Clarion Magazine

# Clarion Magazine

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## Latest Free Content

- » Source Code Library 2008.07.31 Available (Updated)
- » AppGen In September?

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### Latest Subscriber Content

#### Adding Tools To The C7/Clarion# IDE

As Ben Dell shows, it's easy to add custom tools to the IDE's Tools menu.

Posted Tuesday, August 26, 2008

#### OSCON One More Time: Pics, Comments, and Conclusions

Dave Harms wraps up his OSCON coverage with a few more session notes, a smattering of photos, a self-replication machine and some concluding commentary. Oh, and don't miss the Complaints Choir.

Posted Tuesday, August 26, 2008

#### August/September Split Issue

As in past years we're combining two of the summer months into a single issue. This time the summer issue covers August and September, so look for the next PDF, source zip, and source code update at the end of September. We have a number of articles in the pipeline covering topics such as adding external tools to the C7 IDE, template programming, using Alias, creating scrollable regions, and more.

Posted Tuesday, August 19, 2008

#### Source Code Library 2008.07.31 Available (Updated)

The Clarion Magazine Source Code Library has been updated to include the latest source. Source code subscribers can download the July 2008 update from the My ClarionMag page. If you're on Vista please run Lindersoft's Clarion detection patch first.
A problem with the download was corrected on Aug 19. If you previously had problems downloading please try again.

Posted Tuesday, August 19, 2008

#### AppGen In September?

Bob Z has posted a blog entry indicating the initial release of AppGen to third party developers for compatibility testing will happen in 3-5 weeks.

Posted Wednesday, August 13, 2008

#### OSCON: Web Security 2.0

OmniTI's Chris Shiflett covered cross-site scripting and other security issues.

Posted Thursday, August 07, 2008

#### OSCON: Securing PostgreSQL (and other databases)

Josh Berkus retitled his presentation "Safe Data is Happy Data", suggesting that unsafe data is data someone else is happy to have. He didn't spend a whole lot of time on security tools but instead focused on the kind of mindset you need to successfully implement database security.

Posted Wednesday, August 06, 2008

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### Source Code

#### The ClarionMag Source Code Library

Clarion Magazine is more than just a great place to learn about Clarion development techniques, it's also home to a massive collection of Clarion source code. Clarion subscribers already know this, but now we've made it easier for subscribers and non-subscribers alike to find the code they need.
The Clarion Magazine Source Library is a single point download of all article source code, complete with an article cross-reference.

More info • Subscribe now

### Printed Books & E-Books

#### E-Books

E-books are another great way to get the information you want from Clarion Magazine. Your time is valuable; with our e-books, you spend less time hunting down the information you need. We're constantly collecting the best Clarion Magazine articles by top developers into themed PDFs, so you'll always have a ready reference for your favorite Clarion development topics.

#### Printed Books

As handy as the Clarion Magazine web site is, sometimes you just want to read articles in print. We've collected some of the best ClarionMag articles into the following print books:

## Clarion Blogs

- ❏ » Clarion Tips & Techniques Volume 4 - ISBN 978-0-9784034-09

- ❏ » Clarion Tips & Techniques Volume 3 - ISBN: 0-9689553-9-8

- ❏ » Clarion 6 Tips & Techniques Volume 1 - ISBN: 0-9689553-8-X

- ❏ » Clarion 5.x Tips and Techniques, Volume 1 - ISBN: 0-9689553-5-5

- ❏ » Clarion 5.x Tips and Techniques, Volume 2 - ISBN: 0-9689553-6-3

- ❏ » Clarion Databases & SQL - ISBN: 0-9689553-3-9

We also publish Russ Eggen's widely-acclaimed Programming Objects in Clarion, an introduction to OOP and ABC.

## From The Publisher

### About Clarion Magazine

Clarion Magazine is your premier source for news about, and in-depth articles on Clarion software development. We publish articles by many of the leading developers in the Clarion community, covering subjects from everyday programming tasks to specialized techniques you won't learn anywhere else. Whether you're just getting started with Clarion, or are a seasoned veteran, Clarion Magazine has the information *you* need.

### Subscriptions

While we do publish some free content, most Clarion Magazine articles are for subscribers only. Your subscription not only gets you premium content in the form of new articles, it also includes all the back issues. Our search engine lets you do simple or complex searches on both articles and news items. Subscribers can also post questions and comments directly to articles.

### Satisfaction Guaranteed

For just pennies per day you can have this wealth of Clarion development information at your fingertips. Your Clarion magazine subscription will more than pay for itself - you have my personal guarantee.

Dave Harms

## ISSN

### Clarion Magazine's ISSN

Clarion Magazine's International Standard Serial Number (ISSN) is 1718-9942.

### About ISSN

The ISSN is the standardized international code which allows the identification of any serial publication, including electronic serials, independently of its country of publication, of its language or alphabet, of its frequency, medium, etc.

# Clarion Magazine

## Clarion News

Search the news archive

### RADFusion Web Site Updated

Russ Eggen has redone the RADFusion web site. Also on the site is a page containing links to Russ's Aussie Devcon 2007 talk about how to code ABC compliant template wrappers with the skeleton template. Also on that page: quite a few links for those curious about debugging applications.
Posted Thursday, September 25, 2008

### Clarion Third Party Profile Exchange and SetupCast

With the introduction of LANSRAD's SetupCast the Profile Exchange install files are being revised to use SetupCast automation to more quickly update the data (web update) versions of the Profile Exchanges. Clarion Third Party Profile Exchange is the first to be revised. You download and install Product Scope 7. Download and install the Clarion Third Party Profile Exchange Web Update program (instructions are included in the readme portion of the install). Then, Click on the Check for Clarion Third Party Updates - Desktop shortcut or Windows Start Menu - Profile Exchanges - Check for Clarion Third Party Updates.
Posted Thursday, September 25, 2008

### Capesoft RunOnce

RunOnce ensures your application will only run in one instance. When a second instance of your exe runs, it brings the current instance to the top and passes any command line parameters to the current instance. RunOnce is available for an introductory special of $39 until October 7, 2008, when the price goes up to $49. RunOnce requires NetTalk.
Posted Thursday, September 25, 2008

### Capesoft Email Server 4

Capesoft's Email Server 4 release includes new features, fixes and improvements. Email Server is also available as source for those developers wanting to build an Email Server into their applications.
Posted Thursday, September 25, 2008

### Codejock PropertyGrid Wrapper

Noyantis Software has released its Codejock PropertyGrid Wrapper template. A demo is available, and the demo will also automatically install the 30 day evaluation of the PropertyGrid ActiveX (v12.0.2). The template / control supports multiple color themes, multi language, date lookups, slider controls, combo lists, entry masking, integrated toolbar, integrated help panel, hierarchical list of editable properties, data sorting plus a lot more. The price of the PropertyGrid template is $75.
Posted Thursday, September 25, 2008

### ABC Free Templates and Tools Updated

A new version of ABC Free Templates and Tools is available. Changes include: Updated ClassDeclare template with options

for declaring, instantiating, init, and kill code; Updated DEVMODE structure type; Added ShellExec() method to vsShellClass; Added global extension template to resolve cases where unnecessary errorcode 35 messages are displayed; Enhanced the FormGlobalFieldNameOnTip template; Modified ThreadLimit template and class; Added option to LookupEntryCompletionOnAllFieldsWithLookup template to allow for a message to be displayed to the user if no records exist in the dictionary table; Revised the key sending class so that NUM LOCK and CAP LOCK states are set/restored more efficiently.
Posted Monday, September 22, 2008

### Look Good Package, Drop Shadow 3.1

Look Good Package and Drop Shadow 3.1 are now available. Changes include: Added Apply to Application Global Shadow template to apply shadow to all procedures with windows; Updated help. Updates are free for all purchased users of 3.X.
Posted Monday, September 22, 2008

### CapeSoft and ExtJS

Patrick De Laet would like to bring together a group of people to create templates to generate Javascript/ExtJS code that integrates ExtJS with Clarion server programs running on CapeSoft NetTalk technology. A Clarion/ExtJS tutorial is now online.
Posted Monday, September 22, 2008

### Noyantis ShortcutBar 1.11

Version 1.11 of the Noyantis ShortcutBar wrapper template has been released. Modifications include: Disable and Enable procedures added; Multilingual compatibility features added; Fix for optional new selection not triggering for existing controls on bar switching; Additional embed points added. The new version can be downloaded from the Members area using the original download and registration details contained in your sales emails. A new demo example app has been uploaded to the web site.
Posted Monday, September 22, 2008

### PreserveIt

PreserveIt allows you to preserve the values of all the controls in a window. It saves the control values in an ini file named Pit_ProcedureName.ini. The values may be stored in groups to preserve it for each user or group or whatever. Free download.
Posted Monday, September 22, 2008

### TraceIt 6.03

TraceIt 6.03 is now available. Changes niclude: New drop of types in the code template; Minor fixes. Please download the installer again and reinstall it, you do not need to re-register the template. Keep in mind that TraceItLoc.app is an ABC app. and CwTraceItLoc.app is Legacy.
Posted Monday, September 22, 2008

### Simplified Software Slashes Prices 50%

From Monday 22 September to Friday 26 2008 only the following Simplified Software products are available at a 50% discount: SimDatesClass Template (was $49 - promotion $24.50); SimGlobalButtons Template (was $30 - promotion $15); SimPad Template (was $49 - promotion $24.50); SimPageOfPage Template (was $19 - promotion $9.50); SimShape Template (was $49 - promotion $24.50); SimSoft Template (was $69 - promotion $34.50); SimFileLauncher Program (was $29 - promotion $14.50). To qualify for the promotion discount please quote SimpliDay. This code needs to be entered in the

promotion code line on the checkout page of the order form at www.clarionshop.com.
Posted Monday, September 22, 2008

### Icetips Office Closed Sept. 15-29

The IceTips office will be closed for the next two weeks while IceTips moves from San Antonio, Texas to Port Angeles, Washington. Arnor will try to help with any support issues that may come up as soon as possible. Order processing will be open so you can place orders, but anything that requires manual processing will only be processed in mornings and evenings. IceTips apologizes for any inconvenience this may cause. Watch the blog for updates.
Posted Monday, September 22, 2008

### Noyantis CommandBars 1.11

An interim release (v1.11) of the Noyantis CommandBars wrapper template is now available. Modifications include:
Tab Changing events added with new "TabSelection_" procedure added; Additional settings and methods added to allow further control of the Quick Access buttons; RibbonBars can now be restricted from being minimized; Image / Large display of System Button is now optional; OCXDirectCommand and OCXDirectValue methods added; Additional embed points added. The new versions can be downloaded from the Members area using the original download and registration details contained in your sales emails. A new demo example app has been uploaded to the web site.
Posted Monday, September 22, 2008

### SetupCast Released

LANSRAD has released a new software publishing system with special enhancements for developers who use SetupBuilder by Lindersoft. SetupCast makes it easy to update your website when you release or update your software. It automatically gathers information about the distribution and lets you add release notes. Then it builds HTML and XML documents that combine with or link from your website. You can even add an RSS feed for your products to automatically keep your customers informed about new versions. One click publishing makes it possible to upload your entire software distribution in a single FTP session. This includes Full Installers, Web Installers, Web Updaters and the SetupCast generated release information and download instructions. Included is an enhanced web update client for SetupBuilder. This drop in replacement
provides information such as file download sizes to your customers during the check for update process. SetupCast is not a beta product and is available for immediate purchase.
Posted Thursday, September 18, 2008

### StrategyOnline Upcoming Releases

Several major releases are expected shortly, including J-Cal 3.0, J-Spell 2.0, and J-Zip 1.10. Time is running out to save $100 on J-Cal 3.0.
Posted Friday, September 12, 2008

### Moving Prompts Build Automator Offer Extension

IceTips Creative is moving, and preparing for the move has taken quite a bit of time out of the development schedule schedule. Because of the delays that this is causing IceTips has extended the offer for a free Build Automator license with renewals. Now you will get the free Build Automator license with a renewal even if the subscription has expired. This offer is only extended until the end of October.
Posted Friday, September 12, 2008

### Clarion Desktop 4.12

Clarion Desktop 4.12 can automatically/intelligently download and install accessories that have separate installers for Clarion 7, such as CapeSoft's.
Posted Friday, September 12, 2008

### UltraTree IP Driver Support Peta

Version 9 of UltraTree (release date undetermined at present) will have explicit IP Driver (MRP) support among other new features. Initial internal testing indicates IP Driver performance with UltraTree is equivalent to a file-loaded BrowseBox (LAN or WAN). In the near future a pre-release Version 9 will be made available to a limited group of licensees for beta testing of the IP Driver support. If you are a lifetime licensee, also have licensed the IP Driver, and want to test use of UltraTree with IP Driver, please write to support AT enabling simplicity DOT com.
Posted Friday, September 12, 2008

### J-Spell 2.0 RC1

J-Spell 2.0 RC1 is now available for testing.
Posted Friday, September 12, 2008

### vuMail 1.3

vuMail version 1.3 is available for download. Changes include: Set default 'From' and 'ReplyTo' addresses independently (settings are persistent and can be overridden); Auto-Log all emails sent into a CSV file (user definable filename and location); Can use wildcards in attachment file names (to attach all .tps files in the temp directory, use "c:\temp\*.tps"); Can specify a filename in the email body and vuMail will replace it with the file contents (updated). This will be the last release that contains new features before version 2.0. When version 2.0 is released, the cost of vuMail will go to $99.00. If you are a registered user of vuMail prior to the release of version 2.0, the upgrade will be at no cost. At a minimum version 2.0 will be have the ability to be launched on an independent thread, allowing instant returns to your application after sending mail, and the ability to send multiple emails from a CSV file.
Posted Friday, September 12, 2008

### Look Good Package and Drop Shadow

WingNut Solutions has released a branded LGP Utility. Changes include a new drop shadow template and full source code for the scheme editor. Price is $29, after Sept 20th the price will be $59 new, $39 upgrade.
Posted Friday, September 12, 2008

### NeatMessage 2.16

New in NeatMessage 2.16: Option for not using any file with the template (for apps without dictionaries).
Posted Friday, September 12, 2008

### Noyantis CommandBars 1.09

Modifications to the Noyantis CommandBars 1.8 wrapper template include: CommandBars can now be designed externally using the Codejock Designer application, and then loaded at runtime into a CommandBar; Tooltip styles have been added along with a SetTooltipStyle method; RibbonBar Height property and SetRibbonBarHeight method added; DeleteControl method added; CloseAllPopups method added; Compiled in Icons can now be specified for control images; Multilingual Compatibility features added (see Language Resource entry on Global extension); Bug fix to frame extension's popup menus.
Posted Thursday, September 04, 2008

### Noyantis CalendarPro 1.08

Noyantis CalendarPro 1.08 is now available for download. Modifications to the CalendarPro wrapper template include an optional right-click menu added to Calendar control. You can specify the menu options you want, and these options can be set to be either available all of the time, or only when the user has selected a calendar event.
Posted Thursday, September 04, 2008

### SetupBuilder 7 Beta Program

Registration for the SetupBuilder 7 Beta Program is now open. Customers with an active SetupBuilder subscription are eligible to participate. If you do not have an active subscription plan, please contact your account manager at sales@lindersoft. com. The SetupBuilder 7 Beta Program is scheduled to run from October 13, 2008 to January 16, 2009.
Posted Thursday, September 04, 2008

### BoTran 2.51

BoTran 2.51 is a minor release with EdBoTran Utility app updated to use text input to accommodate multi-line tool tips. Help files have been updated to show usage.
Posted Thursday, September 04, 2008

### vuMail 1.2

Changes in vuMail 1.2 include: Verbose error reporting; vuMailLastError() function for explicit retrieval of error messages; Enhanced HTML auto-detection; The ability to automatically detect a file name for the message body.
Posted Thursday, September 04, 2008

### Clarion Training Courses 50% Off

SoftVelocity is offering discounts on its Training On Demand courses, including Inside the Clarion IDE, Advanced IDE Development Techniques, Expert Programming In Clarion, Master's Language Series, Template Language Series, SQL Programming Series, and Programming with the In-Memory Driver 2.0 Templates and Classes. Save 50% off bundles, 50% off individual courses.
Posted Thursday, September 04, 2008

### IP.Tree

IP.Tree isn't a Clarion 3rd party, but it is an example of a Clarion application built with many third party utilities. IP.Tree is a simple way to plan, document and verify/audit your network.
Posted Thursday, September 04, 2008

Clarion Magazine

## Adding Tools To The C7/Clarion# IDE

by Benjamin Dell

Published 2008-08-26

There are many ways you can customize the Clarion7/C# IDE. These customizations can be as simple as re-arranging windows/pads to your liking or as complex as creating your own plugins. But there is another way to add functionality to the IDE that is both easy and powerful.

You've probably noticed the Tools menu (Figure 1). You can add your own programs to this menu, and these programs can interact with the current project or solution by means of some built-in variables, including the current target, the current working directory, DLL or LIB directories, etc.. By using these variables you can call your programs just as you would if you typed the command in a DOS prompt or in the RUN prompt on your computer.

I'll demonstrate three uses of the Tools menu: running a program without recompiling, calling a dependency checker, and running Clarion's LibMaker.

### RUN program without recompiling

Having a lot of small and not so small hand coded solutions in C7, I really started missing C6's ability to run an application without having to re-compile it. That button is missing from the new IDE, but you can add the functionality to the Tools menu.
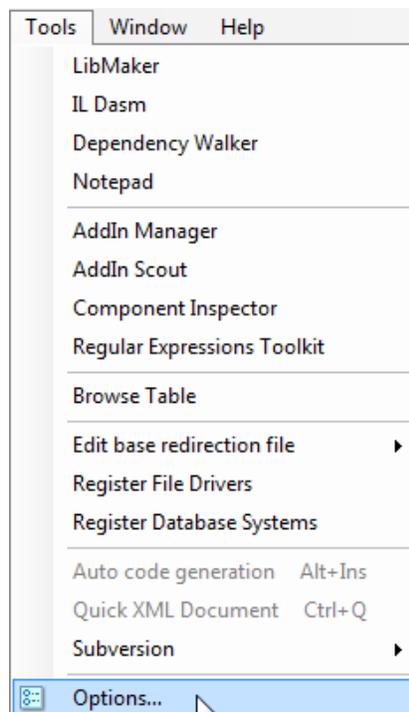
**Figure 1. The Tools menu**

First, select the Options menu item from the Tools menu (Figure 1). On the Options window select the External tools option and press the Add button to add an external tool option (Figure 2).
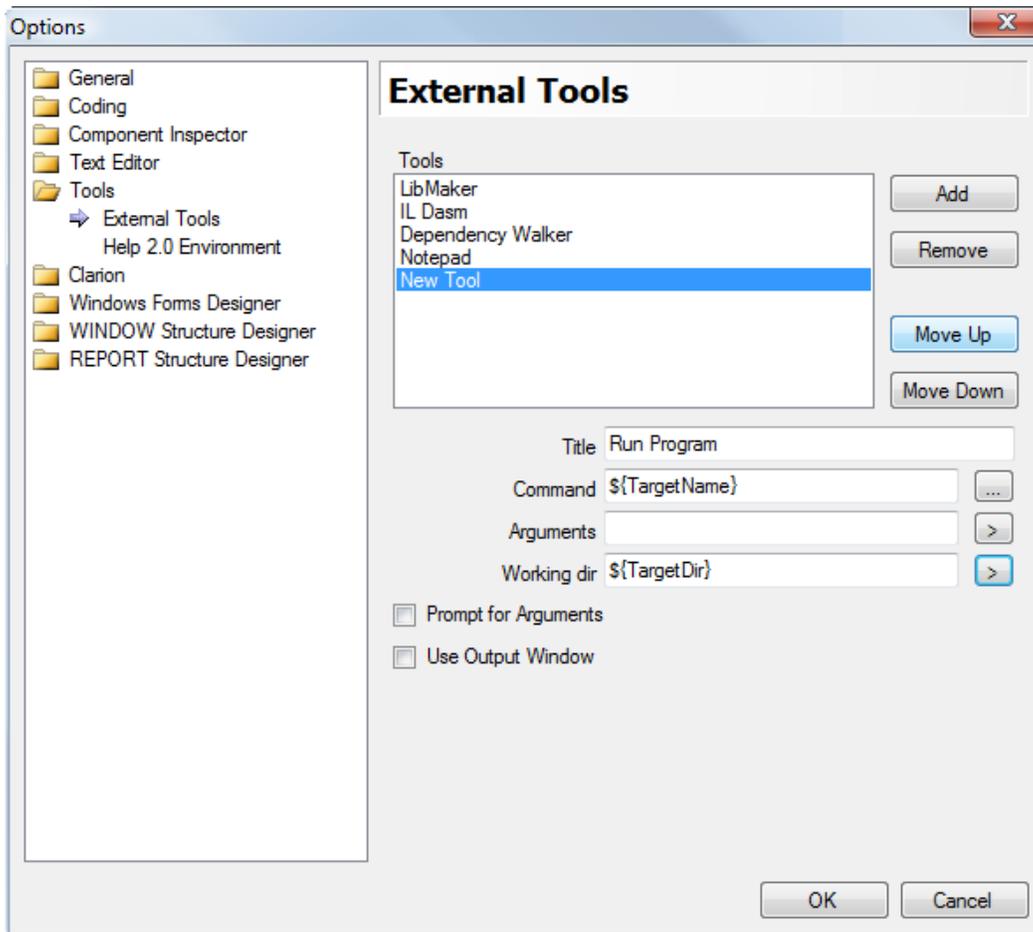


**Figure 2. Adding a "Run Program" external tool**

Type the name that you want displayed on the menu item into the Title entry box. The Command, Target and Working Directory arguments can all be hard coded, or you can use system variables that the IDE will automatically convert when the external tool is called. To get a menu of variables (Figure 3) just click on the > button beside the Arguments field. Selecting any of these menu items will paste the corresponding symbol text into the field.
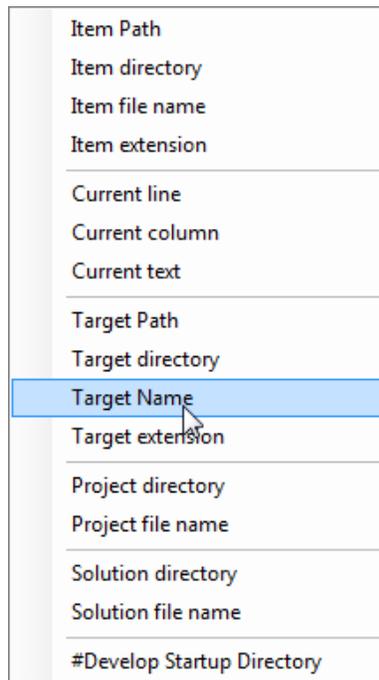
**Figure 3. Picking symbols from the popup menu.**

To run the current Solution as an EXE you set the Command to the ${TargetName} variable, which is the file that's created when the build completes. Obviously you'll need an application that results in an EXE and not a DLL.

It's unlikely you'll have the location of Myapp.exe in your system path, so you need to specify where the Myapp.exe program is located. There are two ways to do this, and both use ${TargetDir} which is the directory path containing the EXE.

One option is to set the Working dir field to ${TargetDir} which will result in the IDE changing to that directory before running the program. That's useful if the program you're running is going to need to access resources such as files which exist in that directory.

Another way to call the EXE is to include the path in the Command field, as in ${TargetDir}\${TargetName}, which in my example will result in the following command:

    F:\Clarion 7\apps\myapp\myapp.exe


### Dependency Checker tool from MSDE

I like to check all the dependencies of the programs I create to make sure that at distribution time I've included all the necessary files.

In this instance, I have hard coded the path to the dependency walker I use - C:\Program Files\Microsoft Platform SDK for Windows Server 2003 R2\Bin\Depends.Exe - and have specified the target directory as the working directory. Depends. exe will load the DLL or EXE created when I compile my project. To check dependencies I simply open the project, compile (if necessary), and choose Dependency Walker from the Tools menu.


### Libmaker on my target dll

When writing DLLs I always use LibMaker to verify that my exports appear correctly in the DLL; that way if there's a problem I at least know my DLL is correct and it's the calling program that needs checking..

In my case I have replaced the standard LibMaker tools entry with a customised version of LibMaker, and I have also added some arguments to the command line. When I choose this entry from the Tools menu Libmaker loads the DLL that I am currently working on and displays the exported procedures, classes, etc. Instead of using a hard coded path here, I copied the file LibMak32.exe to my Clarion 7\ Bin folder, which corresponds to the ${StartupPath} variable.

## Summary

The Clarion IDE provides many customization opportunities, and one of the easiest is adding external programs to the Tools menu. The built-in variables give you access to various standard directories, project targets and other information, making it easy to integrate a variety of programming utilities into the IDE.

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Benjamin Dell, also known as Riebens, is a Certified Clarion Software Developer and has been using Clarion since the DOS days. He is the owner of Riebens Systems, a software contracting company in South Africa which specializez in the financial and logistic market.

## Reader Comments

Add a comment

# Clarion Magazine

# OSCON One More Time: Pics, Comments, and Conclusions

by Dave Harms and Benjamin Dell

Published 2008-08-26

I have a bunch of notes left over from OSCON, and rather than try to chisel out some more articles I'm just going to do a little rambling. I'll also throw in a few more photos that I didn't find time to post during the conference, along with some observations about the contrasts between the open source world and the Windows-oriented, usually closed-source world most of us inhabit. But first a few more sessions...

## Web frameworks of the future

I took in Matt Raible's session on Web Frameworks of the Future. Raible's an obviously bright guy with a wide range of web development experience and knowledge. He's also the developer of AppFuse, a Java framework for rapid web application development.

Raible mentioned two acronyms I'd never heard: SOFEA and SOUI. Both are about the same thing - service-oriented user interface. This is another form of the Rich Internet Application (RIA) but based on an model-view-controller (MVC) approach. I'm a big fan of MVC web apps (ClarionMag is delivered by an MVC Java web app which I'm in the process of porting to Clarion#), and clearly Microsoft is too now that they've jumped on the bandwagon with ASP.NET MVC.

SOUI proponents say that traditional web application frameworks will soon be passe; Raible doubts this, and I'm in agreement. But they may well be more of a factor in the future.

Another way to do rich web apps is with XML dialects, but these are not commonly used at present. Examples include XForms, XHTML 2.0, Moxilla XUL, and Silverlight. Adobe Flex is a popular choice for RIAs.

Flex pros include:

- The Flash UI
- Funded by Adobe
- Many successful client stories
- Supports REST easily

Flex cons include:

- Not search engine friendly
- Doesn't render HTML content well
- Doesn't print well by default
- No zero turnaround without the IDE

There are lots of other contenders, including the Google Web Toolkit (AJAX/Java/Javascript) and Grails, which is Groovy on Rails. Groovy is a language for the Java platform, and Rails is a term (as far as I know) appropriated from Ruby on Rails. Rails is used a lot these days and typically means an MVC framework built around a language supporting agile programming.

I found Raible's session interesting but not that filling, probably because I didn't have a stake in most of the languages/platforms he discussed.. Actually that was usually the case for me when it came to language-specific sessions

at OSCON. The (mostly) open source language I know best is Java, and as much as I like Java I think C# is an evolutionary improvement. I've never been comfortable with Perl or PHP which together account for a huge share of web server code. The language sessions I did find interesting were all about Javascript.

## Speaking of Javascript

I'm definitely a latecomer to Javascript. Clarion Magazine only uses a couple of lines of the stuff as for years I've aimed at the lowest common denominator. But with 95% of users enabling Javascript it's pretty hard to ignore the power afforded by this somewhat quirky language. If you use Javascript you'll still need to decide whether you want to offer non-Javascript functionality to your users or simply inform them that they need Javascript enabled to properly view the page. And if you do use Javascript you'll have to deal with the inevitable browser incompatibilities, as I've discussed elsewhere in these reports.

## Silverlight and Moonlight

Joseph Hill covered Moonlight, an open source implementation of Microsoft's Silverlight which is a cross-browser RIA platform based on .NET. Moonlight is focused on version 1.0; Microsoft will not release 1.1 but is going to 2.0. Moonlight currently supports FireFox.

It appears most of the good stuff is happening in version 2.0, including:

- The ability to call out to the DOM from inside the Silverlight .NET code.
- An embedded CLR so you have access to all the .net languages. and you have access to a subset of the class libraries with some extra SL specific stuff.

Hill mentioned the team's use of the mono project's Cecil .NET linker to manage creating multiple targets (1.0 and 2.0) from a single source base. This might be worth a look for anyone needing to do something similar in Clarion#...

Hill also discussed desklets, which are Moonlight apps that can run standalone instead of in a browser. Microsoft's position so far has been to restrict Silverlight apps to the browser (leaving the desktop to WPF apps).

## The RepRap

The RepRap was a fun little diversion - this is a machine that is billed as a self-replicating rapid prototyper - really a kind of 3D printer. Essentially it's a computer-controlled head that moves in three dimensions and builds up objects by depositing melted bioplastic in a series of dots or lines. The RepRap is relatively inexpensive (it'll cost you about $1000 to build one) and modestly effective. Its ability to self-replicate is highly debatable, since it can only make the plastic pieces that go into its frame; you still need some off-the-shelf metal hardware, motors, belts/chains, the modeling head, and the electronics and software to control the whole thing. But it's still a fun bit of hardware.

The brain behind the original RepRap is Dr. Adrian Bowyer of the University of Bath in the UK. And the philosophy behind the RepRap is very much open source. The design specifications are fully available; although they are copyrighted they are not patented, and are in fact released under the terms of the Gnu Public License (GPL). The GPL is one of the more restrictive open source licenses in that it aims to ensure that open source cannot be converted back to closed source.

The RepRap was introduced and demonstrated by Vik Oliver, a Kiwi who joined the project back in the early days of 2005. In fact the RepRep at OSCON is a second-generation machine, having all its plastic parts fabricated by a first generation RepRep (and sporting a few third generation parts as well).

Vik Oliver waits outside the meeting room with his RepRap

Things made with the RepRap include children's shoes, coat hooks, door handles, fly swatters, and a one piece venturi vacuum pump (not, says Oliver, the first device he's made that sucks).

Oh, and that bioplastic? It's made from starch which is fermented into a lactide (like yogurt). Crystallize the lactide and dry it out, head it with a tin catalyst, and you have a plastic which will biodegrade in the right kind of composting facility.

So what's the big deal about making stuff out of plastic? To hear Oliver tell it, the RepRap will change society. No longer will you be able to ban hardware by law, since anyone will be able to make just about anything. I gather that's supposed to be a good thing, although I don't have as rosy a view of human nature. But whatever.
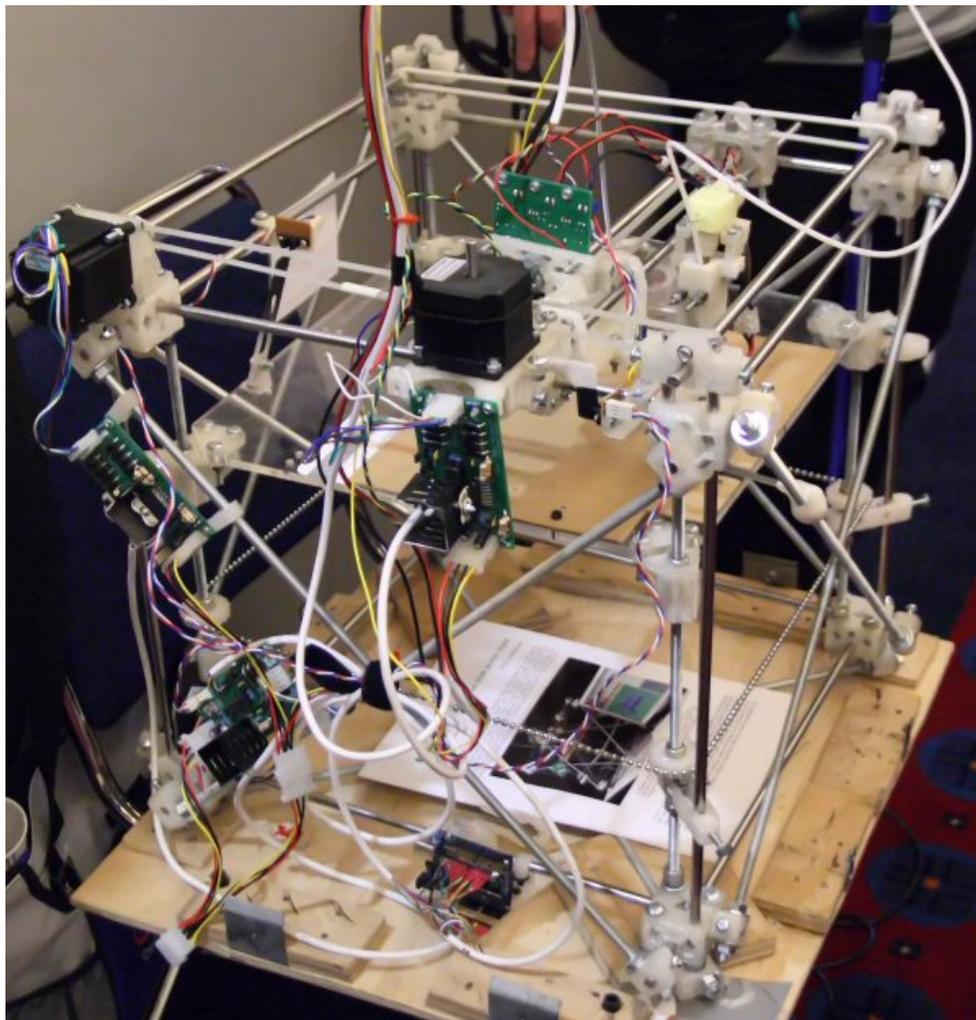
**A closer look at the RepRap. Yes, that is bead chain - it's cheaper than toothed belts and works as well.**

The idea is that since the RepRap can (sort of) replicate itself, evolution will bring its design forward by leaps and bounds (assisted by humans, of course). And hopefully the RepRappers are right, because right now the RepRap, cool though it may be, is pretty dang crude:

- It's slow, partly because it takes time for the melted plastic to solidify. So there's a little fan running all the time, and after the head puts down some plastic it moves out of the way and the fan cools the plastic.
- It's not that precise, because of the size of the gobs of plastic.
- It's not that rigid - the RepRap framework exhibits some movement in response to the deposition head's movement (although that could easily be fixed).
- You can't make anything with a surface that overhangs more than about 45 degrees from the horizontal because the plastic will just fall over instead of sitting in place while it solidifies.

In other words, the RepRap has a long way to go to fulfill the vision of its creators. Version 2 will use PLA as main feedstock, have a metal deposition head, manufacture own electronics, automated head exchange, a USB interface, and DC servos.
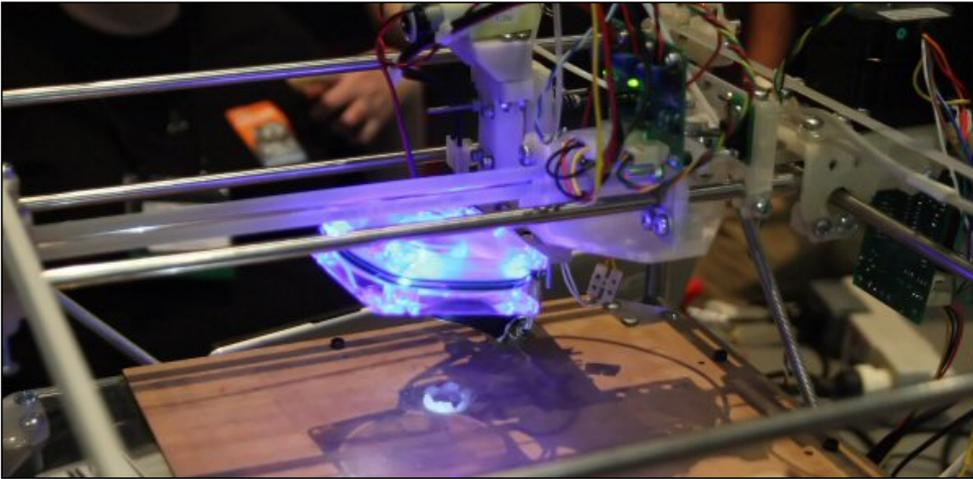
**The RepRap building a part - after laying down a layer of plastic the head moves the cooling fan into position**

You can keep up to date on the RepRap blog and the RepRap Research Foundation web site.

If 3D printing interests you be sure to also check out the Fab@Home site. These folks are doing much the same work although not specifically geared towards self-replicating machines.

### Keynote notes

The following are my notes from keynotes on several different days.

In the first Wednesday morning keynote **Tim O'Reilly** spent some time looking back on ten years of OSCONs, and then went on to a review of the O'Reilly Radar report released this morning. If you missed my report, one of the takeaways is that content management frameworks are rapidly growing in popularity. O'Reilly noted that Joomla was not included in the survey and it would certainly be up there as well.

O'Reilly sees three main challenges/opportunities for open source: cloud computing, the (open) programmable web, and open mobile. Clearly the web is not as open as some would like it; O'Reilly quoted Jesse Vincent saying "Web 2.0 is digital sharecropping" and there's a lot of centralization happening in web and cloud computing. He wondered who's going to own the subsystems that make up the cloud, and asked how open source advocates can keep all these subsystems free.

O'Reilly lauded Google's Android project, saying Google understands that if the mobile phone isn't open, they're toast. Google depends on the open ecosystem.

And yes there is a political agenda. (In fact OSCON can at times be a rabidly political place, although not everyone sees open source as a struggle between good and evil.)

O'Reilly alluded to his having exchanged one cult for another - a reference to his mentor George Simon (check out this Steven Levy article on O'Reilly in Wired).

Next up was **Christine Peterson**, who at a 1988 strategy meeting of free software folk suggested the term "open source." Peterson went on at length on a fairly political vein, hammering on how dangerous it was to have public data being handled by private software. Among the harbingers of doom: closed source e-voting and the resulting mess, and municipal testing for illegal drugs in sewage.

Then Intel's **Dirk Hohndel** took the stage and said "It's hard to follow someone who scares the crap out of you about all the bad things that will happen if you don't go their web site." When the laughter (some of which may have been nervous) died down Hohndel delivered Intel's use of and plans for open source, including the company's Moblin (mobile and internet linux) project. Intel uses one of the larger Linux grids in its chip design process. Hohndel opined that open source is all about releasing when the product is ready, not when the conference happens. Who knew that SV was an open source shop?

Moblin is an Intel project but as open source it can be ported to another platform.

**Danese Cooper** from the Open Source Initiative talked on why whinging (complaining) doesn't work. She showed video of the Helsinki Complaints Choir, which owes its existence to two Finns who decided there had to be a way of channeling the enormous energy people put into complaining. The line at 5:53 got a good laugh from the Portland natives, as the Pacific Northwest is famous for rainy weather.

**The Helsinki Complaints Choir**

Oddly enough, the first complaints choir Tellervo Kalleinen and Oliver Kochta-Kalleinen started was in Birmingham, UK, but eventually they got to Helsinki and there are now more than 20 complaints choirs around the globe.

So why do we whinge? Perhaps because we're fundamentally afraid and whinging throws up a mask. Complaining isolates us. What you believe is what you get, but you can think differently. Cooper's advice: Radiate gratitude. Acknowledge others. Be the world you want to live in.

**Nat Torkington** is to open source what David Feherty is to golf, although I don't think Feherty is allowed to use that kind of language. Torkington, the former OSCON chair, moved back to New Zealand with his family, and at one point offered to volunteer his computer skills at the local elementary school. He spent some time teaching kids about computers. And he tried robots. But robots are dorky - there really isn't that much they can do and they're not consistent. Logo blows.

**Nat Torkington**

When it comes to teaching kids programming, MIT's Scratch is a great package with a very visual interface. There's also Processing which is a layer on top of Java.

With kids, lectures suck. Make them faster than light. And the gender gap is not what you think. At ages 8-11 the girls are way better.The boys are too distracted and too ambitious. They all want to make games just like the ones they play.

You need to follow the kids' own interests. Keyboards are a challenge. Most don't know much math.

Torkington made an immodest proposal: "Every one of you, unless you're a pervert, should volunteer in schools." Ask them what they need. Your time is the best thing you can give. Build your own courseware.

There is no downside to volunteering in schools, and if you do have the wherewithal, donate some hardware.

Oh, and robots aren't always lame.

### And now for the lightning round...

Josh Berkus, recently of Sun (and, as he was quick to point out, looking for a new gig), hosted the State of Lightning Talks in which fourteen notable open source personalities gave brief presentations on their projects. Anyone going over the time limit was subjected to the Indian taxi horn of doom.

**Josh Berkus explaining the hourglass**

Monty Widenius said there's nothing new in the latest MySQL release, but there are a lot of bug fixes. Release 5.1 is better than 5.0 if you're using 5.0 features. There will be online backup in 6.0. The Maria engine (a crash-safe version of the MyISAM engine) is out and transactions are coming soon. He also mentioned the Drizzle fork.



OpenID's Scott Kveton admitted that OpenID sucks from a usability standpoint, and this is being addressed. The problem is that people can't remember their user IDs. But there are 20,000 partners using OpenID, and there are ~500 million

OpenIDs including every AOL, Yahoo, MySpace and LiveJournal user. OpenID Enabled lists implementations.



**Scott Kveton presenting under close supervision by his son**

In short, OpenID is like a glacier - slow moving and hard to stop, even if it does suck.

The Gentoo Linux distro has gone through some difficult internal reorganization and removed some poisonous people, and Donnie Berkholz is expecting better things in the future.

Bruce Momjian spoke of new challenges ahead for PostreSQL. Database improvement is an arduous process because of the reliability requirements. Core features don't change much, so the latest features are much more exotic. Full parity with Oracle, IBM and Microsoft is within reach, and performance continues to be a focus. Adoption/mindshare is going well; PostgreSQL is moving into a leadership role among open source databases.

**Bruce Momjian**

Mark Shuttleworth, famous for paying about US$20 million to ride a Soviet rocket to the International Space Station, gave an update on Bazaar, a cross platform distributed version control system. You can use Bazaar as a centralized system if you wish.



**Mark Shuttleworth**

Alan "Dormando" didn't have any slides but hit a button and released memcached 1.2.6 RC1 during the presentation - that

was novel.

In many third world countries the network is someone driving down a rural road. Literacy Bridge's talking book is an mp3 player that sells for $5-10. Cliff Schmidt called for software developers for the player, the kiosk, educational games, etc. The talking book is designed so local people can create local, useful and interesting content.



**Cliff Schmidt showing the Talking Book**

OpenOffice.org 3.0 is worth another look, according to Louis Suarez-Potts. There have been 150 million downloads, and there's a whole lot of interest in OpenOffice in other countries.

Glynn Foster reported that Solaris has had a facelift. A a lot of the old stuff that was being kept for religious reasons has been replace with a more modern toolset. There are still a bunch of poisonous people who don't like change, much like the Gentoo experience. There is a new board which is bringing positive change.

Dave Neary gave an update on Gnome, a user-friendly interface for Linux/Unix desktop and mobile devices. Neary presented a nicely arty set of slides, as I suppose you might expect from someone talking about a modern GUI.

According to Jon Mark Walker, Subversion 1.5 adds merge tracking, sparse checkouts, changelist support, FSFS sharding, and new WebDAV proxy support (apparently some people still use WebDAV!).

At this point Josh Berkus asked for a volunteer from the audience. Of course he didn't actually *say* what he needed a volunteer for, and a good sport named Carl Fogel stepped forward. Josh asked Carl if he had any Java experience. None at all, said Carl. Good, good, said Josh. And then he proceeded to tell Carl that Ken Drachnik wasn't around to give a presentation on Glassfish, Sun's Java application server, so Carl would have to present Ken's slides. Luckily Carl was up to the task; much hilarity ensued, and it was clearly the best presentation of the session.

**Carl Fogel realizes he's about to give the Glassfish presentation**

Brian Aker closed out the session with Drizzle, the minimalist fork of the MySQL server. The microkernel is only 420k of code; this means that more code is being moved to the edge. To add interfaces to the kernel you now have to remove an equal amount of code. Among other things Drizzle supports multi-core processors. There are crazy numbers of cores waiting, says Aker.



**Brian Aker**

## Other pics

Here are a few other pics from the conference. I suppose I should've taken one of the outside of the Oregon Convention Center, but hey, it's a convention center. They all look pretty much alike. Big building. Lots of glass.

Here's a shot of one of the main sessions. The room was set up in a T formation with more seating behind my position and to the left and right up near the stage. It's bigger than it looks - there were around 3000 people at the conference. Numerous screens made it easy for everyone to see those on stage.



Tim O'Reilly (right) interviewed MySQL creator Monty Widenius (center) and Brian Aker, who is now MySQL's Director of Architecture. Aker has also forked Drizzle from the MySQL 6.0 code base. Drizzle is a "smaller, slimmer, and (hopefully) faster version of MySQL" suitable for web and cloud computing.

On the subject of Sun buying MySQL, Monty expressed great relief at not having to go public and face the pressures of the market. Six months later, he said, Sun is still trying to figure out what they've bought.

Akers indicated that instead of a huge clash of cultures between MySQL and Sun there has instead been a sort of revolution inside of Sun. MySQL's DNA has been pushing Sun toward open source. And MySQL is being allowed to get back to its community - in recent years it had been more management-driven.

Monty has given a number of donations to various open source advocacy groups and challenged O'Reilly to follow his lead.

On the first two days of training sessions a box lunch was provided; on the first two days of the conference we had quite a nice hot lunch.



Lunches were served in a large hall partially set aside for vendor displays. Below you can see about a third of the booths. It's also a quiet moment; in the breaks between sessions the vendor area was crowded, not least because snacks were also served there.

And here's a pushpin map of those attendees who chose to reveal their location. I never did figure out who the other person from Winnipeg was.



You can view a larger version of the map here.

## Ruminations

I've long been a fan of open source software - like closed source software, it has its place. And that's where I part company with the radicals in the movement who believe that open source is the be all and end all. But there are many moderates among open source devotees, and it seems to me that as the movement matures it's attracting more mainstream folk and fewer fanatics.

One question that gets asked a lot is how do creators of open source software make money? Some, to be sure, don't (just as some who write commercial software don't.). But there's definitely money to be made in open source (there must be, given the hefty registration fee for OSCON) by providing training, consulting and customization. And not all open source licenses are the same. If you put your software under the GPL, all derived works are automatically also under the GPL, which means any customizations you make also become publicly available. But other licenses are more permissive. If you find some code that's released under the Apache or BSD licenses, for instance, you are free to incorporate that code into a commercial product. So you can always release some of your code as open source and use that as a teaser for the really good stuff that's in your commercial product.

Similarly, if you own the source code you can always release it under a dual licensing scheme, one open source and the other closed source for your commercial customers. Users of C7/Clarion# benefit from that kind of arrangement: SoftVelocity has a commercial license to the SharpDevelop IDE source, which is also distributed under the LGPL. If SoftVelocity were to use the LGPL version then their modifications would have to be made public; as it is they can use the SharpDevelop code as they see fit while preserving their intellectual property. SoftVelocity benefits, and the makers of SharpDevelop get a licensing fee.

Of course, if all of these licensing options seem to complicated you can always release your code as Beerware.

Microsoft had a modest presence at the conference, but really there was very little talk of the Windows platform except for an occasional nod in the direction of Mono, or IronRuby, or maybe Perl running on a Windows box, and of course the usual derogatory comments about Internet Explorer (in particular IE 6 - just say no!). But keep in mind Microsoft's early dismissal of the Internet and the rapid about-face once the company realized its mistake. Something similar may be happening with regard to open source, on a small scale anyway. Microsoft hasn't been shy about hiring from the open source community, at least on the ASP.NET side of things. And the word on the street is that these people are bringing the open source culture with them. I think it's too simplistic to suggest that MS is simply trying to subvert the open source movement.

Although I would have liked to see a bit more of a Windows presence at the conference, there was still plenty to keep me happy. In particular I came away with a new appreciation for and ideas about Javascript, style sheets, A/B testing and database security. You can expect most of those topics to show up again in Clarion Magazine in the coming months.

### For the photo gearheads

One final note on the photography. Conferences meeting rooms are notorious for low lightning, especially when computer projection is in use. I mean, until you've tried to shoot under those circumstances you just can't imagine how awful it can be. You really have two choices: shoot with flash, which leaves harsh shadows and is somewhat intrusive, or shoot at high ISO (meaning high sensor sensitivity). Invariably the higher the ISO the more grain in your images, and at some point the grain becomes problematic.

The lightning round pics, for instance, I shot at ISO 3200, 1/100 sec, F2.8 using a Canon 30D and a Canon F2.8 100mm lens. If you look closely you can see some softness, meaning I should've used my monopod.

Now, ISO 3200 results in a lot of grain under low light. How much? Look at this picture of Scott Kveton's little guy, which is an unresized crop of the 3504 x 2336 pixel original.
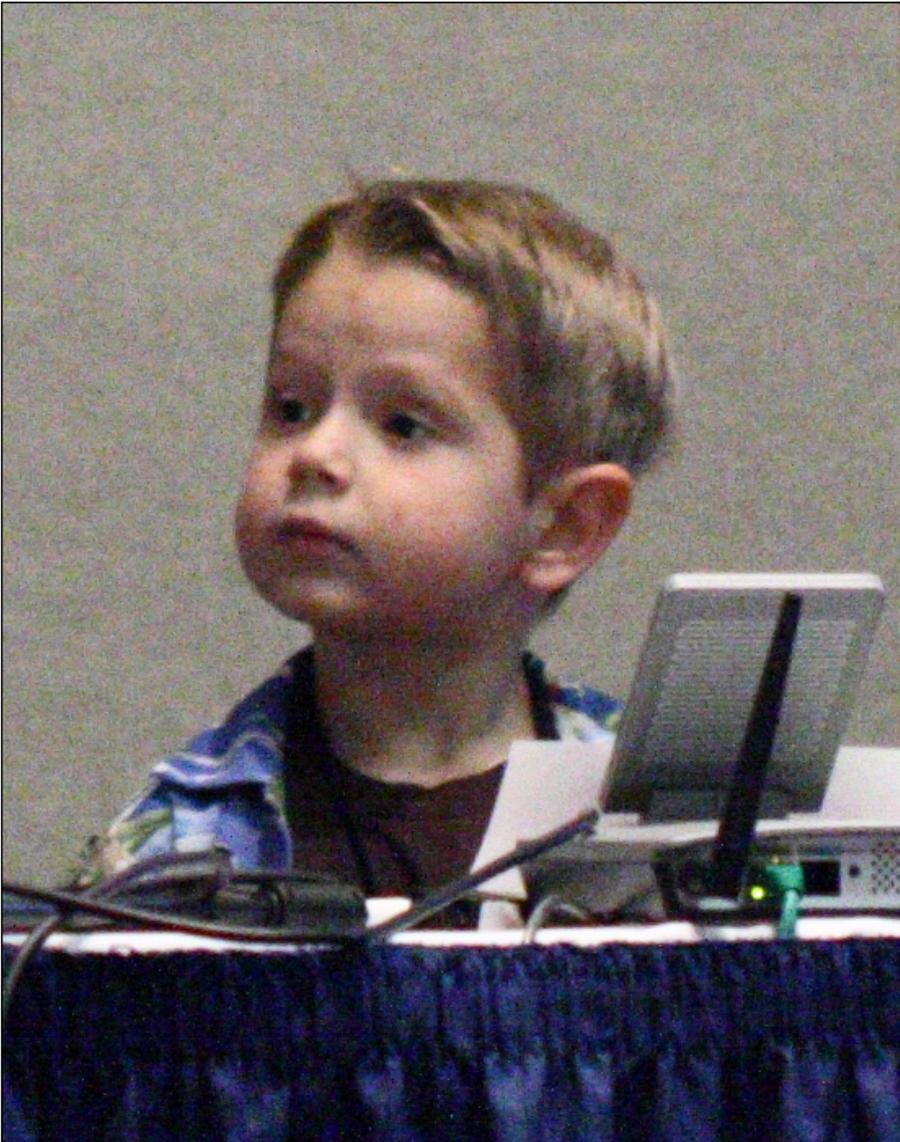
Now that's some unpleasant grain. And it was for this reason that I always resisted anything above ISO 400. Leroy Schulz was forever telling me to use higher ISO when necessary, but I'd never had much luck with noise reduction software. And then few weeks before the conference I inadvertently took a bunch of shots at ISO 1600, and I really needed them to be usable. So I tried Imagenomic's Noiseware, one of the programs Leroy had recommended.

And I was amazed.

Here's the above pic treated with a high level of noise reduction:

That's a dramatic improvement - the grain is almost completely gone. Yes, the photo is a little softer now, but that's a small price to pay.

Here's the picture with a bit of sharpening applied (via Paint Shop Pro) - you may or may not notice a difference in this case:
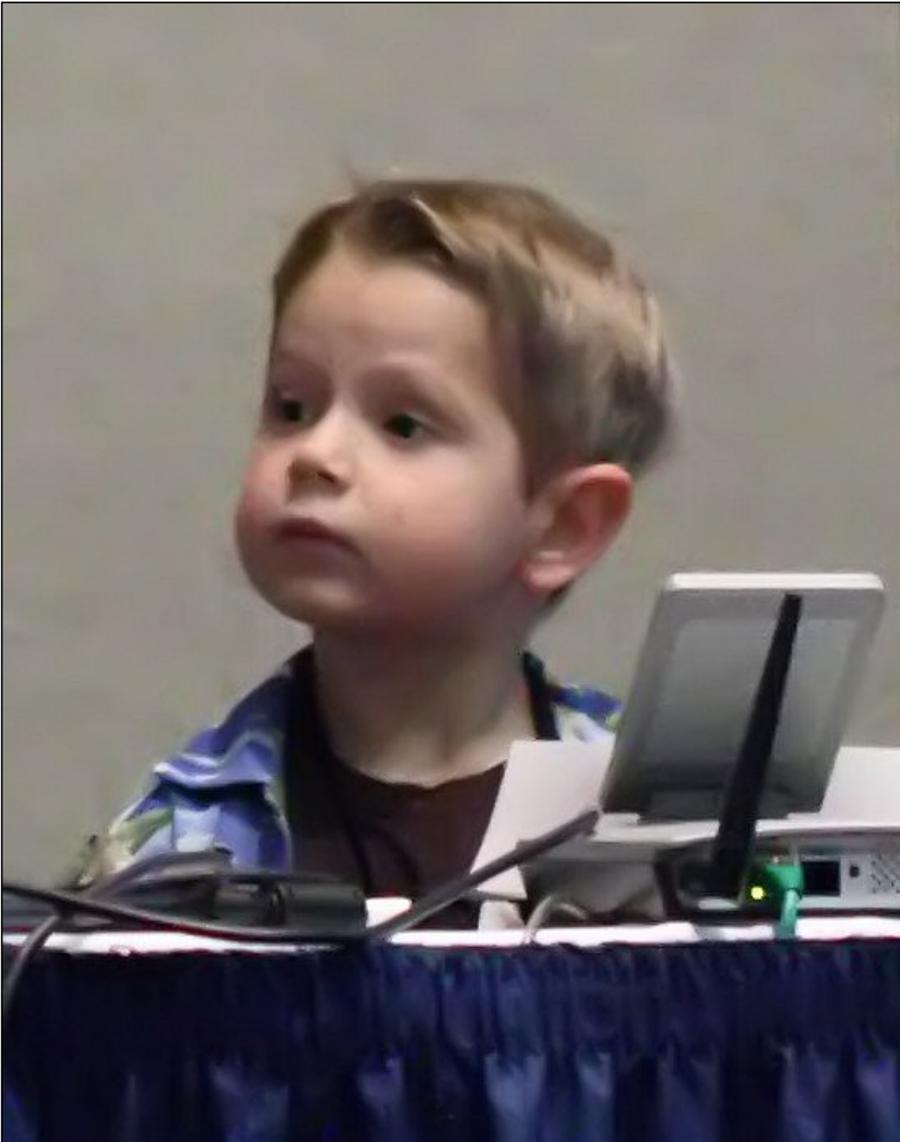
And once again here's the reduced pic from earlier in the article (which is slightly cropped from the original):

The moral of this story: shoot high ISO when you have to and use good noise reduction software. Oh, and remember the monopod/tripod.

I suppose if I'd had image stabilization I probably could've dropped down to 1600 and had a sharper pic *and* less grain, but that wasn't an option this time around.

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David Harms is an independent software developer and the editor and publisher of Clarion Magazine. He is also co-author with Ross Santos of *Developing Clarion for Windows Applications*, published by SAMS (1995), and has written or co-written several Java books. David is a member of the American Society of Journalists and Authors (ASJA).

Benjamin Dell, also known as Riebens, is a Certified Clarion Software Developer and has been using Clarion since the DOS days. He is the owner of Riebens Systems, a software contracting company in South Africa which specializez in the financial and logistic market.

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# Clarion Magazine

## OSCON: Web Security 2.0

by Dave Harms

Published 2008-08-07

Chris Shiflett is the Chief Technical Officer of OmniTI and the author of Essential PHP Security (O'Reilly) and HTTP Developer's Handbook (Sams). Shiflett began his session with the story of Little Bobby Tables ("Did you really name your son Robert'); DROP TABLE Students;--?").

Cross site scripting is an old technique but is being used in new ways. In essence XSS is someone delivering a payload to your site that becomes incorporated into your web page (say via a form). Instead of a destructive SQL statement a hacker might insert some Javascript into your database where the script will eventually be output as part of a web page. The script could be something as simple as a page request to a bad host containing the the user's cookies. This isn't a particularly clever approach as it does something unexpected which can alert the user, but a more sophisticated version may redirect the user to a page styled to look like the expected page, but which collects the user's login credentials.

The best solution is to filter input and, wherever possible, escape the output so that it can't be interpreted as Javascript or HTML/XML. Fixing bad input can result in other problems; It's better to reject invalid data than to try to massage it. UTF-7 encoding can be a risk as well - see Shiflett's blog entry on the subject.

Asked for security-related web sites, Shiflett recommended the Open Web Application Security Project (OWASP) and the Web Application Security Consortium. For a PHP solution see HTMLPurifier.

Cross site request forgeries (CSRF) are where the attacker does something to cause the victim to make a request to an unintended web site. The victim can potentially be a trusted user. Don't use GET because that can be easily exploited in a CSRF. POST exploits are possible as well with a form that has a target that's a hidden Iframe.

For sensitive pages you can ask for the password again, or you can set up some special information between you and the user. Generate a random string and associate it with the user, then include that token in a hidden form variable in any form the user gets.

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# Clarion Magazine

# OSCON: Securing PostgreSQL (and other databases)

by Dave Harms

Published 2008-08-06

Josh Berkus re-titled his presentation "Safe Data is Happy Data", suggesting that unsafe data is data someone else is happy to have. He didn't spend a whole lot of time on security tools but instead focused on the kind of mindset you need to successfully implement database security.

Why should you care about whether your data is secure? Because it could be compromised. Developers have a lot of excuses, ranging from the lame to the ridiculous ("I'm running Linux so I can't be hacked"). If the big boys (MS, Nokia, the UN, government agencies) can be hacked, so can you. Professional crackers are after data, and the cost can be enormous.

Security is not the same thing as control. Most of the tools out there are control tools, but you only achieve security if you use control systems correctly. An abuse of a control system can make you less secure. If you require difficult-to-crack passwords you may find your users writing them on Post-It notes and sticking them to their monitors.

Don't settle for perimeter-only security which puts the onus on the firewall. Behind the perimeter everything is open. And that doesn't work because anyone who defeats the firewall has free access to everything and you may not even know they were there. Airport security is (for the most part) a perimeter only defense system. A false boarding pass will get you through, and you aren't asked for your ID to get on the plane (at least in the U.S.).

You should be applying security at all levels. Every resource needs to be locked down.

There are four primary threats to databases:

1. SQL injection
2. Direct connection
3. Compromised web server
4. Access by disgruntled or dishonest staff

Always use some form of access control for the server; control who can connect and from where (often the "from where" is omitted). Specify valid connection sources in pg_hba.conf. You can do this to a lesser extent in MySQL. Key points to remember:

- Prevent privilege escalation.
- dent method is good for admin tasks, bad for external users
- md5 is good for most things, bad for embedded passwords in apps
- Authentication servers are good for everything but can be a headache to set up and troubleshoot; they can also introduce performance penalties.
- You may want to have a mix of access methods - ident for local admin, md5 for web server etc.
- MySQL only has password or no password access and does not yet have roles.
- Use roles rather than directly setting rights for users.

- Grant only the minimum rights necessary.
- Split up tables into schemas by the kind of access allowed.

If your database supports it, use views and stored procedures to restrict access. For instance you can have an admin schema where full rights apply and another members schema which the web server can access. Set up a limited view of the users table and and put it in the members schema. Then you use a stored procedure to retrieve the data and the SECURITY DEFINER attribute on the procedure to temporarily escalate the procedure's rights to access the admin schema. The important difference here is that the stored procedure is only accessing the user's data; if the web server process had rights to the admin schema it could conceivably be tricked into running arbitrary SQL code to access or alter data for many users.

What happens after someone breaks in? You need an audit trail.The only worse thing than losing data is not knowing how much data has been lost. One way to handle this is with server logs (the activity log in PostgreSQL). Even just logging connections/disconnections can be a big help. Also check error messages as illegitimate users will generate a lot of errors. Make sure the logs are locked down so a DBA can't modify them. Use a secure log server - syslog is good for this.

Use triggers to implement data auditing. For every schema you have a ghost schema which is hidden from regular users. Every time data is modified in the regular schema you write a copy of the data to the ghost audit schema. If the regular schema is hacked you can restore your data from the ghost schema and you can also work out exactly which data was altered.

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### New AppGen Video/Blog Post

Bob Zaunere has a blog post up with a video showing the new AppGen in action. Z also discusses the holdup in the release, specifically to do with deeply nested windows in the IDE and calls to the Windows API via WinForms. There's also a second video covering the new Application Pad. Projected release to third party vendors for testing is 7-10 days.

Posted Saturday, September 27, 2008

### Clone(File)

Like Bjarne Havnen, Steve Parker has had to deal with multiple files sharing the same structure, but without the need to also display those files on screen. What Steve really needed was a Clone() function, and Mark Goldberg provided just what the doctor ordered.

Posted Thursday, September 25, 2008

### Creating Installers For Multiple Versions of Clarion

If you're using SetupBuilder to create installs for other Clarion developers, you'll soon be faced with supporting a very different directory structure under C7. Dave Beggs shows how easy it is to accommodate different Clarion versions in one install.

Posted Thursday, September 25, 2008

### Using Variable Parameters In the Run Code Template

The Run Code template makes it easy to pass string constants to outside programs. But what if you need to pass a variable? There the template isn't quite so accommodating. But as Steve Parker discovered, there's an easy workaround.

Posted Monday, September 22, 2008

### Using IMAGE As A Scrollable Region

There are several ways to make a scrollable region within a Clarion window, including creating a scrolling window on a separate thread and using a list box to manually reposition controls. A cleaner solution, as Bjarne Havnen shows, is to use a scrolling IMAGE control as the parent for the form controls.

Posted Monday, September 22, 2008

### Checking MS-SQL Database Size With DMO

Microsoft's SQL Express is a great free SQL database server that you can use very effectively with a Clarion for Windows program. When running with MS-SQLExpress, however, you should periodically check the size of the database so you don't bump into the limits. John Griffiths shows how you can do this with a Distributed Management Object component.

Posted Friday, September 12, 2008

### Managing Identical Files With Aliases

Normally you'd use an aliases to get two views on the same physical file, but with a little work you can also use aliases to work with multiple, identically-structured files. Bjarne Havnen demonstrates the technique with ABC.

Posted Wednesday, September 10, 2008

### Advertising Feature: Why Not Outsource Clarion Services?

CCS Technologies is an IT outsourcing company in India, established in 1981 and using Clarion since 1992.

Posted Tuesday, September 09, 2008

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Dave Harms

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Clarion Magazine's International Standard Serial Number (ISSN) is 1718-9942.

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Clarion Magazine

# Clone(File)

by Steven Parker

Published 2008-09-25

Bjarne Havnen, in Managing Identical Files With Aliases, shows how "to browse two identically structured files and drag and drop information between them" using only one file specification in the dictionary.

I, too, need to simultaneously read and/or write multiple physical files sharing a layout (the key word, here, "simultaneously"). Translation: I need to clone file specifications. So far, I have not had to display more than one at a time, as Bjarne must, and I count myself very lucky for that.

When I have multiple physical files sharing a layout, I often only need to access one of the physical files at a time. In these cases, closing the currently open file, changing its NAME attribute and opening the next file is sufficient. To illustrate the lengths to which one can push this close/rename/open approach: I have a browse where I have four physical files displayed on four different tabs. In this case, I change physical files when changing tabs ("close, rename, open," repeat this mantra until you've mastered the concept) in the sheet's NewSelection embed. All four files share not only their layout but use the same dictionary Label and, therefore, the same NAME variable. "Close, rename, open," repeat as necessary.

> N.B.: In this particular case, I do happen to have an Alias on the primary file in my dictionary. So, Bjarne's management technique would handle at least my first two tabs.

Similarly, when I process a series of log files, I set the file's NAME attribute, open, process, close the file. Then I reset NAME and process the next log file. Only one of the physical files is in access at any one time.

Later, I found some additional needs for cloning files. These are cases where I need two files, with identical structures, open *simultaneously*. NAME will not do for this. But, at least, I do not need to display file contents. This means that, unlike Bjarne, I am not constrained to something the templates can see and I have some additional flexibility.

I need to clone existing file specifications:

- in a Process procedure to read a file and write it to CSV,
- to merge two files,
- to sequentially process a group of files.

The first two are one-time procedures. I would really prefer not to create Aliases for each of the files that I need, or may need, to deal with just for a single use. Bjarne's technique doesn't seem wholly appropriate when an Alias doesn't already exist or when I would be creating it for this purpose only.

Further, when writing a file to CSV, or any other file type, while the layouts may be identical, the full file specifications are not. My source and target files use different drivers. An Alias cannot do what I need in this case.

So, the question is: Are there other methods of cloning a file specification?

Certainly there are. And just as certainly they are mega-max kludges. That said, they do work:

1. Copy and paste in the dictionary to create a new file
2. Copy the generated source and paste it into an embed

Labels and prefixes need to be changed. If the NAME attribute is used, a new one needs to be created and used for the new file. Drivers, if necessary, can be changed. Indeed, key layouts could be changed.

As inelegant as these two techniques are, I confess that I have used both of them (the first, once, the second... more than once).

One obvious issue is synchronization if and when a file spec changes - Bjarne's use of an Alias file completely avoids this issue. (Creating an Alias for a single purpose starts to sound less unattractive.)

So, I not only want to clone file layouts - because I sometimes need to make changes to the spec, I do not necessarily want to clone the entire specification - but I would like to do so dynamically. I want to be able to use one of the layouts to generate, dynamically, the other, without manual intervention.

What I really need Softvelocity to do is override the LIKE statement:

```
NewFile Like(OldFile),Pre(NEW)
```

Or, better:

```
NewFile  Like(OldFile),Pre(NEW),Driver(...),Name(...)
```

This would solve so many issues.

### Mark Goldberg to the rescue

When I hit a creative wall, as I did here, I turn to the news groups. Mark Goldberg interpreted my needs precisely and provided the following which he created in 9051 (the current version at the time):

```
 PROGRAM
 MAP
 END


    SaveLinks   FILE,DRIVER('TopSpeed'),PRE(SAV),CREATE
    Object      BLOB
    Record      RECORD
    LinkWidth     BYTE     !32 = 32-bit
    LinkType      STRING(1) !F = File, B = BLOB
    LinkFile      STRING(64)!OLE Compound Storage file name
         END
       END


    DupFile   FILE,DRIVER('TopSpeed'),PRE(DupSAV),CREATE
    Record      RECORD
          LIKE(SaveLinks.Record)
        END
      END

 CODE
 SaveLinks.LinkWidth = 42
 DupFile.LinkWidth   = 42
```

```
SAV:LinkWidth     = 43
DupSav:LinkWidth   = 43
```

SaveLinks is the original file. The data declaration shown above could very well come from the dictionary. The declaration could as easily have been in a data embed. The only requirement is that the original file's declaration be in scope when I want to clone it.

Note the data declaration for DupFile. This is where the magic happens.

The first line is directly out of the documentation on how to declare a file. The second line, the RECORD structure is required for file declarations. The third line, however, looks like nothing I've seen before; it has no Labels.

Checking the docs for RECORD (declare record structure), the required structure in a file declaration, does *not* indicate that Labels are required within the RECORD structure:

```
[label]         RECORD [,PRE( )] [,NAME( )]
                fields
                END
```

RECORD Declares the beginning of the data structure within the FILE declaration.

fields Multiple variable declarations.

Thus, SaveLinks.Record is known to the compiler (if SaveLinks is declared in the dictionary, a global or module embed, it is a known entity; if declared in a local embed and declared before DupFile, again, it is a known entity).

In fact, Mark's code compiles and runs correctly in Clarion 5505. In the demo app, downloadable at the end of this article, click "Mark Goldberg's Code" on the Main Menu. The underlying procedure is Goldberg and is just a copy/paste of his code with two STOPs to check that the assignments happen correctly (they do).

### Changing the driver

One of my desires is to clone a file so that I can read my source file and output my target file using a different driver.

Mark's code should be adaptable to that need.

In a Process procedure's data embed, where NAMES is a TPS file declared in the dictionary:

```
cCustomers File,Driver('BASIC'),PRE(cCUS),Create
Record      Record
   Like(Names.Record)
         End
       End
```

Note the driver change in this case. Of course, in WindowManager.INIT:

```
Create(cCustomers)
Open(cCustomers)
```

and

```
Close(cCustomers)
```

in WindowManager.KILL should take care of all file management. In ThisProcess.TakeRecord

    cCUS:Record = NAM:Record

    Add(cCustomers)

is all I need to actually export the record. In the demo app, select Export Customers from the Main Menu.

There *was* one problem compiling this .APP: I forgot to include the Basic driver in the project, an issue easily enough remedied. One other issue is that the Basic file is created as "CCUSTOME", making opening the output file directly from Windows Explorer a bit more of a hassle, so it is perhaps worthwhile to add the NAME attribute to cCustomers' declaration.

I can also manipulate output data if I need to. Suppose one of the source fields is a date but I do not want to output it as a Clarion standard date:

    cCUS:Record = NAM:Record
    **cCUS:Date = Format(NAM:Date,@d12)**
    Add(cCustomers)

Any other manipulations are easily accomplished before the add also.

Using Mark's technique (hereafter dubbed "the Goldberg clone"; "the Goldberg variation," of course, has already been used - darn those harpsicordians!), I can create a program that exports any number of dictionary files to another file type in a very reasonable amount of time. In fact, even on a fast machine, it takes longer to remake the application than to add a new export.

## Caveat

The Goldberg clone is an extremely elegant solution to writing files out to different drivers. No dictionary changes are required when I decide to create an export procedure.

However, my first need for cloning revolved around sequentially processing a series of files. Each of these files share a full specification and, indeed, are "dictionary" files.

Originally, I followed the "close, rename, open" mantra. For most of my users, this works well. Of course, for one user, it failed dismally.

This customer used my "Sale On Hold/Quote" feature for service tickets (creative but, ultimately, painful - for me). "Sale On Hold/Quote" allows a transaction to be completed without tendering. It is "completed" by being stored in a TPS file. The file can be read back in to an active transaction and that transaction can be completed in standard ways.

This customer puts his service calls into Sale On Hold. When the technician returns to the store, he retrieves each Sale On Hold, one after another, and tenders them out. Only, after seven or eight transactions, he gets a "File Not Open" error. Unfortunately, the File Not Open appears at a point where there is simply no explanation for it.

If there were an obvious problem with how my code is written, the code would error out on the first transaction. So I know that the problem is unlikely to be entirely of my doing. In fact, it has all the symptoms of the dreaded "threading bug." The only problem with this diagnosis is the fact that the app was running in Clarion 6.2.

Copying the file specification and using a different NAME variable cured the issue entirely. I tried a Goldberg clone so that, should the base file layout change, I would not have to remember to recopy it to the procedure's data embed. I promptly got an ErrorCode 47, Invalid File Definition ("Keys" from the Main Menu in the demo application).

Consider a dictionary file spec'd as follows:

    Names    FILE,DRIVER('TOPSPEED'),PRE(NAM),BINDABLE,CREATE,THREAD
    SysIDKey   KEY(NAM:SysID),NOCASE,OPT,PRIMARY
    NameKey    KEY(NAM:LastName,NAM:FirstName),DUP,NOCASE,OPT
    Record    RECORD,PRE()

```
SysID     LONG
LastName    STRING(20)
FirstName   STRING(20)
State      STRING(2)
       END
      END
```

For a Goldberg clone, I would write:

```
cNames    FILE,DRIVER('TOPSPEED'),PRE(cNAM),CREATE,Name(Name_)
Record    RECORD,PRE()
   Like(Names.Record)
      END
      END
```

in my data embed and set Name_ to the physical file. Of course, the problem is that the physical file has keys and my clone specification does not. When I copied and pasted the key definitions and changed the prefixes, all was well again:

```
cNames    FILE,DRIVER('TOPSPEED'),PRE(cNAM),CREATE,Name(Name_)
SysIDKey   KEY(cNAM:SysID),NOCASE,OPT,PRIMARY
NameKey    KEY(cNAM:LastName,cNAM:FirstName),DUP,NOCASE,OPT
Record    RECORD,PRE()
   Like(Names.Record)
      END
      END
```

## Summary

The Goldberg clone is an absolute gem; easy, fast and flexible. I am guessing that Mark read the RECORD statement's spec carefully to create his solution.

However he created it, it allows me to create customizable export procedures with the ease of falling of a chair. It allows me to address multiple physical files with keys (as would be required for my need to merge two identically structured physical files), with only a bit more effort than falling off a chair: I have to copy the key declarations.

Because I do periodically change key declarations, it would be *really* nice if there were a method of cloning that eliminates the need to copy and paste those.

Next time, the "Shankar shuffle," which does just that.

Download the source

---

Steve Parker started his professional life as a Philosopher but now tries to imitate a Clarion developer. He has been attempting to subdue Clarion since version 2007 (DOS, that is). He reports that, so far, Clarion is winning. Steve has been writing about Clarion since 1993.

## Reader Comments

*Posted on Friday, September 26, 2008 by Peter Hermansen*

Steve,

As always, I've enjoyed reading your article. Not only for the technical content but just as much for your linguistic and intellectual capabilities that you so generously share with us. Thank you!

---

*Posted on Friday, September 26, 2008 by Steven Parker*

Thank you, Peter. I very much appreciate it and the opportunity to help the community.

---

*Posted on Friday, September 26, 2008 by Mark Goldberg*

Hi Dr. Parker,

Thank you for your kind words.  I wish I had known you were writing this, I would've been happy to review it.

I've just glanced at your article.. however, I have a few comments:

a) The last data structure has a syntax error
   you meant to put the KEYs outside of the RECORD

b) As you noted, the LIKE() command works well for the
   RECORD as it's a GROUP, but it does NOT work for
   KEYS, MEMOs or BLOBs

   for a MEMO you can say:
   theMemo  MEMO(SIZE(Names.theMemo))

   for a BLOB, there's only the ,BINARY and ,NAME
   attributes to copy, so it's not too hard

   but for KEYs well, you have a challenge
   you could use the Dynamic File Driver or DynLib
   and walk the file structure properties
   see the LRM entry "FILE Structure Properties"

c) looking at the .APP, WithKeys procedure
   I see you're using:  Name String(100),Static
   These days I recommend using
   cName{prop:Name}= 'yada.tps'
   see %cwroot%libsrccwutil.clw BLOBTOFILE
     for an example of that approach
   Additionally, for all data holding file names
     I recommend using on of these found in equates.clw
     FILE:MaxFileName EQUATE(256)
     FILE:MaxFilePath EQUATE(260)

d) As to ,PRE() this is something that I try to avoid
   there is a significant difference between ,PRE() and
   no ,PRE attribute at all.
   Where possible, avoid adding the ,PRE attribute
   as it "flattens" structures, creating duplicate lables
   where they should not be:

   My Classic example:
gtPoint2R  GROUP,TYPE
X         REAL
Y         REAL
      END

gtBBOX2R  GROUP,TYPE !,PRE() !<-- UN-REM TO BREAK

```
UL        LIKE(gtPoint2R)
LR        LIKE(gtPoint2R)
      END

myBBOX2R  LIKE(gtBBOX2R)
```

The reason why ,PRE() breaks this code
Is the compiler now sees TWO things it wants to address
as :X and two as :Y, these are now duplicates
If you remove the ,PRE you still have dot notation
myBBOX2R.UL.X  and that works every time.

Hopefully SV will start to wean us off of PREfixes.
Also, I hope that the C7 IDE makes it easy to specify
 no prefix whatsoever.
Possibly we should adopt a notation in the IDE
 of ~ or ! to supress generation of the ,PRE

e) As to skipping LABELS for data declarations inside of
  GROUP structures (RECORDs and QUEUEs can be considered
  groups in this context).
  I have been using that approach for 19 years (oh my).

  I also use it when padding is needed and I have no
  intention of ever touching the padding fields.
  Padding is needed when passing certain structures to
  systems written in other languages. That said the
  padding rules in MSVC++ are insanely complex.

  I also have been known to skip the label in certain
  cases when working with the ,OVER attribute

f) As to dumping the file to a CSV (Comma Seperated Values)
  or any text approach...

  see http://www.clarionmag.com/cmag/v5/v5n02debugq.html
  where Alan Telford showed how to do that with a Queue
  There's very little to change to apply that to a file.

  Note: I have adapted Skip Williams debuger class (one g)
  http://www.clarionmag.com/cmag/v5/v5n01debuger.html
  to include Alan Telfords work referenced above

  I have enhanced it a bit, to support HOWMANY() etc.
  However there are problems that SV seems uninterested
  in solving. When working with references, WHAT returns
  garbage. see PTSS: 10300.  Granted that should
  not be a problem for FILEs

g) I haven't found the NG posting you mentioned
  where was it?

- Mark Goldberg

---

*Posted on Friday, September 26, 2008 by Steven Parker*

Thanks for the corrections, Mark (I'd've checked with you beforehand but couldn't find your email).

---

*Posted on Friday, September 26, 2008 by Dave Harms*

Mark,

Thanks for the comments. I've fixed up the file declaration.

Dave

[Add a comment](#)

Clarion Magazine

# Creating Installers For Multiple Versions of Clarion

by Dave Beggs

Published 2008-09-25

Recently there were several newsgroup threads asking about creating Clarion third party product installers for both C6 and C7. There have been several suggested ways of doing this, and all seem quite complicated. As a veterinarian, I'm well aware that here is more than one way to skin most species, and I thought it worth reporting a way which seems fairly simple.

Basically, the third party directory structure is the same for C5-C6.3 and different for C7. Also, at the moment, no one is publishing templates for C7, but hopefully that need will come soon!

The way I'm going about creating SetupBuilder installers for my Smart-Type template (shameless plug!) is as follows:

First, create two Features, one called Clarion6 and one called Clarion7 (Figure 1).
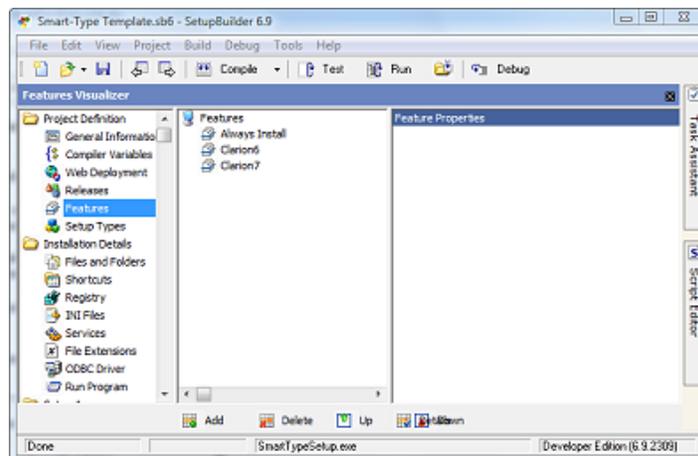


**Figure 1. Creating the install features** (view full size image)

Next, create a Setup Type for Clarion6 that includes the Clarion6 feature, and one called Clarion7 that includes the Clarion7 Feature (Figure 2).
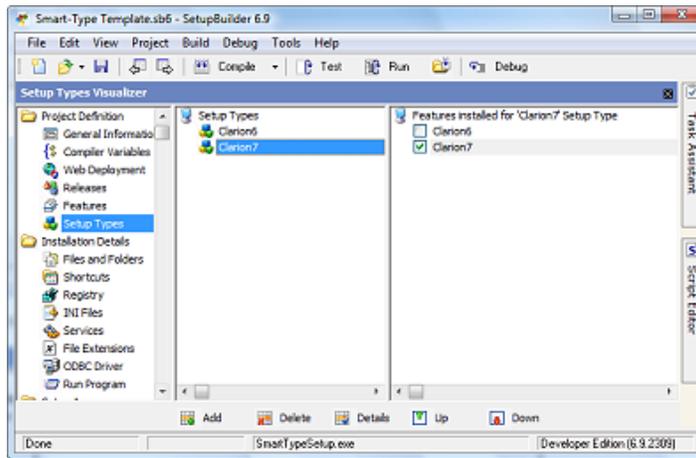
**Figure 2. Creating the setup types** (view full size image)

Add a wizard dialog to check the Clarion version (Figure 3).
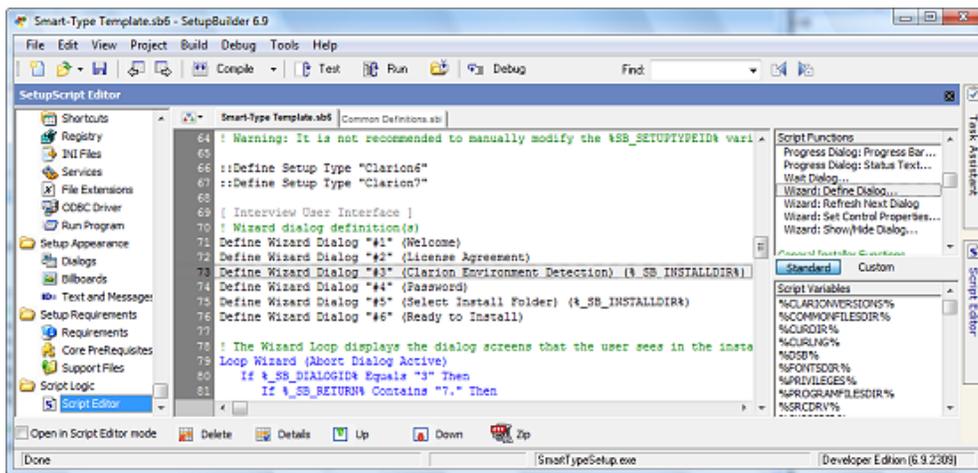


**Figure 3. Adding a wizard dialog** (view full size image)

You create the wizard dialog in the script editor (Figure 4) by choosing Wizard - Define Dialog and then Clarion Environment Detection (if this option is not present, go to Tools | Options and Enable Clarion Support).
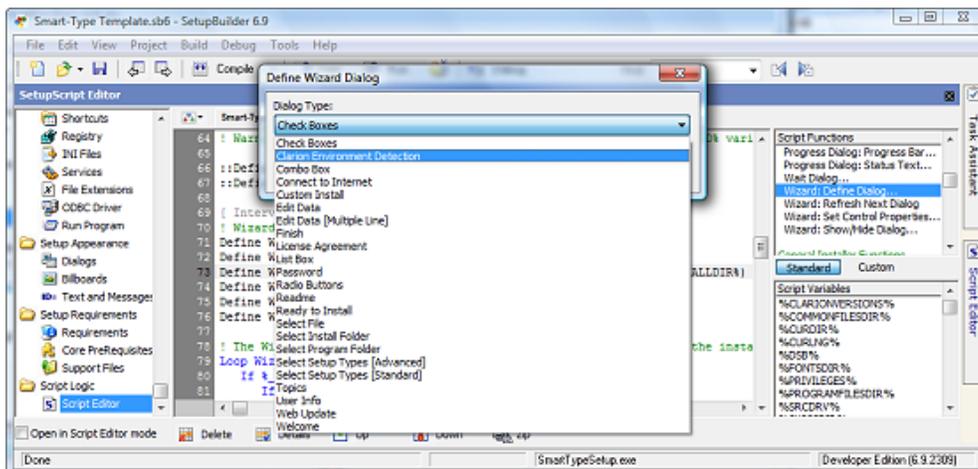
**Figure 4. Creating the wizard dialog** (view full size image)

Make sure the installation folder is set to %_SB_INSTALLDIR%, which is the default (Figure 5).
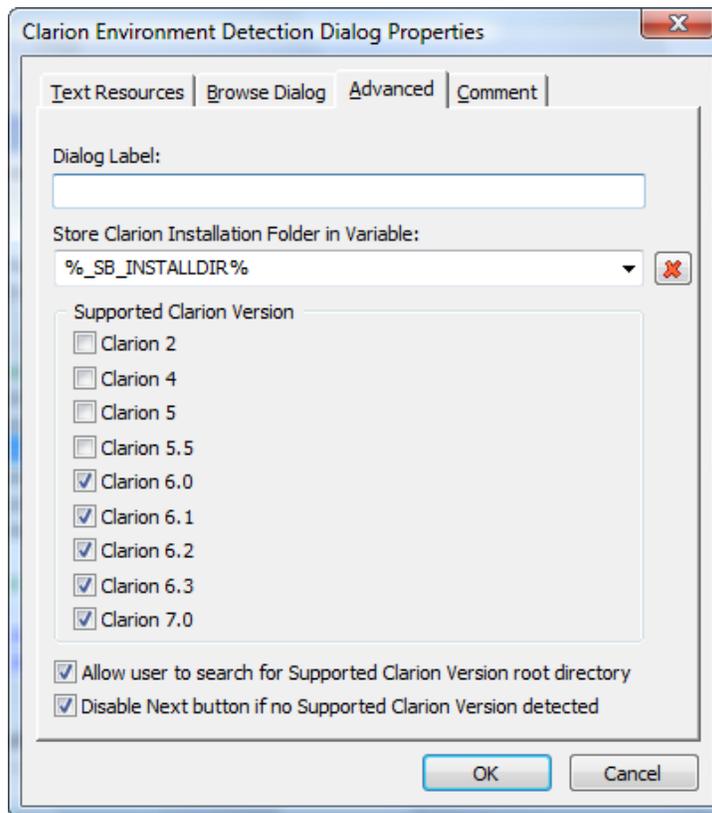


**Figure 5. Verifying the installation folder**

Put the following code in the wizard dialog (Figure 6):

If %_SB_DIALOGID% Equals "3" Then

 If %_SB_RETURN% Contains "7." Then

  Set Active Setup Type to "Clarion7"

 Else

  Set Active Setup Type to "Clarion6"

 End

End
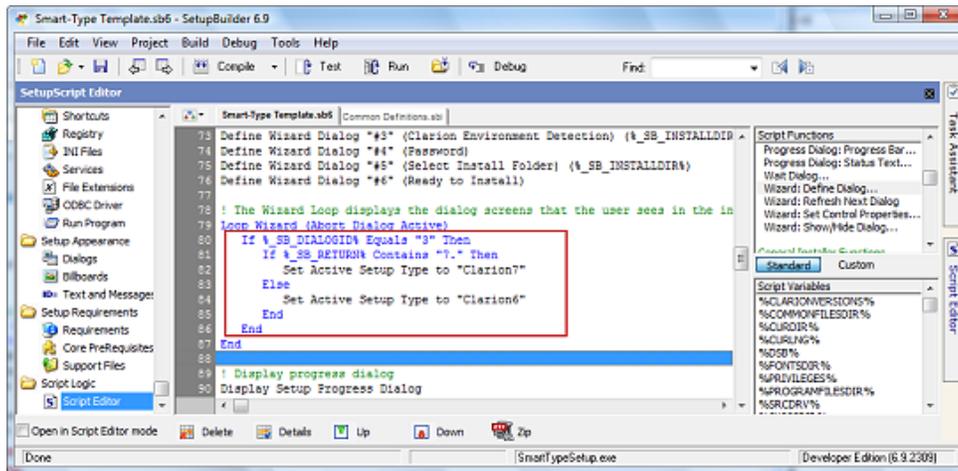
**Figure 6. Adding the dialog code** (view full size image)

In the above example the Clarion Detection Dialog was #3; you may need to change this number.Basically the code says:

    If this is the Clarion Detection Dialog
      If return value includes a 7
        Set the Active Setup Type to Clarion7
      Else
        Set it to Clarion6  ! which has the same folder structure for C5 - C6.3
      End
    End

This works okay since all versions less than 7 have the same folder structure. You can add salt to taste.

Now, in the Files and Folders section of the visualiser you will see a Clarion6 and a Clarion7 folder stub that you can use to install different files depending on which version of clarion was chosen (Figure 7).
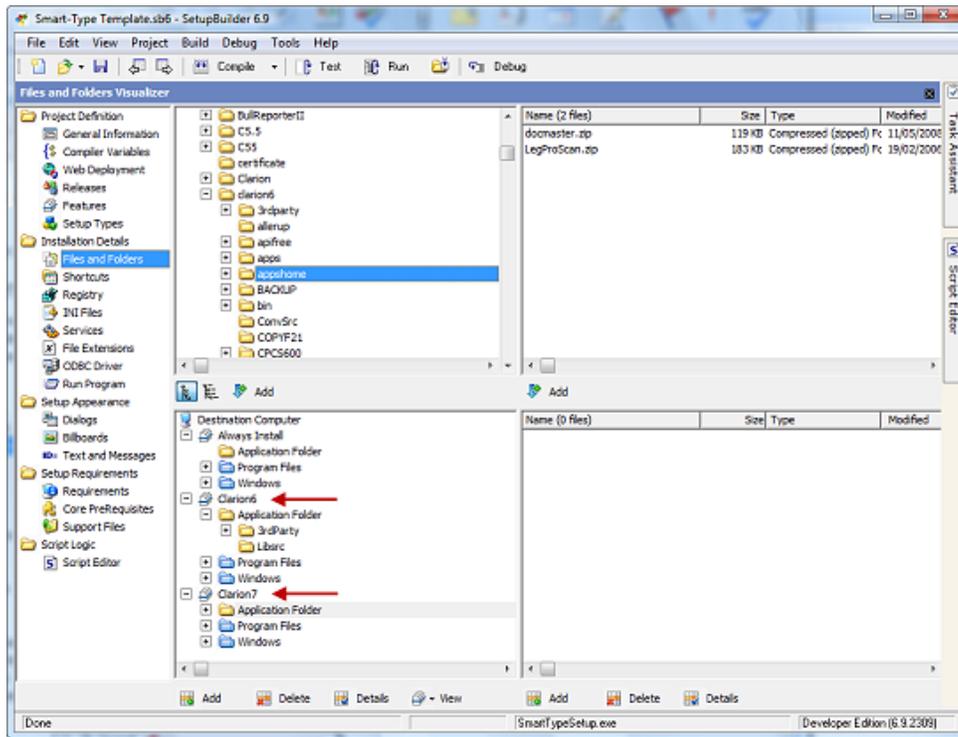
**Figure 7. The C7 stub folder** (view full size image)

That's all there is to it. Creating installs for multiple Clarion versions is easy!

**Reader Comments**

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# Clarion Magazine

## Using Variable Parameters In the Run Code Template

by Steven Parker

Published 2008-09-22

The ability to call procedures with parameters was not supported in the template system until Clarion 6.x. The ability to run external programs with parameters, however, was supported in earlier versions of Clarion.

Recently, I had the need to pass a global variable, GLO:SID (a store ID), to another program. And it didn't work, which set me off on a voyage of discovery (or, simply, "set me off").

Figure 1 shows the Run a Program code template prompts. This screen shot could be from Clarion 5.5 just as easily as 6.3 (it is actually from 6.3 9056, the build I currently use for production work).
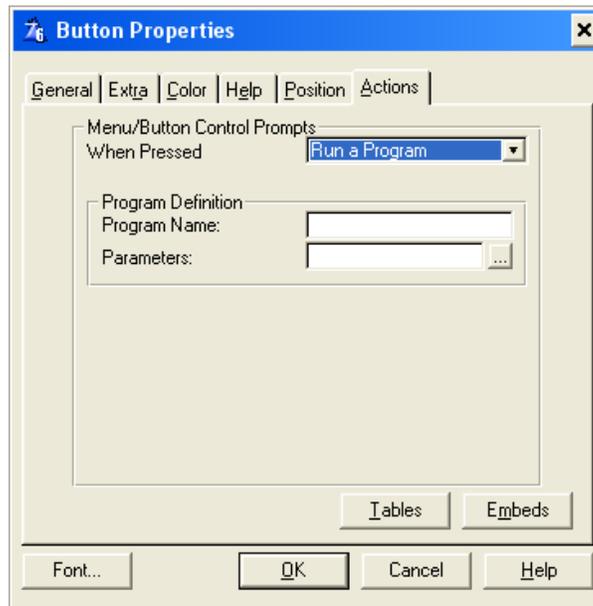


**Figure 1. Run a Program code template prompts**

Since I was modifying an existing RUN call, I changed my entries in the template prompts to those shown in Figure 2.
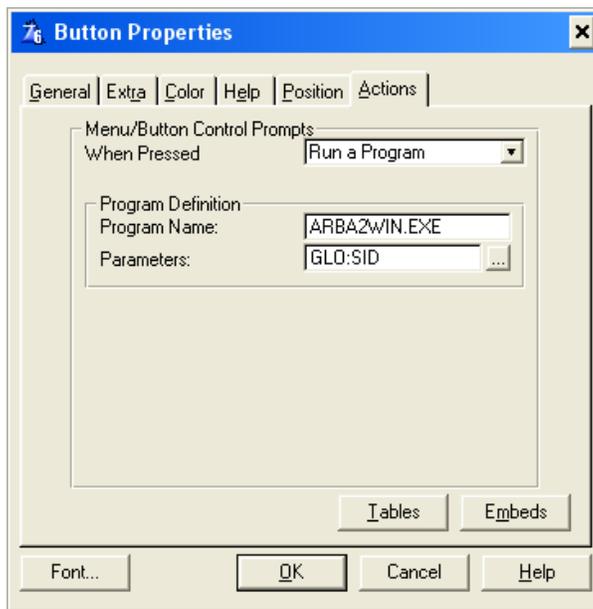
**Figure 2. Passing Store ID to another program**

But, when the called program, ARBA2WIN, starts and I query Command('1'), I get "GLO:SID" as the parameter. That is, I get the string "GLO:SID", not the value in GLO:SID. Needless to say, this is not what I want.

The reason this happens is that the code template (see Figure 2, above) generates this code:

```
OF ?Button2
  ThisWindow.Update
  RUN('ARBA2WIN.EXE GLO:SID')
  ThisWindow.Reset(1)
```

Note the line I have highlighted in bold face. The variable Label is included inside the string passed to RUN. The reason this code is generated, instead of something like:

```
RUN('ARBA2WIN.EXE ' & GLO:SID)
```

as I would expect, is found in ABWINDOW.TPW (FIELD.TPW for the Clarion templates):

```
%WindowManager.Reset
    #ENDIF
  #ELSIF(%ButtonAction = 'Run a Program')
RUN('%ButtonRunName %ButtonRunParameters')
%WindowManager.Reset(1)
  #ENDIF
#ENDIF
```

What I would have expected to see in the template is this:

```
#ELSIF(%ButtonAction = 'Run a Program')
#IF SUB(%ButtonRunParameters,1,1) = '! '
RUN('%ButtonRunName ' & %ButtonRunParameters)
#ELSE
```

```
RUN('%ButtonRunName %ButtonRunParameters')
 #END
%WindowManager.Reset(1)
```

The shipping template code assumes that the %ButtonRunParameters template symbol will contain a string literal (check the documentation on "RUN"). There is no provision for the parameter being a variable for which substitution is required as there are for other parameter template prompts. (Yes, a bug report has been opened on this.)

Well, I know that I could change the template back to "No Special Action." I would then used my button's Accepted embed to prime a string variable and call RUN directly. Something like:

```
RUN('ARBA2WIN.EXE ' & GLO:SID)
```

or

```
RunString = 'ARBA2WIN.EXE ' & GLO:SID
RUN(RunString)
```

(In DOS, I had better luck with the later formulation.)

But sometimes I find myself with a bit of time on my hands. In this case, instead of "arguing" politics in the news groups, I began to wonder if I couldn't defeat this obstreperous template prompt. (I know there are other, rather more important, cases where Clarion developers work around the template prompts, so why not here too?)

I chanced upon the stratagem of using a single quote in the template field to complete the generated string constant as 'ARBA2WIN.EXE', followed by & GLO:SID to append my global variable. If I'd left things that way I'd get a compile error as the templates generate a closing quote, so I appended an empty string after GLO:SID (see Figure 3).
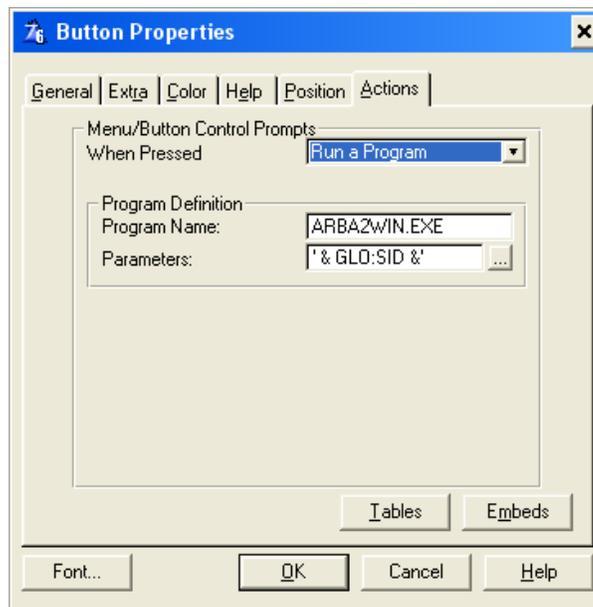


**Figure 3. Completing template prompts to get functioning code**

The prompt settings in Figure 3 result in this code:

```
OF ?Button2
 ThisWindow.Update
 RUN('ARBA2WIN.EXE ' & GLO:SID &' ')
```

```
ThisWindow.Reset(1)
```

When I Stop(Command('1')) in ARBA2WIN's frame procedure, I get the result I expect.

## Summary

I usually try to draw a lesson out of my articles. I'm not sure there is one here. At least, none beyond "tis better to mess with the shipping templates than 'argue' politics on the news groups."

Or, perhaps, it is that sometimes the templates *do* bite us and, often, we are able to bite back. I recall, several years ago, there were Clarioneers using similar tricks on the New Column Properties window to derive classes....

---

Steve Parker started his professional life as a Philosopher but now tries to imitate a Clarion developer. He has been attempting to subdue Clarion since version 2007 (DOS, that is). He reports that, so far, Clarion is winning. Steve has been writing about Clarion since 1993.

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# Clarion Magazine

## Using IMAGE As A Scrollable Region

by Bjarne Havnen

Published 2008-09-22

In April 2003 I was involved in a discussion on the newsgroups regarding how to make a scrollable region within a window. Among the creative solutions were using a Window with the SCROLL attribute on a separate thread, and using a queue filled listbox to scroll and manually reposition the controls based on the thumb's position (and hide/unhide if outside boundaries). Another suggestion involved using an IMAGE control as container. An IMAGE can scroll, but no example was provided.

The history behind the suggestion was that while at Topspeed, Andy Ireland needed a control that would let him create controls inside a scrollable area. While waiting for this to be supported in the RTL, he found another way through a series of API calls. When Andy had finished with the job he was informed that the IMAGE control had been modified to support his need for a scrollable region. The changes were not documented, so he didn't know exactly how it worked, but the idea that it might work has been passed from developer to developer ever since.

A while ago I needed that functionality myself. I was in a midst of a project which involved creating XML files with variable structures. The user defined the needed fields and the app created a form with appropriate fields for data entry. I had limited screen space but couldn't limit the user to a fixed number of controls. I could not use controls with SCROLL attribute because they would overlap static controls or I had to scroll all the controls, which was not very user friendly in this case.

### Using IMAGE as a scrolling container

I tried different approaches with IMAGE as a container and, in the end, the not-so-obvious solution was to set the control's parent at runtime with PROP:PARENT (which until recently was documented as Read Only):

```
?EntryControl{ Prop:Parent} =?ImageControl
```

Figure 1 shows the demo program with two scrolling images. One is the parent to the SHEET control containing the tabs and the other imagine control is the parent to the entry fields. I've added scrollbars to these images with the HSCROLL and VSCROLL attributes.
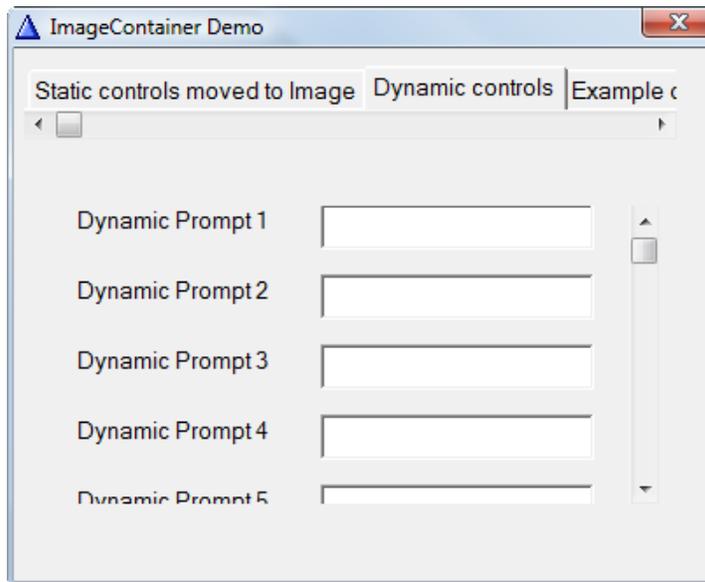
**Figure 1. Scrolling prompts via an image**

After the window opens I set up the controls. Here's the code for the scrolling tabs:

```
?Sheet1{ Prop:Parent} =?ImageTest
?Sheet1{ Prop:xpos} =0
?Sheet1{ Prop:Ypos} =0
?Sheet1{ Prop:Width} =1000
?Sheet1{ Prop:Scroll} =True
```

After setting Prop:Parent I have to reposition the sheet control and set its scroll property.

## Rules and regulations

There are a few guidelines you should be aware of before you try using images to scroll controls:

**Rule1: You can only change the parent of a control that has no parent or has a parent on the window and is not itself a container.**

This means you cannot change the parent of TAB, GROUP or OPTION. Moving a control within a tab to an image will cause the controls to bleed through when selecting another tab. There's an exception to this rule: a SHEET control can be moved into an image, but scrolling the image only moves the sheet, not the child controls placed on the sheet's tabs.

Consider this dummy structure

```
Window
    Entry1
    Group
        Entry2
    End
    Sheet1
        Tab1
```

```
            Entry3
         End
       Tab2
          Image1
       End
     End
   End
```

Here you can change the parent of Entry1 and Entry2, but not Entry3 since it is nested too deep.

This really doesn't matter too much. Since you can change the parent of controls within a group, you can move all the controls that should have an IMAGE as parent into a group on the window and just change the parent like this

```
Loop i=?GroupControl+1 To LastField()
  If i{ Prop:Parent} <>?GroupControl
    Break
  End!if
  If i{ Prop:Parent} =?GroupControl
    i{ Prop:Parent} =?ImageControl
  End
End
```

Please note that even if you change the PROP:PARENT for a control, PROP:PARENT will still return the original value.

**Rule 2: All positions are related to the IMAGE control.**

This means that a control with X=1 and Y=1 on the window will appear in the upper left corner of the image control, regardless of where the IMAGE is placed on the window. Also, it means you probably want to reposition all controls when you change the parent. If you plan to scroll design time controls you create at runtime, you could put them all in a group outside the visible part of the window and then move them into the image at runtime.

**Rule 3: Tab order must be set with PROP:FOLLOWS.**

When moving a control into an image the design time tab-order is broken, so you must set it with PROP:FOLLOWS. For some reason, you cannot tab from a text control to another control within the IMAGE; pressing the tab key in a textcontrol moves the cursor to the next control outside the IMAGE. I tried alerting the TabKey, but this only worked once; TabKey can be used to stop tabbing altogether though.

**Rule 4: Not all events are processed.**

First of all, EVENT:SELECTED is never triggered. In my book this has rather few consequences, but one is that you cannot force EVENT:ACCEPTED by using PROP:TOUCHED and another is that you cannot detect active FIELD() or FOCUS(), and thus I have not found a solution for forcing automatic scroll when the user tabs to an invisible field.

**Rule 5: You can only change the parent of data entry controls.**

You cannot move or create BOX, LINE, ELLIPSE, IMAGE or any other simple graphic control into the image. However, you can use the corresponding drawing commands with SETTARGET.

```
SetTarget(window,?ImageDynamic)
Image(xpos,ypos,,,'wacancel.ico')
```

SetTarget()

Since none of these controls generates events, it really doesn't matter that you can't set the parent and you can easily use BLANK to clear them out.

## Summary

Clarion's previously undocumented ability to use images as scrollable regions is of great practical usage where size matters. The possibilities include scrollable fields, toolbars, regions and SHEET controls and probably some more I haven't thought of.

For those curious souls out there, Figure 2 shows a screenshot of the finished program.
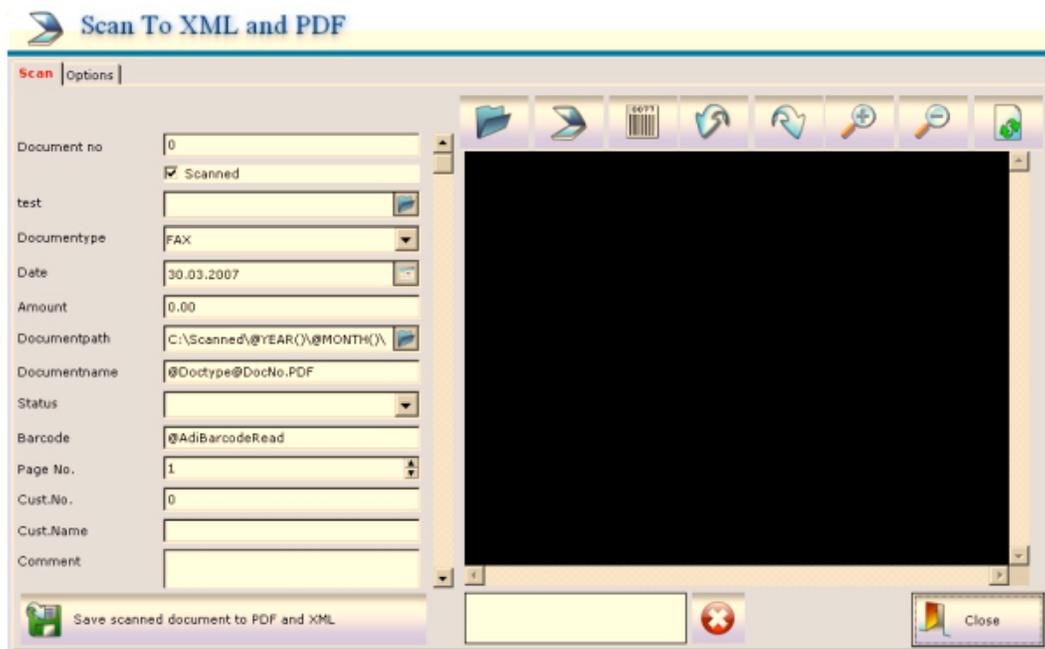


**Figure 2. The finished program**

Here I have created a series of controls of different type and placed them all in the IMAGE container. I have used the SoftVelocity Dynamic File Driver to create a memory record structure that can hold the values entered. When the user save, I add the record to the memory file and call the ToXmlFile function for export to XML.I have attached example code to demonstrate different usage and it also covers some workarounds to issues with the technique. The Clarion 7 help now includes some examples in the help for PROP:PARENT.

Download the source

Bjarne Havnen was educated as a nurse with a speciality in behavior analysis when he stumbled into programming in 1999. Programs have behavior too, so he attempted to write training programs for people with autism. Within months the hobby lead to full time employment as Clarion developer. Today he handles the distribution of Clarion in Norway while developing custom software for the production industry and third party accessories for Clarion.

## Reader Comments

Add a comment

# Clarion Magazine

## Checking MS-SQL Database Size With DMO

by John L Griffiths

Published 2008-09-12

Microsoft's SQL Express is a great free SQL database server that you can use very effectively with a Clarion for Windows program.

When running with MS-SQLExpress, however, you should periodically check the size of the database. The reason is that the maximum size allowed in the SQLExpress version is four gigabytes. After this size is reached, bad things may happen, i. e. no more inserts.

Four gigabytes is still a *lot* of data, however.

I have built a small C6 project that uses a SQL Distributed Management Object (DMO) OLE component to gather the sizes of all the databases on a particular server. Among other things there's a queue that holds the database information:

```
dbq        queue,pre(dbq)
ix         long ! a simple counter
dbname     string(40) ! database name
SizeMB     long ! size in megabytes
      end
```

Here's the code that retrieves the database information from the OLE control:

```
?ole{PROP:ReportException}=True
?ole{PROP:Create}='SQLDMO.SQLSERVER'
IF TrustedLogin
  ?ole{'LoginSecure'} = True
  ?ole{'Connect(' & ServerName & ')'}  ! = '.\sqlexpress'
ELSE
  ?ole{'connect(' & ServerName &',' & LoginName & ',' & LoginPwd &')' }
END
HowMany =  ?ole{'Databases.count'}
LOOP  ii= 1 to HowMany
  dbq.ix = ii
  dbq.dbName = ?ole{'databases(' & ii & ').name' }
  dbq.SizeMB = ?ole{'databases(' & ii & ').size' }
  ADD(dbq)
END
```

To check just one database, get details for all and then select the specific database in the queue.

When you start the sample program you'll see the screen in Figure 1.
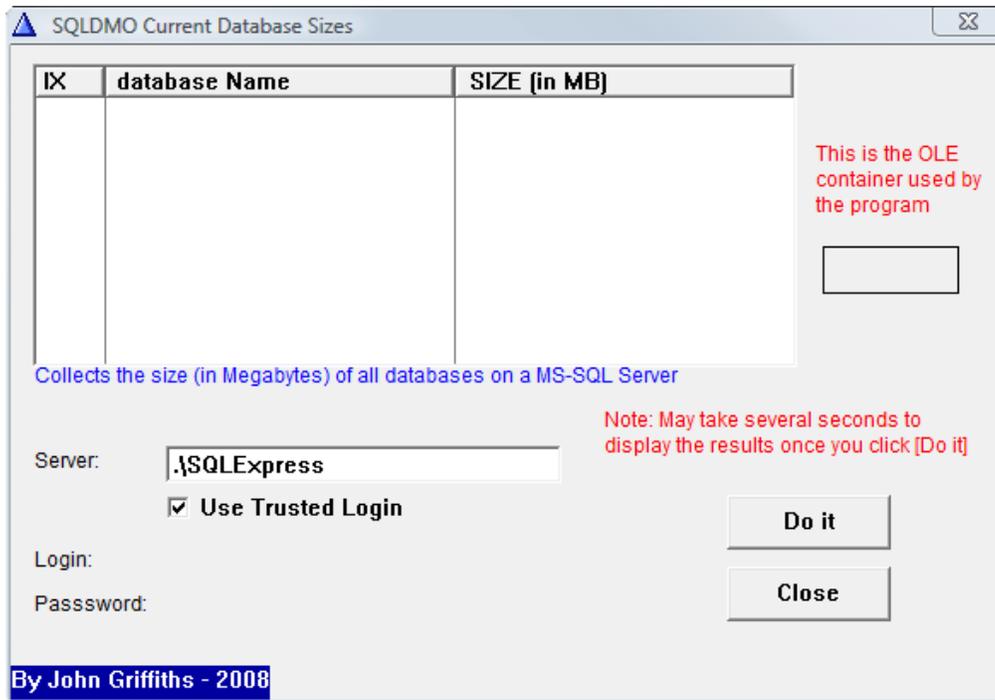


**Figure 1. The sample program**

You can either use Windows Authenticated connection or, if you un-check the Use Trusted Login checkbox, you can enter your admin login details as shown in Figure 2.



**Figure 2. Entering your id and password**

Figure 3 shows the sample program with results from a MS-SQLExpress server:
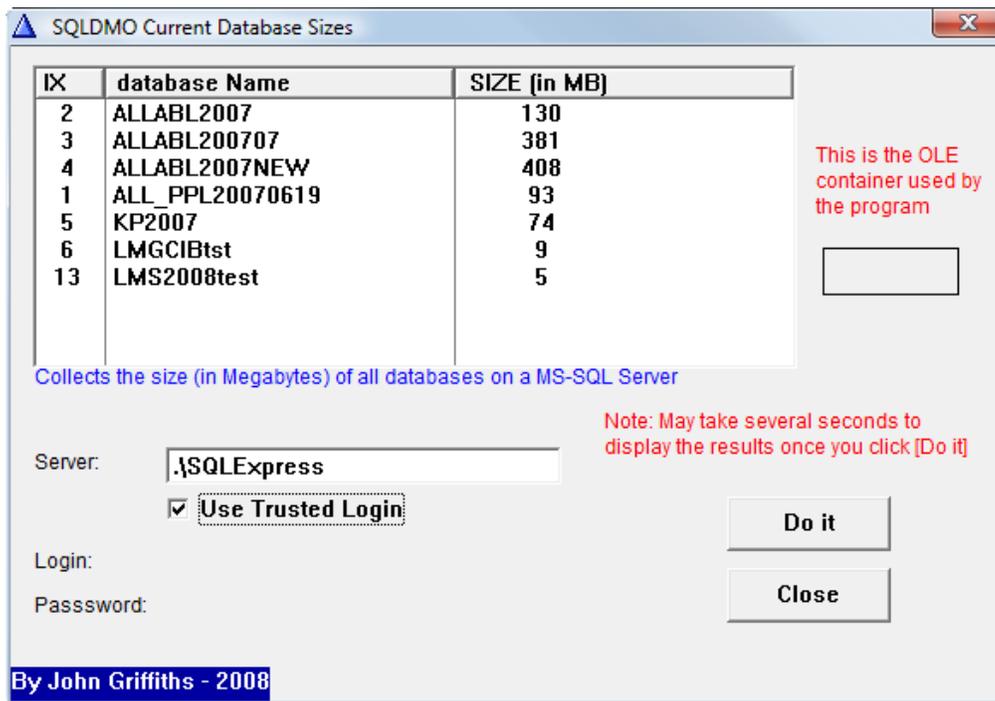
**Figure 3. Displaying the results**

For more information see the SQL-DMO Reference at MSDN.

Download the source

John Griffiths, an Australian, has been developing with Clarion since the DOS days. John has two summers each year, spending six months in Australia for the Southern summer and six months in Texas for the Northern summer. He works as a contractor for a Texas company and has developed several business/financial programs which he sells worldwide. John has a B.Bus degree with a major in Informations Systems.

## Reader Comments

*Posted on Friday, September 12, 2008 by Edvard Korsbæk*

This object is a real gem.

You will find, that the MSSQL database makes a TempDb, which is pretty big, and could be the limiting factor.

I have made a program based upon this object, which runs as a service, and updates each day based upon CapeSofts SelfService that runs on my main server, which has + 50 db's

Edvard Korsbæk

Add a comment

# Clarion Magazine

## Managing Identical Files With Aliases

by Bjarne Havnen

Published 2008-09-10

I have many times needed multiple files that share the same structure. These files are just like Alias files, except that instead of multiple buffers for one file I actually have multiple files. In the Legacy templates using Alias files this way was pretty straight forward as I could just change the PROP:NAME of an Alias file to use it with templates. In the ABC templates the Alias file is synchronized with the original file in a way that make this usage very difficult.

Since switching to ABC I have gone through a number of more or less complicated solutions to the problem of multiple files with identical structures. In my largest project I made templates to close the original file, set a new file name, then open the file with the new name. This was quite useful because I could use the same browse and form for different files. However, as time passed it became more and more important to have access to both files at the same time.

Just before my vacation I got a phone from a customer who needed to browse two identically structured files and drag and drop information between them. After a little chat, it struck me: What if I could just release the connection between the Alias and the original file? Alias synchronization relies on ABC methods and properties, so it should be possible. I hung up, and less than half an hour later I had a solution.

The steps involved are

1. Disable the AliasedFile property
2. Remove the link to the filename variable
3. Change the name of the file
4. Disable the RelationManager.SetAlias method

All this can be done entirely without templates.

### Disabling the AliasedFile property

The AliasedFile property is set in each file's FileManager.Init method in the File Initialization embed. To disable AliasedFile add this line after the property is set:

```
Self.AliasedFile&=NULL
```

Then, if you use the Filename property you can either null it:

```
Self.Filename&=NULL !
```

or assign it:

```
Self.Filename&=newVariable !use another variable as name
```

To change the name of the file you could use PROP:NAME in the Init embed, but since the FileManager is threaded the initialization code runs when each thread starts and you wouldn't have a name when the first thread goes into scope; as a result you would get a invalid filename on first thread. It is better to use the Open method, before the parent call, to assign a fixed or variable name:

```
Self.File{ Prop:Name} =newname !
```

or

```
Self.File{ Prop:Name} =Self.Filename !
```

The last step is to make the RelationManager unaware of the Alias connection. The RelationManager calls the SetAlias method which sets the private RelationManager.AliasFile property. Since the property is private setting it to NULL like the FileManager.AliasedFile property isn't an option. You need to stop the assignment altogether.

The way to do this is to derived the SetAlias method for the AliasFile. This method is not a virtual method, so the templates don't generate a parent call and no additional method code is needed. The RelationManager simply calls this method instead of the parent method and thus the assignment is never done.

Deriving the SetAlias method is easy. As shown in Figure 1, enter the individual file overrides template options window for the AliasFile then go to the Relation Manager Options and check Derive.
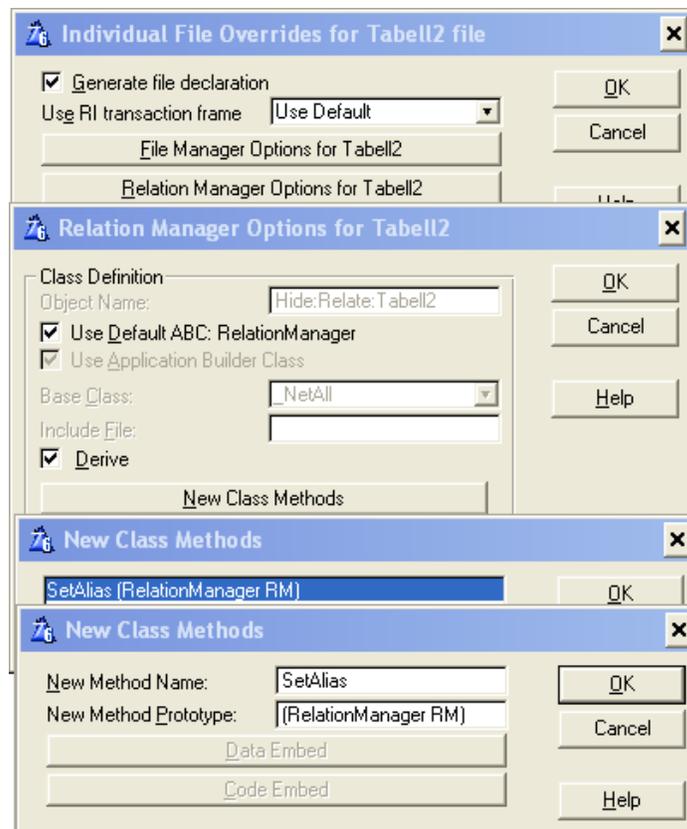


**Figure 1. Overriding the SetAlias method**

Go to New Class Methods and add a new method named SetAlias with the prototype (RelationManager RM).

Save all your changes, compile and run.

The finished code for the FileManager will look like this

```
Self.AliasedFile &= Access:Tabell
!some more code
Self.FileName &= Glo:Tabellnavn
Self.Filename&=Glo:Tabell2Navn
Self.AliasedFile&=NULL
```

The solution I have outlined should be sufficient for most needs, but if it becomes a common requirement a template is more suitable.

### The template

When writing a template I have more options for implementing this technique: I can combine the ABC with template code, modifying both the classes and generated code for the file.

The requirement for the template is the same as for the code, but in addition I would like to change the name of the file as it appears in the file structure from this:

```
Tabell2  FILE,DRIVER('TOPSPEED'),NAME(Glo:Tabellnavn),|
  PRE(TAB),BINDABLE,CREATE,THREAD
```

to this:

```
Tabell 2 FILE,DRIVER('TOPSPEED'),NAME(Glo:Tabell2navn),|
  PRE(Tabell),BINDABLE,CREATE,THREAD
```

Since I use MS SQL, I would also like to change the name of the keys as these will otherwise point to the original file's keys. I also want everything to work in a multi-DLL application. Figure 2 shows the template prompts.



**Figure 2. The template prompts**

To change the name and remove the Alias I insert the code I wrote earlier, for the Alias file only but just where the file is not declared as global external:

```
#AT(%FileManagerCodeSection,%OrigFile,'Init','()'),PRIORITY(4600),↵
  DESCRIPTION('Alias override'),Where(Not %GlobalExternal)
```

If a variable is not used I change the name of the file:

```
#If(Sub(%CopyName,1,1)='!')
Self.Filename&=%(Sub(%CopyName,2,Len(%CopyName)))
#Else
```

```
    Self.FileName&=NULL        #<!Can't use the same variable
    #EndIf
    Self.AliasedFile&=NULL     #<!no alias
```

To add the SetAlias method I need to access the list of derived methods for the Alias file's RelationManager. The ABC templates provide a common method for this called %SetClassItem, and I call it this way:

```
    #CALL(%SetClassItem(ABC),'RelationManager:' & %OrigFile)
```

This call will pull in the template symbols for the ABC classes associated with the file (the common classes tab which you see everywhere in the ABC templates).

Next I declare a couple of variables. I set the flag for Derive to True and then loop through the methods and check if the SetAlias method has already been declared. If not, I add it. The check is required because it is possible to add new methods with same name and prototype.

```
    #Declare(%Found)
    #Declare(%Cnt)
    #Set(%Found,%False)
    #SET(%DeriveFromBaseClass,%True)
    #For(%NewMethods)
      #If(Upper(%NewMethodName)='SETALIAS')
        #Set(%Found,%TRUE)
      #EndIf
      #Set(%Cnt,%Cnt+1)
    #EndFor
    #If(NOT %Found)
      #ADD(%NewMethods,%Cnt+1)
      #SET(%NewMethodName,'SetAlias')
      #SET(%NewMethodPrototype,'(RelationManager RM)')
    #EndIf
```

So far I have just replicated the handcode. Now I want to add some features. First of all, I would like to change the file name and then the external names for each key.

The first is surprisingly easy as the file name exists in a hidden embed called %EndOfGetFileStructHeader, just before the file header is written. Examining the templates I see that the variable %Rval holds the file header, so I need to modify %Rval.

```
    #AT(%EndOfGetFileStructHeader,%OrigFile),Where(Not %GlobalExternal)
      #Declare(%NewName)
      #If(Sub(%CopyName,1,1)='!')
        #Set(%NewName,'NAME('&Sub(%CopyName,2,Len(%CopyName))&')')
      #Else
        #Set(%NewName,'NAME('''&%CopyName&''')')
      #EndIf
      #Set(%Rval,Replace(%Rval,'NAME',%NewName))
    #EndAT
```

First I check if %copyName has a preceding exclamation point to indicate a variable; I create a new NAME attribute with or without quotes as appropriate.

Then I call the template function REPLACE. The method searches for an attribute specified in the second parameter and replaces it with the new variable. If the attribute is not found nothing happens, so it should not have any affect in other than the root DLL of a ABC multi DLL application, but I like to limit the code to the global app for clarity. This approach can also be used for other properties such as the Driver, making it a piece of cake to declare an Alias file as a Memory file.

The code to replace the keys uses a similar embed, %BeforeKeyDeclaration:

```
#AT(%BeforeKeyDeclaration,%File),Where(%ChangeKeyName)
  #Set(%adiKeyName,'NAME("'&%FilePrefix&'_'&%KeyId&'")')
  #SET(%ValueConstruct,Replace(%ValueConstruct,'NAME',%adiKeyName))
#EndAT
```

I initially found it necessary to change the external names because I use a third party accessory (File Manager 3) to update my SQL tables, and that accessory uses the external names to create the tables. Later on I found I couldn't use this approach to create the FM3 converter application, but I have this covered by an older "steal the structure" template. Also, for some reason, the file's NAME attribute is removed everywhere the file is declared as external, while the external key name is not. I thought this meant I had to change the key names in every module, but that is not the case. If change the key in the declaring module, the change is visible in the entire application. This in turns mean that to change the Alias file to a regular file it is only necessary to make the change in the declaring module.

I could go further with this, adding support for features like SQL auto increment and field priming, but I believe this code will be very dependant on each developer's needs. To get you started I have included a sample of how to steal the IsIdentity property of the original file to set PROP:SERVERAUTOINC for the Alias file.

To sum up, only small changes needs to be done to an app to make an Alias file behave as a regular file. This makes it possible to reduce maintenance of multiple file declarations and at the same time have the full benefit of dictionary defined files in the template environment.

[Download the source](#)

---

[Bjarne Havnen](#) was educated as a nurse with a speciality in behavior analysis when he stumbled into programming in 1999. Programs have behavior too, so he attempted to write training programs for people with autism. Within months the hobby lead to full time employment as Clarion developer. Today he handles the distribution of Clarion in Norway while developing custom software for the production industry and third party accessories for Clarion.

## Reader Comments

*Posted on Thursday, September 11, 2008 by Paul Howard*

Thanks Bjarne, extremely timely template and alone worth the cost of my cmag subscription.

This is just the ticket to avoid the boring and error prone detail of creating and maintaining duplicate file structures by hand on an "invoicing" type app that I was puzzling over!

I have a primary plus a dozen relate tables that need to have 1 or more (browse driven) primary records (+ related) inserted/changed/or deleted only after a "commit" is issued.  I concluded that this could be done by mirroring these file structures locally on the workstation, and inserting new or copying existing records from the server shared dbs (with flags set on server for each copied record to prevent others from changing it at the same time).  If abandoned, then local files are simply emptied and in-use flags reset on server.  If committed, then inserts/changes/deletes simply get written back to server and flags reset.  As a big bonus, Auto-Inc'd SysId is picked up at that time - avoiding AutoInc gaps.

As an alternative to this ALIAS slight of hand, I'm fairly sure that the IMDD can mimic most of this magic with it's feature to shadow a disk table, although IIRC it does this by using a calculated disk table prefix to actually change all generated disk table prefixes to the calculated one. Thus, any embed code might refer to the original table when it should refer to the IMDD prefixed shadow table?

Great article and template!

Paul

---

*Posted on Friday, September 12, 2008 by Bjarne Havnen*

Hi Paul

Not sure I follow you here. If I needed access to both the physical file and a In-Memory representation in a template enviroment, I don't think I could create the memory table dynamically. I've looked at the IMDD examples and they have the same challenge: Keep two dictionary structures syncronized. IMO, a simple expansion of the template following this article should enable to have an ALIAS file based on the original file, but the template could REPLACE the DRIVER attribute with a DRIVER('MEMORY'). Unfortunately, the IMDD templates require a MEMORY table to work with, and since the alias has another driver specified in dictionary, they do not show up. However, handcoding reading and updates are less challenge than remember to syncronize two tables :)

Bjarne

---

*Posted on Friday, September 12, 2008 by Paul Howard*

I'm no expert on the IMDD, but IIRC the IMDD templates create a duplicate of the physical table with a template supplied prefix change, and apply that change throughout the app and provide methods to auto-sync the IMDD table with the physical table. Access to the physical table via embed code should be unaffected by the IMDD template, thus my thought that the IMDD effectively creates a perfect copy of the physical table just like an ALIAS but only loosely coupled (loads and saves between IMDD and physical but not much interaction in between). Of course, any template driven physical table access would automatically be redirected to the IMDD version.

Is that clearer?

Paul

---

*Posted on Friday, September 12, 2008 by Mark Feichtmeir*

Interesting approach. I'll have to study it more thoroughly to fully grasp it. I solved a similar problem that required simultaneous access to the same data file structure but on multiple data levels (ie global and local) by having an in-memory file with the same data structure as the hard files with the addition of a data level flag. I preload the in-memory file with data from the hard files, handle all processing in a single memory file browse/form accessed from anywhere, and then write any data changes made back to the hard files after the form closes.

---

*Posted on Sunday, September 14, 2008 by Bjarne Havnen*

Every tool has it's usage and the memory driver probably have more features than I know of, even when I have used it quite a bit (I may have discarded the templates too fast). In my program I need simultan read write access to three related tables representing "template" parts in a multi user enviroment, so I have three sets of tables with different names. A cool thing about doing the stuff with dictionary , is that I can also set up the relations between aliases, so I get full benefit of the IDE.

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# Clarion Magazine

## Advertising Feature: Why Not Outsource Clarion Services?

by Thomas Mathew (tmathew@ccstechnologies.in)

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Being a loyal Clarion developer for more than 15 years gives me the confidence in using C6.3 as a tool for developing almost any business application. Though the intelligent IDE gives a high level of productivity, my profit increases when someone else does the development and maintenance work for me. My time can be better used for finding new jobs/customers and implementing them to customer delight. This is the objective behind outsourcing.

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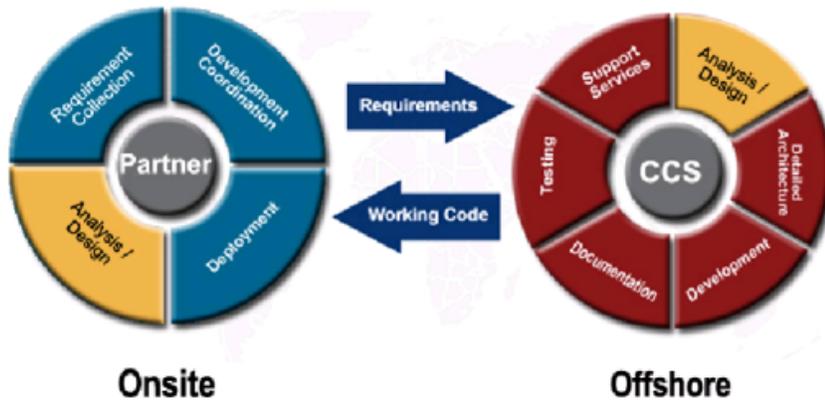
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Thomas Mathew, Executive Director, CCS Technologies, can be contacted at tmathew@ccstechnologies.in

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Lock up your Gmail

### Direct link

Posted Tuesday, August 19, 2008 by Dave Harms

Jeff Slarve has pointed out that Gmail users can now use SSL encryption for the entire session, not just login. That matters because there's a security hole in the default configuration that allows someone sniffing network traffic to trick your browser into giving up a cookie that enables access to your Gmail page. This is mainly an issue for people who access Gmail using unencrypted wireless networks.

You can secure your Gmail account by going to the Settings page and setting your browser connection to "Always use https". Thanks, Jeff.

---

Ouch (Updated)

### Direct link

Posted Friday, August 15, 2008 by Dave Harms

Sun's Tim Bray is speaking on changes in programming languages. And I have to say this is possibly the most annoying use of background music I have ever heard. I'd rather listen to my daughter playing Build-a-Bear on her DS.

Ah, it turns out the music was written by Terry Riley, in C, in 1964. So there's a reason it's being played.

Just not a good reason.

UPDATE: Whoops, C was just a twinkle in Dennis Ritchie's eye in 1964; the piece in question is called "In C", and my thanks to Geoff Robinson for pointing out the error of my ways. Geoff suggested that minimalism isn't my cup of tea. I've had another listen to "In C" and it's much more pleasant all by itself (though 30 seconds seems plenty to me). Unfortunately it was an overly-loud accompaniment to Bray's rapid-fire delivery; the combination would make rather a good torture device, I think.

Catching up

**Direct link**

Posted Wednesday, August 13, 2008 by Dave Harms

I've been back in the office since late last week, but the longer I'm away from the office, even with a laptop along, the longer it seems to take to get everything back on track again. I'm catching up on news items which normally I'd have done while on the road, but I had problems with newsgroup access which is how I harvest most news items. And I hope to have the monthly PDFs, source zip and source library update done by tomorrow.

On the road again

**Direct link**

Posted Monday, August 04, 2008 by Dave Harms

I'm back on the road this week and won't have much access to email, but I should be able to check in at least once most days. I have a few more OSCON 2008 reports this week, and next week after I'm back I'll conclude the series with some random observations and a few more pics. Then it's back to the regular Clarion fare.

# Clarion Magazine

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Random Thoughts #3

### Direct link

Posted Thursday, September 25, 2008 by Dave Harms

This week Clarion Magazine is having its annual fall subscription sale (save some bux, go to the home page for details), and that's put me in a reflective mood. This time I'm mulling over the future of Clarion development.

Oh, not C7 and Clarion#, per se. We all know that's coming.

I'm thinking operating systems. Specifically, Vista 64.

I know, Vista is the OS everyone loves to hate. Except, it seems, when it's 64 bit Vista. Maybe it's the 128 GB maximum addressable memory. Maybe it's better stability thanks to the 16 bit subsystem finally getting turfed (and incidentally, every time I try to type "16 bit" my fingers say "15 bit" - it just happened twice in this sentence - which I suppose means my subconscious is trying to tell me something).

Whatever the reason, I'm hearing more and more about Clarion developers going to 64 bit Vista. Why are they doing it? Because of VMWare.

As Mark Riffey explains, VMWare is a great solution to two problems. One will be with us for a long time, and that's the need (at least for some of us) to test applications against various versions of Windows. With VMWare you can install as many different Windows versions as you like. Each Windows OS runs in its own virtual machine, in its own window, making it trivial to keep as many different test beds as you need without shelling out for a whole lot of extra hardware.

The other problem, which I trust is about to go away, is that the old (the very old) Clarion IDE is a 15^H^H 16 bit app. And you can't run 16 bit apps natively on Vista 64 (that's a good thing). But you can run C6 and its predecessors on 32 bit Windows, so all you need is a virtual machine and, say, an XP install disk. As well, with the old IDE contained in its own virtual machine you no longer have to deal with focus issues when switching between apps.

Now, not everyone needs to test apps against older operating systems, and not everyone wants the (minimal) hassle of running Clarion in a virtual machine. That's still holding back some folks from making the switch. But once AppGen ships with C7 (and I think that day is getting pretty close) I believe we'll witness a sea change, with a great many Clarion developers switching to Vista 64. And some of those developers, once they get to Vista 64, will see the light and get VMWare anyway for compatibility testing.

Vista 64, gobs of memory, a fast multi-core mobo, C7/Clarion# and VMWare all make for a sweet development environment.

No doubt someone will point out the benefits of making developers use minimal hardware, thus encouraging them to optimize their code. That's how the old London Development Centre worked, and the idea has merit.

Just not a lot of merit.

There are lots of ways to design for and test against minimal hardware, memory-constrained virtual machines being one, virtual machines on crappy hardware being another. Just don't restrict your development that way.

To keep up on all the latest Clarion articles and news, make sure your Clarion Mag subscription is up to date. Log in to the My ClarionMag page to check your status, and/or go to the ClarionMag store to renew/subscribe. Remember, the fall subscription sale ends Friday, Sept 26.

Store: http://www.clarionmag.com/cmag/store.html?action=shop

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Random Thoughts #2 (and sale reminder)

**Direct link**

Posted Thursday, September 25, 2008 by Dave Harms

This week Clarion Magazine is having its annual fall subscription sale (save some bux, go to the home page for details), and that's put me in a reflective mood. What are some things most people probably don't know about the mag?

In this installment: Massive lists of articles and news items.

The Clarion Magazine home page has some URL options you can use to list all articles (and at the same time news items) for a given year, a given year and month, and even all articles and news items ever published in Clarion Magazine.

The three parameters involved are year, month, and limit. You'll need to specify the limit parameter in all cases or the default (currently five) applies, and typically you'll specify a limit higher than any reasonable maximum. .

For instance, to see all articles for 2008 you can use this URL:

http://www.clarionmag.com/index.html?year=2008&limit=500

You'll notice that the articles are in descending order (newest articles first), which is the default. To see oldest first add &desc=false to the URL:

http://www.clarionmag.com/index.html?year=2008&limit=500&desc=false

To see just the articles published in May, add the month (and, if you like reduce the limit, though it won't matter unless you use a lower limit than the number of articles available):

http://www.clarionmag.com/index.html?year=2008&month=5&limit=50

Again, add &desc=false to the URL to see the oldest articles first:

http://www.clarionmag.com/index.html?year=2008&month=5&limit=50&desc=false

To see all articles ever published in Clarion Magazine, in descending order, try this (but be prepared to wait - it's a very big page):

http://www.clarionmag.com/index.html?limit=2000&desc=false

I tried that with a limit of 1000 but that only took me to mid 2006. A 2000 limit should work for a few more years. The URL on the site index uses a more generous value of 5000.

The same approach works on the news page. To see all news items for this year:

http://www.clarionmag.com/cmag/news.html?year=2008&limit=500

And to see all news items ever posted (another big page):

http://www.clarionmag.com/cmag/news.html?&limit=5000

Actually that isn't all news items ever posted - it's all news items since January 2001. Prior to that time I created the news pages manually (I can't believe I actually did that). And a limit of 5000 should work for another two years or so.

Now, here's a fun thing to try. If you're using Google's new Chrome browser, bring up the above news page. Press Ctrl-F and type RPM in the search field. Chrome will highlight all the instances of RPM in the document and show a colored line for each instance in the scroll bar. Click on any line to jump to that instance of the search term.
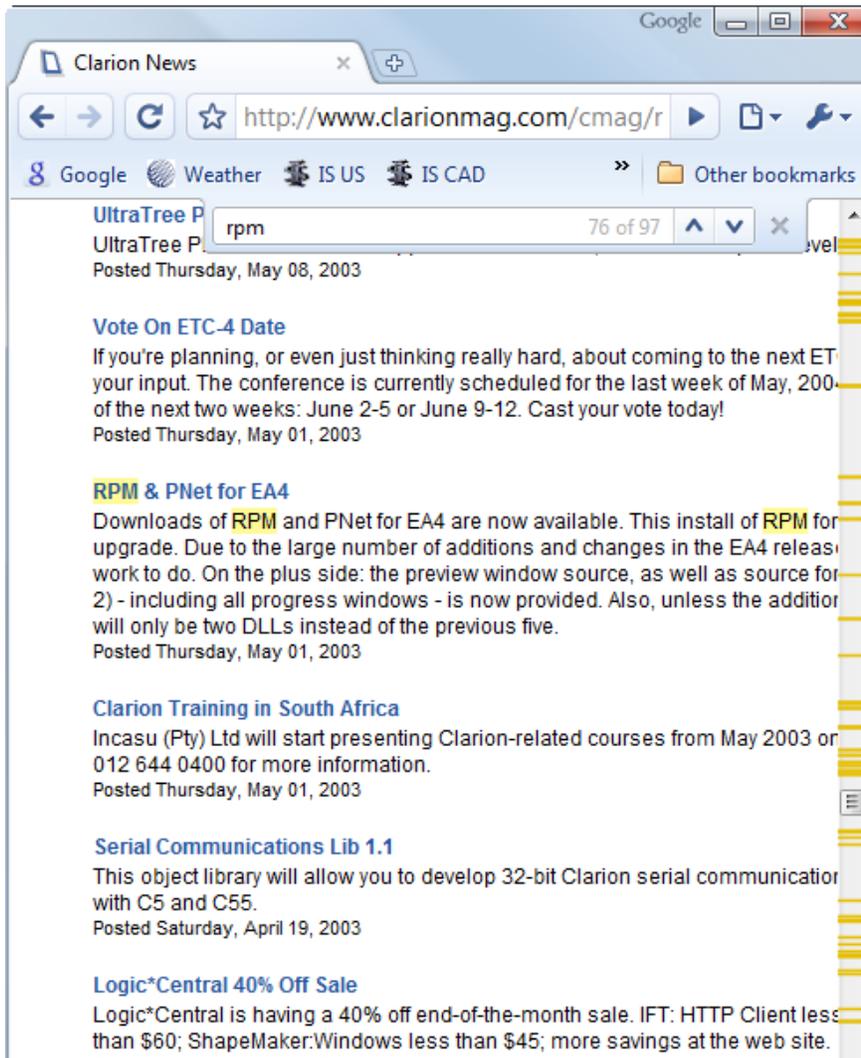
This object library will allow you to develop 32-bit Clarion serial communication with C5 and C55.
Posted Saturday, April 19, 2003

Logic*Central 40% Off Sale
Logic*Central is having a 40% off end-of-the-month sale. IFT: HTTP Client less than $60; ShapeMaker:Windows less than $45; more savings at the web site.
Posted Saturday, April 19, 2003

To keep up on all the latest Clarion articles and news, make sure your Clarion Mag subscription is up to date. Log in to the My ClarionMag page to check your status, and/or go to the ClarionMag store to renew/subscribe. Remember, the fall subscription sale ends Friday, Sept 26.

Store: http://www.clarionmag.com/cmag/store.html?action=shop

Site index (which also has links to the Clarion Online articles): http://www.clarionmag.com/cmag/siteindex.html

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Random Thoughts #1

**Direct link**

Posted Wednesday, September 24, 2008 by Dave Harms

This week Clarion Magazine is having its annual fall subscription sale (save some bux, go to the home page for details), and that's put me in a reflective mood. What are some things most people probably don't know about the mag?

In this installment: ClarionMag's most popular subscriber-only articles.

Actually there are some difficulties in evaluating which of Clarion Magazine's articles are in fact the most popular, and if I had a more sophisticated tracking system I could bore you endlessly with analysis. But I don't, so I'll just bore you a little.

I do track the number of hits each article receives, but that in itself doesn't tell the whole story. For one thing, the longer an article is up, the more times it's likely to be read, so older is better. For another, some articles are referenced a lot in subsequent articles, which improves their numbers. And of course free articles will have much wider readership and cannot be directly compared with subscriber-only articles (I'll cover the top free articles another time).

Here are the top fifty subscriber-only articles of all time, with the most popular article's rating normalized to a value of 1:

| Top 50 subscriber-only articles of all time | | |
|---|---|---|
| | Title | Date |
| 1.00 | Interfaces Everywhere | Feb 3, 2003 |
| 0.66 | Clarion Apps Can Be Sexy! | Dec 30, 2005 |
| 0.64 | Introduction To SQL: Part 2 | Mar 6, 2001 |
| 0.63 | Clarion 6 First Look: The Examples | Oct 16, 2003 |
| 0.59 | Look Out, It's Outlook! (Part 1) | May 9, 2002 |
| 0.59 | Clarion COM:ýAs Easy As Visual Basic COM | May 9, 2000 |
| 0.58 | XML For Clarion Developers | May 16, 2003 |

| 0.57 | COM: Getting Easier By The Minute (Part 1 of 3) | Feb 6, 2001 |
| 0.56 | Creating Utilities For MS SQL 2000 | Dec 31, 2003 |
| 0.55 | Using The Web Browser OCX | Aug 2, 2001 |
| 0.55 | Introduction to SQL - Part 4 | May 1, 2001 |
| 0.55 | SQL Data Types Comparison | Nov 15, 2002 |
| 0.55 | Viewing An Excel Spreadsheet In A Clarion Browse | Dec 5, 2002 |
| 0.54 | Interfacing With An Interface | Jun 12, 2002 |
| 0.54 | Adding Page Of Pages To A Clarion Report | Aug 16, 2002 |
| 0.54 | Introduction To SQL: Part 3 | Mar 14, 2001 |
| 0.53 | Avoid My SQL Mistakes! | Jul 18, 2001 |
| 0.51 | A Single Browse For Multiple Lookups | Jul 5, 2002 |
| 0.51 | Clarion And The Fatal MyODBC/MySQL Flaw | Jun 28, 2002 |
| 0.50 | The Nuts And Bolts Of Passing Parameters: Part 1 | Sep 12, 2000 |
| 0.49 | .NET Basics: What Is .NET, And Why Should I Care? | Sep 15, 2005 |
| 0.49 | Emailing PDF Files From A Report Previewer | Jun 28, 2002 |
| 0.48 | Clarion, COM, Soap, and HTTP | Jul 10, 2003 |
| 0.47 | Beautifying Clarion Applications | Jul 13, 2006 |
| 0.47 | Creating ODBC Data Sources At Runtime | May 9, 2001 |
| 0.47 | The Nuts And Bolts Of Passing Parameters: Part 2 | Sep 15, 2000 |
| 0.47 | SoftVelocity's Upcoming Product Technology (Part 1) | Apr 29, 2002 |
| 0.47 | Using Clarion With MySQL Part 2 | Apr 11, 2000 |
| 0.47 | Migrating The Inventory Application To SQL Server (Part 1) | Aug 15, 2001 |
| 0.47 | It's an XML World! | Apr 25, 2002 |
| 0.47 | SoftVelocity's Upcoming Product Technology (Part 2) | Apr 29, 2002 |
| 0.45 | Mixing Clarion with .NET, Part 2 | Sep 15, 2005 |
| 0.45 | Calling A Clarion Application With PHP | Jan 6, 2003 |

| | | |
|---|---|---|
| 0.45 | System Tray Popup Windows | Mar 31, 2004 |
| 0.44 | Handling COM Events - Part 1 | Jan 11, 2002 |
| 0.44 | Look Out, It's Outlook! (Part 2) | May 14, 2002 |
| 0.43 | Product Review: NetTalk, Part 1 | Sep 19, 2003 |
| 0.42 | The Clarion Advisor: API Tricks | May 3, 2001 |
| 0.42 | Creating A Designer Interface In Clarion (Part 1) | Jun 5, 2003 |
| 0.42 | Clarion 6 First Look: The Source Code | Oct 30, 2003 |
| 0.42 | Creating An MS OutLook-Style Menu In Clarion | Aug 29, 2000 |
| 0.42 | A Class For Tagging | Feb 13, 2003 |
| 0.42 | Migrate Your Topspeed Application To Firebird, Part 1 | May 27, 2004 |
| 0.42 | ETC Keynote Address Covers Clarion 7, .NET | Jun 9, 2004 |
| 0.42 | First Look: Clarion 6.3 | Jan 27, 2006 |
| 0.42 | Creating An MS OutLook-Style Menu In Clarion: Part 2 | Sep 5, 2000 |
| 0.41 | Multi-Platform Development: Clarion, MySQL, and Linux Part 3 | Apr 18, 2000 |
| 0.41 | .NET for Clarion Developers | Jan 19, 2007 |
| 0.41 | A Class For The ASCIIng | Nov 8, 2002 |
| 0.41 | Images, BLOBs, And The Imag'N OCX/DLL | Apr 9, 2002 |

The most popular article, Jim Kane's Interfaces Everywhere, falls into the category of much-referenced articles, as it laid the groundwork for much of Jim's COM work. That, I think, accounts for its substantial lead over the #2 article, Colin Wynn's treatise on spicing up Clarion apps (and what do you know, sex really does sell). Colin's article is also a few years newer, so I'd say it's a contender for top spot.

COM and SQL dominate the top fifty, with Clarion 6, XML, the Windows API, OOP, and .NET all putting in appearances.

But of this list, only one article has a publication date after 2006. That's mostly because of the time factor - these articles have been around long enough to get more reads.

Here are the top fifty subscriber-only articles published since January 2007:

| Top 50 subscriber-only articles since Jan 1, 2007 | | |
|---|---|---|
| 1.00 | .NET for Clarion Developers | Jan 19, 2007 |
| 0.89 | New Alpha 2 Build Improves DCT UI | Jul 13, 2007 |
| 0.89 | Clarion 101: Designing A Database | Jan 26, 2007 |

| 0.87 | Embed Analysis: Which Embeds Do Clarion Developers Use The Most? | Jan 30, 2007 |
|------|------------------------------------------------------------------|--------------|
| 0.79 | C7 Alpha Bits Part 1 | Mar 10, 2007 |
| 0.78 | Embedding The SQLite Engine In Clarion Applications | Feb 27, 2007 |
| 0.77 | Using the SQL Advanced Tab | Mar 16, 2007 |
| 0.73 | Embed Analysis Part 3 | Mar 22, 2007 |
| 0.70 | Vista-Compliant INI Files | Mar 29, 2007 |
| 0.69 | Adding Aero Glass Effects to Clarion Apps | May 30, 2007 |
| 0.67 | A Simple Clarion# PDA Application | Dec 26, 2007 |
| 0.67 | Getting Useful Information Out of SQL, Part 1 | Feb 15, 2008 |
| 0.67 | Embed Analysis Part 2 | Mar 21, 2007 |
| 0.62 | No More Tight Loops | Jan 31, 2008 |
| 0.62 | Aussie DevCon: Bob Z Shows Clarion.NET | May 27, 2007 |
| 0.61 | Interprocess Communication: Sending Messages | Mar 14, 2007 |
| 0.61 | C7 Alpha Bits Part 2 | Mar 27, 2007 |
| 0.61 | Tiers and Objects: The Future of Clarion.NET Development | Oct 11, 2007 |
| 0.59 | Coping With Windows Vista - How to live with User Account Control Security | Apr 13, 2007 |
| 0.57 | The New Dictionary Diagrammer | Sep 30, 2007 |
| 0.55 | Signing Your Applications: New Challenges | Jan 12, 2007 |
| 0.55 | Clarion.NET Language Changes: What's Gone | Sep 27, 2007 |
| 0.53 | Review: Clarion Training on Demand - SQL Programming Series | Jan 10, 2007 |
| 0.52 | PostgreSQL Revisited | Aug 15, 2007 |
| 0.52 | A Simple Solution for Accordion Menus | Oct 31, 2007 |
| 0.52 | What Can You Do With The Clarion.NET Beta? | Jan 25, 2008 |
| 0.51 | Clarion.NET Language Changes: What's New | Sep 27, 2007 |
| 0.51 | Calling Google Earth From Clarion | May 23, 2007 |
| 0.49 | The Clarion 7 Beta Release | Sep 12, 2007 |
| 0.48 | Querying ActiveDirectory In Clarion | Jan 17, 2008 |

| 0.48 | Get Ahead Of Your Competition With Vista And Office 2007 | Feb 14, 2007 |
|------|--------------------------------------------------------|--------------|
| 0.47 | Converting A Process To A Stored Procedure/Trigger | Jun 15, 2007 |
| 0.47 | Lists, CHOICE, and Hidden Tabs | Jan 11, 2008 |
| 0.46 | Coping With Vista - There's A Manifest In Your Destiny, Part 2 | Apr 26, 2007 |
| 0.45 | Multiline Radio Buttons And Checkboxes | Sep 18, 2007 |
| 0.45 | Profiling Your Applications | Jul 11, 2007 |
| 0.43 | Coping With Vista - There's A Manifest In Your Destiny, Part 1 | Apr 20, 2007 |
| 0.43 | Using A Browse Popup Menu For Lookups | Jun 26, 2007 |
| 0.42 | Kalashnikov Programming | Jun 11, 2007 |
| 0.41 | SQL Processing and Class Interfaces | Jun 30, 2008 |
| 0.41 | Boost Compile Times By Putting The ABC Classes In Their Own DLL | Jun 18, 2008 |
| 0.41 | Accessing Private Class Data | Jan 26, 2007 |
| 0.41 | Getting Useful Information Out of SQL, Part 3 | Feb 22, 2008 |
| 0.41 | Writing To The Windows Registry | Mar 13, 2008 |
| 0.40 | Using CHOOSE With PROP:SQL | Jan 10, 2008 |
| 0.39 | Showing ABC Errors | Jul 20, 2007 |
| 0.39 | Getting Useful Information Out of SQL, Part 2 | Feb 21, 2008 |
| 0.38 | Testing Clarion# Libraries With NUnit | Dec 27, 2007 |
| 0.38 | Clarion# And The Google Calendar API | Dec 17, 2007 |
| 0.38 | Designing Clarion# Libraries | Dec 20, 2007 |

SQL is still a big factor, but unsurprisingly .NET has taken over from COM. (Which is as it should be; one of the really wonderful things about .NET coding is all the stuff you can get done without having to resort to the dog's breakfast that is COM. And when you have to use COM you can often do so indirectly, via an existing .NET wrapper.)

The embed analysis series has received a lot of attention, likewise the numerous articles on Vista and its virtualization and security "features." And of course anything on C7 is a must-read for many ClarionMag subscribers.

So what can you expect to see in the coming months? Much more on C7, no doubt. Although the templates aren't changing a whole lot from C6 to C7, the IDE is quite different, and there are a lot of nooks and crannies to explore. Once AppGen ships the number of developer hours ClarionMag readers spend in the new IDE will go up dramatically, and along with that I expect a lot of discoveries about workflow and development tools and techniques.

I also anticipate a fair bit of Clarion# coverage, although that probably won't hit the big time until there's a Clarion# AppGen and at least one template set. But we'll see - as always, it's all about what ClarionMag readers want to read and need

to know.

If you're not a Clarion Magazine subscriber, you can subscribe now via the ClarionMag store. If you are a subscriber and you want to check your subscription status, log in to the My ClarionMag page. To top up your sub, again just head over to the store. But don't drag your butt. The fall subscription sale ends Friday, Sept 26.