9.2 release offered some relief for this problem by assigning an expense account to each vendor. This was not a total solution but greatly reduced the probability of error.

The leading error with the CUBIC utility billing system was the entry of the wrong account number. It was suggested that scanners be used to enter the number. Scanners have been available, in CUBIC, for years. We also added a *tool* which would allow one to search for entries based on the types of transaction, date, amount, and account ranges. If

you make a mistake, there is now an easy way to find and correct it.

The CHIPS payroll error was interesting and very easy to correct, once it was revealed. The error was the incorrect entry of the payroll date. The date was defaulting to *today's* date, which would rarely, if ever, be correct. Operators had a habit of just pressing *Enter* when starting the program. A change was made to force the operator to enter the date, resulting in a more conscious response.

Unfortunately, many product features come about as a result of mechanistic technicians who are more intent on adding numerous useless capabilities than in developing a friendly, adaptable operating environment.

In our approach, we are focusing on the relationships between people and technology. Our goal is to provide our clients with powerful easy-to-use software that is also intuitive and forgiving. ☐



CUBIC In Beta Testing, SQL Coming Soon

Major changes are coming for the next release of CUBIC. Design changes have been made to several files to decrease their size and improve processing speed.

We are implementing an optional version of the software that will use Microsoft's SQL Server as the database for CUBIC. This project is in testing and the SQL version should be available very soon. We are now offering this capability because some prospective clients have been requesting it.

- Preferences are being expanded to include the selection of column sizes for grids.
- A map interface button will be available that will display a property's location. This is being offered in conjunction with Internet's MapQuest.
- Messages and other field sizes have been increased to allow for more information.
- Statement bills have been revamped and a new graph will display the consumption history for the last two years.
- Customer history now has a button that will reveal the history of *bad checks* (NSFs) and Shut-offs.
- A report scheduler has been created that will allow major reports such as Billing, Receipts, and Penalty journals to be processed in a *schedule*. Other reports such as trial balances will also be included.
- A new function to check for notes with current follow-up dates will be included. It will display a list of those notes and allow them to be viewed and/or edited.
- Internet Account Inquiry is a new *priced* option that will allow customers to display account balances, activity dates, and usage history.

A total of over thirty-eight major changes are incorporated in this release. The update will be available later this year. ☐

2004 User Conference



This year's conference celebrated the 30th anniversary of Frey & Company. It was held on August 1st - 3rd at the Embassy Suites in Covington, Kentucky.

The sessions included instruction on the use of the many new features in this year's releases along with open discussions about product use and potential future improvements. We have acquired a number of diverse new clients, which made for lively sessions.

Don Frey spoke about the increased emphasis on a humanistic approach to software engineering. The goal is to build software that is powerful, yet forgiving, while being very easy to use.

Our evening event this year was held on the luxurious yacht, the Satisfaction, a very special vessel, worthy of a very special occasion.

Start your planning for next year's event. It will be held July 31st through August 2nd at the Embassy Suites hotel in Covington, KY. ☐



CHIPS Payroll Release 9.2 Coming Soon

The next release of CHIPS is in testing and will be released very soon. Below is a list of some of the major changes included in the 9.2 release.

- Adjustable column grids are now available throughout the system. The grids will be retained once changed.
- Employee Maintenance has received many enhancements, which include: new search capabilities, pay rate history; additional fields in history screen, and numerous others.
- History/Quarterly reports now have department ranges.
- Follow-up alerts have been added to notes. You can customize how the process works.
- Payroll entry has been enhanced by adding more temporary deductions, individual check messages, and the ability to delete a range of payrolls.

- Direct deposits are separate from the printing of checks. Direct deposits can now be printed on *other* stock.

Over thirty improvements have been added to the payroll system. A new manual will also be included. Shipments of the new software will be in the fourth quarter. 📧

Frey & Company is Growing!

Matt Frey has recently joined the Donald R. Frey & Co. team as Director of Marketing. Matt brings with him over seventeen years of experience in the development and management of successful ventures related to the electronic and computerized gaming industry. Matt is really looking forward to creating new marketing programs to increase market awareness of our software products. Many of our clients met Matt for the first time at our 2004 user conference. 📧

New E-mail Addresses

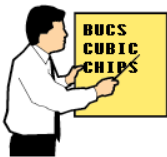
We have recently changed our e-mail addresses. Please use these new addresses when contacting us. Everyone has individual e-mail addresses. They will be provided on an individual basis.

Don Frey	President	drfrey@drfrey.com
El Frey	VP Admin.	elfrey@drfrey.com
Matt Frey	Marketing	mattfrey@drfrey.com
Admin/Reception	Administration	admin@drfrey.com
Applications	Support	support@drfrey.com
Development	Programming	program@drfrey.com
Sales	New Sales	sales@drfrey.com

Frey Software Soon On Federal GSA List

For some time, we have been going through the qualification process to have our software products placed on the Federal GSA list. We are now very close to concluding this process.

The GSA List provides federal and many state/local agencies the ability to make purchases without going through a complex acquisition process. Our intent is to make it as easy as possible to do business with Frey & Company. 📧



Tips From Your Support Staff

By Dean Eldridge

BUCS: In Release 9.2, there is now an option to define in Report Parameters what type of report the parameters are for (Balance Sheet, Trial Balance, Profit/Loss, Revenue, Expense, Fund). Once BUCS has been converted to 9.2, just go into *General Ledger-Report Parameters*. When a Report is Loaded, there will be a Report Type option on the bottom left. Select which type of report it is and save. Do this for each report. When the Report print option is chosen, only

those report types will be shown. This should make it easier to find reports & minimize choosing incorrect report types.

All Applications: There is a new option in the Help menu that allows Frey & Co the ability to connect to your machine to assist with Frey & Co. Software Support. This option is called Remote HelpDesk. For the most efficient use of this option, a high-speed Internet connection is needed and your machine needs to have the ability to connect to other machines through the internet (some networks & firewalls may not allow this connection). If you have a high-speed internet connection, this is a powerful tool for the support staff to use when assisting you. Please let us know if this is an option and we can test the connection. If you don't have a high-speed internet connection, it is a worthwhile investment for you if it is available in your area.

By Mike Emmerich

Adjustable Column Grids: The ability to save column width changes in all programs that have adjustable column grids has been added to all 9.2 releases of the software.

BUCS: Users are adjusting the columns in the Encumbrance, Invoice and Journal Entry search (Search for G/L Account Number) screens to include the Uncommitted field on the screen. The column grids are set to the maximum width they could take. The G/L Account number is 29 characters where many people can change this column width to 10 characters or less, which helps create room for the Uncommitted Balance field on the same screen. This enables you to see the G/L Account Number, Description, Balance "YTD Expenses" and the Uncommitted balances on the same screen, eliminating the need to scroll left and right to see the fields you need to see.

CUBIC: Users are adjusting the Customer Search screens to see the Billing and Service addresses on the same screen.

CHIPS: Users will be changing the Time Payroll entry screen to allow room for the Total Hours field. This enables for easy verification of the hours that are being paid.

By Brian Scott

Runtime & ODBC Code & Key Information: During the installation of an update of a new version of the software from the CD, a runtime screen with fields for a code and key will appear. The code is a 16 character field broken out in 4 groups of 4 characters each. The key is a 12 character field broken out in 3 groups of 4 characters each. The code and key must be entered in exactly as they appear. However, the spaces in between the groups of characters is optional. After the code & key are entered, click on the finish button. The runtime code & key is located on a sticker on the back of the sleeve the CD is packaged in. Do not lose this sleeve! If you need to reinstall the program or install on a new computer, you will need to re enter that information. The ODBC used to be on a separate CD and it is now included in the installation of the data dictionary. When the data dictionary is installed, an ODBC code & key screen will appear. The code and key is on the back of the sleeve. It will be on a separate sticker from the runtime, and it will be marked ODBC code and key. The ODBC code & key is the same length as the runtime code and key. 📧

GOVERNMENT ♦ NONPROFIT ♦ UTILITIES

Fund Accounting, Payroll, Utility Billing

ESTABLISHED, in 1974 with installations throughout the US and Internationally. *We understand your business and special needs!*

EASY TO USE, Microsoft Windows interface with on-line Help, ODBC and extensive *search* tools. *Programs that make your work easier and more enjoyable!*

RELIABLE, withstood the rigors of audits in dozens of states for years. *Problem free, accurate programs!*

ECONOMICAL, unique pricing models let you purchase just what you need. *More value for your money!*

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SUPPORT, help when you need it! A **Free** 800 number for your convenience. Internet update services. *Support you can swear by, not at!*

INTEGRATED, applications that talk to each other. ODBC and Crystal Reports allow you to easily transfer data from Frey packages to spreadsheet, word processor and other application systems. *A team approach to your needs!*

SPECIAL SERVICES, custom designed modifications; full range of computer related consulting services. *Professionalism and competence on which you can rely!*

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