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THE MULTIVALUE  TECHNOLOGY MAGAZINE | MARCH/APRIL 2014

Snowmagedon

Bad News or Good?

Also in the Issue:

- Just what is Big Data?
- User Experience is more than GUI



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Upcoming Webinar Schedule

DATE	TITLE
Wednesday May 21st	Developing MultiValue GUI Applications If you are a legacy application developer, or a new MultiValue developer, this series of webinars is designed for you. We will cover how to develop a successful GUI interface, and how to optimize the database access to make your application fly. This webinar is Concept and Design class with a primary focus on developing the User Interface and how to interact with your MultiValue data and business application. Many of the examples will be shown in .NET, but the webinar will apply to most all GUI development environments.
Wednesday May 28th	Desktop App using .NET WinForms and UniObjects.NET There are a lot of different presentation frameworks available to you when using .NET. WinForms has been around the longest, and has the most options and 3rd party controls developed for it. This class will show you how to create a simple Desktop application that interacts with UniVerse or UniData using UniObjects.NET.
Wednesday June 11th	Using WebServices in MultiValue BASIC People have been talking about how to create Web Services from MultiValue BASIC, but there are many web services out there that you can use within your MultiValue BASIC applications. This webinar will talk about how you can consume web services and use them as part of your applications.
Wednesday June 18th	Introduction to F Correlative This course is designed for experienced MultiValue Developer who need to become familiar with F Correlatives. Most legacy systems still have F Correlatives as a working and functional part of their dictionary design. This webinar will cover how to read, create and modify F correlatives.
Wednesday June 25th	ActiveDirectory with Your MultiValue Application Microsoft ActiveDirectory has become a fact of life for many organizations. Most enterprise systems integrate their security with ActiveDirectory, so why not add ActiveDirectory Support into your MultiValue Application.



FEATURES | MARCH/APRIL 2014

6 Business Tech: Snowmagedon The same data can have many different meanings to different people, depending on their business focus and outlook. Take the weather forecast for example. Predictions of heavy snow will give ski resort operators elation and big smiles. The reactions of insurance agents, on the other hand, will be somewhat different. But first, somebody has to figure out how to obtain and present the data to the target audience to use in their projections. (That's you.) **BY CHARLES BAROUCH**

8 Big Data Everybody is talking about Big Data. But a lot of people have trouble defining exactly what that means. Are we talking about "tons and tons" of data? (Volume) Are we talking about terabytes of data that is changing every few minutes? (Velocity) do we capture it in a traditional data warehouse or some other structure? And what tools are available to process this stuff? Here is an overview of some of the problems that big data presents and a couple of tools that have been developed to deal with them. **BY SUSAN JOSLYN**

15 User Experience and User Interfaces are not the same! We have been hearing for years that we need to modernize our user interface by getting rid of the green screens and using GUIs. That might have worked a few years ago, but the world has changed – again. Users are no longer satisfied with the "putting lipstick on a pig" approach. Their experiences with their own personal computers, tablets, phones, etc. have caused them to raise the bar. They now demand a completely new User Experience. **BY NATHAN RECTOR**

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From the Inside

There has been an issue that our community has been battling for years — the lack of junior and entry level developers. One of the things that I noticed this year at the Spectrum Conference was that the age demographic of our senior developers is dropping. What this tells me is that our junior level developers are becoming our senior level developers.

The lack of junior level developers has been a hindrance to the adoption of MultiValue technologies, as well as a constant question that new CIO, CTO, and CEO bring up whenever they contemplate moving from their stable, but CTI (Command Line Interface) MultiValue system to something else.

We hear this all the time: "I can hire .NET/JAVA/etc. programmers directly out of college and they will already know how to do 'X'." I can hear you screaming at me already... it's more than just that you dummy! We all know that what these people are really stating is more than just this question, but it is an easy thing to pick at.

What businesses want most is something that helps the bottom-line, has good total cost of ownership (TCO), and is easy to train new developers on. Unless you are dealing with someone who thinks SAP is the correct solution.

As MultiValue DBAs and developers, we know that TCO of MultiValue Databases and Applications is much lower, not to mention the ease and speed to alter the business rules, processes, and data schemas. As the database providers add new features, APIs, and handle the general Buzzword compliance, what is lacking from MultiValue Databases and technologies has more to do with its advantages over our competitors instead of an IT buzzword or trend disadvantage they are trying to fill.

The question then becomes, why is it so are hard to find junior or entry

level developers or DBAs? Since it takes so long to bring new developers up to speed on the business practices, new hires are expected to have some knowledge and training in the environments they are hired to work in. That takes time and money as well, so businesses expect other sources to do this for them, and in turn expect the new developers to just exist.

To address this, International Spectrum has created a training program through existing college Internship programs. What is this you ask?

International Spectrum is working with college students that already have some training in development, to bring them up to speed on MultiValue databases and philosophies. In the process of this training, we are evaluating coding, communication, and documentation standards and quality.

What does this mean for you? Well, your business will get access to junior level programmers who have worked with MultiValue tech and databases at an entry level.

What do we we need from you? Sponsorships. Just like with other companies, the time and resources needed to train new developers still exists. The advantage that International Spectrum has is that we can train multiple people at once, in the same way, and not have to worry about running your day to day business.

To find out more about this program, and how you can help support it and make it grow, the just go to the following link:

<http://www.intl-spectrum.com/internship/>



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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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Snowmagedon

BY CHARLES BAROUCH

Everybody talks about the weather, as the old joke goes, but nobody does anything about it. In Australia, as my friend Ross delighted in pointing out it was 32 degrees — Celsius — while in much of the United States, it was below 32 degrees Fahrenheit. He was looking out the window and thinking about wearing shorts. Over in my part of the world, it was easy to look at snow and think “Parking nightmare” or “no school.” Today, however, I’d like to look at the business of snow. There’s no business like snow business.

Snow-My-Gawd!

With the Winter Olympics in full swing, it is easy to remember that snow has its own set of sporting events. While many Ski lodges have snow making apparatus, the ubiquity of snow on every street makes skiers think about taking a trip. Nature provides some excellent advertising. If you doubt this, just look around you the next time a winter storm hits and people begin to attempt the driving and walking challenges involved in getting to work. The ones who are smiling and whistling to themselves, those are the ones dreaming of snowboards, sleds, and skis.

Of course, different people need to consume data different ways. So, while I used the word ‘reporting’ you can feel free to say ‘inquiry’ or ‘dashboard’ instead.

For the Ski lodge operator, incorporating weather data in their projections is critical. It helps explain the seasonal highs and lows on P&L reports, for example. Even more interesting, when the weather data disagrees with those rises and dips — that’s when you know that a deeper dive into the data is valuable. Finding those contrariness may help you plan for the less obvious patterns of your business.

On the other side of the world, tracking the heat — and the brush fires — can tell warm weather venues about their own ebb and flow. Even for businesses that are less affected by the weather, it can be important to incorporate that data. Once you have some useful patterns, you’ll want to move beyond just recording the weather to reporting predictions as a planning tool.

In the U.S. there are some excellent sources for data — both actual and predicted — including the NOAA and the oddly named Weather Underground. Details on the Weather Underground API can be found here: <http://www.wunderground.com/weather/api/>.

They indicate that they have global data, but I haven’t checked into that as yet. If any of you do, I’d be interested to know how good it is.

For the NOAA data, you can start here:

http://w1.weather.gov/xml/current_obs/.

Snow Way

Of course, different people need to consume data different ways. So, while I used the word ‘reporting’ you can feel free to say ‘inquiry’ or ‘dashboard’ instead. I did a project recently where I used the Google Charting API to create a weather dashboard. It has been featured on the local news here a few times. It is also being piped into an educational center.

Much like every other kind of data we collect, once you have it, you’ll see other ways to use it.

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SNOWMAGEDON

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The White Cliffs

Here's a less obvious business example: Insurance. If I were working for, or consulting with, an insurance company, it would add to my value if I were a source of weather data. Cars and homes get damaged in storms. Not just the winter ones; all storms create property risk. Of course, winter brings unique risks. Ask anyone who has parked on the street and come out to tires slashed by the snow plows. Black ice and other hazards will also increase the number of claims that winter can produce.

Insurance is a business that literally bets on future outcomes. Adding a known predictive model will give that sort of business a small leg up. Everyone is looking for an edge. As IT people, we have the chance to provide one.

Salt of The Earth

I have a prospective client who, among other things, sells ice melting products. During my initial meeting with them, the phone kept ringing. Every conversation was about rock salt, magnesium chloride, and other melters. With a record number of winter storms, everything from shovels to kitty litter — good for getting traction in snow when your car is stuck — can run into short supply.

Another less obvious example: If snow means salt, salt means soil damage. Most ice melts are harsh on plants. When end of season snow falls, gardening business should see the opportunity to offer to do soil tests for their clients. Fixing the imbalance proactively creates good will. Thinking beyond the cold season is good business.

I certainly am not here to argue that weather prediction is a perfect science. However, it is getting progressively better and we do have an obligation to look at relevant data, even when it is indicative instead of solid. To be fair to the meteorologists of the world, all predictive models have flaws. Ask anyone who has attempted to model the stock market.

Snow Sorry to See You go

Snow is a business. Snow removal, from selling the tools and chemicals to going door-to-door with a shovel, is a business. If you are supporting these sorts of businesses, you need to look to the skies for some of your answers. **IS**

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Big Data

B Y S U S A N J O S L Y N

Your data is big and it's getting bigger. (No, I didn't just call you fat.) Companies that collect and process data are getting bigger, often through mergers and acquisitions, but also through organic growth. The number and types of devices producing and capturing data have exploded in recent years. The data we are accumulating has reached epic proportions — and is growing by exponentially epic proportions every day. The vaguely childish code name “big data” doesn't begin to cover it. That name almost seems to imply that the problem is limited to ‘really big files’. You know, like your sales history file after forty years on the same computer system. Yes, it's big. It is really big. But *that* is a really simple problem. It's a defined data set of a known structure and presumably you have the tools to manipulate it. Even with the added complication of mergers it is still pretty simple. It's just that now you have two sales history files and they are in different formats. That is something we have been dealing with for decades — mapping one to the other or both to some middle ware — often a “cube” for report processing. All simple, still manageable. This concept of “Big Data” goes beyond all of that. It goes

Retailers understand that customers generate a trail of “data exhaust” that can be mined and put to use.

beyond do-able. That's probably the most succinct definition: “Beyond do-able.” The more formal definition gets into the three V's that define Big Data: Volume, Velocity, Variety. And a fourth “V” comes in the effort that must be made to determine the Value of a stream of data. So we must deal with data that is large (volume), that is growing quickly (velocity) and that has varied structure (variety) and that has some weighted value that must be determined.

Each of these “V”s brings its own inherent challenges, that is sure. But the scary and impressive one is “Velocity.” We can deal with the variety of data — if we have some time to poke around with it. We can deal with the size of a large file. We can use indexes, reporting cubes, programs to reformat and to compress. We can do most anything, given time. But velocity comes along and eats our time for lunch. We *don't* have the luxury of the time to poke around and build giant data cubes. The new data is coming at us so fast that it

is outpacing our efforts to deal with it! We are sitting in a pool of water trying to bail with one-liter bottles, but our pool is at the base of a waterfall. That is the problem with “Big Data.” When you braid in the other two V's, it gets so much worse. Because it's not just a *high value of various* data that is coming at *velocity*, the variety itself is increasing at velocity, too! It is the velocity of the variety — and the variety of the velocity. I'm sure you get the drift, but let's look at this analogy. Let's say we step out of the pool and onto dry land. We take the time we need to programmatically churn through five data streams coming over that waterfall. What we need, what don't we need, how are we going to consolidate the stream and what do we want to use from it. We lost some ground while we tinkered with it, but that's okay. We've decided to accept that loss because now we have data to play with. We have a way to sample the streams in the most intelligent fashion (predictive analytics). We've stratified and prioritized, we've stacked and compressed, we've powdered and perfumed. We're feeling pretty good about our data. But while we were looking away, three more streams of data dug new grooves over the dam. Data that

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we didn't know about, didn't expect, don't understand. By the time we figure out what we *need* from that data, we look up and...well, you can guess the pattern. *That* is the real issue behind big data. People talk about those other "V"s, but it's that V for Velocity that is screaming us.

The image most often associated with big data is an elephant. Even Hadoop — the predominate tool for managing Big Data — is named for an elephant. Doug Cutting, Hadoop's creator, named the framework after his child's stuffed toy elephant. My own Dad has an adage about elephants. He got it from his Dad. And like all of my grandfather's wise sayings, the real impact comes in the corollary. You ask: "How do you eat an elephant?" The answer is easy, "One bite at a time."

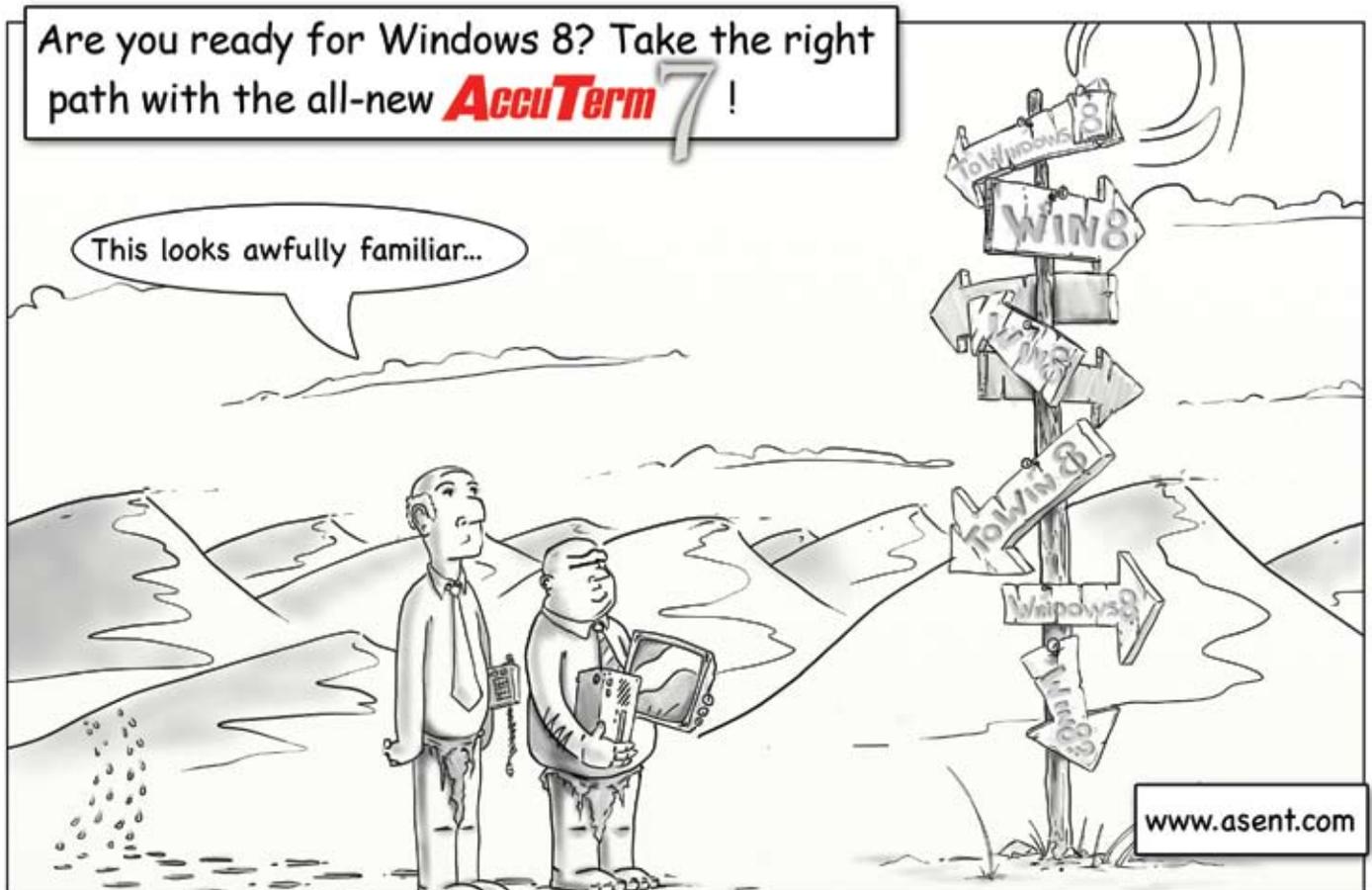
But the corollary? "That last bite can get pretty gamey." It was always a good aphorism, applying well to most big projects. If you spend too much time solving a problem, the nature of the problem itself will have changed — and not usually for the better. While this still applies in the case of Big Data, those slowly lumbering elephants have become giant rabbits. You know, hopping around quickly and multiplying like crazy.

To cope with all of those bunnies, a divide and conquer approach known as map reduce has come into use. Unlike a centralized database system where you have one disk connected to one or more CPUs with a limited amount of horsepower, MapReduce allows you to distribute the data across clusters of servers that include distributed storage and multiple processors. So while your program for indexing your data may

not have changed much (yet), you can get results faster by sending your application and a chunk of the data to each of servers in your cluster. Each server operates on its own chunk and then the results are then delivered back in a unified whole.

The idea — and the name — for MapReduce came from Google, a company that has always been pretty good with data. Their breakthrough was realizing that a search engine could use input other than the text on the page. The joke is that they "thought outside of the (search) box." They needed to usefully index all the rich textural and structural information they were collecting, and then present meaningful and actionable results to users. There was nothing on the market that would let them do that, so they built their own platform in 2004. They named it

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simply enough with the two verbs that describe its action (no stuffed animals were injured): MapReduce. MapReduce allows developers to write programs that process massive amounts of unstructured data in parallel across a distributed cluster of processors. The framework is divided into two parts, the two actions. Mapping is the process of breaking up a task and the data to multiple nodes and Reducing is the function that collates the work and resolves the results into a single value.

Google's innovations were incorporated into "Nutch", an open source project, and Hadoop was later spun-off from that. Yahoo has played a key role developing Hadoop for enterprise applications. Hadoop is written in Java as part of the Apache project (spon-

sored by the Apache Software Foundation). Both Google's MapReduce and the open source Hadoop have to rely on distributed file systems. Hadoop uses a standard distributed file system the HDFS (Hadoop Distributed File Systems) while Google MapReduce uses the proprietary GFS (Google File System). In both cases, the distributed file system facilitates rapid data transfer rates among nodes and allows the system to continue operating uninterrupted in case of a node failure. This approach lowers the risk of catastrophic system failure, even if a significant number of nodes become inoperative.

Using this approach a lot of interesting *data products* have emerged. Google used the technology to include spell-checking (by building a dictionary of common misspellings and their context), to integrate voice search and for

useful functions such as tracking the progress of the Swine Flu epidemic of 2009. And Google isn't the only company that knows how to use data. Facebook and LinkedIn use patterns of friendship relationships to suggest other people you may know, or should know, with frightening perspicacity.

No stranger to this sort of trickery from its very inception, Amazon saves your searches, correlates what you search for with what other users search for, and use the data to create disturbingly accurate and budget-busting recommendations. These recommendations help to drive Amazon's more traditional retail business. Retailers understand that customers generate a trail of "data exhaust" that can be mined and put to use.

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The logo features the word "Open" in orange, followed by the letters "QM" in a large, bold, blue font. The "Q" and "M" are stylized with rounded, thick strokes.

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It is still hard to implement a Hadoop solution and there are not that many experts. This is where Amazon has taken things a step further and has “packaged” a cloud-based MapReduce service which they are calling Amazon Elastic MapReduce (Amazon EMR). This is a user-friendly pay-for-user service. It is worth your time to watch this instructional video:

<http://s3.amazonaws.com/awsVideos/AmazonElasticMapReduce/AmazonElasticMapReduce.html>

Learning how to develop code using Map Reduce and Hadoop is a completely different way of thinking from traditional programming paradigms. Most traditional programming shops will have to re-tool to take advantage of this new paradigm. Seriously? The paradigm shift again? Not only that. Not only might we want to “re-tool” and build some programs that we pass off to these clusters to mine our data but we may also want to think about modifying our approach to our routine data processing applications. MapReduce on the fly, as it were. So there we are — retooling and refactoring. Again. It’s something we might want to start thinking about now, even if we

aren’t ready to make any serious moves in that direction.

Everywhere you look you see the discussions about Big Data and because of the (let’s face it, dumb) name it is easy to start thinking of the “problem” as how to manage a lot of data. And that is a challenge, no question about it. But it is not the juicy part. The juicy parts are the new ways that we will *use* our giant data. Whether or not an organization is able to figure out innovative uses of data is going to be critical to its survival in coming years. This is where the new field of data science comes in. According to Harvard, “Data Scientist” is the sexiest job of the 21st century. Quoting from that Harvard Review Article:

“... thousands of data scientists are already working at both start-ups and well-established companies. Their sudden appearance on the business scene reflects the fact that companies are now wrestling with information that comes in varieties and volumes never encountered before. If your organization stores multiple petabytes of data, if the information most critical to your business resides in forms other than rows and columns of numbers, or if answering your biggest question would involve a

“mashup” of several analytical efforts, you’ve got a big data opportunity.”

A “data opportunity”! These opportunities will lead to “data products” that are developed using “data science” through “data conditioning”. These are all interesting new ideas, with the real excitement of getting ahead of your data using “predictive analytics”.

So what we’ve started with here is a simple definition of “Big Data” and an overview of the mechanical tools and methodologies that are coming into use for managing it and for mining it. What’s next, and way more fun, is to take a look at how people are using all of this structured and unstructured data. It is fascinating to think about how your company might use their Big Data. What jewels are out there in your data, waiting to be mined?

We aren’t just changing how we store and access data. We will change the way we think about data. We will change how we market and sell and will certainly change how we buy. This all necessarily leads to new views on privacy and to some ethical dilemmas. There is a line — and sometimes it is a very fine line — between opportunity and exploitation, between providing a service and committing an offense. This is where the Big meets the Data. **IS**

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Elmhurst College Saves Time and Money by Utilizing True Self-Service Reporting and Analytics with Entrinsik Informer

Before implementing Entrinsik Informer, staff members at Elmhurst College were completely dependent on their IT department for report creation. IT staff were spending hours of valuable time writing queries in Query Builder from their Colleague database and manually customizing delivered reports for specific needs. Reports were distributed to end-users as one-off reports or through mnemonics and often times needed to be modified by someone in IT, taking hours or even weeks to complete. Non-IT staff had no way to access the real-time data that they needed without taking valuable time away from IT. In order to run analytics, IT staff at Elmhurst had to manually export data from the database, send the data to another office to run specified analytics externally, then wait for the results to be returned.

Ron Darschewski, Jr., Associate Director of Computer Services and Ellucian Colleague Administrator for Elmhurst College, saw first-hand the problems caused by the lack of an efficient reporting solution. "The major inefficiencies were that end-users required IT to do the work for them; this took hours away from work that IT could be doing, including creating system customization for the betterment of the institution," said Darschewski.

Elmhurst needed a reporting and analytics solution that would allow end-users to access, create, and run customized reports, as well as streamline the analytics process, all without assistance from IT. Users needed a true self-service solution that would give them access to the real-time data they needed, with full reporting capabilities and a user-friendly interface.

Solution: Implement a Self-Service, User Friendly Reporting & Analytics Solution

After first seeing Informer demonstrated at a Datatel User Group (DUG) conference, Elmhurst decided to fully implement the software in 2009. Elmhurst added Dashboards to their Informer platform in 2011 after experiencing a high learning curve and difficulties with another visualization tool. The key features that the College was looking for in a reporting tool were ease of use for the end-user, the ability to report

from multiple databases in a UniData environment, and security down to the field and file level of the system. "Informer delivered on all accounts," said Darschewski. "Reporting became easy; end-users could use the system with ease to get the data they needed."

Informer is designed for ultimate ease-of-use, not only in reporting functions but also during the implementation process. Installation takes minutes and Informer's intuitive interface eliminates the need for lengthy training periods. "It was one of the easiest implementations I have ever done. The total time for initial installation took about half a day but we could have done it in about two hours or less. We took our time with it and within a week we had it out to our first end-users."

Informer has also been integrated with other systems on campus at Elmhurst. The Development office uses Informer with their fund raising software, Raiser's Edge, to report on donors and giving, as well as selecting individuals for mailings. The College has also integrated Informer into their time-keeping solution, Kronos, in order to review the data imported from Colleague and checking for inaccuracies as data is moved between the two systems.

Results:

Integrating Informer allowed end-users at Elmhurst to create their own reports and dashboards, and evaluate their own analytics within the

department. Report writers no longer needed to spend hours writing complicated queries and computed columns in order to create the reports they needed. "The ability to let end-users create reports that link multiple tables (files) without the need to create computed columns to pull data in has saved us hundreds of hours of work on an annual basis." End-users can also now run data analytics themselves, saving hours or days of time and resources outsourcing their data for analysis.

Elmhurst College now has over 3,000 Informer reports and nearly 100 dashboards created and in use. These reports are used by nearly all offices on the campus, from Student Affairs to the Business Office. The ability to schedule reports or saved lists has provided the ability to email reports directly to the individuals that need them and they are waiting in their inbox when they arrive each day instead of waiting at their desk while the report processes.

"One of the newest uses was to determine students that have multiple active programs and then review the billing so that we charged them appropriately. In some instances it indicated an overcharge to the student but it also pointed out several that were being under-billed and we were then able to recoup that lost revenue."

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FROM THE PRESS ROOM

Continued from page 12

Utilization of Informer Dashboards has been a major benefit for analytics, allowing users to consolidate important data into easy-to-digest visualizations. The College has created dashboards that analyze course utilization, identify potential geographic areas for future recruitment efforts, review participation in career services programs, and compare transmitted vs. non-transmitted financial aid, just to name a few.

Getting Started

Watch a product tour of the latest version of Entrinsik Informer at www2.entrinsik.com/InformerTour. For additional details or a personalized DEMO, contact Sales at sales@entrinsik.com or call 888-703-0016. Visit www.entrinsik.com/Informer for more information. ■



jBASE Celebrates 25 Years of Innovation

jBASE International, a member of the Mpower1 Group of Companies, announces the 25th anniversary of the launch of its platform independent database management system: jBASE.

Founded March 6, 1989, jBASE was designed from

the ground up to be an open database product that would bring the strengths of not only multiple platform, but also multiple database access into the mainstream computing market. By means of an innovative open and published interface (jBASE External Device Interface, jEDI), customers are able to achieve seamless integration with foreign databases. This means that any jBASE developed application can read and write to whichever database is required for data storage such as the native jBASE database but also Oracle, DB2 and others – a first in the industry.

Under the covers jBASE is very different from other MultiValue implementations. The biggest difference is that jBASE does not use a Virtual Machine – it executes directly upon the base operating system. When compiled, a jBC (BASIC) routine is simply a piece of executable code that can be called from any other piece of executable code capable of calling external routines – Java, VB.NET, C or C++ or any preferred IDE. Programs written using jBASE BASIC can be deployed on any supported operating system with any supported database using the jEDI.

Not only was jBASE the industry's first, database-independent solution, it was also the first to be available across all popular, commercially viable platforms. Today, jBASE runs on all of the most widely used

hardware and operating systems, with the inherent ability to port to different platforms designed into the product in the very early stages.

“Powerful tools and a powerful database, together with truly open middleware means that, should you decide on jBASE for your application, you can rest assured in the knowledge that your investment is protected,” says Bob Markowitz, jBASE Sales. “Your data can be stored in jBASE or any RDBMS or file system you require. Whatever the skill set of the developers in your organization, whichever technology you need to use, you can develop using jBASE and grow your applications exponentially using any of today's latest technologies while still retaining all of the unique functionality provided by the MultiValue database model!”

In 1999, Temenos Group AG, a Switzerland-based banking software house and jBASE VAR, acquired jBASE Software and began to fund research and development on a scale previously unachievable in jBASE's history. When Mpower1 International forged a partnership with Temenos and attained the worldwide support, distribution and non Temenos banking application sector rights to the full jBASE product set in 2002, jBASE MultiValue core product development continued and remains today at Temenos with a dedicated jBASE development department in its own R&D organization.

Collectively, Mpower1, jBASE International and Temenos have an experienced team of over 40 personnel addressing all aspects of the jBASE business and have ensured that product development and quality assurance through to sales and post sales support are strengthened going forward. In addition to this, jBASE International's distributor network spans the globe and is expanding in many areas including Australia, Europe and Japan.

In the last twelve years, Mpower1 has created a solid worldwide presence bringing a number of new, innovative MultiValue products to market and expanding its operations into the .NET development environment with particular focus on customers that wish to embrace MultiValue and .NET and mobile technologies.

For more information, visit www.jbase.com.

About jBASE International

jBASE International, a member of the Mpower1 group of companies, is a leading supplier of database management software and web enabling tools for developing, deploying, and maintaining business applications solutions. With exclusive jBASE worldwide distribution rights, jBASE International offers technologies and assistance that allow businesses to thrive into the future. ■

FROM THE PRESS ROOM



Ashwood Computer, Inc Welcomes Two New ForeMost ERP User Sites Early in 2014, Barium & Chemicals, Inc. of Steubenville OH and Accurate Manufacturing, Inc. of Swansea, SC.

ForeMost is an Enterprise Resource Planning software solution designed for growing manufacturers. Ashwood's customers include job shops, custom and mixed-mode manufacturers, repetitive manufacturers, and make-to-order manufacturers. Our ForeMost applications are flexible and easy to customize, managing your most valuable and unique business processes with ease.

ForeMost is designed for quick and easy implementation, which means no expensive downtime or steep learning curve. The suite of software applications can be installed, configured, and customized without straining your budget. It's the most affordable business transformation on the market.

Yours is like no other business and you shouldn't have to settle for a one-size-fits-all solution. With the mvTools, you can customize your software to suit your needs, not the other way around. Because, as any thriving business knows, flexibility is essential to success.

Run a more organized, cost-effective business with complete, end-to-end tools and functionality. Get the data you need to make informed decisions, create detailed reports, and achieve more efficient, profitable operations. Powerful yet simple, ForeMost includes all the essential features, while remaining sleek and intuitive.

About Ashwood Computer Company Inc.

Located in Cincinnati, Ohio and founded in 1989, Ashwood is a full service systems integrator providing servers, w/Unix, Linux, and Windows, business application software, development tools, MV databases, custom programming, project

management and systems performance tuning services and support for clients nationwide. ■



UnForm v9.0 Beta Coming Soon

Coming soon UnForm v9.0 beta, SDSI's flagship product the UnForm Document Management Solution.

The version 9.0 release of UnForm is major new release with a completely redesigned browser interface for document retrieval and management. Also, included in v9.0 are major enhancements to the print management, image manager/scanning, document workflow and design tool components. A few of the major feature enhancements include:

Print Management

- Cloud-friendly enhancements to licensing and client server model

- Scheduled jobs, for automated job runs on a timed schedule
- Bar code improvements, including QR codes
- HTML5 driver for flexible and powerful active document formats

Document Archiving

- All new desktop-focused, tablet friendly browser user interface
- New internal library structure, including keyword indexing and indexed user-defined fields
- REST API for external access from any programming environment and OS

Server Management

- Browser based server manager for Windows, Unix, Linux
 - Log viewing and analysis
- Please contact SDSI at sales@sdsi.us with any questions regarding the upcoming v9.0 beta release of the UnForm Document Management Solution. ■

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www.intl-spectrum.com/newsletter

User Experience and User Interfaces are not the Same!

“I want to show you something, but please ignore what it looks like. I’m still working on that.” or “Is this the data you want... oh, please don’t look at the layout, I’ll fix that later.”

Since MultiValue developers are so data focused these days, this is a common comment when demoing a solution or application. The whole concept that a user can simply “ignore the design” because our application works better and faster than anything else with a better “design” is a major failing.

On the other side of the coin, the concept of “make it look nice, we’ll fix the speed later” is a chronic problem with a lot of other software as well.

These two polar opposites of application development have caused our business systems to become ugly and nonfunctional. The introduction of a new concept called “User Experience” (UX) was provided to address this.

We have heard for many years that we need to convert our beloved console

We have heard for many years that we need to convert our beloved green screen applications into something with a better User Interface. The problem here is that the user doesn’t want just a new interface, but a new User Experience.

(green screen) applications into something with a better User Interface. The problem here is that the user doesn’t want just a new interface, but a new User Experience.

So, what is the difference? Doesn’t a new UI give a user a new experience? Isn’t that the same thing?

When looking at the UI, most people look at the “Interface Design” and the “Visual Design” — mainly the “Visual Design.”

This is not “the end all to be all” of a better UX (User Experience) and is the reason most conversions fail. Just mak-

ing something pretty and well laid out isn’t enough when you lose functionality and speed. Visual Design can provide more functionality and additional data on a display. It can even make your application pleasing to the eye, but this can be done with fonts and colors just as easily as pictures and buttons. And it can be overdone very easily.

As developers start looking at how to make something look “pretty,” they start looking at the interface design to go with the visual design. By adding buttons, drop-downs, hover areas, among other things, the interface becomes easier to work with... in theory. This introduces the mouse, touch, and other input devices, which then become the primary input devices.

This in turn affects User Experience, and not always for the better.

So what is User Experience?

User Experience is:

- Visual Design

Continues on page 16

USER EXPERIENCE AND USER INTERFACES IS NOT THE SAME!

Continued from page 15

- Interface Design
- Documentation
- System Performance
- Usability
- Ease of Access
- User Flows
- Data Flows
- Environmental Flow and setups

This probably sound familiar. We do this every day. But what you are thinking is likely a misconception as well.

As application developers, we have a tendency to focus on the “process” and not the “person.” User Experience

(UX) starts with “User”, not “process.”

Most of your console (green screen) applications are based around the process, and not the user. You expect the user to follow the process to get the work done. This has always been the main hang up for converting a console application to a GUI application.

Most console applications are based around the user doing a specific process from start to finish, instead of designing the application around the “person,” who can do more than one process at a time.

When you are in a warehouse doing inventory control, a user can usually count, bin tag, and pick material all at the same time. According to the business, this is actually three separate processes. If you do these as three separate

processes, more than likely you are wasting a lot of your employee’s time.

If you implement a warehouse application, is that multicolor drop-down list of selectable numbers (that looks really cool) the best input method, or does a simple keyboard provide a better experience. Is a mobile device better in a manufacturing environment than a piece of paper?

It’s not always about the technology, but how it is used that makes the user experience better. Tablets, smart phones, and wearable devices all make the user experience nice. The drawback to them is that they can’t do everything.

Sometimes a simple old desktop computer, printer, and keyboard provide a better experience than trying to do everything on a mobile device.

User Experience is not confined to the computer or device either. User Experience has a lot of environmental prep as well. For example, let’s look at inventory control systems again. When something is placed on a shelf, the user needs to know where to put it.

In most places, there are “bins” or “location assignments” that are implemented. These are typically barcodes or some type of unique location identifier that the user can assign or be told to place the inventory into. This is all defined and setup in advance to make it easier for the “person” to retrieve or put things away in.

That last thing to keep in mind is that it is not ONLY about the “User.” The developer still has to design the application to address the “process” needs. A business can’t succeed without its unique process, procedures, and data.

Continues on page 17



Feedback

What came first, the letters or the letters-to-the-editor department?

International Spectrum Magazine has a Feedback Department, sometimes known as Letters to the Editor.

We want to hear your comments, your reactions, your agreement or disagreement with what you see. Also, do not hesitate to let us know about things happening in the MultiValue Community we may not have heard about yet.

Please send your comments by e-mail to:
editor@intl-spectrum.com

USER EXPERIENCE AND USER INTERFACES IS NOT THE SAME!

Continued from page 16

If you don't fulfill this critical business need, then the whole application will fail as well.

If you create a "user" centric application, many times you can combine more than one business process into one simple application. This makes the User Experience pleasing, but developers sometimes have to impose specific process requirements on the User.

Let's look at a classic user — the delivery driver. All they want to do is drop off what they are carrying and get back on the road to the next stop. They don't want paperwork. They don't want to problems. They don't want to spend any more time at any one location than they have to.

Although the business process may require the driver to take pictures after they unload, get the customer to sign off on the receipt, and/or document time, date, when, who, why, and how things were done when items were unloaded. This is all inconvenient to the user, but is critical to the process of delivery.

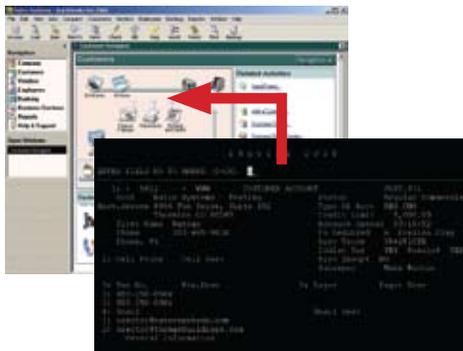
As you can see User Experience (UX) is more about overall business systems, processes, and users than about a specific task or style of user interface. **IS**



NATHAN RECTOR
President
International Spectrum
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Number to Word conversion

Some of your business processes are complex, some are simple. Let's look at check writing as an example. This is a really simple process, but you can run into one small snag.

When writing checks, you likely want to spell out the dollar amount that the check is for as an additional security feature.

\$1023.23 = One Thousand Twenty-Three and Twenty-Three Cents.

There is no OCONV function that will do this for you, so this simple little program will likely come in handy:

```
NUMBER = "127.35"  
CALL NUMBER.TO.ALPHA (NUMBER, INT.WORD, DEC.WORD, "0")  
CRT "NUMBER: ": NUMBER  
CRT "WORD: ": INT.WORD : " AND ": DEC.WORD : " CENTS"  
END
```

This will produce the following results:

```
NUMBER: 127.35  
WORD: ONE HUNDRED TWENTY-SEVEN AND THIRTY-FIVE CENTS
```

In addition to converting numbers into dollar formats, you may need to convert it into an alpha counting format, such as:

```
NUMBER: 127.35  
WORD: ONE HUNDRED TWENTY-SEVENTH POINT THIRTY-FIFTH
```

You can download the code for this subroutine from:

http://www.intl-spectrum.com/resource/173/Numeric_To_Alpha_Conversion.aspx **IS**

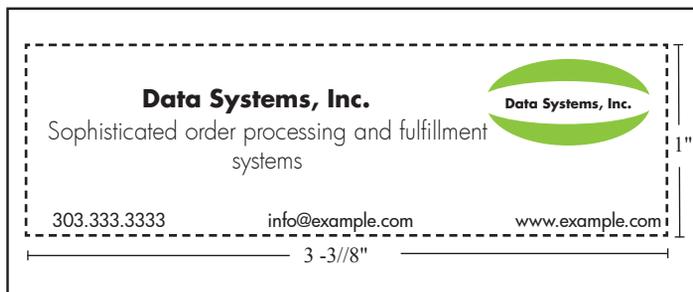
Do you have a Tech Tip to share? E-mail it to editor@intl-spectrum.com

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WANT TO SEE A SPECIFIC TOPIC?

International Spectrum is looking for writers, feedback, and topic ideas. We all have specific topics and issues that we need answers to find solutions for. Send us an E-mail with topics you would like to have covered in the magazine or on the website.

E-mail: nathan@intl-spectrum.com

WANT TO WRITE?

Expand your professional credentials, and provide us with an article.

Give us a rough and ugly outline, and we will help you refine it, proof it, and make it press ready. Or you can give us something polished, proofed, and press ready to publish.

Share your thoughts and expertise with over 10,000 fellow MultiValue developers and users.

E-mail: editor@intl-spectrum.com

LETTERS TO THE EDITOR

Have an opinion on an article: Agree, disagree, or enhancement to an article from a previous issue? International Spectrum and our authors are interested in hearing from you!

E-mail: editor@intl-spectrum.com

NEED A MENTOR?

Mentors give developers the ability to ask industry experts for direction, code examples, and/or just ask them to see if something makes sense. Sometimes, all you need is a resource or example to start or complete a project.

Check with us to see who is available for mentoring, and how you can take advantage of it to save your business or company money.

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We have many retired or semi-retired professionals out there that would love to share their knowledge of MultiValue development. If you are one of them, please contact us to see what mentoring is all about.

E-mail: nathan@intl-spectrum.com



You Ain't Rid of Me Yet!

BY CLIFTON OLIVER

We are going to be making an announcement at the 2014 International Spectrum Conference during the “Writing for Professional Development” presentation.

I have decided to step aside as the Editor of International Spectrum Magazine.

Why? To put it simply, I have been doing this for eight years now. I have a number of irons in the fire, and a new endeavor I want to pursue. There are simply not enough hours in the day to accomplish all of this and do all of it properly. So I have decided that I need to let go of some things to make room for other things.

Having said that, I want to take this opportunity to state emphatically that I am not leaving the International Spectrum family or MultiValue Community in any way, shape, or form! This is in no way a parting of the ways, difference of opinion, or any kind of acrimonious separation. I continue to support International Spectrum fully, its programs, publishing, and of course, the yearly conference. (Heck, if it weren't for that conference, I wouldn't see most of you eyeball-to eyeball. So much for “the Internet makes us all more connected.”)

Another change is that starting with the January-February issue, the bi-monthly issues will be in digital form only. However, print is not being totally abandoned. There are plans in the works to print collections. How many, what format, etc. is still not finalized.

I will still be writing Clif Notes, though it won't be a regular “column” for the magazine anymore. I'll write when I see something I want to comment on. Some columns might be published in Spectrum, some might not. That's up to Nathan and depends on the content. They will always be available at www.oliver.com/clifnotes/ for those who are interested.

And I'll be submitting technical articles as the mood strikes.

It has been an interesting eight years. I would like to share with you a couple of things that I've learned in that time. Hopefully this will encourage more of you to submit some articles or short Tech Note items.

Tell that English teacher in your past that scared the crap out of you and convinced you that you would be the laughing stock of the Universe if you EVER made a grammatical “error” or a punctuation “mistake” to go pound sand. They are typically non-pub-

lished, do-nothings whose main claim to fame is that they muddled their way through an English degree and a teaching certificate and now kill the writing spirit in many aspiring, young, talented writers by spitting their red ink cobra venom all over your papers. Their typical, “if it's not perfect, it's illiterate,” attitude has probably kept a lot of you from submitting articles or tech notes or Letters to the Editor.

Spectrum magazine is NOT like that!

We never have rejected articles based on grammar, spelling, sentence fragments, etc. We would just correct it and move on. Simple, right?

But time and again I would talk to people who thought they'd like to write an article, but never did. In many cases I suspect it was because of the intimidation factor, the fear of rejection, or fear of ridicule.

If you can write a coherent email, you can learn to write tech tips, and then larger articles. And the more you write, the easier it gets.

Let me share a personal story with you. In the 8th grade, my English teacher, Mr. Simmons, told me I was never going to amount to anything because

Continues on page 22

CLIF NOTES: YOU AIN'T RID OF ME YET!

Continued from page 21

I wouldn't pay attention in class and couldn't even diagram a sentence properly. (Do they still inflict Sentence Diagrams on kids?) He was trying to motivate me to learn sentence diagramming. Oh, he motivated me. But not in the way he intended.

The next year I was the only freshman in my High School to have a story published in the school's literary society magazine. (Stick that somewhere, Mr. Simmons!)

Later, in the 1980s, I went on to write Clif Note as a paid column in Infocus Magazine, Lee Leitner's magazine for Infocus, Inc. and the yearly Symposium Conference.

Paid, Mr. Simmons. That made me a (part-time) professional writer. And

a Press Card carrying member of the Computer Press Association. Ha!

And I've also been a paid technical writer, a paid Technical Editor of the PICK Series for O'Reilly and Associates, and so forth.

Not too bad for a someone who can't diagram a sentence, eh, Mr. Simmons?

I know that sounds like bragging, but that's not the why I told you that. The point is, I wrote. Maybe not well. Maybe not so good. I no be no literary master. But if I can get published and even make part of my professional living from writing, you can!

And the saga continues...

When asked if I would assume the Editor role for International Spectrum, I accepted. Frankly, I was itching to learn something more. So when that learning bug hits you, you need to leave your comfort zone, take a risk, and just dive in. But it was scary! I'd never been the "final authority" on what went to print and what didn't. And I'm here to tell you, it was tough at first. For the first time in my life I began to wish I'd paid attention in English class. I could easily spend an hour or two editing a single article. I read more grammar and punctuation books than I even want to think about. I sweated bullets over this stuff. And then it hit me.

A lot of them contradicted themselves. It turns out that a lot of the "rules" the meh-ducation system taught us are arbitrary. Some two-bit grammar marm in the 1800s would write a grammar book that said something like, "you should never end a sentence with a preposition." Really? As Churchill is supposed to have said, "That is the kind of silliness up with which I shall not put."

And all the other drivell. Ending sentences with this or that. And not beginning sentences with a conjunction. They are all arbitrary rules. You can ignore them (well, unless you are writing a dissertation for a PhD. But then, you already know how ineffective your advisor is at communicating anything to a real human.)

So the other main thing I learned as an editor was, getting the point across is what is important. If you make a grammatical oopsie, that ain't all bad. It adds flavor. Don't sweat it.

After eight years of being an editor, I can't read a CNN story or in-flight magazine without noting several grammar "mistakes." And those are professional journalists and a staff of professional editors of various sorts. Oh well. We're all human. As long as we've communicated, that's all that really counts.

And no, Mr. Simmons. I still can't diagram a sentence, don't know what a gerund is (a herniated gerbil?), and I wouldn't recognize a participle if you dangled it in front of me.

So to summarize — if you want to write, just write. Don't worry about writing right. An editor will help you out. If they don't, find another editor.

Don't continue to let that prune-face from your past hold you back.

Spectrum Magazine REALLY needs people like YOU!

And when I said "prune-face," I wasn't talking about you, Mr. Simmons. You were actually very nice. Just wrong.

I'll see all of you on the interwebs. **IS**

SHORT-LINKS

What are those short links in the text of some articles?

As our authors share their knowledge and experience, they also point you to the Web for more info. Some of these URLs are long and cumbersome to use.

To make the URL easier to read and use, we are now using Short-Links to redirect you to the web page the author recommends.

The format (intl-spectrum.com/s9999) drops the "http://www." from the front.

Most modern browsers fill that in for you, or you can add it back in.

Comments or additional suggestions? Please drop us a note at editor@intl-spectrum.com