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INSIDE: OpenXML – Part 3

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INTERNATIONAL Spectrum

THE MULTIVALUE  TECHNOLOGY MAGAZINE

6 Business Tech: Print Media — Part 1

When we hear the term “Print Media,” most of us think of newspapers, books, and magazines. But digital media news, articles, and books is simply a different delivery mechanism that has much the same business requirements as its “dead tree” (paper) counterpart. **BY CHARLES BAROUCH**

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10 OpenXML Part 3: The OpenXML 2.0 SDK Having learned the basics of Microsoft OpenXML Word documents and Excel spreadsheets in parts one and two, part three of this series explores the OpenXML SDK and advanced techniques for building this type of content. **BY BRIAN LEACH**

14 Multivalue Applications and Web 2.0: Providing a Desktop-Like User Experience Continuing to use green screen user interfaces can be a major cause of user, and hence company, rejection and replacement of a MultiValue application. Over the last few years, the web and the browser have gotten much closer to the interface demanded by forward-looking companies. This article reviews the current state of browser-based interfaces and how OpenInsight’s O4W web development environment encapsulates open-source solutions to the GUI requirements. **BY BRYAN SHUMSKY, REVELATION SOFTWARE**

22 Installing and Using UniVerse ODBC: A Quickstart A number of users have reported frustration (or failure) in installing and using UniVerse’s ODBC. This might be due to confusing conflicts in terminology or the lack of actual examples. This article strives to provide a clarification of terminology and an end-to-end example in an attempt to provide that “ah-hah!” moment. **BY CLIFTON OLIVER**

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From the Inside

BY NATHAN RECTOR

Digital Magazine, Digital Newsletter, Digital Resources, Digital Advertising, Digital everything...

I have it. They have it. We have it, but how do we access it?

We have been researching how to improve our digital copies of the International Spectrum resources, and we keep running into the same question and problem that everyone seems to be having. There is no one solution that solves all of these digital needs.

Everyone has some form of digital resources, but not all digital resources are available for all devices. And trust me, there are many, many different devices available for accessing digital information.

We have e-mail clients, web browsers, tablet computers, smart phones, e-readers, SMS, and social networking clients. If you look at this list, everything is accessed, viewed, and categorized differently. It used to be all you had to worry about was the web browser, and everything else was an afterthought.

Now each person is looking at your company and enterprise resources and information from different locations, and different devices. As more devices start supporting Web 2.0 and social networking concepts, your data will start merging with other data that doesn't belong to you.

Case in point is calendaring. Most enterprise applications have some kind of application that needs or should present it's data in a calendar or schedule format — customer contacts, production needs or expectations, deadlines for missing data that sales people need to retrieve.

New applications and mobile phones all include some kind of ability to sync against iCalendar format.

Since very rarely does one calendar contains all this information, these applications allow you to merge multiple calendars into one presentation — alarms and all. This allows employees to keep track of business calendars and personal calendars from one device without having to duplicate it into multiple applications. Now enter Google Calendar. Set up a shared calendar for your family and now you have one place for all family scheduling needs, plus a personal schedule, plus a business schedule, and look what you have: "No more time in your day."

Well, actually we already knew that, but let me get back to my point. Digital data has become the norm, and the data must be able to be viewed by many different devices and applications.

With the International Spectrum digital data this is important as well. Since you don't always know when you will have the time to view your MultiValue resource, we are making more and more smart-phone enabled formats available (m.intl-spectrum.com). In the coming issues, the magazine will be available in a more mobile-friendly format. The resource directory will allow you to search and view technical and knowledge resources while you are standing in line at Starbucks.

You can also use the Spectrum iCal feed (ical.intl-spectrum.com) to see up-to-date user group meeting schedules, webinars, and other MultiValue events.


Don't forget our other digital versions of the data: Email, FaceBook, Twitter, and RSS.

-NATHAN RECTOR

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Learn more about the MultiValue Symbol and see what MultiValue Technologies and MultiValue Communities exist to help you support and manage your business and systems. To find out more visit

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International Spectrum is published six (6) times per year at the subscription price of \$40.00 U.S. in the U.S.A.; \$45.00 U.S. in Canada and Mexico; \$50.00 U.S. for other countries. Single copy rates are \$7.00 U.S. in the U.S.A. and Canada, and \$9.00 U.S. in all other countries. International Spectrum is published by International Spectrum, Inc., 8956 Fox Drive #102, Thornton, CO 80260; Tel: 720/259-1356; Fax: 603/250-0664 E-Mail: request@intl-spectrum.com. Copyright 2010 International Spectrum, Inc. All rights reserved. Reproduction in whole or in part, without written permission, is prohibited.

PRINTED IN USA

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Business Tech

Print Media

Part 1

BY CHARLES BAROUCH

We've talked about all sorts of business models in the past. I thought it was time to talk about Print Media: magazines, books, and related media.

Print is Dead

So, I guess we are done with this topic. Except, this is a magazine article, so I guess Print isn't dead. Even if you are reading it as a PDF, on some sort of e-book reader, or next-next-next-generation device, the bulk of the business is unchanged. So, even if printing was dead — and it isn't — Print Media and Print Journalism are both alive. The delivery mechanism is different, but little else is.

The reason you keep hearing print is dead is twofold: (1) Print is so mainstream that there is too much of it, and advertisers are having trouble deciding where to spend for ads. This has caused many of them to pull back too hard and leave good outlets without enough ads; (2) you are hearing it from Digital Media outlets who, surprise surprise, want it to be true.

Night of the Living Publisher

The technology a Publisher needs is generally of the BI/Dashboard flavor. They need to know the world in summary: Did the average issue go out on time? Is the ratio of content to ads within guidelines? Is ad revenue within projections? Publishers only need details when things fall out of spec. Their job is to manage the profitability and credibility of the publication.

Underworld: Rise of the Marketers

Think of everything I've mentioned in the three Business Tech articles on Marketing and then add this thought: Print Media markets a product which provides advertising opportunities to other marketers. So, in addition to the normal marketing needs from technology, they also need to manage a barter system of "you provide me with space on your blimp and I'll provide you space in my newspaper" or "you provide me with new subscriber addresses and I'll grant you space inside my book's back cover." Those barter deals are as important as the cash deals. According to the IRS, they are taxable transactions in most, if not all, cases. Your marketing system needs to allow for quid-pro-quo payments.

Dawn of the Sales

There are likely to be two sales departments: one for selling the book, magazine, etc., and the other for selling ad space. The second will need to connect to your marketing system, but possibly in a restricted manner. The first will need their own circulation and distribution system. Even if the magazine is digital only, there are still matters of delivery — perhaps by cron job instead of truck — but still delivery. Remember that circulation is not just about making the issue available, collecting statistics but also about verifying

Continues on page 8

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BUSINESS TECH: PRINT MEDIA — PART 1

Continued from page 6

receipt, at least for some percentage of readers.

Editor of the Damned

This is the evil, troll-like god of deadlines who... scratch that. This is the infinitely patient person — or team — that sources articles, hires writers, fixes the mess the writers send, and keeps the entire product to a set standard. For example, my editor permits my vague attempts at humor. (*Editor's Note: Humor? Oh, so that's what that is.*) Other Print Media products might have rules to limit or omit humor. In a decent sized business, there are usually two kinds of editors: Managing Editors, who hire/fire, set policy, and keep on top of deadlines; and editor Editors, who manage copy and coddle us emotional creatives. Often, these editors are also responsible for integrating press releases and other non-article content.

Of course, if Print Media is suffering from a glut of product, Digital Media is suffering worse. Anyone with a hundred bucks and a computer can be a bad Digital Media publisher.

The tech here is mostly spreadsheets, publishing programs, photo-editing, and word processors. Many of the spreadsheet functions are much better suited to project management software, but Editing is the second least likely place for Print Media to spend money.

House of a 1,000 Writers

This is the first least likely space for Print Media to spend money. Writing is a “glamour” industry. Like working in Fashion, which I’ve done, it is an

area that generally attracts a fair number of candidates, and this makes Publishers think of writers as expendable/replaceable people. The exception are marquee writers who bring a following with them. Often, these people end up in syndication — more on that later.

And the aptly named, Not Appearing in This Article

We’ve slid past artists, photographers, fact checkers, and others because the custom software support needed in those cases is pretty minimal. That is not to say they don’t need software, tech support, and training, just that off the shelf software is the norm here.

Fall of the House of Us Here

So, what can technology do to help a Print Media business succeed in today’s market? For one thing, it can turn the business into a Digital Media company, or a hybrid of Print and Digital. Let’s spend a few minutes talking about how those business models work.



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Digital Media is one of the easiest businesses to do badly in a very public way. Nearly all Blogging is a prime example of bad media because virtually all of it lacks editing and fact checking. It trades those for immediacy and a rush to publication. Everything Print Media should do before an article appears applies for Digital Media as well. So, from a cost standpoint, Digital is cheaper to “print” but all the other costs should remain the same.

Of course, if Print Media is suffering from a glut of product, Digital Media is suffering worse. Anyone with a hundred bucks and a computer can be a bad Digital Media publisher. We don’t know of any profession — programming — where unqualified and untrained hacks are not immediately distinguishable from the quality people, do we. The harder it is for readers and advertisers to separate the wheat from the chaff, the harder it is for any of these Publishers to make enough

money to break even or perhaps create profit.

What’s the best way for a Digital Publisher to establish credibility? Print. People are more likely to trust your digital product if you are a hybrid. There are exceptions: people trust known brands, like Google or Yahoo, but since we aren’t usually in a position to build that sort of multi-billion dollar business to support our digital credibility, print is a more reasonable option.

One of the trends in hybrid media that leverages this is print media with a supporting area — a read more about it — on the web. International Spectrum magazine has been using this technique by peppering certain articles with short re-direction links. This allows the physical media to become a gateway to the digital while also providing a stand-alone value. Until I breakdown and install a web-capable computer in the bathroom, I will continue to expect

the print editions make sense without an IP address.

Just like click-and-mortar has been a successful play for many retail operations, ink-and-pixels has been an important area for publishing. An alternate approach, which was gaining momentum, is splitting the line. There are publishers who are branding a print magazine and separately branding a digital magazine with partially overlapping content. This allows them to optimize content for each mode and minimize the interconnection. Revenue models for the digital only magazines are more problematic when you split brands.

A lot of this territory is still operating in a try-and-see mode. There will be more shake outs as the readers and advertisers begin to settle on what models they want to support.

It’s a Syn to Tell a Lie

Syndication is the art of meta-publishing. Instead of the writer working for

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OpenXML Part 3

The Open XML 2.0 SDK

BY BRIAN LEACH

In the previous article we looked at the SpreadsheetML portion of OpenXML and techniques for parsing Excel document content from within the database. In this article we focus on the OpenXML SDK 2.0 as an alternate means for building Excel and Word documents.

The OpenXML 2.0 SDK is a freely available .NET library from Microsoft that allows Windows developers to navigate and to build OpenXML documents using strongly typed classes and partially insulated from the underlying XML. This is a veneer over the OpenXML schema, since in practice, you still need to understand the document structure to have any chance of building a viable document. Knowledge of VB.NET or C# and of LINQ are also required.

In this article we will use the OpenXML SDK 2.0 to build a framework application that will generate an Excel spreadsheet from a query executed under Universe. This will be a client application using UO.NET to connect and run the query, but it could be adapted to other uses. A service application that could be driven over a socket connection from a Basic program would be another option. This will require at least framework 3.5. Remember that you can use the free Express editions from Microsoft if you do not have access to the full Visual Studio.

After downloading the SDK from Microsoft, you will need to add two new references to your project: DocumentFormat.OpenXML.dll located in the download directory and WindowsBase.dll, part of the regular .NET framework. The

DocumentFormat.OpenXML is divided into multiple namespaces so to preserve your sanity. You will need to add using (VB.NET Imports) clauses as follows:

```
using DocumentFormat.OpenXml;  
using DocumentFormat.OpenXml.Packaging;  
using DocumentFormat.OpenXml.  
    → Spreadsheet;
```

Generating the Result Data

The first step will be to generate the data for export. Because the focus will be on the OpenXML and not the query generation, we will choose the simple route of a UniXML query. This runs a regular Retrieve/UniQuery or SQL statement and returns the data as an XML recordset that can be automatically formed into a dataset. So our form will look something like the one seen in figure 1.

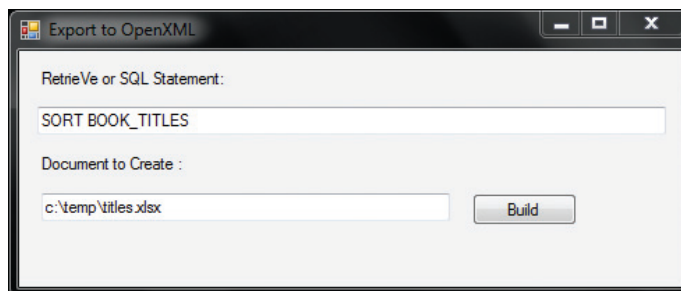


Fig. 1

We will choose the simple route of a UniXML query. This runs a regular Retrieve/UniQuery or SQL statement and returns the data as an XML recordset that can be automatically formed into a dataset.

Assuming you know how to connect using UO.NET, generating the data is simply a case of running the UniXML statement:

```
private DataTable dt;
private Boolean getData() {
    if (!connect()) {
        return false;
    }
    try {
        UniXML xml = sess.CreateUniXML();
        xml.GenerateXML(txtCmd.Text);
        dt = xml.GetDataSet().Tables[0];
    }
}
```

```
Row r = null;
int rowIx = 0;
r = new Row();
rowIx++;
for (int i = 0; i < dt.Columns.Count;
i++) {
    r.AppendChild(createCell(i + 1, _
        rowIx, dt.Columns[i].ColumnName));
}
data.AppendChild(r);

String cellText = String.Empty;
foreach(DataRow row in dt.Rows){
    rowIx++;
    r = new Row();
    for (int i = 0; i < _
        dt.Columns.Count; i++) {
        cellText =
            row.ItemArray[i].ToString();
        r.AppendChild(createCell(i + 1, _
            rowIx, cellText));
    }
    data.AppendChild(r);
}
protected Cell createCell(int col, _
    int row, String text) {
    const String colNames =
        "ABCDEFGHIJKLMNOPQRSTUVWXYZ";
    int major = (Int32)(col / 26);
    int minor = (Int32)(col % 26);
    String colName = (major > 0) ?
        (colNames.Substring(major - 1, 1) _
            + colNames.Substring(minor, 1)) :
        colNames.Substring(minor, 1);

    Cell c = new Cell();
    c.DataType = CellValues.InlineString;
    c.CellReference = colName +
        row.ToString();
    InlineString s = new InlineString();
    Text t = new Text();
    t.Text = text;
    s.AppendChild(t);
    c.AppendChild(s);
    return c;
}
```

Fig. 2

```
} catch (Exception ex) {
    MessageBox.Show(ex.Message);
    return false;
}
return true;
}
```

Obviously, if using a different database, your method of building the data will vary.

Creating the Document

By now you will be familiar with the OpenXML structure — a zipped archive containing multiple document parts that are connected through a hierarchy of relationships. For the spreadsheet, we need to build the spreadsheet, workbook part, and the worksheet that will hold the data. Fortunately, the OpenXML API hides some of that complexity:

```
doc = SpreadsheetDocument.Create(target,
    SpreadsheetDocumentType.Workbook);
book = doc.AddWorkbookPart();
book.Workbook = new Workbook();
sheet = book.AddNewPart<WorksheetPart>();
sheet.Worksheet = new Worksheet();
data = new SheetData();
sheet.Worksheet.AppendChild(data);
```

This creates the necessary structures in memory. But before these can be saved to create an OpenXML document, you will need to generate the references to link these together (fig. 2).

This is typically verbose, so it comes as a relief to know that iterating through the query results to build the basic structure of the export (fig. 3). Each row of data is added to the

Continues on page 12

```
// (export data here)
doc.WorkbookPart.WorksheetParts.
    → First().Worksheet.Save();
// create the worksheet to workbook
// relation
doc.WorkbookPart.Workbook.
    → AppendChild(new Sheets());
doc.WorkbookPart.Workbook.
    GetFirstChild<Sheets>().
    → AppendChild(new Sheet()
        {Id = doc.WorkbookPart.
        → GetIdOfPart(doc.WorkbookPart.
        → WorksheetParts.First()),
        → SheetId = 1, Name =
        → sheetName});
doc.WorkbookPart.Workbook.Save();
// now safe to close
doc.Close();
```

Fig. 3

OPENXML PART 3: THE OPENXML 2.0 SDK

Continued from page 11

sheetData, and each cell is created and added to the row. Remember from the previous article that each cell must include its reference address in the A1 format.

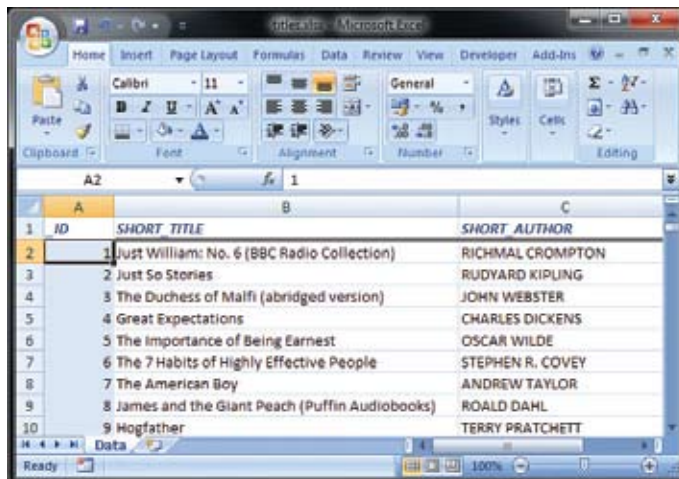
That is enough to create a working export (fig. 4), but with some restrictions — all the cell content is defined as strings, and there is no formatting. For this we need to get a little more sophisticated.

Applying Styles

As mentioned before, the spreadsheetML (unlike the word processing schema) significantly eases the burden of accessing the data content by separating the data from the presentation. So adding new styles to the spreadsheet takes place outside of the content area we have examined thus far.

The easiest way to create these is, once again, as a template that you then alter using either the OpenXML SDK or direct XML parsing in Basic. What if, for example, you wanted to highlight the column headers or change the background to a column?

The easy way is to reference one of the built-in table styles. This requires adding a new Table part to your document,



ID	SHORT TITLE	SHORT AUTHOR
1	Just William: No. 6 (BBC Radio Collection)	RICHMAL CROMPTON
2	Just So Stories	RUDYARD KIPLING
3	The Duchess of Malfi (abridged version)	JOHN WEBSTER
4	Great Expectations	CHARLES DICKENS
5	The Importance of Being Earnest	OSCAR WILDE
6	The 7 Habits of Highly Effective People	STEPHEN R. COVEY
7	The American Boy	ANDREW TAYLOR
8	James and the Giant Peach (Puffin Audiobooks)	ROALD DAHL
9	Hogfather	TERRY PRATCHETT

Fig. 4

wherein you will specify the range of cells encompassed by the table and the selection of a standard style. But that limits you, so we will look instead at how you can style individual cells.

Cell styling is held outside of the worksheets in a separate document part to permit the maximum reuse within and between worksheets. The styles document part is composed of a styleSheet element containing fonts, fills, and borders. Let us take the column shading as an example. This is held in a fill element, which defines the pattern and colours used:



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```
<fill>
  <patternFill patternType = "solid">
    <fgColor theme = "4" tint =
  → "0.79998168889431442"/>
    <bgColor indexed = "64"/>
  </patternFill>
</fill>
```

Unfortunately, the fill is not referenced directly. Instead it must be combined with font, border, and other information into a cell style held in an xf element:

```
<xf numFmtId = "0"
  fontId = "0"
  fillId = "33"
  borderId = "0"
```

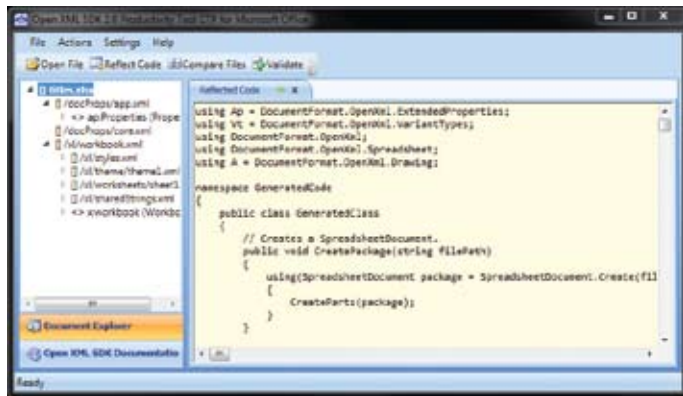


Fig. 5

```
xfId = "0"
applyNumberFormat = "1"
applyFill = "1" />
```

Only when combined in this way can the fill be referenced using a style (s) attribute as part of the cell definition:

```
<c r = "A3" s = "4">
  <v>2</v>
</c>
```

All this promotes reuse, but it leads to very lengthy coding. You need to add a WorkbookStylesPart to your workbook part, create a new stylesheet, and populate it with fonts, fills, and borders before you can apply a style. And that is nothing short of painful — a full listing would probably take the rest of this magazine!

Fortunately, help is at hand. The SDK ships with a Productivity Tool that can capture an OpenXML document and render the complete C# code needed to build it (figure 5). This can then be plundered to generate your template code. If you use VB.NET, you're out of luck. **IS**

BRIAN LEACH is an independent MultiValue consultant and author living in the UK. He is current president of the International U2 User Group. For more information please visit <http://www.brianleach.co.uk>

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MultiValue Applications and Web 2.0

Providing a Desktop-Like User Experience

Ever since the days of Windows 3.1, the appeal of a GUI interface has been plain. Customers (and, to be honest, developers as well) enjoy the ability to interact with rich desktop controls. They look nice, and they behave in interesting, responsive, and useful ways. While not necessarily more productive (it is hard to beat data entry performance on a green screen character application), the GUI “user experience” is certainly expected from modern applications.

Similarly, since the early days of the (consumer-accessible) Internet, the appeal of a browser interface has been apparent: easy software deployment (or none at all), a standardized user interface with which nearly everyone is familiar, and — perhaps most revolutionary — ubiquitous availability. The Internet, and the browser interface, allowed potential “anyone/anywhere” access to applications.

Note, though, that the attributes of the browser that make it appealing, and the attributes of the desktop that make *it* appealing, do not overlap. Until recently, the user experience on the desktop could not easily be brought to the browser, and many “first generation” web products in the MultiValue marketplace therefore lack the dynamic “look and feel” of a desktop GUI application. This has been changing with the ad-

vent of higher-speed internet connections and “smarter” browsers with more sophisticated communication abilities, allowing applications in the browser to provide a user experience that is comparable to desktop GUI applications. This new functionality is a hallmark of “Web 2.0.”

Building Web 2.0 Applications

First generation web applications usually provided simple “page-at-a-time” data entry and display. After the browser user completed all the forms on a page, the Submit button sent the names of all the input controls (textboxes, listboxes, etc.) and their values to the host, where the data was then teased apart and processed. A new page, based on the user’s entry, could then be generated. While some interactivity

Since the early days of the (consumer-accessible) Internet, the appeal of a browser interface has been apparent: easy software deployment (or none at all), a standardized user interface with which nearly everyone is familiar, and - perhaps most revolutionary - ubiquitous availability.

on a page could be created through the use of JavaScript functions, entry and response was generally done as though communicating in block mode with old-style mainframes.

Web 2.0 builds upon the ability to send and receive select parts of the web page to the host, and modern browsers to allow the display to be updated in pieces rather than all at once. In fact, just like in a desktop GUI, it is possible to capture and respond to various user-created events, like "lost focus," "got focus," "key down," etc. (though these events typically have different names than they would in the desktop GUI world). These events can then be processed locally in the browser (via JavaScript), or dispatched to the host. Responses can then update the currently displayed page with new information, or even with a change of layout.

Of course, this enhanced functionality implies that the host routine must be more sophisticated if it is to reply to these various events. Indeed, rather than a typical "green screen" application (which expects the user entry to happen in a more or less linear, predictable fashion), MultiValue Web 2.0 applications must look more like Windows programs, responding in an "event-driven" fashion.

While it is possible to create an entire Web 2.0 application from scratch, it is certainly more efficient to take advantage of open-source libraries that already include huge amounts of functionality. OpenInsight's O4W web development environment relies on jQuery (www.jquery.com) to provide much of the back-end communication functionality and the associated jQuery UI (www.jqueryui.com) to implement many of the desktop-like GUI features, including tab controls, dialog boxes,

Continues on page 29



Fig. 1 O4W page prior to click event



Fig. 2 O4W page after click event

```

case event _eqc "CLICK"
  * Click event - called when the button is pressed
  * Tell O4w we'll be generating a response updating the current form (as opposed to making a whole new form)
  O4wResponse()
  * Read in all the values
  ADD1 = O4wGetValue("ADD1")
  ADD2 = O4wGetValue("ADD2")
  STATE = O4wGetValue("STATE")
  CITY = O4wGetValue("CITY")
  ZIP = O4wGetValue("ZIP")
  * example 2: Make sure these values have something in them
  IF TRIM(ADD1) = "" OR TRIM(CITY) = "" OR TRIM(STATE) = "" OR TRIM(ZIP) = "" Then
    O4wError("Please be sure to enter complete address information before proceeding")
    Return
  End
  * example 2: move the extraction of the size and topping values, and the calculation of the cost, to a
  subroutine so we can call it from the 'change' event too
  /*
  * 'SIZE' will return the S/M/L code from the SIZE radio buttons.
  SIZE = O4wGetValue("SIZE")
  * 'TOPPING' will return an O4w-delimited list of the selected toppings
  TOPPING = O4wGetValue("TOPPING")
  * calculate the price from the toppings and size selected
  locate size in sizecodes using " " Setting pos Then
  cost = Field(sizecosts, "-", pos)
  End Else
  * couldn't find the size in the list? Report an error to the customer
  O4wError("we're sorry, but the size ':size:' doesn't appear to be valid!")
  Return
  End
  * Now find each of the toppings
  num.toppings = dcount(topping, O4w)
  For each.topping = 1 To num.toppings
    this.topping = topping-1, each.topping
    Locate this.topping in toppingcodes using " " Setting pos Then
    cost += Field(toppingcosts, "-", pos)
  End Else
  * couldn't find the topping in the list? Report an error
  O4wError("we're sorry, but the topping ':this.topping:' doesn't appear to be valid!")
  End
  Next each.topping
  gosub calctotal
  If error <> 0 Then
    O4wError(error)
    Return
  End
  * In a 'real' application, you'd now write all the information we collected into a database somewhere
  orderNum = DATE():"":TIME()
  * <WRITE INFORMATION HERE>
  * Notify the customer that his order has been received, and give him/her the total
  * We'll put this information into our 'responseArea'
  * Note that we use a special style so that O4w knows we're updating the previously-defined area (and not asking to
  create a new one)
  O4wSectionStart('responseArea', O4wResponseStyle())
  O4wHeader("your order number is :orderNum, 4)
  O4wBreak()
  O4wText("Thank you for your order! Your order total is :O4w(cost, 'M2,S'):".')
  O4wBreak()
  O4wText("Please press ")
  * Build a 'link' to return to the home page
  O4wLink("here", 0, "www.revelation.com")
  O4wText(" to return to the home page")
  O4wSectionEnd('responseArea')
  * Display this area as a 'dialog box' to the user
  O4wDialog('responseArea', "Thank You")

```

Fig. 3 Event driven BASIC+ code for the Click event on the form

NEWSMAKERS



Kore Partners With Rocket To Resell CorVu BI

Kore Technologies is pleased to announce that we have partnered with Rocket Software to resell their CorVu business intelligence and information delivery products.

CorVu, a Rocket Software brand, provides performance management and business intelligence solutions for mid to large-sized companies throughout the world, giving users an easy way to view the current performance, strategy, and key business drivers of their organizations. Combined with Kore's Kourier Integrator and SQL Accelerator data integration solutions, companies using Rocket's U2 database will be able to realize a tightly integrated, enterprise class, Microsoft SQL Server business intelligence solution at a price point that is right for the MultiValue market.

"CorVu is an excellent complement to our SQL data warehouse solutions because it's powerful, easy to use, and has a low total cost of ownership," says Mark Dobransky, managing partner at Kore Technologies. "Kore can now offer a comprehensive business intelligence solution to companies that have not selected a reporting product. With Kourier's data aggrega-

tion, change data capture, and SQL integration capabilities, we can rapidly build web-based BI solutions that include interactive reports, graphical analysis, and executive dashboards."

About CorVu Business Intelligence Solutions

CorVu is a purpose-built application that combines business intelligence and information delivery within a single product architecture, simplifying ongoing support and maintenance, while CorVu's modular design allows organizations to adopt new capabilities stepwise and leverage existing systems if required. The CorVu Business Intelligence and Information Delivery suite implemented and supported by Kore includes:

- CorBusiness - a comprehensive information analysis, reporting and business intelligence platform that empowers business information consumers. It provides rich capabilities for custom reporting, graphical analysis, alerts, dashboards, and briefing books.
- HyperVu - a powerful tool for publishing CorVu performance management information through interactive HTML pages. It provides fast and easy access to reports, graphs, executive dashboards, and scorecards via a web browser.
- CorPortfolio - a powerful tool for assembling and organizing combinations of reports, graphics, and other information into a concise,

management presentation - an online executive portfolio.

In contrast to traditional business intelligence, OLAP and reporting tools, the CorVu products can address all of an organization's business analysis requirements within a single product architecture that can be deployed rapidly and cost-efficiently. Most importantly, the configuration of CorVu reports and dashboards requires no programming skills, so business users can be empowered and IT bottlenecks can be avoided. ■

partnership to offer Maxwell Systems' clients Informer Web Reporting, a powerful web-based reporting and analysis solution that provides technical, business, and front-line users with real-time access to information from multiple systems, platforms, or locations.

"Maxwell Systems offers comprehensive software solutions to construction businesses that rely on us to help them maximize productivity and profitability," says Eric Foster, Vice President of Technology at Maxwell Systems. "Our partnership with Entrinsik allows us to offer our clients technology that helps them to easily perform multidimensional reporting and analysis in faster and more powerful ways than ever before. Users are able to improve data flow efficiency and accuracy whether they are at the office, warehouse, field, or plant."

By partnering with Entrinsik, companies that rely on Maxwell Systems software to run their businesses now have a single point of access to reports where they can query any data source, regardless of where it is stored, in real time. And self-service report customization and ad-hoc analysis capabilities for end users ensure the information is presented based on individual needs.

"At Entrinsik we are committed to partnering with companies like Maxwell Systems that deliver end-to-end solutions designed to increase operational efficiency and improve profitability," says Doug Leupen, President and CEO of Entrinsik. "Maxwell Systems' in-



Maxwell Systems and Entrinsik Partner to Extend Self-Service Web-based Reporting and Analysis Capabilities to the Construction Industry

Maxwell Systems, a leading provider of complete construction business management software solutions, and Entrinsik, a leading provider of cutting edge operational reporting and analysis solutions, today announced a

dustry leadership and expertise working with thousands of construction companies over the past 35 years provide us with a tremendous opportunity to add value to a critical industry by offering Informer."

About Entrinsik

Since 1984, Entrinsik Inc. has been developing, implementing, and supporting database solutions that enable organizations to maximize performance and improve bottom lines by tracking, understanding, and managing information. With tens of thousands of users across various industries, Entrinsik's Informer Web Reporting software delivers true real-time access to multiple data sources simply and easily using a built-in web-based query engine.

To learn more or for information about our free 30 day trial of Informer, visit www.entrinsik.com or call 888-703-0016 today.

About Maxwell Systems, Inc.

Maxwell Systems is a leading provider of complete construction business management and property management software solutions and services. Founded in 1975, Maxwell Systems is dedicated to helping its 10,000 customers streamline their estimating, job cost accounting, and project management processes and improve profitability. Maxwell Systems' headquarters are in King of Prussia, PA, with offices in Baltimore, MD, Fort Collins, CO, Santa Cruz, CA, and Sarasota, FL. Call 800-688-8226 or visit www.maxwellsystems.com for information. ■



Zumasys Constructs State-of-the-Art Data Center and Disaster Recovery Solution for Ganahl Lumber

Ganahl Lumber Company, California's oldest lumberyard, announced the completion of two new data centers and the successful implementation of NetApp's MetroCluster technology which provides continuous availability of mission critical applications including D3 AIX, a MultiValue DBMS from TigerLogic Corporation. The company partnered with Zumasys, a leader in infrastructure technology solutions, to develop a comprehensive business continuity solution that will last the company for decades to follow.

Zumasys introduced Ganahl to NetApp's MetroCluster technology in the design phase of its new data center construction. This implementation enabled Ganahl to mirror its servers and storage between two sites, easily and effectively, to reduce disruptions and keep users up and running. Zumasys also helped Ganahl implement server virtualization from VMware allowing them to consolidate their physical servers down to just 10 hosts supporting in excess of 100 virtual machines. This has made its two data centers more functional, streamlined, and capable of full failover.

"I've been with Ganahl for 30 years. It's great to work for a company that views problems as opportunities. We know that the downturns are the best time to make investments that improve our business. We've seen these cycles before and we are thrilled to have a partner like Zumasys to facilitate technology enhancements today that will position us for success tomorrow," said Gary Armstrong, IT Manager of Ganahl.

Additionally, Ganahl implemented Virtual Desktop Infrastructure (VDI) from Citrix to centralize and more efficiently support its custom door and window software programs. Previously, these programs were causing PCs to crash, requiring significant IT support and reducing computer availability. Citrix's XenDesktop technology has enabled 50 physical desktops to be replaced with virtual machines that run centrally in the company's secure data centers. This has lessened end-user downtime because Armstrong's IT team can now control any interference between custom software programs by testing in VDI before the software is released. Together, these virtualization efforts have helped maximize productivity company-wide.

With its new data center infrastructure, Ganahl has all but eliminated unplanned downtime. More than just business continuity, Zumasys has also helped dramatically increase the efficiency of the company's six person IT staff. Virtualization has helped them support more users without the need for more IT personnel. They can now do upgrades faster, troubleshoot easier, and deliver better security to all users, which have resulted in increased productivity for IT and the end user. All told,

the team's capacity and support capabilities have tripled, adding up to a savings of more than \$1 million over four years.

Armstrong truly values the relationship he has built with Zumasys and the resources they offer. "If I have technology related questions, they're the first people I call. We even lean on them to provide extra programming or an extra set of eyes to help us do things better," he adds. "We appreciate that Zumasys brings appropriate technologies to the table. Since they know our business, they don't waste our time with things that won't fit our needs. We really rely on their knowledge and we trust their advice."

About Zumasys

Zumasys provides enterprise-class infrastructure technologies to small and medium sized businesses across North America. Founded in 2000, Zumasys specializes in implementing solutions that reduce costs and boost productivity including Virtual Desktop Infrastructure (VDI), Disaster Recovery, Storage, Server Virtualization, VoIP and more. Zumasys is headquartered in Irvine, CA.

About Ganahl Lumber

Ganahl Lumber is the oldest lumberyard in all of California. This family and employee owned company operates eight retail locations in Orange County, California and offers its customers decades of experience and expertise. Ganahl carries a wide array of lumber, hardware, doors and windows, as well as electrical, plumbing and hardware products that it ships throughout Southern California. ■

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NEWSMAKERS

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Epicor Software Early Adoption Of PRC For SB/ XA

SJ+ Systems Associates is pleased to announce the early adoption of PRC for SB/XA by Epicor Software to support development of the Avanté enterprise solution designed for make-to-stock and mixed-mode manufacturers. This latest release of SJ+'s software lifecycle management tool is in use for new Avanté development today, and will be delivered to customers with future releases.

With 20 years of refinement behind the release, PRC continues to deliver its signature management capabilities while adapting to changing platforms. Beyond the scope of the new user interface, this release will be generally available on all platforms as PRC 7 in late 2010 and includes a number of remarkable enhancements to improve user experience, compliance and control.

"New regulations and trends in best practices are carefully accommodated without compromising the agility IT have come to expect from their U2 platform," says Susan Joslyn, President of SJ+ Systems Associates, Inc. and chief architect of PRC.

SB/XA from Rocket U2 is a development environment that smoothly integrates Windows Presentation Foundation (WPF) User Interface coded in XAML with existing U2 (Unidata and Universe) applications. WPF is a next-generation, resolution-independent rendering engine included in the Microsoft .NET Framework. Applications built using WPF can incorporate other elements of the .NET Framework class library. Existing SB+ applications can take advantage of this modern, mainstream user interface with no change to the legacy application or business logic.

Epicor Software is a global leader delivering business software solutions to the manufacturing, distribution, retail, hospitality and services industries. With 20,000 customers in over 150 countries, Epicor provides integrated enterprise resource planning (ERP), customer relationship management (CRM), supply chain management (SCM) and enterprise retail software solu-

tions that enable companies to drive increased efficiency and improve profitability. The Company's worldwide headquarters are located in Irvine, California with offices and affiliates around the world. For more information, visit www.epicor.com.

PRC is a complete software development life-cycle (SDLC) management tool. Providing IT controls for compliance with international frameworks and regulations, PRC meets the auditing demands of management while appealing to the programmers and testers with robust convenience. PRC was designed for high levels of scalability, allowing customers to start small and grow their compliance as they develop their own "best practices". Managing the whole SDLC from the beginning with user requests and approvals, through the opening and managing of projects – including the time and source code associated to them – with tools for parallel development, testing and deployment, PRC takes it to the finish line with one-step rollback and plenty of auditing and reporting. PRC is a sleek and mature solution for Multivalue / U2 based companies. For more information visit <http://sjplus.com>. ■

CLIF NOTES

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really have as much signal as you were told that you had.

Hm. You're under oath. Yes or No. Have you stopped beating your wife?

Guys? Are you stupid enough to think that we're stupid enough to believe that you're stupid enough to think that that's the real problem?

I won't take you through any more the details of this fiasco. Suffice it to say that Apple has received an extremely well-deserved black eye in customer service from the shenanigans, and possibly outright lies. This should be a lesson to everyone. There is only one thing worse than being caught lying to your customers — lying to your customers in the first place. With the communications of the Internet through e-mail, blogs, mainstream media, YouTube, and all the other forms, you will be caught. If you are wrong, admit you're wrong, and say what you are going to do about the problem. And then do it.

And to Steve Jobs I would just like to say, "Steve, Steve, Steve. You might get away with it with some of the fan boys. But when you start to lose the trust of the people who use and recommend your products because they actually do think that they perform better than your competition, you have got a real problem. Stop acting like the other Steve at the other company. At the moment, Apple has about as much credibility as a British Petroleum flow rate estimate."

Always remember, in customer service the best damage control is honesty. **IS**



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New Products



Announcing SystemBuilder Extensible Architecture for UniData and UniVerse (SB/XA) V6.0.2

SB/XA is a Rapid Application Development and deployment environment that delivers up-to-the-minute interface design and portable reporting capabilities designed to help you maximize your investment in Rocket U2 technology. Existing SB+ applications can be automatically converted to SB/XA without requiring changes to your underlying code, and the latest release of SB/XA builds on previous capabilities by providing support in our latest XAML clients for:

- MAPI support via host routines for email automation
- VBScript integration to support client-side scripting in Microsoft clients
- HTML Report Writer output support

SB/XA 6.0.2 has been completely rebranded as a Rocket Software product, and it also removes Btrieve from SBClient, eliminating conflicts with third-party software that also used Btrieve. ■



ONware Adds PostgreSQL to its List of Supported Databases

Coupled with PostgreSQL, ONware enables existing MultiValue applications to reap the benefits of a thriving development community along with the most cost effective open source database platform available.

PostgreSQL is a powerful, open source object-relational database system. It has more than 15 years of active development and a proven architecture that has earned it a strong reputation for reliability, data integrity, and correctness. It runs on all major operating systems, including Linux, UNIX (AIX, BSD, HP-UX, SGI IRIX, Mac OS X, Solaris, Tru64), and Windows. It has the same features available with Oracle, SQL Server and MySQL, and is widely regarded as the world's most advanced open-source database.

ONware now offers the ability to use PostgreSQL as a database system for applications developed for U2, D3, MVON and other MultiValue and PICK database environments.

"We are very excited about the synergy between these two powerful environments. ONware with PostgreSQL is a terrific, low-cost solution for end users

and ISVs looking to remain competitive in a marketplace where relational databases are becoming more and more prominent," according to Tim Spells, President of the ONware distributor ONsystemx.

The source code for PostgreSQL is available under the most liberal open source license: the BSD license. This license gives MultiValue Value Added Resellers the freedom to use, modify and distribute Postgres in any form they desire with their application. Any modifications, enhancements, or changes the VAR makes are theirs to do with as they please. As such, Postgres is not only a powerful database system capable of running the enterprise; it is a development platform upon which to develop in-house, web, or commercial software products that require a capable RDBMS.

To learn more about PostgreSQL for MultiValue applications, visit distributor sites at

www.ONsystemx.com or www.ONgroup.com, or contact us by sending an email request to info@ONgroup.com. ■



International Spectrum iPhone and Android Web App Available

International Spectrum released an iPhone and Android

WebApp at the 2010 Conference. This web app allows you to access MultiValue Resources and information from your mobile phone.

The current version includes access to:

- International Spectrum Magazine
- e-Xtra Newsletter
- Conference Schedule

Planned future versions will have access to company and resource sections of the web site, as well as an improved digital magazine reader.

See the application at:

<http://m.intl-spectrum.com>. ■



Datatel Announces General Availability of Intelligent Learning Platform

Ensuring student success at colleges and universities took a major step forward today as Datatel announced the general availability of the company's Intelligent Learning Platform, a cohesive teaching and learning solution that addresses the costly fragmentation and other deficiencies of traditional learning management systems. By integrating fully Datatel Colleague enterprise resource planning

(ERP) system and Moodle, a teaching and learning system, the Intelligent Learning Platform provides administrators and faculty a common 360-degree view of their students to support and retain them and help them to achieve success. Datatel released the Intelligent Learning Platform on the heels of a stringent and successful beta testing program that was completed recently by six higher education institutions.

Colleges and universities implementing the Datatel Intelligent Learning Platform will realize immediate cost savings over traditional learning management systems. This is possible because the Intelligent Learning Platform does not require the separate license fees, maintenance, and added resources that are required when the administrative and teaching and learning systems stand apart.

Moodle, the teaching and learning component, is open-source software that delivers substantial savings for colleges and universities. Moodle is deployed within the Datatel Intelligent Learning Platform either as a hosted service through Datatel's partner Moodlerooms or as an on-site installation.

"Our experience beta testing the Datatel Intelligent Learning Platform has exceeded our expectations," said John R. Davis, CIO at Marietta College. "It has shown us that technology need not be costly or complex to provide a true and complete view of students to serve and retain them. We plan to migrate from WebCT to Moodle over the summer. And as a Datatel client running Colleague, the tight integration of Moodle and Colleague within the Intelligent Learning Platform makes perfect sense any way you look at it."

"The Intelligent Learning Platform represents the natural and exciting evolution of the learning management system into a fully integrated teaching and learning solution for higher education," said Wayne Bovier, Datatel senior product manager for Learning Management Solutions. "By fusing teaching and learning with administrative ERP, the full potential of technology in support of student success is realized at a fraction of the cost of stand-alone learning management systems. We expect that this approach will become the norm in virtually every higher education institution in the coming years."

About Datatel, Inc.

Datatel is a provider of innovative technology products, services, and insight to higher education. Colleges, universities, and technical schools across North America partner with

Datatel to build Strategic Academic Enterprises dedicated to achieving student success. The company has focused on higher education since 1979. For more information, visit www.datatel.com.

About Moodlerooms

Moodlerooms strives to provide educators and learners across the globe with an e-learning platform that is flexible, reliable and affordable. By combining cloud hosting, managed open-source, and Software-as-a-Service delivery, Moodlerooms' customers receive the benefits of open-source Moodle with enterprise-level support, services and features so they can focus resources on what really matters – quality teaching and learning. For more information, visit www.moodlerooms.com. ■



mvQB - Quickbooks API for the MultiValue Database



- **Read/Write directly to Quickbooks' databases**
Customer, Vendor, Invoices, Purchase Orders, Chart Of Accounts
- **mvQB API is designed for the MultiValue program to use.**
All routines are simple BASIC calls designed for the developer. No users special user interface requires.
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Installing and Using UniVerse ODBC

A Quickstart

BY CLIFTON OLIVER

UniVerse has had the ability to provide access to its data via ODBC for years. Yet I still find a lot of shops who either are not aware of this, or who have tried to use it but failed. I think one of the problems is the lack of an end-to-end example. This quickstart will try to provide that.

There are two areas to be considered when installing and using UV/ODBC — the server and the client.

The server side is very straightforward, as there is nothing to install. As of UniVerse release 10.1, the ODBC software is part of the normal installation. What you do need to make sure of is that the RPC daemon or service is running. On *nix-based systems you log to the UV account and select the option from the menus. On Windows-based systems, you will find Unirpc in the system services.

Each account on the server that contains files you want to access needs to be added to the list of ODBC-enabled accounts. This procedure is discussed later in this document.

Each client PC that is going to access the data must have Rocket supplied software installed on it and ODBC Data Source Names (DSN) defined.

We will start by installing the client software on the PC and creating the definitions necessary to access an account on the server. This will then let us observe the effects of the procedures we use on the server side to enable access to the files.

Installing the UV/ODBC client

The UV/ODBC client is found on the client CD or can be downloaded from the Rocket Software web site. Figure 1 shows the contents of this folder. Run the installation by double-click on the “install” icon. Then select “UniVerse ODBC client” from the startup screen.

Click “Next” on the Welcome screen and select the path where you want the software installed (fig. 2). (I always leave it at the default location.)

You can then select what components you want installed. I usually take everything.

You are then asked if you want to overwrite the uci.config file. This file contains the definitions of what systems this PC is allowed to access with ODBC. On the first install, it doesn’t matter what you answer. If you are reinstalling due to suspecting a missing or corrupted driver, you probably don’t want to overwrite this, although doing so simply means you have to redefine the systems with the UCI Editor.

And finally, you get to select what program folder to use. I always use the default which, at this time, is “IBM U2\UniVerse ODBC driver”. (Ex-

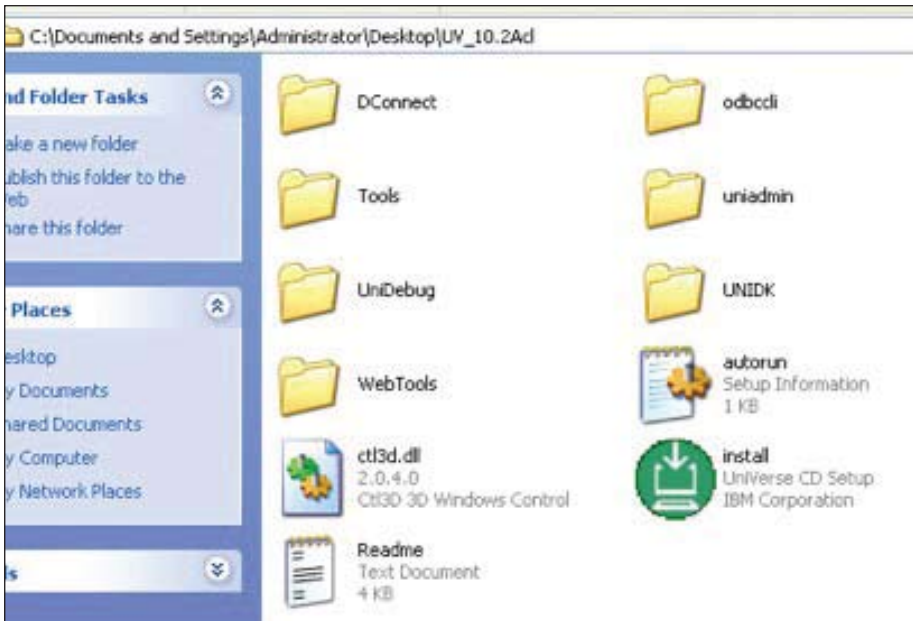


Fig. 1 Contents of the Clients CD



Fig. 2 Install Path

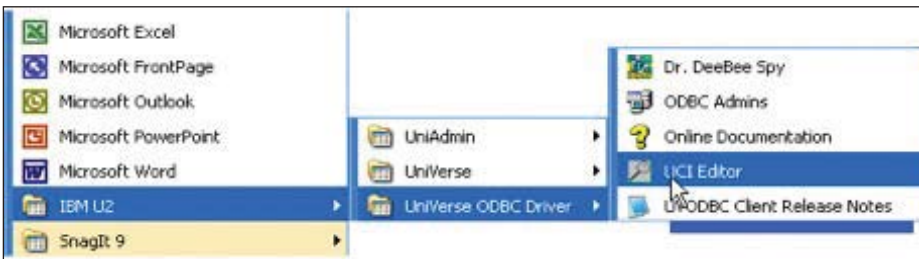


Fig. 3 Invoking the UCI Editor

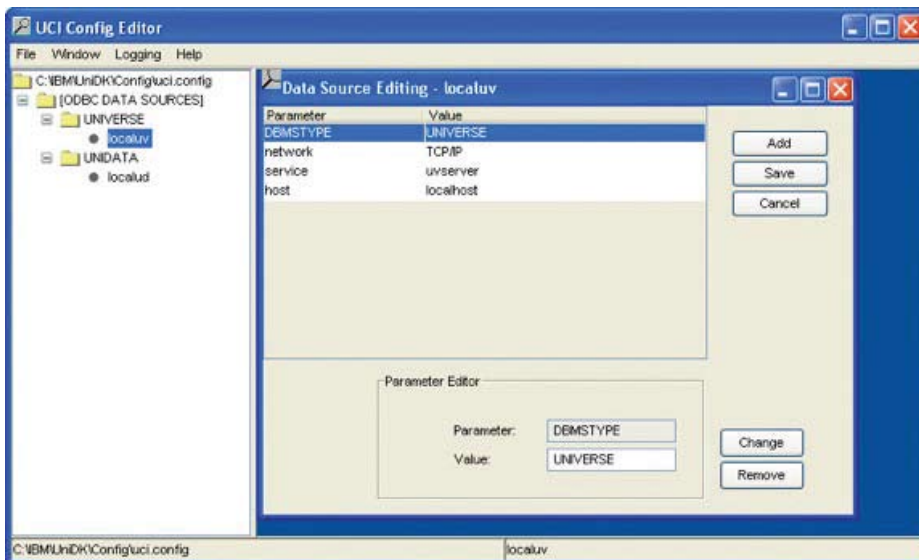


Fig. 4 Data Source (Server) Editing

pect to see the IBM branding changed to Rocket Software in the near future.)

After the setup is complete, you will be prompted to restart Windows. And yes, you want to restart before proceeding. (Does anyone ever say “no” to Windows restart prompt?)

Defining the ODBC servers

The next thing to do is define what UniVerse servers this PC can access with ODBC. You use the UCI Editor to make these entries in the uci.config file. You will find this utility in the program folder you specified in the previous steps (fig. 3).

Figure 4 shows a typical server entry. Notice that this screen calls these “ODBC Data Sources.” I find that confusing with ODBC DSNs and prefer to think of this as “ODBC Data Servers.” You will usually have just one of these entries for each system that has one or

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INSTALLING AND USING UNIVERSE ODBC: A QUICKSTART

Continued from page 23

more ODBC-enabled accounts on it, regardless of the number of accounts.

The parameters DBMSTYPE, network, and service will always (in my experience) be UNIVERSE, TCP/IP, and uvserver, respectively.

Set the fourth parameter, host, to the hostname or IP address of the server you want to connect to. In this example, I have used "localhost" because I am running the UniVerse server on the same machine that I am using to demonstrate ODBC access.

Defining ODBC Data Source Names (DSN)

You need a DSN on the PC for each UniVerse account on the server having files you want to access with ODBC. This is done by using the ODBC Admins tool that you will find in the same program folder as you did the UCI Editor.

The initial screen (fig. 5) shows you what DSNs are already defined on this PC. User DSNs are visible only to you. If you want anyone logging in on this PC to be able to use ODBC on that UniVerse account, put your definition in the System DSN tab.

Click "Add." Figure 6 shows the dialog you use to define the Data Source.

- Data Source Name is whatever you want to call it. I usually name it the same as the name of the account on the UniVerse server.
- Server is the name of the ODBC server you defined in the UCI Editor.
- Database (term taken from SQL) is the UniVerse account name where the files (tables) are located.
- User and Password are what the ODBC driver will use to connect to the server. These are defined in the server logins and will determine the permissions for this connection.

After completing these fields, hold your breath and click “Test Connection.” You should be rewarded with a “Connection passed” alert box. You can dismiss the message by clicking the “OK” button, or just stare at it for a couple of minutes and bask in the glory. You’ve cleared the first hurdle.

Connection failures I have seen have usually been due to:

- The RPC daemon (Unix) or service (Windows) is not running on the server.
- The User and Password not being a valid login on the server.

- Typos in the User and Password fields in the dialog in figure 6.
- The RPC port being blocked by the network.

If you want the password for the connection to be saved so the PC user does not have to supply it, click on “Options” to expand the dialog check the box labeled “Save Password” (lower right portion of the options).

The other options are documented in the ODBC Guide (10.2) starting on page 3-11 and are typically experimented with on a site-by-site basis for performance tuning.

Continues on page 27

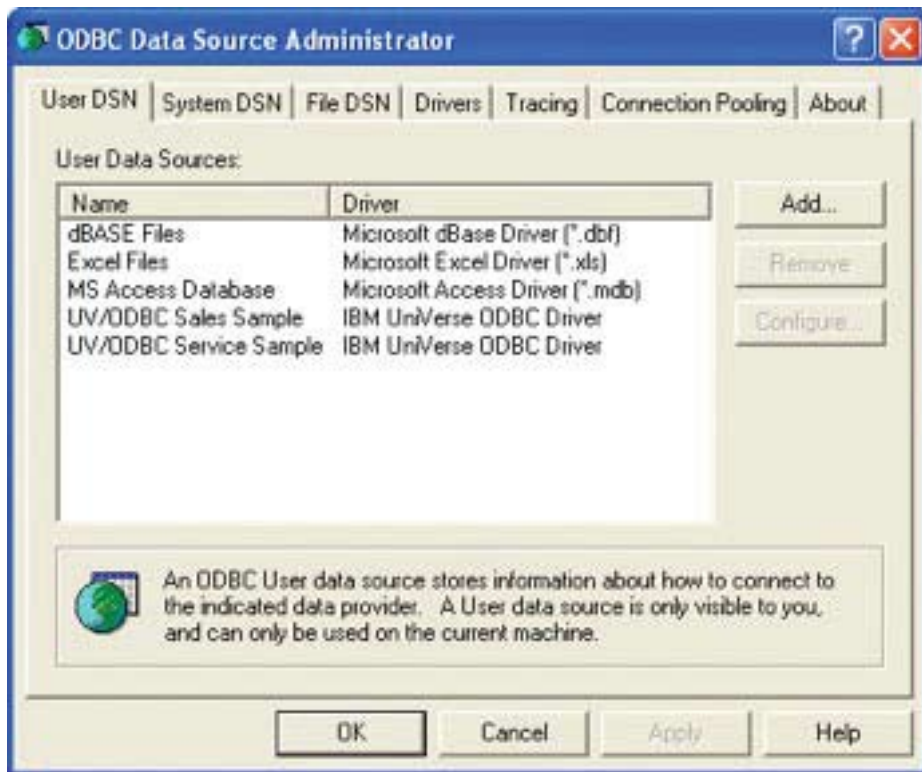


Fig. 5 ODBC Data Source Administrator

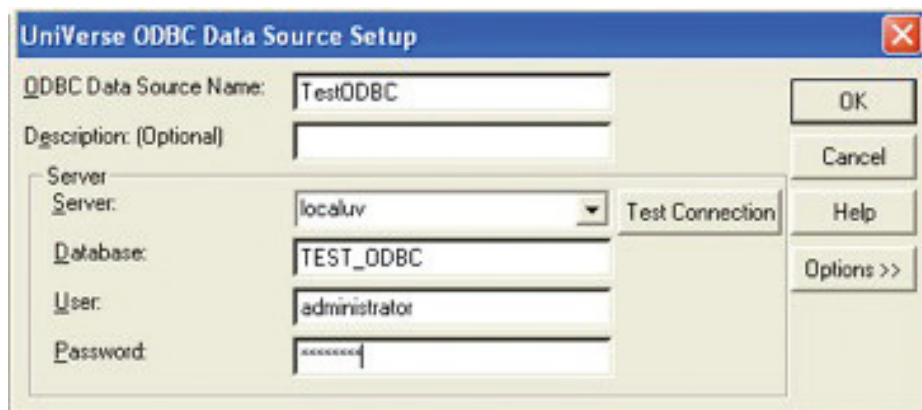


Fig. 6 Defining an ODBC DSN

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BUSINESS TECH: PRINT MEDIA - PART 1

Continued from page 9

the editor and so on, up the chain, the syndicated writer is delivering pre-edited content to a number of competing organizations. It turns the paradigm upside down by actually giving control to the creative side. Except, of course, that it doesn't. The Syndicate is a Media business, and as such, it has publishers, editors, and all the other people above the creative, just like in non-meta-publishing.

The difference is really in what is sold and how it is sold. A publisher sells magazine, books, newspapers, what-have-you to readers. A syndication publisher sells content to publishers. So, Dear Abby sends six letters to the Multivalue Times Sun Mirror Standard newspaper and they publish six or less letters based on their space.

The advantage to syndication for a business is that they get reflected glow from the popularity of the column. The danger is that it makes their product a little less unique. If I can get my Snoopy fix from any paper, it makes those papers more interchangeable to the consumer. If I can only read Multivalue's Top Nth Book List — we aren't limited to 100 or any other fixed number — in International Spectrum, then you must get that specific magazine.

All The News That Fits, We Print

That's all for this installment. The next part will talk about Print on Demand and other more modern business models. **IS**



CHARLES BAROUCH is the CTO for Key Ally, Inc. He is past President of the International U2 Users Group, and a regular Spectrum Magazine contributor.

Contact Charles at Results@KeyAlly.com, or phone (718) 762-3884 ext 1.

INSTALLING AND USING UNIVERSE ODBC: A QUICKSTART

Continued from page 25

Accessing UniVerse files using ODBC

At this point it may seem like you are ready to access the data in UniVerse files on the server. Let's try it using a tool like MSQuery (or Excel, which calls MSQuery). Launch your utility and select the DSN you just defined. If the connection is successful (it should be if Test Connection in the previous step worked), you will be shown a dialog from which to select tables (files) from the account to add to the query wizard.

How odd. The Add Tables list is completely empty...

The problem here is that the UniVerse account we referred to in the DSN has never been enabled for ODBC access. So we need to go back to the server to do this. In normal practice, you would probably do everything you need to do on the server before setting up the PC clients. I wanted to demonstrate what happens if you don't.

Log onto the server as root or another administrator id and LOGTO HS.ADMIN. At TCL, use the command HS.ADMIN to invoke the ODBC menu (fig. 7).

To make all UniVerse files in an account available to ODBC, use option 3. After that, all the files in the account will be accessible as tables (fig. 8). Associated multivalued, such as BORROWED in the BOOKS file are broken out into linked tables through a process Rocket calls "dynamic normalization."

You can now complete your test query as shown in figure 9.

Two other options from the HS.ADMIN menu deserve mention.

Option 5, HS.SCRUB, checks both the dictionary and data sections of a file to make sure that the data really is what the dictionary says it is. For example, it will squawk if it finds non-numeric data

This shows a typical server entry. Notice that this screen calls these "ODBC Data Sources." I find that confusing with ODBC DSNs and prefer to think of this as "ODBC Data Servers."

in a field defined as MD2. It has a FIX option on it, but against production data, I prefer to handle things myself, correcting either the data or the dic-

tionary on a case-by-case basis depending on what effect it will have on the application.

Option 6, HS.UPDATE.FILEINFO, should be run anytime you change the account by adding or deleting files, changing association definitions, etc. It's the first thing I try when I'm not seeing what I expect on the ODBC side.

Hopefully the end-to-end example in this quickstart will enable you to get started with UniVerse ODBC and provide a basis for further exploration of the UV/ODBC manual. **IS**

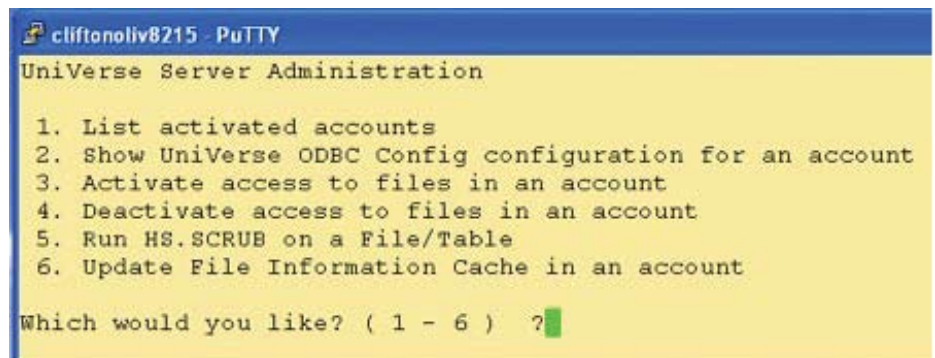


Fig. 7 HS.ADMIN Menu



Fig. 8 Files and Associated Multivalued as Tables

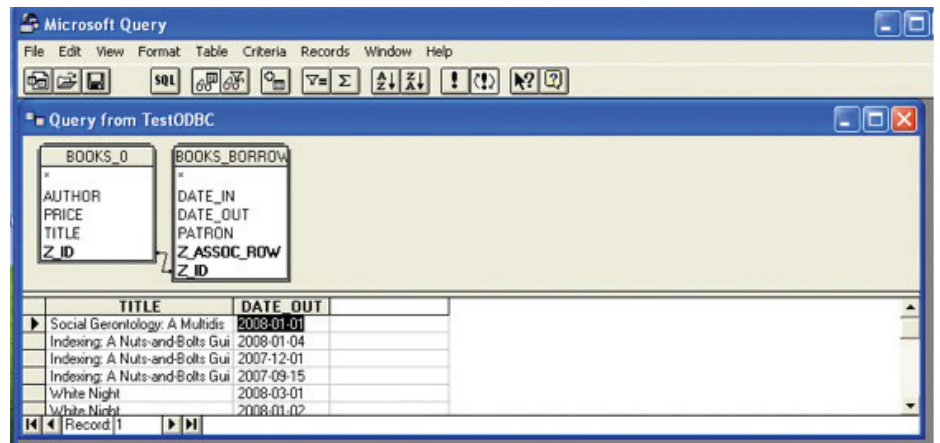


Fig. 9 Completed Query

BY NATHAN RECTOR

Quirks of the LOCATE Statement

When I ran across this blog post a month or so ago, I thought it was worth republishing, as many of us have run into this one time or another.

The LOCATE statement is one of the most commonly used Basic statements in our MultiValue enterprise software. With its ability to find exact matches easily, as well as providing basic right and left justification sorts, it saves a lot of time and coding.

Although, since it is designed to be used with strings, sometimes it does odd things with decimal numbers. See the example in Figure 1.

```
array=' '
list.array = 4.5 :@VM: 21 :@VM: 8.1 :@VM: 32 :@VM: 70

FOR v = 1 TO 5
  LOCATE(list.array<1,v>,array,1;position;'ar') THEN NULL
  array = INSERT(array,1,position;list.array<1,v>)
NEXT v
*

FOR a = 1 TO 5
  PRINT array<1,a> :"-":
NEXT a

Output:
21-32-4.5-70-8.1
```

Fig. 1

You will notice that the output didn't place the 4.5 and 8.1 in the correct order.

There is an easy fix, though: Make sure that your numbers are always in internal format. In other words, you need to remove the decimal point from data (figure 2)

```
array = ' '
list.array = 4.5 :@VM: 21 :@VM: 8.1 :@VM: 32 :@VM: 70

FOR v = 1 TO 5
  VALUE = ICONV(list.array<1,v>,"MD2")
  LOCATE(VALUE,array,1;position;'ar') THEN NULL
  array = INSERT(array,1,position;VALUE)
NEXT v
*

FOR a = 1 TO 5
  PRINT OCONV(array<1,a>,"MD2") :"-":
NEXT a

OUTPUT
4.5-8.1-21-32-70
```

Fig. 2

As you can see the data is now in the correct order. You are not limited to an MD2 (MR2). You can use MD4 (MR4), or you can multiply and divide by 1000 to remove the decimals, but be careful of your PRECISION settings, as it may generate odd results.

You can see the original blog posting via the shortlink:

<http://intl-spectrum/s1033> **IS**

MULTIVALUE APPLICATIONS AND WEB 2.0: PROVIDING A DESKTOP-LIKE USER EXPERIENCE

Continued from page 15

resizable/draggable/dropable elements, etc. In addition, the use of an open-source, community-driven library means that new “plugins” are constantly being developed and released, allowing a niche market community (like the MultiValue developer’s community) to leverage the development efforts of a great many more people — typically at no additional cost.

Of course, there must still be some kind of integration between the library and UI elements and the MultiValue programming environment. In O4W, this is accomplished by the O4W APIs, which encapsulate the jQuery (and other custom JavaScript functions) in MultiValue-friendly functions and

stored procedures. By using the O4W APIs directly (in custom programs) or via the O4W Wizard tools, MultiValue developers need not learn the particulars of jQuery, AJAX, JavaScript, and HTML if they don’t wish to. The calls to generate the Web 2.0 content are hidden to some extent behind a familiar face.

With the advent of Web 2.0, it is now possible to have “rich” applications available to everyone, everywhere. The advantages of the desktop application, and the browser application, can now be combined. By properly building upon community efforts, ongoing developments and functionality can be more readily incorporated in MultiValue applications, keeping the application fresh and up-to-date. In fact, as more and more elements of the desktop “user experience” become available in the browser, it is easy to imagine a time when the line between “desktop” and “browser” application disappears entirely. IS



Fig. 4 jQuery date picker control

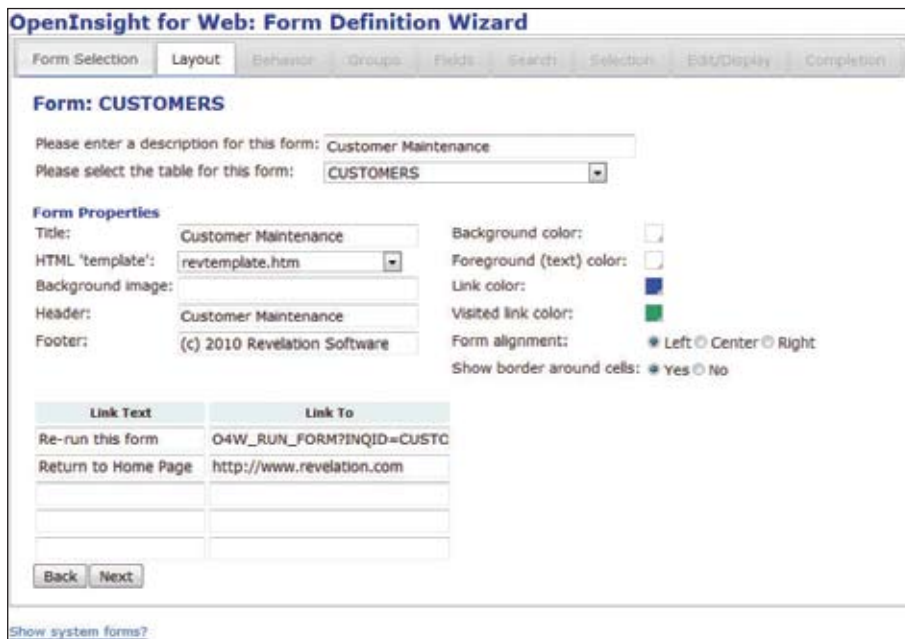


Fig. 5 O4W Form Wizard

CLIF NOTES

Continued from page 30

The iPhone 4 has an innovative new antenna system that runs the antenna in a band around the edge of the phone. Sexy. It makes the phone one of the slimmest ever released. Unfortunately it has what in retrospect appears to be a rather glaring design flaw. There is a spot on the edge on the lower left-hand side of the phone that if your fingers close a gap in the antenna, you lose most of your signal and disconnect. This was widely reported and documented independently, not only by bloggers, but credentialed technical publications, news organizations, and the like. Apple’s response?

No it doesn’t.

The user base has been stunned. The last thing you expect from a respected company in response to a clearly documented product flaw is to be told that you are full of it. And then when the CEO of said company personally posts e-mails that tell people, you’re holding it wrong, it exacerbates the outrage.

Oh and the story just gets “gooder.” Somebody then got hold of some Applecare documents that showed Support had been given scripted responses to users calling to complain about the problem. Among those instructions was to tell the user that Apple would not be providing what had been discovered to be a relatively easy solution — a plastic case for the phone to prevent your hand from touching that area of the antenna. (Fortunately they stopped short of telling Applecare to recommend the other common solution — a piece of duct tape on the edge of the phone.)

Then, they issued a press release stating that they have found a software bug that, since the release of the original iPhone, has been improperly calculating the number of bars of signal strength that you have. So if you have four bars of signal, and you move your hand to that spot on the phone and it hangs up, it’s not an antenna problem. You didn’t

Continues on page 18

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| <input type="checkbox"/> Controller/Financial | <input type="checkbox"/> Consultant |
| <input type="checkbox"/> VP/Department Head | <input type="checkbox"/> Other _____ |

2. Is your company a (check one):

- | | | |
|---|---|---|
| <input type="checkbox"/> Computer System Supplier | <input type="checkbox"/> Dealer/OEM/VAR | <input type="checkbox"/> Software House |
| <input type="checkbox"/> Consultant | <input type="checkbox"/> End User | <input type="checkbox"/> Other _____ |

3. What MultiValue Databases does your company use? (check all that apply)

- | | | | |
|--------------------------------|--|-----------------------------------|--------------------------------------|
| <input type="checkbox"/> D3 | <input type="checkbox"/> Native MultiValue | <input type="checkbox"/> Reality | <input type="checkbox"/> Other _____ |
| <input type="checkbox"/> jBASE | <input type="checkbox"/> uniData | <input type="checkbox"/> UniVerse | <input type="checkbox"/> uniVision |

5. What major business/industry most clearly describes your company?

- | | | | |
|--|------------------------------------|---|---------------------------------|
| <input type="checkbox"/> Accounting | <input type="checkbox"/> Medical | <input type="checkbox"/> Direct Marketing | <input type="checkbox"/> Legal |
| <input type="checkbox"/> Banking/Finance | <input type="checkbox"/> Dental | <input type="checkbox"/> Construction | <input type="checkbox"/> Retail |
| <input type="checkbox"/> Education | <input type="checkbox"/> Insurance | <input type="checkbox"/> Other _____ | |

6. What are your firm's approximate gross annual sales?

- | | |
|---|--|
| <input type="checkbox"/> Under \$500,000 | <input type="checkbox"/> \$500,000 - \$1 million |
| <input type="checkbox"/> Over \$1 million - \$5 million | <input type="checkbox"/> Over \$5 million - \$10 million |
| <input type="checkbox"/> Over \$10 million - \$25 million | <input type="checkbox"/> Over \$25 million - \$100 million |
| <input type="checkbox"/> Over \$100 million - \$500 million | <input type="checkbox"/> Over \$500 million |

IS 03/08

CLIF NOTES

Continued from page 31

boss. At least not if you want to stay in business as an independent consultant for over 25 years. Like any other business, you have to have a good, solid business justification for new software or equipment purchases.

With the conference only four weeks away, I had a decision to make. You see, while I am only a part-time participant with International Spectrum as a company, as the Editor of the magazine, when I am at the conference, I am Staff. I thought it would look funny if Spectrum made this announcement that content was going mobile and I, as a staff member, could not access it in a modern fashion. So I decided it was time for me to bite the bullet and buy an iPhone, in support of my business activities. (That's my story, and I'm sticking to it.)

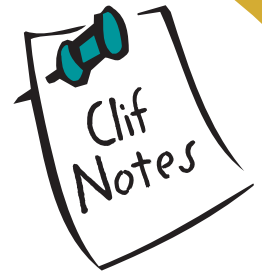
Now why did I go with an iPhone instead of an Android or some other smart phone platform? Quite simply, because I am a happy Mac user (for reasons that are irrelevant to this discussion). And through the use of Apple's MobileMe service, most of those hated synchronization problems went away. For the most part, it has worked as advertised. I love it, and I have recommended the combination not only to family and friends but also to business colleagues and clients. In the several years since switching to the Mac platform, and a year and a half of switching to the iPhone, I have never had any second thoughts.

Until recently...

By now I'm sure most of you have heard about the problems with the new iPhone 4. There are several, including the usual software glitches, an overly sensitive proximity detector that can cause the phone to make a random phone call in the middle of one of your conversations (dubbed "cheek dialing"), etc. But the one that has received the most attention is what we might refer to as Antenna-gate.

Continues on page 29

Telling Us We're Stupid Is Not A Sales Closing Technique



B Y C L I F T O N O L I V E R

For years I have avoided anything resembling a smart phone. I just never saw the use in them. I have always preferred applications that did one thing and did them well, as opposed to a single application that tried to do everything and did them all miserably. I saw no reason at the time why my approach to appliances should be any different. So I was quite content to muddle along with my cell phone, my Palm PDA, my desktop computer, and my notebook.

After a while I started to streamline. First, after talking with a couple of colleagues, I dumped my desktop. It occurred to me that if it was acceptable to me to sit in a cubicle at a client site using a 13 inch notebook as my primary workstation (I had gone small to make travel easier), or was working with the notebook from a desk in a hotel room, why couldn't I just use that same notebook as my primary workstation when I was working from my office? This simplified things quite a bit. I no longer had to keep the desktop and the laptop in sync. This doesn't sound like a very onerous task until you are traveling on a weekly basis, trying to keep the two in sync, and spend all night the night before a flight piecing things back together when the synchronization software decided to go wacko on you.

The next thing to go was the PDA. I had switched notebook platforms to the Mac. The Palm desktop software that they had for it was, quite frankly, inferior to both the software that Palm had published for Windows and the equivalent native software that was included with the Mac. I did go down the path of getting some third-party software and synchronizing the Mac calendar and address book with the PDA. That kind of worked. But then, we're back to all that synchronization stuff. I then decided that it was silly for me to be carrying a PDA with me in the first place. I had a small notebook that I had with me all the time. So I dumped the PDA.

Ah! The bliss of simplicity. One platform to keep track of, keep up to date, and backup. The only thing it didn't do was make phone calls. Yes, I did experiment with some of the VoIP applications, but at the time they were certainly nothing with the quality or reliability to run your business on. Besides, WiFi access was nowhere near as ubiquitous as it seems to be today. So for several years I got along quite happily with my cell phone for talking and my notebook for everything else.

I will admit that the cell phone I got a couple of years ago did have a web browser, calendar, and address book. But I ignored them due to the entire synchronization issue again. I called it my not-so-smart-phone.

Then last year, just before the International Spectrum Conference I found out that Nathan Rector was going to be announcing that the conference schedule, along with some other content, was now available for mobile phones. I called to find out what was going on. During that conversation, I learned that he had upgraded to an iPhone. I was doomed. I was caught in ~~full-geek-toy-envy~~ business need re-evaluation.

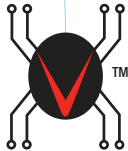
You see, as an Apple user, I had wanted an iPhone for quite some time. But contrary to popular belief, we self-employed consultants can't just go out and buy whatever new equipment we want to just because we're our own

Continues on page 30

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