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THE MULTIVALUE  TECHNOLOGY MAGAZINE | NOVEMBER/DECEMBER 2018

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**MultiValue Recap**

**Also in This Issue**

- 4GL Spotlight turns to BinaryStar Development
- GOTO Hell: Part 2
- The Six People You Meet in Meetings



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# INTERNATIONAL SPECTRUM

THE MULTIVALUE  TECHNOLOGY MAGAZINE

NOVEMBER/DECEMBER 2018

## CONTENTS

### COVER

6

**MultiValue Industry End-of-Year Recap** Recent years have moved technology deeply into the day-to-day of nearly every culture. We've asked some key influencers in the MultiValue world to talk about how they moved their products forward in 2018. They also talked to us about where they'll be focusing in 2019.

### FEATURES

10

**4GL Spotlight: BinaryStar Development** The 4GL Spotlight series continues with a look at BinaryStar Development. We sit down and talk with Lee Becall and Harvey Rodstein about their various products. **BY CHARLES BAROUCH**

13

**GOTO Hell Part 2: Hell by Any Other Name** Every language has things that compile (or execute in the case of scripting languages) which still might not be a good idea. GOTO is, for many, a worrisome part of mvBASIC. For others, it is a welcome member of the family. There's a middle ground and this is the middle article on the topic. **BY SUSAN JOSLYN**

17

**Business Tech: Planning** There's an old saying: "When you fail to plan, you plan to fail." We all have direct experience which disputes that and direct experience which supports that. Is it time for us to deny our inner cowboy and accept the role of planning in every phase of our work? **BY CHARLES BAROUCH**

### DEPARTMENTS

[From the Inside](#) page 4

[From the Press Room](#) page 11

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# From the Inside

**A**nother year is ending. Look at all we did this year! At the same time, we have to look at all we didn't complete. And everything coming up next. On the horizon are new technologies to make our jobs easier. Staring over our shoulder are existing technologies that are make our jobs harder.

Too bad we can't live in stasis – free of all changes and new challenges – for a few months so we can get something done. If only...

Instead, we have to consider what new business operations and trends we are going to have to contend with. I've looked around for ideas of what we can expect to see a push on this year, and successive years:

## 1. Businesses will have to continue to adapt to the modern customer.

Customers today have more choices than ever and they have shown that they gravitate towards those who prioritize the delivery of fast, seamless, and personalized service. This is true whether they are ordering lunch, getting their car repaired, or making a financial transaction.

Accessing and staying engaged with these customers will go beyond just mobile applications and websites. Companies that don't make it easy for customers to do what they want to do, when they want to do it, will likely see those customers moving on to friendlier options.

Look for a Unified Customer Communication System as a way to stay engaged.

## 2. People are going to be more paranoid about their information.

Cyber threats will increase and more data breaches are going to happen. New regulations will be created to help secure users' and customers' data.

We've already seen this in Europe with GDPR. There are many US States that are planning on passing laws that are modeled after GDPR. These laws and regulations will require many changes to our systems and how we use them.

## 3. Modern Workplace

The shift toward remote workplaces will likely continue to increase. We will see people spending less time commuting and traveling, and more time working remotely. This will drive requirements for info sharing and increased workplace collaboration. All of which will maintain the expectation of security in this less controlled way of working. Business data will have to be integrated more closely with collaboration software. Increase VPN and security in existing applications will become critical to success.

NATHAN RECTOR  
*President*

CHARLES BAROUCH  
*Editor*

TRACEY RECTOR  
*Layout*



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### NEWS RELEASES/UNSOLICITED ARTICLES

*International Spectrum* is eager to print your submissions of up-to-the-minute news and feature stories complementary to the MultiValue marketplace. Black and white or color photographs and diagrams are welcome. Although there is no guarantee a submitted article will be published, every article will be considered. Please send your press releases, articles, and queries to: [editor@intl-spectrum.com](mailto:editor@intl-spectrum.com). *International Spectrum* retains all reprint rights.

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On April 8th, we will be hosting the International Spectrum Conference in Phoenix. Many of our sessions will focus on these trends. In the coming months, I will be working with my speakers to produce the content details, so keep watch on the website for changes. As always, many of the session will be more than "PowerPoint", and will demonstrate what works and what doesn't. This will allow you to see what works, as well as ask more question outside the time constraints of the initial training session.

Watch for more information as we formalize our plans. See you at Spectrum.



**NATHAN RECTOR**  
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# The 2018 MultiValue Industry End of the Year Recap

**R**ecap is our annual tradition. We look back at the end of each year and see how the landscape has changed. Normally, a tradition is about doing and seeing and saying the same things. But if the years have taught me anything, “the same things” are never what we find.

## **Entrinsik**

### ***What new features or services did Entrinsik introduce in 2018?***

Informer’s Jobs feature has expanded beyond its capability to refresh and deliver data to now function as a business process workflow tool where you can schedule a myriad of actions to be performed on your data that would previously have been handled manually. For example, creating a subset of data and emailing it to a secure group of people.

Many new export options are available for static files along with the ability to create embedded interactive links to content within Informer all in a highly secure environment using tokens.

Many additional extension points add more actions within Informer to deliver endless functionality.

Enhanced visualization includes multi-trend charts and aggregates for deeper analysis; pivot views with recursive drill-down on any piece of the visual; upgraded Highcharts enhance visuals; improved map visuals enable a view-data option on drill-down; trend charts support multiple series enabling comparison across datasets; column, bar, line, spline, area, and area spline charts can be used to show multiple aggregates in the same chart; and more visuals, for example donut chart.

More robust security and administration enhancements include an impersonate user feature, LDAP and AD domains, single sign-on (SSO), dataset and querying benchmarking to gauge the health of the system, and scheduling a system clean.

***What was the greatest or most exciting thing that happened to your company or product in 2018?***

Informer 5’s embedding capability is growing to provide seamless, invisible software integration with third party applications. One extremely exciting opportunity for Entrinsik’s ISV (Independent Software Vendor) partners is the ability to use Informer tag libraries (vue.js, react, angular) and inline Informer content in their own applications and in their platform for a truly seamless integration. This provides a tremendous value add for Entrinsik’s ISV partners by enabling them to extend the functionality of their existing software by putting data analytics front-and-center within the software environment their customers use frequently. Examples include CRM, ERP, Supply Chain Management, etc.

***What would you like Spectrum readers to watch for in 2019?***

Informer 5’s templated output will enable customers to create custom outputs of their data. For example, after users conduct data analysis to focus on information of interest, they can

export the data in a wide variety of formats including invoice, statement, executive report, etc.

Customers will be able to customize the look and feel of Informer 5 to have the application reflect the organization's branding that they incorporate within their other applications and systems.

Wizards or mini-apps will guide users, present reference information and demonstrate various ways to use APIs and tags that provide functionality within Informer.

There will be more report types, visual types, and connector types that continue to expand Informer 5's usability and functionality.

More hooks to third party software applications like Salesforce.com will be made available to extend their functionality to take advantage of Informer 5's advanced business intelligence and visualization reporting capabilities through seamless integration

### **EXEControl Global Solutions**

*What new features or services did EXEControl Global Solutions introduce in 2018?*

EXEControl Global Solutions has partnered with third party vendors to enhance the overall system experi-

ence for the EXEControl Community. These added partnerships include:

- Bluestone Telecom – More aggressive bi-directional phone to ERP application integration
- Cisco – Two form authentication protection – Duo Security – added access layer to ERP application
- IBM – MDM (Mobile Device Management) – Mass 360 – for enhanced control of IoT devices used by the organization and by the ERP application

*What was the greatest or most exciting thing that happened to your company or product in 2018?*

EXEControl Global Solutions has expanded our reach by opening our third office location in Fort Wayne, Indiana. We also added another employee to our Charlotte, North Carolina location. At corporate, in Clifton Park, New York, we hired two new people to meet the demand for our services.

*What would you like Spectrum readers to watch for in 2019?*

Every seven years, software companies need to undergo a modernization process for their applications. EXEControl Global Solutions will be starting an effort to identify the latest in technology and user-interface trends to identify

and start the process of our 2020 modernization effort.

### **OnGroup**

*What new features or services did OnGroup introduce in 2018?*

Some of the major new ONgroup software features:

- Uses the CLR as the run machine
- Netbuilder is an application generator that emulates SB+
- VS extension IDE for MultiValue Basic
- Support for MongoDB
- Support use of JavaScript, TypeScript and Python running in the same process as MVON
- Transpile MultiValue Basic to C#
- Support and integration with .NET
- Virtual data definitions manifest by SQL Server

*What was the greatest or most exciting thing that happened to your company product in 2018?*

Held a class to train on use of MVON# and Netbuilder at Precision Solutions (Kevin King) in Longmont CO. 17 attendees. General agreement that MVON will change the MV world.

*What would you like Spectrum readers to watch for in 2019?*

Several companies Worldwide will complete the migration of their applications to MVON# this year. We and our distributors and end-users will have lots to show and tell at Spectrum this year.

### **Rocket**

*What new features or services did your company introduce in 2018?*

No one has time to wait for long, slow technology development cycles. And

## **IT audits have you jumping through hoops?**



**PRC** can help you meet your compliance requirements and make IT more agile and productive. No extra work, nothing to remember, nothing to fall through the cracks. Our software development lifecycle tool automatically prevents or detects change according to your criteria. You can deploy, rollback, test and report quickly, automatically and with confidence. Let PRC protect your company's valuable U2 data and software assets.



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many organizations lack the resources to hire large development teams to build the tools they need to stay competitive. The Rocket MV Application Development Platform is a power tool that gives developers the ability to get their ideas from the drawing board to the real world. Users can build new apps quickly and update them in a matter of minutes—not hours (or days).

In 2018, the Rocket MultiValue team reached out to young developers as we continued to focus on the future. We're running the second annual Rocket APT Challenge where university students from around the globe will compete for cash prizes and internships by building an application based on the Rocket MultiValue application platform. Winners will be announced in the spring of 2019.

We also launched a new initiative: MV GenNext. We hosted a group of young MultiValue developers who came together to discuss and collaborate on innovative MultiValue techniques and to talk with product management and engineers about what they wanted to see in the product roadmap. With the help of GenNext, Rocket will be able to push the boundaries of innovation and cultivate younger developers.

***What was the greatest or most exciting thing that happened to your company or product in 2018?***

Rocket MV is the right choice for organizations in industries that demand critical performance, including emergency systems, healthcare, financial services, banking, retail, and ecommerce. Rocket MV combines a development environment with an embedded database that continuously supports your business with little on-going investment.

Rocket introduced a new product, Rocket Connection Manager, to help our customers and partners simplify modern application development through ease of deployment, monitoring and security. We also ran a beta program for Rocket UniVerse 12.1.1. Improvements to UniVerse mean that critical applications can now handle extra loads during peak hours and seasonal spikes through intelligent, accelerated transaction performance and query processing for increased throughput with high volume transaction levels. For example, online orders for banking transactions will result in increased revenue and customer satisfaction, and greater efficiency with internal applications. This leads to greater confidence in business decisions based on improved data integrity, reliability, and accessibility. The new Recoverable File System (RFS) ensures data is accurate and up-to-date. It keeps users from losing transactions, reduces the risk of file corruption, and expedites restoration if necessary.

***What would you like Spectrum readers to watch for in 2019?***

Rocket MV users don't want problems, and they don't want excuses. They just want to get their products into production as quickly, efficiently, and inexpensively as possible. That's why we collaborate with our customers during the design and development process so that product roadmaps align with real business needs to deliver:

- Solutions that build customer loyalty and retention
- The ability to bypass roadblocks to deployment
- Tools that evolve with users' changing needs

2019 promises to be packed with more information on Rocket MultiValue. We're going to talk with, listen to, and educate our customers and partners with regional events and blog posts on the Rocket MultiValue blog. We are committed to providing valuable MultiValue-related content weekly, and we invite everyone to visit the site and sign up for email notifications when new posts are published. We want to add your voice to the blog, too!

We're planning the 2019 Rocket MultiValue Business Forum series now, and we plan to be in Australia, the UK and the US. Read about the 2018 Series - which was attended by several hundred MultiValue leaders - and let us know what you'd like to hear about in 2019 and where you'd like us to host a Forum. In 2019 we are also planning meetups around the world. If you're a customer or a partner, consider starting a meetup near you. They're a great way to share information.

**SJ+**

***What new features or services did SJ+ SYSTEMS ASSOCIATES introduce in 2018?***

Every year the Department of ITT (that's IT Torture) comes up with new requirements in reporting and auditing. PRC has more logging and reporting this year (and every year!)

***What was the greatest or most exciting thing that happened to your company or product in 2018?***

PRC is running in a full dot-net/SQL environment via MVON#. PRC not only tracks development in that MultiValue-like environment, it will also deliver software changes to and from it, performing repeated conversions transparently.

## PICK/U2 Resources Available

Execu-Sys, Ltd is an Executive Search & Consulting firm that has specialized in the PICK/MULTIVALUE market since 1988 and is the Preferred Partner of Rocket Software for PICK/U2 professional services.

Hourly rates for contract programming are extremely competitive and there is no minimum time or \$ commitment.

Contact us today to discuss potential engagements.

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New York, NY 10018

**(800) 423-1964 x302**

**Email: mh@eslny.com**

### *What would you like Spectrum readers to watch for in 2019?*

More PRC users on more diverse platforms.

### **Zumasys**

### *What new features or services did Zumasys, Inc introduce in 2018?*

AccuTerm 7.3 added a dictionary-driven report writer, session resilience and a maintenance program with free upgrades to upcoming AccuTerm 8. jBASE 5.7 added an object language to appeal to younger developers & Dynamic Files that provide 2-3X performance increase. Free Power BI integration through MvConnect generated a lot of interest.

### *What was the greatest or most exciting thing that happened to your company or product in 2018?*

After 18 years, we sold our cloud/infrastructure business to focus exclusively

on our MultiValue software products AccuTerm, jBASE, MvConnect and OpenQM. We added Josh Camacho, the former CEO of Opto, and several Pick developers to keep up with the growing demand for programming services.

### *What would you like Spectrum readers to watch for in 2019?*

Zumasys is breathing new life into MultiValue by investing and educating new developers on the Pick data model. While other vendors are reducing their head count, we're growing and acquiring additional products to add to our portfolio. Expect more innovation, no price increases on our databases and more exciting products like AccuTerm 8, our much anticipated HTML5 browser-based version. **IS**

# THEME-THOLOGY: INVASION

Voices by Lisa A. Kramer

I Was a Teenage Alien by LJ Cohen

Singularity by Jeremiah Lewis

Not Like Us by Mike Reeves-McMillan

That Kind by Charles Barouch

Yellow by Bill Ries-Knight

An Invasion of Ideas by Jeremy Lichtman

Famine, with Fries by Jefferson Smith

The Several Monsters of Sainte-Sara-la-Noire by Michael Williams

Going Viral by Rachel Desilets

Dead Planet Scrolls by Timothy Hurley

Red Vapor by Michaela Susanne

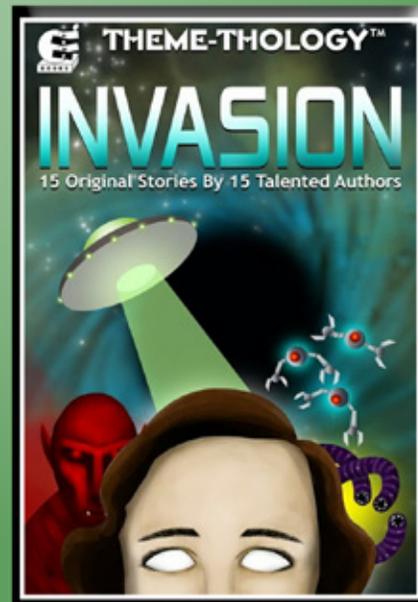
The Worms Crawl In by Michelle Mogil

Nano Nation by CM Stewart

The Woods, The Cellar, and Cover art by Aaron Wood

All other interior art by Juan Ochoa

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# 4GL Spotlight BinaryStar Development

BY CHARLES BAROUCH

**T**oday we're going to be talking to Lee Bacall and Harvey Rodstein of BinaryStar Development about their product Nucleus.

**Q:** *I've been hand coding, why would I use a 4GL like yours? What advantage do I get from that?*

**LEE BACALL:** Let's talk about a jump into hyperspace. You can get so much more with a tool that does all the grunt work for you. You can build your model of your data. From that model you are able to deploy — automatically — in green screen or a GUI using AccuTerm or create a web product with all the bells and whistles.

**Q:** *As a MultiValue guy, do I need to learn twenty new technologies to use your stuff?*

**LEE BACALL:** Not at all. Nucleus bases its operation on Pick BASIC fundamentals.

**HARVEY:** It's kind of different levels of knowledge you need as you

move ahead. Nucleus itself is built for an MV programmer because it helps you manage all your rules to update and retrieve data. Now let's talk about moving out of the green screen. There is a product we created called Starsite. You can use Starsite as the back end to a web server, to process and return data.

It does that using HTML templates. So, how do you do that? You'd better learn HTML. You need some chops in HTML and maybe JavaScript. Once you've done that, that same ruleset that was working on character screen and a GUI screen is now serving the same rules to update and retrieve data.

**Q:** *So I can do this in stages. I can start by cleaning up the way I am handling things on my current green screen and then either bring it into GUI or web.*

**HARVEY:** That's exactly correct. You are taking the logic that worked in the legacy environment and letting that service the new environment.

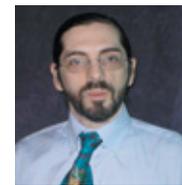
**Q:** *Am I writing MultiValue code, am I writing in a scripting language?*

**LEE:** We're dealing with a script here. The simple script which defines the filename and the field names.

Watch the full interview:

<https://www.youtube.com/watch?v=JgtcNhIi2y0&t=117s>.

There's a lot more, including NuSQL, debugging tools, and other details of the BinaryStar offerings. **IS**



**CHARLES BAROUCH** is the CTO of HDWP, Inc. and the Publisher at HDWPbooks. You can read his writing in

International Spectrum, Theme-Thology, Novo Pulp, Pax Solaria, PerhelionSF, and the Interrogative series, which begins with **Tiago and the Masterless**.

# FROM THE PRESS ROOM



## BlueFinity International Introduces New Advanced Features for Evoke

BlueFinity International is introducing new features to its market leading Rapid Application Development Platform/Mobile Application Development Platform (MADP/RADP), Evoke. Evoke is the only MADP/RADP in the MultiValue marketplace as well as being a truly mainstream product for the SQL, Oracle, etc. market. Evoke generates low code/no code solutions that allows the incorporation of custom code including legacy MultiValue Basic code to convert current green screen applications into the most modern business Apps in the world.

Evoke creates and supports the development and deployment of Apps across multiple platforms and devices including watches, the iPad, iPhone, Android and Windows phone plus Windows, Linux and Apple desktop as web, hybrid or native Apps with the click of a button!

The new features are:

### A New Chatbot Feature

To improve help and support

for end-users of an Evoke App a new Chatbot feature gives users chat-style AI support. The Chatbot interface is simple and intuitive to use. Once incorporated users will be able to type questions and the Chatbot will answer in a similar style to an online chat operator and it delivers round the clock support.

### A New Signature Panel Feature

A new Signature panel feature allows Evoke App end-users to use their fingertips to sign. This is the perfect solution for signing legal documents or to confirm deliveries electronically. Installing this feature into the App is easy and intuitive.

### Ability to Print Straight from the App

An extended printing capability where users can initiate the printing of information from Apps running on all mobile and desktop devices.

### Improved Development Control

Evoke now also enables better teamwork for multiple Developers. It includes a multi-Developer source code control where the team leader can set restrictions on who can access and change code and content. The team leader can control the acceptance of sub-team developments into the main development project. This ensures that junior and citizen Developers can be used as part of a development team without any risk of changing work completed by more senior team members.

Improved ability to make layout changes and improved calculated field abilities

Makes it easier for Developers to make changes to font style and sizes as well as offering expanded calculated field abilities with support for string expressions and data conversion. ■



## Ladybridge release 3.4-13 of QM

A few more enhancements requested by our users...

The COMPARE.FILES command compares the content of two files, optionally reporting differences.

The PROC.IF.NO.CASE setting of the OPTION command makes the IF test in a Proc case insensitive.

The QMBasic debugger can now expand non-printing characters when displaying string variables. This is controlled by the “^” command in the same way as its equivalent in the ED editor.

The default value of the SORTMEM configuration parameter has been increased to 4096 (4Mb) for improved performance. This change affects new QM installations only. The parameter may be modified on existing installa-

tions by editing the qmconfig file.

### Bug Fixes In This Release

The Proc “IF S10” reference to select list 10 was not processed correctly.

Use of a UNC pathname (\\server\dir\file) to reference part of a distributed file caused an error.

The GRANT.KEY and REVOKE.KEY commands could cause internal data corruption.

Using the QMBasic EXECUTE operation to do a GRANT.KEY or REVOKE.KEY command caused the following action to fail in unpredictable ways.

The QMBasic MERGELIST() function behaved incorrectly for some merge types when one of the lists was empty.

The QMBasic OSPATH() function with key OS\$SET.LINK returned the incorrect value.

The QMBasic !CALLHTTP() class POST method could cause the process to hang.

CSV mode output from the query processor or any other use of sequential file output with an encoding that specified use of a byte order mark inserted the BOM on every line, not just the first.

The query processor did not handle some WHEN clauses correctly.

The I-type compiler did not handle multi-level links.

The terminfo definitions for adds4000 and adds4000-at should include xmc#1. ■

# FROM THE PRESS ROOM



## ONgroup Releases Free IDE for MultiValue Developers

ONgroup Intl announced the availability of two free-to-use software products which are improving the lives of MultiValue developers. The software products are extensions for Visual Studio Code:

The MV# Developer extension provides MultiValue developers with a VS-like IDE. The extension works with most MV types (UD, UV, QM, MVON#, D3 and others) and has these features:

- Code formatting, folding and highlighting
- Intellisense for statements and functions
- GOTO / Peek for internal subroutines, CALL, CHAIN and INCLUDE routines
- Syntax checking and linting

The MV# Debugger extension, which currently depends on MVON#, adds full visual and interactive debugging functionality.

To download, go to <https://marketplace.visualstudio.com/items?itemName=ongroup.mvon> ■



## Revelation Software release OpenInsight 10.0.4

Changes to OpenInsight 10.0.4 affect "child" process launching in OpenInsight. They can be configured so that they do not consume additional license seats. In particular, CTO, AREV64, BRW, and O4W calls (using the engine server's built-in web server) made from a copy of OpenInsight will not count against the licensed count of users.

This will allow a single user copy of OpenInsight to run the IDE, a CTO session, and generate a BRW report at the same time. Note that this enhancement requires both OpenInsight 10.0.4, and the Universal Driver 5.2.

OpenInsight 10.0.4 will work with the Universal Driver 5.1, but it will not exhibit these license enhancements until it is "paired" with a UD 5.2.

To take advantage of this license enhancement for O4W and engine server tasks, users/developers must update their eserver.cfg file (either directly or through the Settings dialogs). In particular, any passwords that are currently explicitly embedded in the eserver.cfg can be replaced with an asterisk ("\*"); this indicates that the specific connection should use the enhanced licensing.

This also has the additional advantage of no longer requiring manual updates to the eserver.cfg file when passwords are changed for the applications or users defined in the connection string. (As an additional enhancement, the username can also be replaced with "\*" if you wish to use the 'default user' created for an application).

OpenInsight 10.0.4 also additional enhancements and bug fixes that can be found here:

<https://www.revelation.com/revfiles/Works%20Downloads/OpenInsight%2010.0.4%20ChangeLog.pdf> ■



## Happy Holidays from International Spectrum

We at International Spectrum (Nathan, Tracey, and Chuck) would like to wish you a happy and safe holiday season. We appreciate your readership and participation in the MultiValue Market and in International Spectrum events.

We hope you have a Merry Christmas! Happy Hanukah! Joyous Kwanzaa! and a Happy New Year! ■



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# GOTO Hell

## Part 2

### Hell by Any Other Name

BY SUSAN JOSLYN

Most people — a large majority — believe the GOTO construct should *never* be used. Some of us (and we know who I am) think it can be used judiciously but agree that it's easy to see how one could fall off the wagon and land back in a labyrinth. So, shall we agree to stipulate that using GOTO is (almost) always a bad idea? And can we go that step further and agree that internal GOSUB structures are hardly better? This means that we might all be agreeing that the best approach to software development — in our platform as well as in most others — is to create reusable, standalone functions and subroutines. That's how much of the world does it — can we all just get along on this?

Great. Now that you've transformed your code from spaghetti into kugels, you have a new problem. How do you keep track of all those separate noodley blobs? How do you find the *one* thing that does *that thing* you want to do

---

*Whichever approach you take, you want a published standard within the wider organization.*

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— while spending less effort than it would take to write the darn thing all over again? Or worse yet, and probably more common, stumbling into it after you've already written it again.

The solution lies in how you name your glutenous little babies. You need a convention. A *naming convention*. And no, that doesn't mean you need to call together hundreds of your peers for a meeting with food and entertainment. Minus the food and entertainment, the solution has been crowd-sourced for you by hundreds — maybe thousands — already, in innumerable books and blogs.

Whichever approach you take, you want a *published standard* within the wider organization. It doesn't have to

be exactly like anyone else's — but the more standard your standard is, the better. Most important is that it is meaningful to you and you can use it. Make it as rock solid in its formula as possible, to support the highest likelihood of always arriving at the same name for the same function. Okay, you're right. That is a lofty, but worthy goal.

Furthermore, these days, many companies have separate development for the front-end of our applications, while the back-end remains in mature, reliable MultiValue. By adopting standard names that are familiar across platforms, we avoid frustrating the front-end developers and overloading the MultiValue programmers who must always step in to tie-up the connection. Imagine a library of easily searchable back-end MultiValue subroutine/functions that the front-end developer can find and use? (Elephant enters room, eyes author balefully. But look, with our focus on the best solu-

tions for the business and the future, MultiValue programmers will be busy refactoring for a while, then having proven the value and usability, can combat 'let's rewrite the whole thing' naysayers and continue writing new functionality in this fast, flexible language that we all know and love.)

Here are some naming tips that can help. These were gathered from various resources in book and blog (attributions / further reading, listed below.) Use them all, use others — but use something.

- **First and foremost**, whatever rules you decide upon, please decide that the time spent on naming a thing is worthwhile. Slow down and think. You will spend much more time reading than writing programs, and even more time trying to find them.
- **Include an action word.** Programs, functions, subroutines, I-descriptors, procs and paragraphs all do something. They find something, get something, write something, end-of-month-process something.
- **Decide the order – passive or active voice.** Naming something — using words — is writing. Rules of grammar that are already established can help and are already known. Whether you prefer a passive voice or a more exciting active voice (see the prejudice in that phrasing?) deciding how you'll do it and sticking to it can stop limitless multiple stabs at the name. Will it be UPDATE.CUSTOMERS (active) or CUSTOMER.UPDATE (passive)? Verb/action word first? Or noun first and action after? It doesn't matter which, but consistency does.

- **Think about abstraction level.** Be as general, and yet as specific, as it makes sense to be. The function converts kilometers to miles? Name it KM\_TO\_MILES? (no verb, very specific) or perhaps CONVERT.UM (leads with the verb but unit-of-measure is a short abbreviation and units of measure is very general.) CONVERT.DISTANCE.UNITS? (Verb first, clear relatively specific noun.) You see how this can go, but if you know what your policy is, what you would usually do, and do that again, you'll stumble into that thing you already wrote.
- **Careful with abbreviations – avoid ambiguity.** A friend recently showed me his new naming conventions for a library of functions that he is creating. Awesome idea. He went with very long unabbreviated sentences. That's cool – will leave little doubt as to their purpose when listing them, a bit annoying to type them. If you are going to abbreviate, this is a pretty critical sub-subject to standardize. Make the meaning of abbreviations clear and unambiguous. Is INC the short for include? Increment? A corporate entity? INCL, INCR, INC. one more character makes a big difference, in this case.
- **Avoid nonsense and redundancy**  
Examples of nonsensical program names: FOOFIGHT. YANCY. SLAP-HAPPY.  
Examples of redundant/ambiguous program names: VALIDATION.CHECK, FILE.WRITE.UPDATE, PRICE.CHANGE.UPDATE.

- **Use synonyms consistently.** Decide upon one name for a *concept*, and use it consistently across the entire application. Do you like to Add or to append? Remove or delete? Refresh or Reload? Require or Mandate?
- **Use intention revealing names.** It should be quickly possible to understand what a function does, its purpose, by its name.
- **Be standard – but not too standard**  
Using a name that is too generic can bump you in to a reserved word or a system command. When working with outside programs, we have to be aware of more of these. Avoid over-used words like fun, function, procedure, and verbs like run, execute, do and go.
  - ERRMSG, a variable used throughout an application, recently bumped into its reserved-word status in C#. Can you predict them all? No. But a little forethought and research goes a long way.
  - EQ, used frequently in MultiValue is redundant and unclear. An equal sign (=) is more universal.
- **Controversial topics:**
  - Versioning – does it belong in the name of a program? No, of course not. The only exception being if you have something that had to be refactored to work on a certain overall version, so you retain the name of the original thing and include the version. For example if the COMMON changed for your overall soft-

ware release you may have a branching subroutine that calls RESET.COMMON or RESET.COMMON.VER9. It's not about the version of the RESET.COMMON program, but rather a program to support an overall version of the software.

- Case  
Upper case, lower case, camel case, pascal case, snake case. Look them up. Pick one. Stick to it. (Author pines for the simplicity of SHOUTING.)

Keep in mind that you can rename something at any time when you realize you got it wrong. Yes, you must find whatever calls it, but it's not that hard. Take that minute – it could save hours and jobs.

Sources, recommended reading:

Clean Code: A Handbook of Agile Software Craftsmanship” - by Robert C. Martin.

Stackoverflow.com/search - by the whole world

Coding like Shakespeare – a frequently referenced blog by Dmitri Pavlutin [IS](#)

**SUSAN JOSLYN** is the President of **SJ+ Systems Associates, Inc.** and is the author of **PRC?**, a complete, integrated software development life-cycle management / IT Governance tool for U2. She has worked with **U2 (nee Pick/Multivalue)** and **SB+** software the beginning (both hers and its) and has specialized in IT Governance, including quality, compliance and life-cycle productivity issues since the early 1990's.



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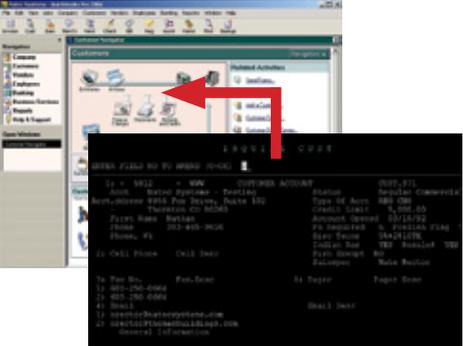
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# Planning

BY CHARLES BAROUCH

“**N**o plan survives contact with the enemy”  
- Authorship disputed

“In preparing for a battle, I have always found that plans are useless but planning is indispensable.” - Dwight D. Eisenhower

In fiction writing, we use the terms planners and pantsers. In programming we usually call that second kind of person a cowboy. In my experience, nearly everyone in IT has a bit of both in them. We tend to push one view of ourselves over the other. It is time to value both.

## Anticipate, Then Do

When I train programmers and analysts, I start with “Anticipate, then do” to break the habit of believing dangerous things like:

- It compiled so I did something right!
- There’s an output so it worked!
- The total field is displaying a number, no need to check further.

Those are all easy traps to fall into in our field. Teaching people to have specific expectations before seeing the outcome is a great way to bring plan-

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*It compiled so I did something right!*

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ning into their natural process. When my students anticipate and get a different result, they get to see if the result is wrong or if the anticipation is. That’s a big step in critical thinking.

So, on the face of it, planning is awesome and cowboy-ing is a sloppy idea. Until, of course, something goes wrong.

## Self-Extinction

The worst part of any plan is the attempt to mindlessly adhere to it. We’ve all been in that situation, where we commit to a plan and now people are walking around with it in their figurative back-pockets, waiting to whack us with it whenever we deviate.

However bad that is, when we do it to ourselves, that’s worse. Plans fail. It happens. The route to success in most cases is knowing when to deviate from the plan and why.

Regardless of how you approach a project. Some things will go badly. Often, that will land you in a what-the-hell-happened meeting.

## Cowboys

When things go awry, you need to be agile in your thinking. You need flexibility in your approach. You need the inner-cowboy. When plans fail, the ability to pivot and come at it from a new angle is incredibly useful.

I recall one project where I realized the better solution four hours before it had to go live. My co-worker and I rewrote nearly everything, tested it, and deployed the new version. The planned version was okay but the new version was spectacular.

Sometimes it’s enough to generate a win. And a win is better than a post-mortem meeting. Inspiration isn’t planning. It’s the cowboy way.

## 6 People You Meet in Postmortems

The doom-criers are a special breed who exalt in being right that things are going wrong. Please understand, as a practicing pessimist, I applaud the ability to see the pot holes in the road. It idea, however, is to use that vision to steer around them.

The panic-prone don’t have that future vision. Every bad thing is a surprise to them. Their burning need is for some-

one to comfort them. It is often more important to them than solving the actual problem.

The not-my-table people don't make things worse. They also don't believe it is their job to make things better. These are some of my favorite people. They have reasonable boundaries and expect you to fix the things in your area while they attend to their area.

The how-can-I-helps are even better. They have the wonderful, and often unreasonable, belief that the company is holistic. They want all the parts working and see themselves as responsible for acting accordingly. These are my absolute favorites.

The see-there people are a special sort. I've had any number of bosses who find a solution based on doing something I have no authority to do. Instead of

doing this as a how-can-I-help, they point at the solution as if it is a failure of your vision that you didn't do the same thing. Fortunately, I've had bosses who are how-can-I-help types as well.

The rest are, well, the rest. Not everyone fits in the five neat boxes I've outlined above.

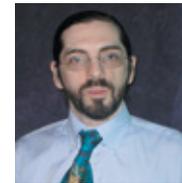
### Problem Solving

When a plan fails, that's a problem... which is no problem for us. IT people are good at problem solving. It's part of the job whether you are strictly software, all hardware, enmeshed in the networking, a polymath sort, or fulfill any other roles. Our industry attracts people who want to work out the kinks and beat the limitations.

We need to treat every project as a thing in search of a solution. Not just

the technical part, the people part as well. Manage expectations up front. Keep people apprised of the right turns and wrong turns. Minimizing the surprises is a critical path to the least worst outcomes.

Personally, I'm far from perfect at this. Still, it pays to work at it. Just remember: failure is always an option. Plan accordingly. **IS**



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