

# Clarion Magazine

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## Latest Subscriber Content

### C7 And The Demise Of The Batch Compiler

Clarion 7's support for multi-APP solutions is supposed to do away with the need for batch compilers. By including all the .APP files called by the app I'm working on, in theory you do not have to ensure that referenced .APPs have already been compiled. Steve Parker explores the current reality of multi-project solutions.

Posted Tuesday, March 10, 2009

### Clarion 7 Beta 5080 Released

SoftVelocity has released C7 Build 5080. There are some 200 bug fixes and a number of new features, including support for large dictionaries in Legacy applications and optional application caching for multi-app solutions. Review to follow.

Posted Wednesday, March 11, 2009

### Creating Clarion# Web Apps With AppGen

Is it possible to create Clarion# web applications with the Application Generator? No, there isn't one for Clarion# yet. But if you're doing MVC web apps the C6/7 AppGen isn't a bad standin, at least for now. Dave Harms blogs about an upcoming screencast and series of articles on the new Clarion# web application template chain that underpins the next version of the Clarion Magazine web site.

Posted Thursday, March 12, 2009

### Clarion 7 Beta Report: Build 5080

Clarion 7 build 5080 went out to CSP participants last week. As with the previous release, this build had a hefty list of fixes and some useful new features.

Posted Friday, March 20, 2009

### Handling Circular References in C7

Circular references aren't the best idea anyone ever had, but there are a fair number of apps out there that cross-call between DLLs. And while C7 makes multi-DLL solutions easy to create, it won't compile a solution with circular project references. Dave Harms shows how to use MSBuild to find and fix or manage your circular references.

Posted Friday, March 20, 2009

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[\[More Clarion 101\]](#)

## Latest Free Content

- » [Clarion 7 Beta 5080 Released](#)
- » [Creating Clarion# Web Apps With AppGen](#)
- » [An AppGen-Created Clarion# MVC Web App \(Screencast\)](#)
- » [C7 Release Candidate 1](#)
- » [MVC Web App Screencast: The generated Clarion# code](#)
- » [A Brief History of Clarion \(Updated\)](#)

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## Clarion Sites

### Clarion Blogs

### Clarion# Web Development: An Introduction To MVC

The Model-View-Controller architecture is an increasingly popular way to approach web application development. Dave Harms goes under the hood of the Clarion# MVC demo app and explores the differences between MVC and WebForms.

Posted Thursday, March 26, 2009

### C7 Release Candidate 1

C7 beta build 5225 has been released to CSP participants. Among the new features error editing in the embeditor and embed points is now listed as fully implemented. SV is anticipating a gold release by April 10. Stay tuned for a review.

Posted Thursday, March 26, 2009

### MVC Web App Screencast: The generated Clarion# code

In this second screencast Dave Harms explores the code generated for the Clarion# MVC web application.

Posted Thursday, March 26, 2009

### A Brief History of Clarion (Updated)

A recent discussion of DevCons past prompted Dave Harms to compile an incomplete history of Clarion. Help fill in the blanks! Updated March 27, 2009 with more conference info and some interesting background on the very early years. We're still looking for some missing information, however. To leave a comment log in (subscription *not* required).

Posted Friday, March 27, 2009

### Creating Test Data With Stored Procedures

There are lots of ways to create test data, and on SQL systems there's yet another option: stored procedures. Here's some PostgreSQL code to create string data out of hacker jargon.

Posted Monday, March 30, 2009

### C7: Will It Be Gold On April 10?

Clarion 7 Release Candidate 1 is in beta testers hands now; RC2 is due on April 3, with gold scheduled for April 10. But is C7 ready? Clarion Magazine looks at RC1, and in particular the critical differences between the C6 and C7 window designers.

Posted Tuesday, March 31, 2009

[\[Last 10 articles\]](#) [\[Last 25 articles\]](#) [\[All content\]](#)

## Source Code

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### 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.

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## Printed Books & E-Books

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### 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 Tips & Techniques Volume 5 - ISBN 978-0-9784034-1-6
- » Clarion Tips & Techniques Volume 4 - ISBN 978-0-9784034-0-9
- » 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

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### 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

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### 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.

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# Clarion Magazine

## Clarion News

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### Clarion Folklore Podcast

The first Clarion Folklore podcast for 2009 is now available.

Posted Thursday, March 26, 2009

### ClarionLife Comes Back To Life

Andrew Popoff has revived the ClarionLife site and has turned it into a developer blog.

Posted Thursday, March 26, 2009

### Product Scope 7.8

Product Scope 7.8 adds a new clipboard copy/paste aid. PS7 Clipboard can "stay on top" to more easily copy and paste user IDs, passwords, registration keys etc. To test drive the PS7 Clipboard send an email to C3P\_Remove\_@\_Me\_encouragersoftware.com.

Posted Thursday, March 26, 2009

### Clarion Webinar

Starting Friday, March 27th, ClarionLive will be hosting a free webinar for Clarion programmers. The webinars are scheduled for each Friday from 9am until 11am PDT. The first guest speaker is Andy Wilton from Noyantis Software. He'll be able to answer your questions during and after the presentation. The web site also supports uploading images, uploading documents (like code snippets or zip files with sample apps), personal messaging, and more. Clarion Live! is not a commercial web site. Webinars will be recorded and available for download. If you are a third party vendor and are interested in doing a presentation, please register at the web site and then send John Hickey a PM about what you would cover and your availability.

Posted Thursday, March 26, 2009

### UltraTree Lifetime Premium

Save \$120 on UltraTree (reg \$599, now \$479). Buy UltraTree Premium and HyperBrowze for \$718 and save \$280. This sale will end March 31 at the latest, or when the sale quote is met.

Posted Friday, March 20, 2009

### CFC Library 2.2

CFC Library is a set of classes and templates for Clarion. The library consists of a set of classes and templates for creating tooltips, processing the hot keys and for creating menus. The library includes source code supplied in the form of app-file. The source code is a wrapper for Windows API functions. It not contains any black-boxes (DLLs). CFC Library is free for private use, and is distributed on an annual subscription basis for other purposes.

Posted Friday, March 20, 2009

### **ClarionQuickBooksConnect v0.97**

ClarionQuickBooksConnect v0.97 is now available. There have been substantial changes in this release. Everything is now processed in queues instead of dictionary tables. Supported features include retrieving, adding and updating of Accounts, Classes, Customers, Vendors, Items (Inventory, Non-Inventory, Service); retrieving and posting of Invoices and Journal Entries. Sales receipts will be in v0.98. The price is currently \$149.

Posted Friday, March 20, 2009

### **March Madness at Enabling Simplicity**

All Enabling Simplicity software products at least 20% off in March. This includes upgrades. Order multiple products, or multiple licenses of the same product, and save even more.

Posted Friday, March 20, 2009

### **DMC Gold 1.6.0.1**

DMC Gold 1.6.0.1 is now available. Changes include: Added support of multi-column primary keys in the viewer; Added support of multi-column keys during data transfers; Support for full Drag & Drop in main module from Windows Explorer to open a table; Use existing instance of DMC when asking for a table reading from Windows Explorer (if no process is running in the existing instance); Added full support for MySQL version 4; Created a full clean-up utility (available on the download page) to help reinstall DMC; Support in Viewer to be able to read only the first X or Y last records and also between record Z and record T; Added profile ID column in project & profile module to better use the command line option; Many other new features.

Posted Friday, March 20, 2009

### **SetupBuilder 6.9 Build 2537**

SetupBuilder 6.9 Build 2537 is now available. This is an update to the latest stable release, and contains some important bug fixes and improvements. This build also brings SetupBuilder 6 in-sync with the latest SetupBuilder 7 beta build. This release is available, free of charge, to all SetupBuilder customers who have an active SetupBuilder maintenance subscription plan. If you do not have an active subscription plan, please contact your account manager at sales@lindersoft.com.

Posted Friday, March 20, 2009

### **Smart Icons Contain All Standard Formats**

Smart Icons now also contain all the standard formats, as well as a massive 256x256 format. Price is \$19.99.

Posted Friday, March 20, 2009

### **iqNotes 3.81**

Version 3.81 of iqNotes, which is written in Clarion, is now available. Features include: Unlimited notes can be created and resized; Archiving, printing and sorting; Password protection; Synchronization with a server when using multiple computers; Expense and time tracking; Start/stop timer; Attach notes to web pages, spreadsheets, applications, anything and have them automatically open; Support for English, French, Italian, Spanish, Portuguese, and Dutch languages; Securely send notes to other iQ-Notes user on the network or through the internet. iqNotes is free.

Posted Friday, March 20, 2009

### **Crisp Icons/Letters Upgraded**

The Crisp Icons and Crisp Letters sets have had an upgrade. 20 new designs have been added to the Crisp Icons, and all

icons now include the following formats: 128x128 full color; 64x64 full color; 48x48 full color and 256 color; 32x32 full color and 256 color; 24x24 full color and 256 color; 16x16 full color and 256 color. Current users are welcome to download the new sets (same passwords).

Posted Friday, March 20, 2009

### **VoidTools Everything NTFS Searches In Clarion**

VoidTools Everything does fast searches on NTFS volumes; thanks to a request by Bob Roos, VoidTools' David Carpenter has provided a Clarion compatible DLL. The program is called Everything because on the initial call it returns the file name and path of Everything on your NTFS volumes. It winnows down the results as you type the search characters.

Posted Friday, March 20, 2009

### **Making AppData UAC Safe**

David Troxell has updated his blog entry on making Clarion app data UAC safe.

Posted Friday, March 20, 2009

### **Huenuleufu March Special**

For March 2009 only FinalStep will be included at no extra charge with any support pack. The support pack already includes FullRecord + NeatMessage + PrintWindow + WindowID + FileTuner.

Posted Thursday, March 05, 2009

### **Product Scope 7.6 Pre-Release**

The Product Scope 7.6 pre-release is now available to registered users. Product Scope 7.6 is functionally the same as Product Scope 7.5 with two major differences. The install is now to Program Files area, and the user interfaces has been redesigned. Send an email to C3P\_Remove\_@\_Me\_encouragersoftware.com for download instructions (after removing the obvious bits from the email address).

Posted Thursday, March 05, 2009

### **SuitePro 2009 40% Discount**

MotleySoft has a 40% discount available for Clarion developers who want to buy SuitePro 2009 13.x.x, with 30 days or 1 year support. Use the coupon code CLARION and press the Update/Recalculate button. You will see a new discounted price (and small (E) icon).

Posted Wednesday, February 25, 2009

### **Noyantis CommandBars 1.17**

Version 1.17 of the Noyantis CommandBars wrapper template has been released. Modifications include: Width calculation incorrect when other Noyantis Wrapper templates present. The new version can be downloaded from the Members area using the original download and registration details contained in your sales emails.

Posted Tuesday, February 24, 2009

### **Noyantis TaskPanel 1.07**

Version 1.07 of the Noyantis TaskPanel wrapper template has been released. Modifications include: Codejock v13.0.0 compatibility added; Height calculation enhanced during window resize; Bug fix - Control definition incorrect for Legacy apps compiled in multi-DLL mode. The new version can be downloaded from the Members area using the original download and registration details contained in your sales emails.

Posted Tuesday, February 24, 2009

### **Noyantis PropertyGrid 1.05**

Version 1.05 of the Noyantis PropertyGrid wrapper template has been released. Modifications include: Codejock v13.0.0 compatibility added; Spin Controls added; Checkbox Controls added; Radio Options added; Checkbox Options added; New method added - "AddItemSpin"; New method added - "AddItemCheckbox"; New method added - "AddItemRadioOption"; New method added - "AddItemCheckOption"; Bug fix - Control definition incorrect for Legacy apps compiled in multi-DLL mode. The new version can be downloaded from the Members area using the original download and registration details contained in your sales emails.

Posted Tuesday, February 24, 2009

### **Noyantis ShortcurBar 1.18**

Version 1.17 of the Noyantis ShortcutBar wrapper template has been released. Modifications include: Codejock v13.0.0 compatibility added; Height calculation enhanced during window resize; Reading and hiding of System MenuBar now handles bars on both standard windows and application frames; Bug fix - Control definition incorrect for Legacy apps compiled in multi-DLL mode. The new version can be downloaded from the Members area using the original download and registration details contained in your sales emails.

Posted Tuesday, February 24, 2009

### **Noyantis DockingPane 1.02**

Version 1.02 of the Noyantis DockingPane wrapper template has been released. Modifications include: Codejock v13.0.0 compatibility added; Bug fix - Control definition incorrect for Legacy apps compiled in multi-DLL mode. The new version can be downloaded from the Members area using the original download and registration details contained in your sales emails.

Posted Tuesday, February 24, 2009

### **Noyantis CommandBars 1.16**

Version 1.16 of the Noyantis CommandBars wrapper template has been released. Modifications include: Codejock v13.0.0 compatibility added; Height calculation enhanced for application frame; Width calculation enhanced during window resize; Reading and hiding of System MenuBar now handles bars on both standard windows and application frames; Bug fix - Status Bar hidden for Designer Bars; Bug fix - Frame Extension: Popups were still being displayed when the control had lost focus.(code accidentally omitted during v1.14); Bug fix - Control definition incorrect for Legacy apps compiled in multi-DLL mode. The new version can be downloaded from the Members area using the original download and registration details contained in your sales emails.

Posted Tuesday, February 24, 2009

### **Noyantis CalendarPro 1.18**

Version 1.18 of the Noyantis CalendarPro wrapper template has been released. Modifications include: Codejock v13.0.0 compatibility added; TimeLine view added; New Event, Procedure "CellSelected\_?????" and embed point added to inform the user when a different calendar cell has been selected; New Procedure "NoEventSelected\_?????" added; Right Click options enhanced and better C55 compatibility added; v13.0.0 of the Control changed the "Week (Detailed)" default view. To correct this 2 new methods have been added:-; New method "GetWeekDetailMode"; New method "SetWeekDetailMode"; Bug fix - Control definition incorrect for Legacy apps compiled in multi-DLL mode; Bug fix - DatePicker control could initialize too early under certain circumstances. The new version can be downloaded from the Members area using the original download and registration details contained in your sales emails.

Posted Tuesday, February 24, 2009

### **SetupBuilder 6.9 Build 2516**

Lindersoft has released SetupBuilder 6.9 Build 2516. This release is available, free of charge, to all SetupBuilder customers who have an active SetupBuilder maintenance subscription plan. If you do not have an active subscription plan, please contact your account manager at sales@lindersoft.com.

Posted Tuesday, February 24, 2009

### **SetupBuilder 6.9 Build 2509**

Lindersoft has released SetupBuilder 6.9 Build 2509. This is an update to the latest stable release, and contains some important bug fixes and improvements. This build also brings SetupBuilder 6 in-sync with the latest SetupBuilder 7 beta build. This release is available, free of charge, to all SetupBuilder customers who have an active SetupBuilder maintenance subscription plan. If you do not have an active subscription plan, please contact your account manager at sales@lindersoft.com.

Posted Tuesday, February 24, 2009

### **Multi-Format Icons Article**

Dave Beggs has posted an article about how to use multi-format icons in Clarion.

Posted Tuesday, February 24, 2009

### **Clarion Evangelist Folds Tent**

Stu Andrews has resigned his post as Clarion Tech Evangelist. He will, however, continue with the podcast and remains an ardent Clarion fan.

Posted Tuesday, February 24, 2009

### **gQ Low-Cost Query/Sort Builder 2.0**

gQ - Query/Sort Builder version 2.0 is now available, and special pricing is in effect until Feb 20, 2009. The Full Version includes all minor version upgrades and email support for \$59 (will be \$79 after Feb 20th). The "Want It Cheap!" Version is exactly the same version as above, also includes minor version upgrades, but does not include support - you're on your own (of course, you have the source to modify to your needs) - for \$24 (will be \$30 after Feb 10th). This price applies to both new licenses and upgrades.

Posted Tuesday, February 10, 2009

# Clarion Magazine

## An AppGen-Created Clarion# MVC Web App (Screencast)

by Dave Harms

Published 2009-03-20

In this first-ever ClarionMag screencast I'll take you on a tour of a Clarion# web application generated with a template set written in C6 (C7 works too).

We're pretty excited about this template set. It's still alpha code and there's a long way yet to go, but as this screencast shows it really is possible to create Clarion# web sites with AppGen, even though there's no AppGen yet for Clarion#. Of course, when Clarion# gets an AppGen we'll port the templates over to their rightful home.

So what are our plans for the template set? We'll be releasing the core templates to ClarionMag subscribers (and possibly to the wider world), so you'll be able to take advantage of them as well, although you'll have to be pretty ambitious to use them right now (did I mention this is alpha code?).

More importantly for all Clarion Magazine subscribers, we're using these templates to build the next version of the ClarionMag web site. At present, the magazine is delivered via a web application that's a combination of server-side Java code and a C6 database admin application. While that solution has worked well enough for the past decade, we're ready to take advantage of Clarion# and the many tools available to .NET web developers.

Key technologies used by the templates (and the next version of ClarionMag) include the [Castle Monorail MVC framework](#) and the [NHibernate ORM layer](#). MVC stands for the [Model-View-Controller architecture](#), which when applied to web applications greatly enhances testability and encourages the separation of the user interface from the business layer. We've been big fans of MVC for years, and Microsoft is finally coming around to our way of thinking. The folks in Redmond have come out with [ASP.NET MVC](#), a very Monorail-like product which is still a bit green but shows a lot of promise. We'll be keeping a close eye on Microsoft's progress, but for now Monorail has the maturity and the features ClarionMag demands.

[Watch the screencast now](#), and then check out Part 2 which takes a look at the generated code and explores the architecture of MVC web apps. We'll have the live demo up in the near future as well as a series of articles on Clarion# MVC web app development.

If you have any comments or questions please post them below.

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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](#)).

### Reader Comments

*Posted on Friday, March 20, 2009 by Jim Hedge*

Dave,

The screen cast was great.

I'm glad to be a subscriber!

Jim

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*Posted on Friday, March 20, 2009 by Dave Harms*

Thanks Jim! There's lots of good stuff to come.

Dave

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*Posted on Friday, March 20, 2009 by Charles Edmonds*

Looks Great Dave.

Nicely done!

Charles

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*Posted on Monday, March 23, 2009 by Dave Harms*

Thanks Charles!

Dave

[Add a comment](#)

# Clarion Magazine

## MVC Web App Screencast: The generated Clarion# code

by Dave Harms

Published 2009-03-26

The [first screencast](#) in this series explored the demo Clarion# MVC web application, created with C6/C7 templates; [this screencast](#) goes behind the scenes and looks at the generated Clarion# code.

We're pretty excited about this template set. It's still alpha code and there's a long way yet to go, but as this screencast shows it really is possible to create Clarion# web sites with AppGen, even though there's no AppGen yet for Clarion#. Of course, when Clarion# gets an AppGen we'll port the templates over to their rightful home.

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[Watch the screencast now.](#)

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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](#)).

### Reader Comments

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[Add a comment](#)

# Clarion Magazine

## A Brief History of Clarion (Updated)

The following is a work in progress. If you have material you'd like to contribute to this history of Clarion, [please send it along](#) or post a comment at the bottom of the page (you must be logged in first).

Events with incomplete or uncertain information are colored yellow.

Date	Description	Notes
1973	Bruce Barrington starts HBO & Company.	Barrington writes a multi-user operating system and macro language for the IVPhase desktop computer, one key feature of which is memory-mapped video. BB forms ideas that would later evolve into Clarion.
1979	Niels Jensen starts Midas ASP	Develops and markets software for microcomputers. First product is WordIndex, an add-on for WordStar. Midas acquires an Irish shell company named Borland International Ltd. Eventually Midas begins doing business as Borland, and later Phillippe Kahn is hired to run the US operations.
1981	HBO goes public, BB lives "pretty comfortably"	BB buys an Apple II but finds Pascal frustrating. Doesn't consider this a business machine
1981	IBM releases the PC	BB says Aha! Memory mapped video! and calls up some HBO pals.
1983	Work begins on Clarion 1.0	Monty Shaw joins the team in late summer and persuades BB that development should be done in C. Bob Steinke is hired out of HBO but doesn't officially start until 1984.
1983	Niels Jensen and Poly Pascal	Jensen discovers a product for the CPM-80 called Poly Pascal, written by Anders Heilsberg. Borland acquires marketing rights and renames Poly Pascal to Turbo Pascal. Jensen's team later writes the enormously popular Sidekick.
1984	Work continues on Clarion 1.0	Bob Steinke is brought in to write the compiler and collaborate with BB on language design. Gary Liming starts a few weeks after Bob Steinke; Shaw, Liming and Steinke have known each other since grade school and become the "three musketeers" for much of 1984. John Herron is hired late in the year and helps recruit the rest of the core team, including Stephen and Kim Kemp and Tony Jackson.

1985	Borland moves to London	Begins developing new compiler line for Modula-2, C and C++
1986	Clarion 1.0 released, April.	Clarion 1.0 is released at Spring Comdex in Atlanta. To combat copy protection, the first release of Clarion requires a hardware dongle (the "Actuator"), as do all apps created with Clarion. Unfortunately the industry is in the midst of a backlash against copy protection; negative press almost kills Clarion. BB reluctantly agrees to remove the Actuator in release 1.1.
1986	JPI is formed	Niels Jensen is also one of the founders of Borland (1983).
1987	Borland USA acquires Wizard C, which became Turbo C	The Borland language team leaves and forms JPI.
1987	Designer under development	Bruce Barrington and John Herron begin writing the Designer product. Steve Parker recalls BB saying John Herron was the creator of Designer: ("It took him a year and it almost killed him").
1988	CPD 2.0 released, May	The first version of Clarion to include Designer. Wins PC Magazine's Editor's Choice. InfoWorld rates CPD along with Paradox as the best programmable database.
1990	TopSpeed technology licensed	Niels and Bruce work out a deal to use TopSpeed compiler technology in Clarion 3.0 (CDD 3.0)
1990	Report Writer introduced	Approx date: "a year and a half after CPD"
1991	Euro Sales Manager	George Ratcliff of Essex is hired as the European Sales Manager
1991	CLARIONET	No, not the thin client technology for Clarion for Windows, but an online information service announced by Clarion Software as part of the Clarion Developer's Exchange, for just \$150 per year. Ten hours of toll free access included!
1991	DevCon #1	The very first Clarion DevCon was held Sept 22-25 at the Westin Hotel in Ft. Lauderdale. CDD 3.0 announced, but little shown of substance. Keynote speakers included Bruce Barrington, Will Fastie, and Niels Jensen.
1991	Clarion Conference in Johannesburg, South Africa	November 12&13 at the VW Midrand Conference Centre. BB was present at this conference.
1992	Staff turnover	Six of the original seven R&D people, as of 1990, have left.

1992	<b>DevCon #2</b>	Marriott Harbour Beach in Ft. Lauderdale. CDD 3.0 shown, but not in final release yet. Jeff Duntemann the editor of PC Techniques was keynote speaker, this was presumably following his article in Dr. Dobbs Journal in 10/91 entitled "Sympathy on the Loss of One of Your Legs"
1992	CDD release at end of year (or might have been early '93)	
1992	JPI and Clarion Software merge in April, announcement made at the end of the year.	The new company has a head office in Pompano Beach and a development center in London (LDC). Later the LDC is revealed to be under contract to TopSpeed.
1993	Aussie DevCon	Sydney, Australia, CW 1.5 released, also "pen stuff" for CDD
1993	<b>DevCon #3</b> , Sept, first CW demo	Ft. Lauderdale (Marriott Harbour Beach again?). David Bayliss speaks and shows some actual Clarion for Windows applications. Ross Santos finds the third party vendor displays "boring". Keynotes by Will Fastie and Mark Burgess.
1993	DevCon Boston	Hosted by Ben Brady
1993	Tom Moseley hired to work on templates	Tom previously worked with Dave Howington on the LPM add-on.
1993	Clarion RADical Conference in Johannesburg	May 6&7 at the Fourways Indaba Hotel
1994	CW 1.0 Beta 2 released	Then called CDDW
1994	CW 1.0 Beta 3 released	Mid-year release, and the first to include the AppGen.
1994	Clarion Consulting Services formed	headed up by Chris Behling, former VP of Marketing
1994	Randy Wood hired as VP of Product Development	March 21, 1994
1994	<b>DevCon #4?</b>	The Boca Raton Resort & Club. Keynote by John Dvorak (?) Outside events (sailing etc.) are cancelled due to the weather, attendees are not reimbursed for the extra money spent to keep spouses happy.
1994?	DevCon West?	There were at least two of these, with the 1995 event confirmed by John Griffiths.

1994	Aussie DevCon	Sydney, Australia
1994	Clarion Software becomes Topspeed Corporation	
1995	DevCon West	John Griffiths recalls the DoubleTree hotel in '95 and Bruce Barrington showing an early CW beta, presumably of 2.0.
1995	<b>DevCon #5?</b>	Location unknown. In fact, whether there was a DevCon in '95 is unknown.
1995?	South American DevCon?	Argentina?
1995	CW 1.5 released, September	
1995	CDD 3.1 released	
1996	Final CW 1.5 release, January	Version 1.502. Includes support for 32 bit executables.
1996	Kerrville gathering	Kerrville, TX. <a href="#">Pics</a> . Ross Santos discovers fire ants.
1996	CW 2.0 Released, June	Adds object orientation, ActiveX support, enhanced SQL support
1996	<b>DevCon #6</b>	Held at the Orland airport, and generally regarded as the absolute worst DevCon location.
1996	Arizona DevCon, Nov	Hosted by Kathryn & Phil Carroll, and I think Larry Teames had just a bit to do with it as well
1997	Aussie DevCon, Feb	Sydney, Australia. The 1997 Oz DevCon was held at the Gazebo hotel, Sydney Jan/Feb and included Bruce Barrington, Tom Mosely, Scott Ferret etc. Internet Connect was shown and was very exciting. Who would have thought you could flick a switch and turn your desktop app into an internet app?? It was all going to be just soooo easy...
1997	Final CW 2.0 release, March	
1997	Euro DevCon, April	Held at the International Hotel in London. "A bunch of folks went to Beefeaters dressed up in costume. James Fortune was Friar Tuck....and a great time was had by all." - Skip Williams
1997	<b>DevCon #7, Sept</b>	Radison Hotel, Ft. Lauderdale. Keynote by Peter Coffee.

1997	Clarion 4 released, Dec	Introduced the ABC class library and template chain. The "for Windows" was dropped from the product name. There was no version 3; the official reason was that "1.5 should have been 2.0" and so 2.0 should have been 3.0, but it's generally believed that the company wishes to avoid any numerical association with the CDD 3 debacle.
1998	Sydney DevCon, Feb	Sydney, Australia. The 1998 Oz DevCon was originally also to be held at the Gazebo hotel but this was changed and it was actually held the Millennium Hotel (not The President's Hotel) in late March. Presenters included Bruce Johnson (a much appreciated regular in Australia...), Erik Pepping, Scott Ferret and Gus Greces. A sales guy from Topspeed called Antonio Rajan managed to antagonise nearly everyone with his session but fortunately none of his "future directions" such as dumping the desktop development environment and becoming an "Internet company", and changing the name from Clarion ever came to fruition... well so far anyway...
1998	eData is formed	Hank Asher goes on to hire most of the London team.
1998	Clarion 5.0 released, May	First appearance of Professional and Enterprise versions
1998	Euro DevCon	May, Ramada Gatwick Airport
1998	<b>DevCon #8</b> , Sept	Marina Marriott hotel in Ft. Lauderdale. Keynote: Mr. Edward E. Iacobucci - Citrix chairman, chief technical officer and vice president of strategy and technology.
1998	ETC I, May	Lee White holds the first East Tennessee Clarion Conference in Gatlinburg.
1998	ConVic, Nov	Ballarat, Victoria, Australia. The first of Chris Livingstone's ConVic conferences
1998	South African DevCon, Nov	Johannesburg, Indaba Hotel, FourwaysCorrection. Richard Taylor was present.
1999	ClarionMag begins publication, Feb	
1999	Aussie DevCon, March	Sydney, Australia. Article.
1999	Euro DevCon, April	Amsterdam, Golden Tulip Barbizon Palace
1999	DevCon Latin America, May	Article

1999	Roy Rafalco resigns, Frank Watts hired as new CEO	
1999	ConVic '99	Mt. Buffalo, Australia. <a href="#">Article</a> . <a href="#">Article</a> .
1999	Clarion 5.0B released, June	Final 5.0 release
1999	Clarion 5.5 beta	
1999	<b>DevCon #9</b> , Sept	Hyatt Regency's Pier Sixty Six in Fort Lauderdale. Hank Asher keynotes, Main Street USA strategy announced, and it appears to many attendees that the company is being sold out in an attempt to grab a slice of the dot com pie.
2000	ETC II	Lee White holds the second East Tennessee Clarion Conference in Gatlinburg.
2000	ConVic	Daylesford, Australia. <a href="#">Article</a> .
2000	Clarion 5.5 released, August	Adds interfaces to the language
2000	South American ConDev	Sao Paulo, Brazil?
2001	South American ConDev, October	Argentina (last Argentinian Clarion conference before the economic collapse)
2001	ConVic 2001, March	Mt. Buffalo, Australia. <a href="#">Article</a> .
2002	Clarion 5.507 released, January	Final 5.5 release
2002	South American ConDev	??
2002	ConVic 2002	Geelong, Australia. <a href="#">Article</a> .
2002	ETC III	Lee White holds the third East Tennessee Clarion Conference in Gatlinburg. <a href="#">Articles</a> .
2003	ConVic 2003	Geelong, Australia. <a href="#">Article</a> .
2004	ETC IV	Lee White holds the fourth East Tennessee Clarion Conference in Gatlinburg. <a href="#">Articles</a> .
2004	South American ConDev	Porto Alegre.
2004	<b>DevCon #10</b> , Orlando	Held at the Disney contemporary resort. First SoftVelocity DevCon. Some Clarion# vaporware shown. <a href="#">Articles</a> .
2005	South American ConDev	Foz do Iguacu, Brazil. <a href="#">Article #1</a> . <a href="#">Article #2</a> .
2006	Aussie DevCon, May	Geelong, Australia. <a href="#">Articles</a> .

2007	First Clarion 7 hand coder's release	Build 1457 was released on Feb 23, 2007
2007	Aussie DevCon, May	Sydney, Australia. <a href="#">Articles</a> .
2007	First Clarion# hand coder's release	Nov 17
2008	Aussie DevCon, May	Eden, Australia. <a href="#">Articles</a> . First public appearance of AppGen.
2008	C7 AppGen Third Party Release	Oct 21
2008	C7 AppGen CSP release	Dec 24

My thanks to Bob Steinke, Luis De Almeida, Geoff Robinson, Paul MacFarlane, Mike Hanson, Stamos Fafalios, David Jung and other unnamed Clarion folk for their contributions and corrections.

Larry Sand notes that the [Internet Archive Wayback Machine](#) shows the history of the TopSpeed web site until early 2001. Then the [SoftVelocity web site](#) is phased in late 2000.

## Reader Comments

*Posted on Monday, March 02, 2009 by Luis De Almeida*

November 12&13, 1991: Clarion Conference in Johannesburg, South Africa, at the VW Midrand Conference Centre. BB was present at this conference.

May 6&7 1993: Clarion RADical Conference in Johannesburg at the Fourways Indaba Hotel. Richard Taylor (in charge of Documentation & Training, I think) was the Topspeed representative.

*.....*  
*Posted on Monday, March 02, 2009 by Luis De Almeida*

Correction: Richard Taylor was at the Johannesburg Clarion "Wizatron" Conference in 1998, not the Clarion RADical Conference in 1993! Maybe someone else can shed a bit more light on this...

*.....*  
*Posted on Monday, March 02, 2009 by Larry Sand*

The Internet Archive Wayback Machine shows the history of the TopSpeed web site until early 2001.

[http://web.archive.org/web/\\*http://www.topspeed.com](http://web.archive.org/web/*http://www.topspeed.com)

Then the SoftVelocity web site is phased in late 2000:

[http://web.archive.org/web/\\*http://www.softvelocity.com](http://web.archive.org/web/*http://www.softvelocity.com)

*.....*  
*Posted on Monday, March 02, 2009 by Geoff Robinson*

The 1997 Oz DevCon was held at the Gazebo hotel, Sydney Jan/Feb and included Bruce Barrington, Tom Moseley, Scott Ferret etc. Internet Connect was shown and was very exciting. Who would have thought you could flick a switch and turn your desktop app into an internet app?? It was all going to be just soooo easy...

The next year the 1998 Oz DevCon was originally also to be held at the Gazebo hotel but this was changed and it was actually held the Millennium Hotel (not The President's Hotel) in late March. Presenters included Bruce Johnson (a much appreciated regular in Australia...), Erik Pepping, Scott Ferret and Gus Greces. A sales guy from Topspeed called Antonio Rajan managed to antagonise nearly everyone with his session but fortunately none of his "future directions" such as dumping the desktop development environment and becoming an "Internet company", and changing the name from Clarion ever came to fruition... well so far anyway...

*.....*  
*Posted on Tuesday, March 03, 2009 by Paul MacFarlane*

I believe the '95 devcon was in Los Angeles at a Hotel near LAX. I was trying to get there but had a conflict.

---

*Posted on Thursday, March 05, 2009 by Daniel Scott*

DevCon4 The Boca Raton Resort & Club

Clarion pisses off all the wives when outside events (Sailing Etc.) are cancelled due to the weather. We were never reimbursed for the extra money we spent to keep our wives happy. An omen of things to come when paying Clarion in advance?

---

*Posted on Thursday, March 05, 2009 by Mike Hanson*

One of the DevCon Wests was definitely at the Doubletree Hotel, which I think was near LAX. I'm not sure if it was the one in El Segundo, though.

---

*Posted on Thursday, March 05, 2009 by Stamos Fafalios*

You have me wrong, they were Florida Devcons I was thinking about, and yes it was the Westin (not Hyatt, I was wrong there)

I have the flyer for Devcon 92 in my hand, Jeff Duntemann the editor of PC Techniques was keynote speaker, this was presumably following his article in Dr. Dobbs Journal (which I have) in 10/91 entitled "Sympathy on the Loss of One of Your Legs" and I presume the photos in there are from Devcon 1.

I have the handout of the 1991 Conference with roster of attendees and 3rd party folks also flyer for Devcon 96.

There is a bunch of stuff here like a big article by Richard Aarons (Jan 87) from PC Magazine describing the Clarion language at the time of 1.1 and saying that in '87 Clarion will bring out a compiler able to produce executables <G>.

Give me a couple of weeks and I'll find you lots of stuff.

---

*Posted on Friday, March 13, 2009 by David Jung*

1994 DevCon #4? The Boca Raton Resort & Club. Keynote by John Dvorak.

I don't know if it was #4 or not, but I was at this DevCon with my wife. I happened to throw out the binder and conference materials about a month ago after having kept them up to this time. If I had thought about it, I would have asked if anyone wanted them...

---

*Posted on Friday, April 03, 2009 by David Bratovich*

DevCon West 1994 took place on May 7th & 8th.

---

*Posted on Monday, April 06, 2009 by Dave Harms*

Thanks David.

Dave

[Add a comment](#)

# Clarion Magazine

## C7 And The Demise Of The Batch Compiler

by Steven Parker

Published 2009-03-10

Clarion 7's support for multi-APP solutions is supposed to do away with the need for batch compilers. By including all the .APP files called by the app I'm working on, I do not have to ensure that referenced .APPs have already been compiled. This is the theory and the expectation.

### A brief history of batch compilers

Batch compilers became important in CDD 3.x (DOS). In CDD, making a DLL became easy, a matter of a few mouse clicks. Including a DLL in another app was also a few mouse clicks away. However, if the .LIB (and, by extension, the .DLL) of the included app did not exist or if it did not include a called procedure or if the order of exported procedures changed or if a prototype change in the called app changed, there could be compile errors.

Any of these changes will cause compilation errors if the caller is recompiled before the callee. Therefore, I had to be certain that referenced apps were compiled first. And that meant that, to compile the entire suite, all apps had to be compiled in the correct order.

CDD provided a command line interface. This allowed me to setup and start Btrieve (CDD apps were Btrieve files) and call Clarion3 with the appropriate command line switches. Presto! change-o!, a batch compiler in a batch file. For example:

```
@ECHO OFF
SET CLATMP=C:\CLARION3
C:\CLARION3\BTRIEVE /M:48 /P:4096 /T:C:\CLARION3\CLARION.TRN
C:\CLARION3\Breset.exe
clarion3 abcommon.app /m
clarion3 absl2.app /m
clarion3 absls.app /m
```

There were several switches available. I recall "G" for generate and "M" for generate and make, for example, and there may have been others. This batch file ensured that all of the .APPs in a suite were compiled and compiled in the correct order. Any issues that might arise from changing the prototype of a procedure or adding a procedure to a DLL and linking that DLL into another .APP were eliminated.

Clarion for Windows introduced a DDE interface which I could use much the way I used CDD's command line interface. Clarion maintains the DDE interface through version 6. Using DDE, I can generate an app or multiple apps, generate and make, export to TXA, export a TXD, register a template, etc., etc. (see Advance Programming Resources, a PDF which should be on your install CD, p. 41 ff, as well as Richard Rose's [Creating A Drag & Drop Batch Compiler](#)).

The documentation of the DDE interface accompanied, if I remember correctly, CW2003. In short order, Gordon Smith released Compile Manager 2 (CM2) and I released GTL (Go To Lunch). There was a certain degree of housekeeping that the CDD command line handled that the Clarion for Windows DDE interface did not. But, not to digress too far from my current story, once understood, these issues were easy enough to handle in code.

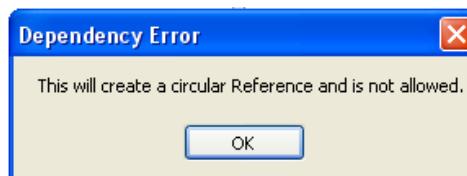
The result is that CM2 and GTL (and, later, CWCM - all three of these were/are free - and the paid batch compilers in HandyTools and Capesoft's MultiPRJ), when properly set up, guarantee that .APPs are built in the correct order.

## Design decisions

There is one design decision that I made when creating GTL that is also found in Clarion 7. The DOS application which is handled by the batch file segment shown above had circular calls. The full batch file, in fact, compiled all the apps in their nominal order but several .APP files had to be made twice (if I recall correctly, I actually did all the .APPS a second time, in reverse order).

There have been many arguments about circular calls and I do not propose to contribute to that discussion here ([but you may want to read George Lehman's article on the subject](#)). As GTL was a tool designed for my personal use (at least at first; there was an example APP with 2003 demonstrating use of the DDE interface, so I just assumed that everyone would salt to taste, making their own batch compiler - how wrong I was!), I made the decision that I would no longer create circular calls. I would create new .APPS when I had to in order to avoid circular calls. Therefore, GTL does not allow multiple entries for any given .APP.

Clarion 7 behaves similarly. A called app is included once in a solution. Attempting to force a circular dependency will result in C7 throwing a warning and not permitting the dependency.



**Figure 1. Attempting to create a circular call**

Circular calls are certainly possible in C7 (I suppose) but not within a multi-APP solution, at least not with the blessing of the IDE. I don't do it, I haven't tried it and I'm not going to (so there!). So, while I am jumping ahead in my story, as they say, "forewarned is forearmed."

All, however, did not go swimmingly with the initial AppGen betas. There were reports of multi-APP solutions refusing to compile. They refused to compile because the constituent .APPS were being compiled in the wrong order. Therefore, expected .LIBs were either not present or contained incorrect export lists or... the list went on. Further, developers, opening and converting an app which included other .APPS had no choice but to include those referenced .APPS. (Note: 4869 is the version of Clarion 7 current at the time of this writing.) So, out of order apps appear to be systemic.

An option to generate and make the current application was either pointed out or made available, I don't remember which. This is the first option on the main menu's Build menu. But this still means that .APPS have to be manually made in the correct order as the standard build compiles in the wrong order.

MSBuild (which is the foundation of the C7 build system) will use any project references in the solution to determine build order. It will use them in the order found in the solution file; but, if you try to simply manipulate the sln file, the solution will not open and the IDE will hang (yes, "the voice of experience" speaks here). But this information isn't always sufficient since not all dependencies are project references.

There are, then, at least these three issues in multi-DLL solutions from a practical point of view:

- I do not always want to include dependent .APPS in a solution
- I do not always want to make all .APPS in a multi-APP solution

and

- When I do build a multi-APP solution, it *must* be in the correct order

As luck would have it, SoftVelocity supplies several example apps that are multi-DLL to play with. Several are only a

data DLL and a main app. But, DLLTutor is a four .APP suite, ideal for working on, learning with and, most important, not risking mashing something important.

So, follow along with me as I move DLLTutor into C7. Along the way, I'll highlight items of interest.

### **Multi-DLL Solutions**

**Step 1:** Copy the \Examples\DLLTutor directory to your Clarion 7 directory.

Commenting on a draft of this article, Bob Foreman stresses that it is wise to read the help file on converting applications to C7 (I shall overlook the self serving nature of this suggestion -- Bob is the author of the help). In particular, he points out that because file naming conventions have changed, it is *very* important to remove any existing generated files.

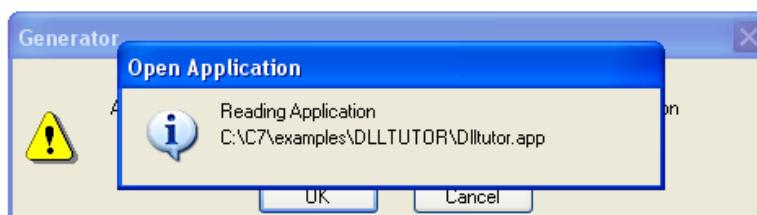
I used to keep app directories separate from my Clarion directory. Of course, I would... uh, occasionally (only once in a great while, right, sure) open an app with a new, alpha version of Clarion and not be able to revert when I needed to. Because of this, nowadays, I keep most of my work under my Clarion directory. This way I can maintain multiple versions of an app without cross pollinating Clarion versions. In this case, however, it doesn't matter. I'm planning on working with an example app. (On the other hand, because .APPs and .DCTs are converted, maybe it isn't such a bad idea to use a new set of directories.)

I should also mention that I have never (and never will) installed Clarion to the Program Files folder. On my machine, Clarion 7 goes in C:\C7; Clarion 6 goes in C:\Clarion6 and C55 goes in C:\C55. No tempting errant virtualization for me, thank you.

**Step 2:** Open the main .APP, the .APP that produces the .EXE.

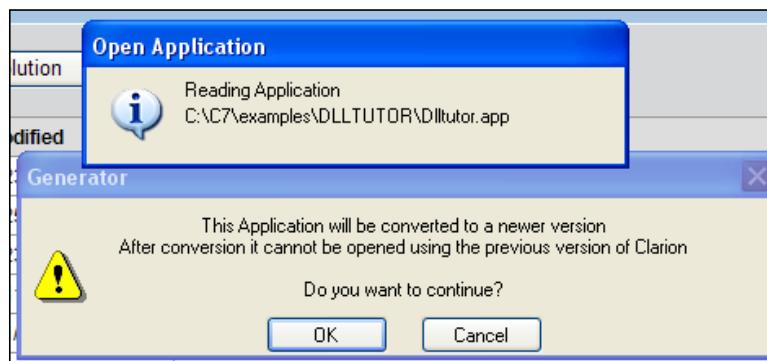
The main .APP in DLLTutor is DLLtutor.APP. Whether leaving DLLtutor.APP "in" C6 or moving it to "native" C7, the .APP file format has changed. Therefore, DLLtutor.APP has to be converted.

On first opening DLLtutor.APP, I get the standard "please be patient and let me read the file" message:



**Figure 2. Reading .APP message**

But nothing seems to happen. C7 just sits there. Note that there appears to be another message behind the initial message. Moving the first message up, out of the way, reveals the "Are you sure?" message I had expected to see first:



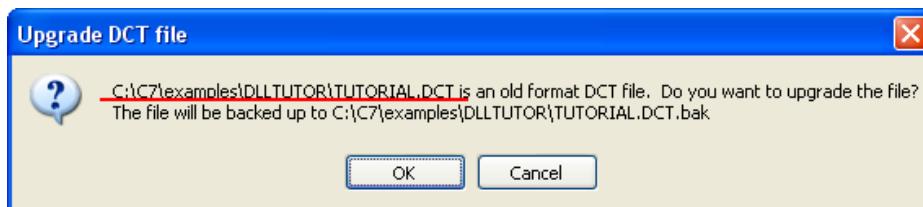
**Figure 3. Clarion 7 asking permission to convert**

I understand that SoftVelocity knows about this cover up. I've heard some technical .Net-relate explanation (*not* from SV) and I just don't care. I'm not going to do this sort of thing so many times that it constitutes an issue for me. Neither should it be for you. It's there, it's a pain. Get used to it, until it's fixed; it just isn't that big a deal.

But don't forget about it either.

### Step 3: Convert the dictionary

If the app being opened references a dictionary that has not been converted, I am asked to convert it:



**Figure 4. Asking to convert dictionary**

Note that there is no cover up this time and that the original dictionary is safely stored as *filename*.DCT.bak. Let me also point out that the original, unconverted .APP is also safely stored as *filename*.6pp. So, if I accidentally use my existing working directory, I have a reversion path.

Gotcha #1: in DLLtutor, all .APPs and the DCT are together in a single directory. Therefore the reference to the DCT inside the .APP files probably will not contain a path specification.

But, if the DCT is in a different directory, each app in the suite will reference it with the path name. If I click "OK" to convert the DCT, I convert the DCT in the original source directory. This does *not* convert the DCT in my new directories.

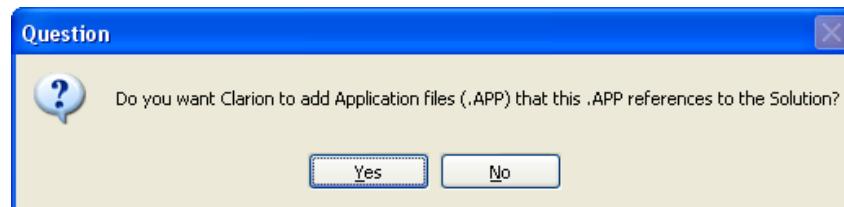
Therefore, carefully check the full file specification for the DCT to be converted. If it is not the "new" DCT, click "Cancel." After cancelling, the standard "Select Dictionary" dialog appears and the correct DCT can be selected.

Also note that in multi-APP solutions, the message shown in Figure 4 will likely appear for each app (whenever the path is integral to the .APP). At least, after converting the DCT once, there are no further conversions.

An alternative is to open and convert the dictionary before converting any of the applications. Then, any time I am asked about converting the DCT, I cancel and select the already converted DCT.

### Step 4: Dependent .APPs

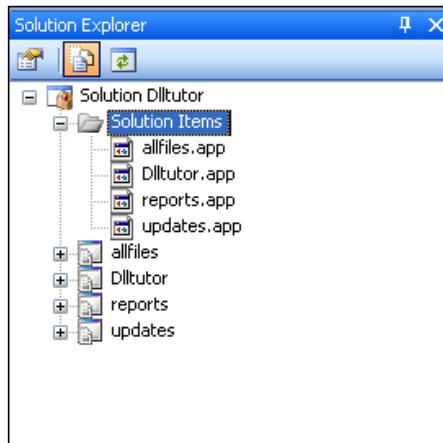
In response to the desire to work with .APPs but without including all its dependents in the solution, SV recently incorporated a new dialog window. When first opening an .APP that references other .APPs, I am asked whether or not to include them in the current solution:



**Figure 5. Include referenced .APPs?**

This is one-time and all-or-none question. But it gives me the option of working on each of the .APPs in a multi-APP suite one at a time, independent of one another, just as in previous versions of Clarion (haven't actually tried this yet, so don't quote me). It also gives me the option of creating a single solution, perhaps for the .APP that generates the .EXE, which does include all the dependents. In this manner, the main .APP's solution becomes, in effect, the suite's batch compiler.

Clicking "Yes" causes Clarion to cycle through the "ask convert" message for each .APP it finds referenced (more on this in a minute). Referenced .APPs are added to the solution and are visible in the solution pad (by default, on the left side of the IDE).



**Figure 6. Solution pad showing all included applications**

Gotcha #2: Converting an existing three .APP suite, I found that the data DLL was not included in the solution. In this case, the data app was not in the current directory. Instead of having the data .APP everywhere it was needed, I had it in one place only. When I was finished compiling, I called a batch file to copy the .LIB and .DLL to the other directories where they are needed. Therefore,

#### **Step 5:** Check the solution pad

Check the solution pad to make sure that every .APP you expect to see you actually do see. If something is missing, right click on "Solution Items" and select "Add" to add the missing link. (It seems just having the .LIB and .DLL in the working directory is no longer sufficient.)

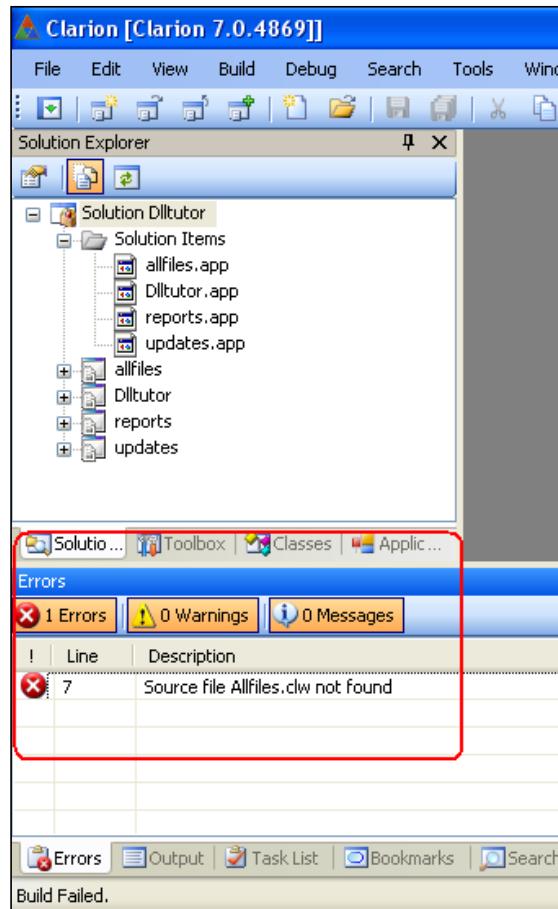
As I mentioned, I brought over a three app solution but the data DLL was not found in the new solution. I had to manually add it to the solution and think this may be the cause of the compile order being wonked.

If it seems tedious to continually says "Yes" to including referenced applications because you always want to include them, there is a global option to do so automatically: Tools | Options | Clarion | Applications General Options...  
Automatically add referenced Applications (.APP) to the Solution. Tick that and you're done saying "Yes."

#### **Step 6:** Try building the solution

Press F8 or select "Build Solution" from the "Build" menu or press the "Run" button, try to do a "Clean." It doesn't matter what you do, the build will fail. Only doing a "Clean" at this point is documented as "will fail" (more on Mr. Clean below).

The Errors pad will show an error related to a CLW from the data DLL. (This was a good clue that the missing data DLL hadn't been built. However, even if the data DLL is not MIA, there will be a similar error, as shown in Figure 7.)

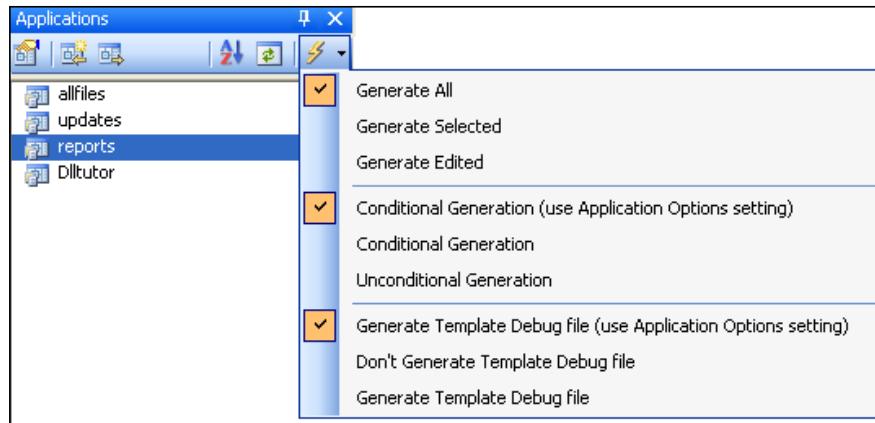


**Figure 7. Error on first build of the solution**

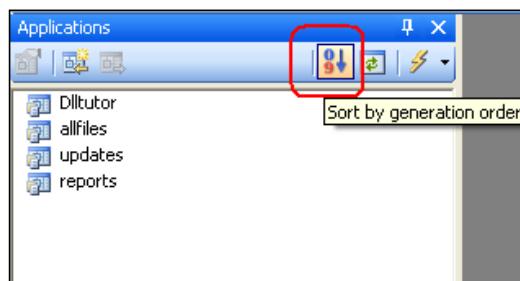
If, on the other hand, I press the "Generate All" button first, the solution *may* build correctly. So, it seems that building a multi-DLL solution requires that all constituent .APPs be generated first. This, unfortunately, flies in the face of my normal work habit of cleaning out all generated files several times a day. (I have batch files to do this while I freshen my coffee.) I do this to avoid any negative impact from stale CLWs or OBJS. (Yes, I have put in a feature request for "force generate before build in multi-DLL solutions.")

I am advised that requiring all generated source files be present before a build is correct and expected behavior for MS Build solutions (also see [Building C7 Apps With MSBuild](#)). For multi-DLL solutions, you always need to manually generate the sources prior to the build. The best way is as to press "Generate All" and then "Clean." You can also use the Applications Pad to select from a variety of generation options.

It is well worth examining the Applications pad (fourth tab on the Solutions pad, in the default configuration). Figure 8 shows the generation options.

**Figure 8. Applications pad generation options**

Also, notice the fourth icon from the left on the Applications pad. This icon can change the application list so that it shows in "generate order" (Figure 9). This is the order in which .APPs will be generated. It is *not* the order in which .APPs will be compiled. But it can highlight potential problems, as it did in my "missing data DLL suite."

**Figure 9. Sorting by generation order**

So, until I get my forced generate feature, "Generate All" is my new best friend.

### Clean

I mentioned my habit of regularly deleting generated files (CLW, INCs, OBJs and RSCs). There are many reports of developers solving problems by clearing out these generated files and recompiling.

Clarion 7 offers the "Clean Solution," which

Deletes all files from the target project folders. This action uses an XML based fileList that was generated by the first Build activity. If you attempt to clean a solution that has never been built, you will receive a project warning that it could not be cleaned.

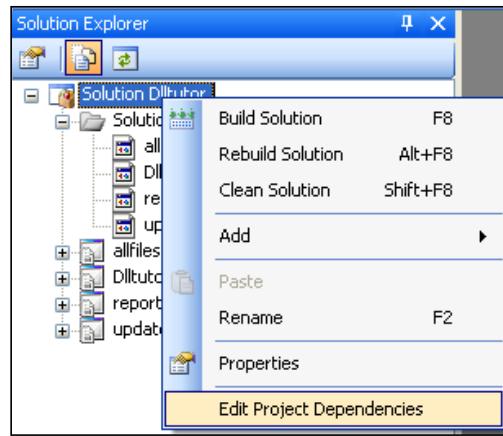
Problems due to stale generated files should be a thing of the past.

### Step 7: If the .APPs are not in the right order

The app I mentioned above, repeatedly, where the data DLL was not found, could not be compiled unless I first compiled just the data .APP. In other words, in the solution, it was out of order, just as reported in the news groups.

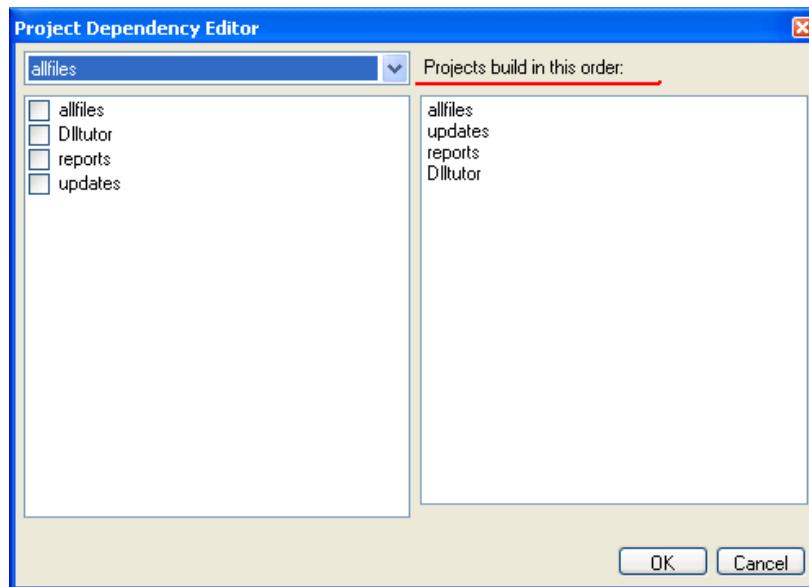
The solution to an out of order Solution is back in the Solution Explorer (my thanks to Bob Foreman for pointing me at this). Specifically, there is a tool called the "Project Dependency Editor."

From the Solutions pad, right click on the first item in the tree, the Solution:



**Figure 10. Finding the Dependency Editor**

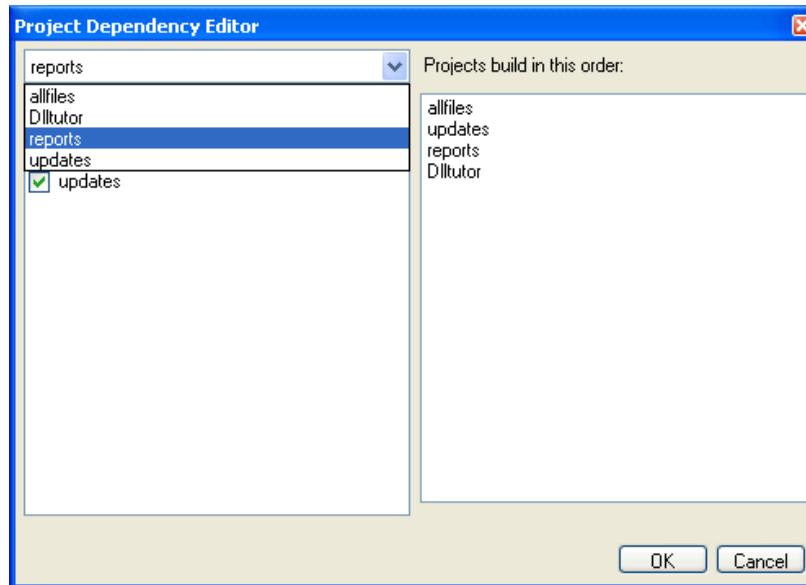
The Dependency Editor is the last menu item. Lo and behold, the build order.



**Figure 11. The Dependency Editor / Build Order Manager**

In this case, allfiles is selected. allfiles is the data DLL and it has no dependents. Therefore, no items are ticked off.

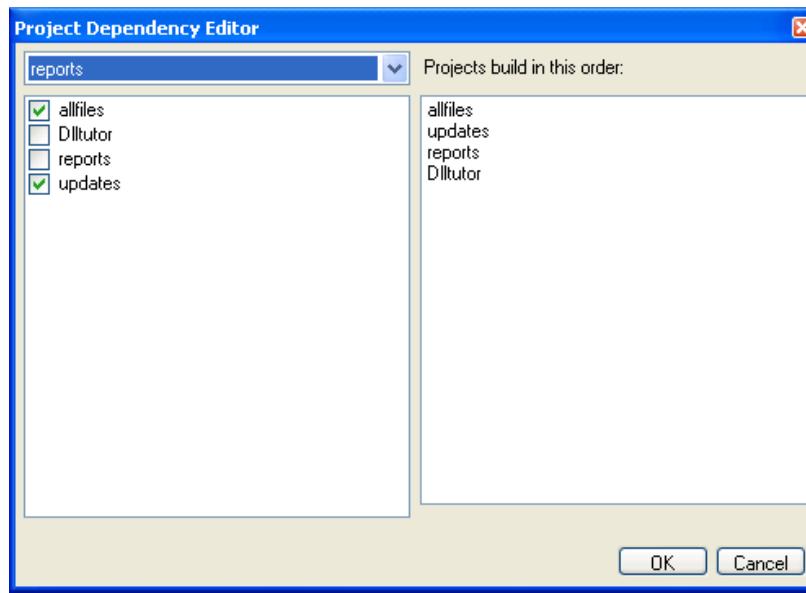
But, I can select any .APP in the solution and see *its* dependents.



**Figure 12. Selecting another .APP**

The ticked .APPs are dependents of the selected app. If you have project references in the solution (AppA has AppB as a referenced project) these relationships will be shown here and you can't remove them (you need to remove the project references). But this list also lets you assign new dependencies.

I can tick off an .APP to make it a dependent (no, I do not think the revenue service would approve neither do I think they were consulted about this voluntary and unrestricted multiplication of dependents). Thus, I *can* force one .APP to build before another even if the first app isn't initially listed in the second app's project references.



**Figure 13. Configurable dependents list**

By the way, this is where you will get the error shown in Figure 1, should you try to create a circular reference.

The important point is that *this* is where and how make order is changed or maintained (over and above that determined by project references).

If you have a situation where you must force the make order in the Dependency Editor, I suggest you check the project sln file, the one in the .APP's directory, before and after the manipulation. The primary solution file *is* changed.

## Summary

Can C7 replace batch compilers? Forgetting that batch compilers rely on some sort of external interface and C7 does not provide any for the generator or compiler, yes.

But, to do so, you must change your work habits a bit. In the past the mantra was "the more work you put into the dictionary, the less you will have to do in the code." This advise is still *apropos*. But, to it must be added "the more work you put into the solution system, the less work you will do making your releases."

Oh, yes, after I press Generate All, DLLTutor makes and runs correctly. The App-of-the-missing-data-DLL, after working the Project Dependencies and "Generate All" also builds and runs correctly.

[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, March 13, 2009 by David Jung*

If I understand correctly, my old program with several dll's that contain circular calls will not directly transport to a C7 solution?

Although I understand the issues related to circular dll calls, I have never had any problems that I'm aware of. With CM2, I just ran the batch compile multiple times until all the errors related to missing exports and what-not disappeared...the compiling issues related to circular calls seemed kind of trivial to me.

*Posted on Friday, March 13, 2009 by Steven Parker*

No, David, that's no what I said. What I said is that C7 will not allow you to create circular dependencies in the Dependency Editor.

I would assume (because I haven't tested it) that C7 will convert your suite. Compilation may well be a multi-step process. Or, it may be that the two DLLs may have other issues. I don't have a multi-DLL suite with circular calls to test with but I think you might want to try it. For those (and I understand there are quite a few) with circular calls, it would make an instructive article in CMag.

*Posted on Tuesday, March 17, 2009 by douglas johnson*

Dr. Parker,

Following the steps you have outlined did indeed eliminate some errors in building the multi-dll example, but I am still left with 2 "no matching prototype" errors on the Init method of the ProcessClass (ThisReport). Was this your experience too?

*Posted on Tuesday, March 17, 2009 by Steven Parker*

Yes. I frequently get this for ICON() which should be ICON(Icon:None). According to a recent NG post, this should be fixed in the next build.

[Add a comment](#)

# Clarion Magazine

## Clarion 7 Beta Report: Build 5080

by Dave Harms

Published 2009-03-20

SoftVelocity released C7 beta build 5080 last week, and again the release came with a [massive list of over 200 fixes](#).

I'm hopeful that this means all the major issues are now taken care of and the team is focusing on nailing down bugs.

Jean-Pierre Gutsatz kicked off a lengthy discussion by asking whether C7 would permit larger window definitions than C6. It turns out that when you are editing a C7 definition in the text editor (you click on "Edit as Text") the maximum number of characters, including line feeds/carriage returns, is 64K. That should be enough for anybody, right? Not really. Slap on a bunch of tabs and fill 'em with controls, and before you know it you're maxed out, and your only option is to create the needed controls at runtime, where the same constraint doesn't apply. But that's a hassle.

In any case, a day into the discussion Bob Z announced the limit had been removed. Stick a fork in it.

Although reference/dependency handling hasn't changed since the last release there's been renewed discussion, largely because C7 doesn't make it particularly easy to handle circular references. Rather than give you a rundown of that discussion, I've posted [an article](#) focusing on how to handle circular references in C7.

There are some problems with ICON and CURSOR attributes being blanked on app conversion from C6 to C7, reportedly fixed for the next update. The result is an "incorrect number of parameters" error.

Several users have reported an issue with the compiler reporting file driver linking errors like "c70asc!.lib not found". If this happens make sure the project's Link Mode has not been set to OwnDLL. Here's what Bob Z has to say on the subject:

OwnDLL means that all the Clarion RTL dlls have been built into a DLL that the user (you) has provided. As such no file drivers can be linked into the project. If they are, then the system generates the above errors.

OwnDLL is essentially useless for Template driven apps unless its your own custom template chain that doesn't #Project any of the Clarion drivers. Really OwnDll setting is only suitable for hand coders.

### New features

Among the new features is improved support for multi-format icons. I tried this out by placing [Dave Beggs' C7 multi-format icon](#) on a button. In C6, no matter the size of the button only the small icon format was used. C7 selected an icon size based on the available display area.

A GoTo popup on the class browser is listed as a new feature. I'm not sure about that - it seems to me the class browser has had a GoTo menu item for a while. At least it's there in an earlier build of Clarion#.

Having context help in the template editor is nice, although I've found that sometimes hot keys don't work (I haven't figured out just why), and I have to choose Help from the menu instead of just pressing F1.

There are several new template functions: %SVMKDIR, %SVRMDIR , and %SVShellExecute. They're not listed in the help, but presumably the first two are replacements for the equivalent functionality in the [much-feared #SERVICE statement](#), and I'm assuming %SVShellExecute lets you call the ShellExecute WinAPI function via the templates.

As noted in the previous beta report, SV has added an option not to cache the application after it's opened for edit. Look under Tools | Options | Clarion | Applications General Options. This is a boon to anyone working with large, multi-app solutions, since caching can result in memory usage that can overtax some systems.

You can now print (and print preview) individual embed points, as well as the procedure-wide embeditor (PWEE). Just open the embed or the embeditor and choose File | Print or Print Preview.

In the ABC templates code folding has been added to the file declaration, and the ABC parser can now handle continuation characters. In the Clarion templates you now have the option to generate FILE declarations in modules, which improves support for very large DCTs. This is presumably only for the C7 version of the templates; I don't recall hearing if it would be backported to C6.

Speaking of continuation characters, in the source editors (including embed editors) there is now a smart option to automatically add a line continuation character when you press Enter for a new line. The | gets added if there are unclosed brackets or braces in the current or any previous lines. This is an easy feature to get used to. Another fave of mine is Ctrl-I to smart align a block of code.

### Fixes and changes

There have been some improvements to the template editor, including a boost to parsing speed.

The default value for the Enforce Clarion name restrictions option has been set to false. Here's the help topic (which has not been changed yet to reflect the new default):

By default this is on (checked). When checked, the dictionary editor will not allow you to create labels that are not valid in Clarion#. For example, AS is an illegal label, but legal in Clarion for Windows. If you do not want to worry about Clarion# restrictions you can uncheck this box.

If Clarion# restrictions are enabled and you load a dictionary into the editor that has a label that violates the Clarion# naming restrictions the editor will automatically rename the object to ObjectType\_OldLabel, where ObjectType is a Table, Alias, Global, Pool, Key or Column. If the object is a Key or a Column with no external name, the external name is set to the old label.

For example, "AS STRING(10)" will be converted to

"Column\_AS STRING(10),NAME('AS')

Any such change will appear in the Dictionary Changes pad.

Evidently enforcing Clarion# naming was causing too many problems on app conversion.

Another long-requested change is that the default for Enable Frame Dragging has now been set to Off.

I won't go into the more than 200 bug fixes listed in this release. I'm just happy to see those little guys getting squashed.

There have been about 80 new non-private bug reports posted so far on build 5080; about a quarter of these are confirmed, newly-reported bugs, not yet fixed. Another nine are marked as already fixed. The remainder are duplicate reports, feature requests, or items needing further information from the user.

Apparently SV marketing folk are contacting customers indicating C7 will go gold in about a month. I suppose it's possible, although I wouldn't be surprised to see it take a little longer than that. Editing of embed code errors still needs to be finished up, and that strikes me as the kind of code that could take a while to debug (given how long it's been in the making). And although the flow of bugs seems to have slowed there are still a number that need squashing.

It's heartening to see the pace of bug fixes, however.

**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](#)).

### Reader Comments

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[Add a comment](#)

# Clarion Magazine

## Handling Circular References in C7

by Dave Harms

Published 2009-03-20

If you're one of those developers who indulge in circular references you may be in for a surprise when porting apps to Clarion 7, at least if you import your App files into a multi-project solution.

A circular reference is where you have a multi-DLL application and some code in DLLA calls a procedure in DLLB, and vice versa. Since statically linked DLLs (which is what most of us use) require the DLL's LIB file to be linked in, you have to compile the DLL (which creates the LIB) before you can link the application. When you have circular references you have a which-came-first-the-chicken-or-the-egg problem; the solution is to do multiple compiles until you build up all the LIBs you need for the entire application and you no longer get compile errors.

(Can you have a circular references in your apps and not know it? Yes you can, if you've never cleaned out all your LIB files and tried to compile from scratch. The only warning you'll get from C6 and earlier versions of Clarion is via missing LIBs.)

### Circular calls and C7

Circular references are potentially more of a problem in C7 than in C6 because of C7's ability to create solutions containing more than one project.

When you import a multi-DLL app into C7 and you tell the IDE you want to import any related apps, the IDE creates one solution containing all the related APPs, and it creates the relationships between APPs as *project references*. Essentially this tells the IDE that App A references some code in App B, and that makes it possible for the build system (which is based on [MSBuild](#)) to assemble all the needed bits (usually LIB files) so the compile can happen.

In C7, if you have circular project dependencies you'll be prevented from compiling the solution. That's because MSBuild doesn't tolerate circular references, and to fix this you will need to change all circular project references to library references. That's a one-time deal, and then you're good to go. Mostly.

### Creating a circular call

Figure 1 shows the Solution Explorer displaying a C7 version of the DLLTutor application. I've added a button to the ViewCustomers procedure in Updates.app, and from that button I'm calling CustReport, which is in Reports.app. When I generated the code, the AppGen automatically inserted the project reference to Reports.

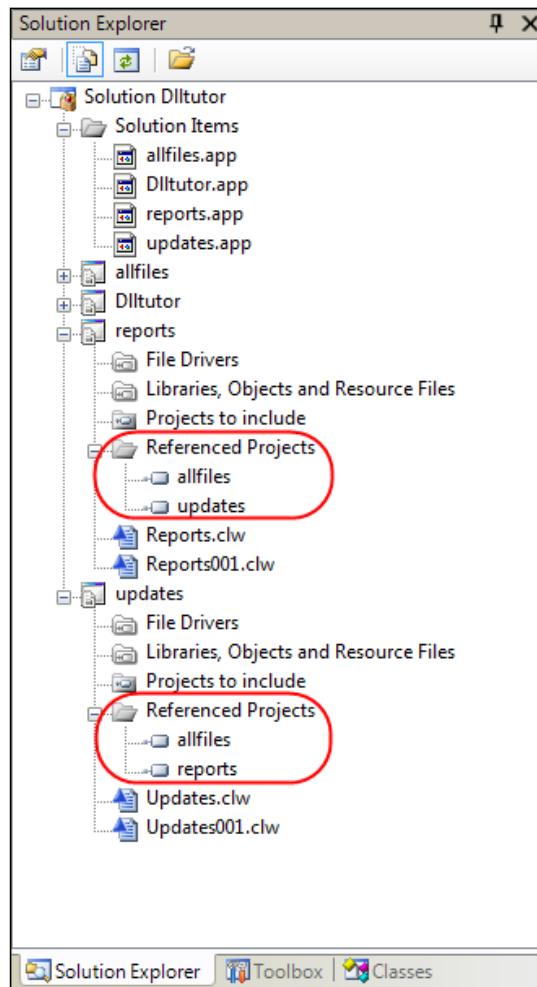


Figure 1. The DLLTutor example with a circular call

Updates now needs Reports.lib to compile, and Reports needs Updates.lib to compile. But the IDE won't let you get that far. If you attempt to build the solution you'll see this error:

Dependency cycle detected, cannot build!

That message isn't as helpful as it might be, since it doesn't tell you which apps are involved. If you only have a few apps in the solution you can eyeball the problem, but if you have dozens of apps a clue of any kind would help. To get that clue just run MSBuild from the command line. On my machine the command to build the DLLTutor solution is as follows (line breaks added):

```
C:\Windows\Microsoft.NET\Framework\v2.0.50727\msbuild ←
  dltutor.sln /property:ClarionBinPath= ←
  "C:\Program Files\SoftVelocity\Clarion 7\bin"
```

(You can read more about command line compiling in my article [Building C7 Apps With MSBuild](#).)

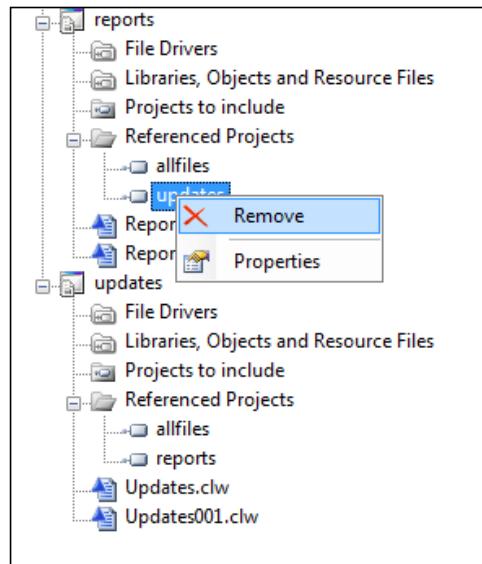
MSBuild responds with the error:

```
MSBUILD : error MSB4006: There is a circular dependency ←
  in the target dependency graph involving target "reports".
```

Although the problem is due to the added call in Updates which resulted in a new project reference to Reports, you can fix

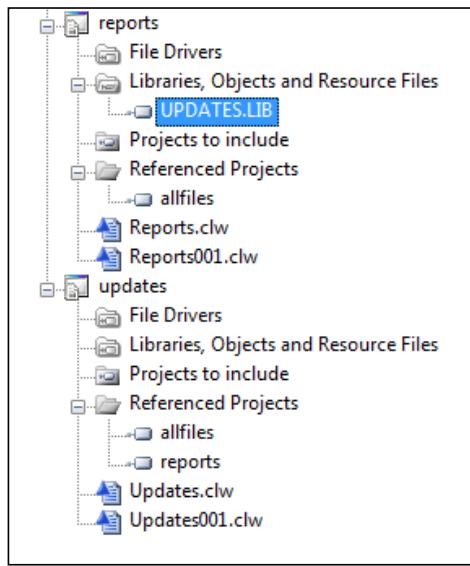
the problem in either Updates or Reports by changing the project reference to a library reference. Library references don't enter into MSBuild's determination of circular dependencies.

Since MSBuild is reporting the problem in Reports, you might as well fix it there. As shown in Figure 2, right-click on the Updates project reference under Report and choose Remove.



**Figure 2. Deleting a project reference**

Next, right-click on the Libraries, Objects and Resources folder under Reports and choose the Add option. You'll be presented with a file dialog; navigate to the obj\debug or obj\release directory (depending on whether you're in debug or release mode) and choose the Updates.lib file. You should end up with a library reference as shown in Figure 3.



**Figure 3. Adding a library reference**

If Updates.lib doesn't exist, you'll first have to go back to the Solution Explorer, right-click on that LIB's app and choose Build. Then you'll be able to pick the lib from the Add Library Reference file dialog.

Once you have all the circular references fixed up you'll be able to build the application. And you'll have all the LIB files because you just went through the process of manually building them from the bottom of the hierarchy, which is what you were actually doing in the previous paragraph.

When I was testing all of this code out I ran into a puzzling situation. During one of my test cycles I introduced a circular reference as described above. I deleted the project reference, but I forgot to create the library reference. And each time I generated the code, the AppGen recreated the project reference. The moral of the story: AppGen creates references as needed, but it won't replace a library reference with a project reference.

### **Rebuilding from scratch**

What if, after you have your solution built, you want to rebuilt the solution from the ground up? That is, you delete all of the LIB files and you try to compile. If you have circular dependencies you'll once again get a compile error telling you that such and such a LIB is missing. Building repeatedly accomplishes nothing; MSBuild stops at the same point every time.

You can, once again, manually build individual libs as needed in order to proceed. Or you can automate the process.

### **Multi-pass builds**

In a comparable situation in C6 you would use a batch compiler and simply run the process twice (or as many times as necessary to create all the needed LIBs). Unfortunately, in C7 compiling a solution is a single task, and by default if MSBuild encounters an error it aborts the task.

The way to get MSBuild to continue compiling despite errors is to create a specific kind of task also called MSBuild, and call that task directly.

Let me explain that. MSBuild (the EXE) is the tool you use to build a project or solution. And if you execute MSBuild (the EXE) from the command line, you normally pass it either the .sln file or the .cwproj file for the solution or project (respectively) you want to build.

You can, however, create a specialized project file containing build tasks. MSBuild ships with a number of [standard tasks](#), one of which is, like the build tool itself, called MSBuild.

The way to get MSBuild (the EXE) to compile a series of projects *without* stopping on errors is to use MSBuild (the task) with the ContinueOnError attribute set to true. Here's a project file that does just that for the DLLTutor projects:

```
<?xml version="1.0" encoding="utf-8"?>
<Project DefaultTargets="Circular" <!--
  xmlns="http://schemas.microsoft.com/developer/msbuild/2003">
  <Target Name="Circular">
    <MSBuild Projects="allfiles.cwproj;reports.cwproj; <!--
      updates.cwproj;dlltutor.cwproj" Targets="Build" <!--
      ContinueOnError="true"/>
  </Target>
</Project>
```

Save this to a file called dlltutor.msbuild, and execute it like this (changing paths as necessary):

```
C:\Windows\Microsoft.NET\Framework\v2.0.50727\msbuild <!--
  dlltutor.msbuild /property:ClarionBinPath= <!--
  "C:\Program Files\SoftVelocity\Clarion 7\bin"
```

But that project only executes the MSBuild task once. To do two passes, simply duplicate the MSBuild task:

```
<?xml version="1.0" encoding="utf-8"?>
<Project DefaultTargets="Circular" <!--
  xmlns="http://schemas.microsoft.com/developer/msbuild/2003">
```

```

<Target Name="Circular">
  <MSBuild Projects="allfiles.cwproj;reports.cwproj; ↪
    updates.cwproj;dlltutor.cwproj" Targets="Build" ↪
    ContinueOnError="true"/>
  <MSBuild Projects="allfiles.cwproj;reports.cwproj; ↪
    updates.cwproj;dlltutor.cwproj" Targets="Build" ↪
    ContinueOnError="true"/>
</Target>
</Project>

```

Note that the two calls to the MSBuild task are identical; they result in two separate compiles for each of the project files listed, and by the end of the second pass everything's successfully built.

There are other ways to declare the MSBuild task. Here's one that uses a wild card approach to build all C7 projects in the current directory in two passes:

```

<?xml version="1.0" encoding="utf-8"?>
<Project DefaultTargets="Circular" ↪
  xmlns="http://schemas.microsoft.com/developer/msbuild/2003">
  <ItemGroup>
    <ProjectsToBuild Include="*.cwproj"/>
  </ItemGroup>
  <Target Name="Circular">
    <MSBuild Projects="@({ProjectsToBuild})" ↪
      Targets="Build" ContinueOnError="true"/>
    <MSBuild Projects="@({ProjectsToBuild})" ↪
      Targets="Build" ContinueOnError="true"/>
  </Target>
</Project>

```

There are lots of other ways to get a list of projects to build; MSBuild is both flexible and powerful.

### **Project references vs library references**

You might be tempted to just drop project references in favor of library references, but there are consequences. When you exchange a project reference for a library reference MSBuild loses that dependency information, which is why you can build a solution with circular references. But if you remove a non-cyclical project reference you are potentially depriving MSBuild of useful information. You could, for instance, change all project references to library references, and then MSBuild wouldn't have any idea of an appropriate build order. The way around this is to use the Dependency Editor, as described by Steve Parker in [C7 And The Demise Of The Batch Compiler](#).

But really, the best solution is to get rid of your circular calls in the first place. Yes, I know, you've been using them for years without any problems. But heed the words of George Lehman in [Eliminating Circular DLL Calls](#):

For reasons I don't fully understand but which are suggested to be linked to the new threading model, this picture evidently changed radically for the worse with Clarion 6.x. It seems now that mutually dependent DLLs can wreak major havoc with memory de-allocation, particularly at thread shutdown time, resulting in various "memory could not be read/written" errors during program execution. Bob Zaunere, in a news group posting on 4/29/05, stated "If DLLs are mutually dependent, the order of calls to their thread detaching code is undefined at the OS level. ...instances of data in the first DLL can be killed before the destructors using them are called in the second DLL." Sounds pretty bad to me.

## Summary

If you find yourself with a circular dependencies in C7, here are the main points to keep in mind:

- If you get a circular reference warning, and the cause isn't obvious, run MSBuild on the solution, from the command line, to get a clue as to the offending apps.
- Ideally, remove all circular calls from your apps. [George Lehman's article](#) is a good place to start.
- If you can't remove a circular call, replace the project reference with a library reference.
- To get around compiler warnings on circular library references either build the required library's project via the Solution Explorer, or execute a batch build using an MSBuild task with the ContinueOnError attribute set to true.

Clarion 7's multi-APP solutions make it easier to work with large multi-DLL applications, but more difficult to accommodate circular calls. Your best option is to remove the circular calls; if that isn't possible, I hope you'll find these mitigation techniques helpful.

For further reading, here are a couple of interesting MSBuild links via Larry Sand:

- [Best Practices For Creating Reliable Builds, Part 1](#)
- [Best Practices For Creating Reliable Builds, Part 2](#)
- [Book: Inside the Microsoft Build Engine](#)

[Download the source](#)

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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](#)).

## Reader Comments

*Posted on Friday, March 20, 2009 by Stephen Ryan*

your from mars

you dont sleep!

your not human!!!!

cancel that

your super human!!!!

*Posted on Monday, March 23, 2009 by Dave Harms*

Ha ha - no, you're confusing me with Charles Edmonds<g>.

Dave

[Add a comment](#)

# Clarion Magazine

## Clarion# Web Development: An Introduction To MVC

by Dave Harms

Published 2009-03-26

I recently posted a [screencast](#) on the ClarionMag web site demonstrating a [Clarion# web application](#) which I generated in C6 using a custom template chain. I could also have generated the app in C7, and I look forward to the day when I can use this template chain in Clarion#, it's rightful home!

In this article I'll discuss the underlying architecture of that application and show some of the Clarion# code involved. In the next article I'll look at the browse/form code. There's also the matter of the C6/C7 templates, but I'll cover those another time.

In the event that you haven't watched the screencast here are a few screen shots of the demo application which is [now online](#). A [second screencast](#) covers some of the code issues explained in this article and in the following one on browses and forms.

Figure 1 shows the home page.

The screenshot shows the home page of the Clarion Magazine website. The header features a logo of a book icon followed by the text "CLARION MAGAZINE" in large, bold, white letters, with "READ. LEARN. SOLVE." in smaller letters below it. Below the header is a navigation bar with links to "Labs Home", "Browse Comments", and "Log in". The main content area has a blue border and contains the following text:

**Home**

This is a small web application created with Clarion#. This is not a typical ASP.NET WebForms application; instead, it's an MVC (model-view-controller) app that uses Castle Monorail, a Ruby-on-Rails-like framework for .NET.

Most of the code for this application is generated out of a C6 DCT and APP (C7 works too) using a custom template chain. There is minimal embedded code, although there is also a Clarion# support library, mainly for browse functionality.

Application features include:

- Basic browse/form functionality
- Client and server-side form validation
- Browse filtering
- Browse ordering
- Browse paging
- User registration
- Access control
- PostgreSQL database
- NHibernate ORM layer

Only the Comments update form is password protected. When you attempt to insert, edit or delete a Comment record you will be prompted to log in if necessary. You can register or if you wish simply use the guest / guest login.

At present the Comments table contains around 50,000 records. Additional tables contain the user records and the jargon strings used to create the test data. Only the Comments table can be browsed.

To begin click on [Browse Comments here](#) or on the main menu.

Clarion Magazine ISSN 1718-9942

**Figure 1.** The home page

Figure 2 is an HTML browse (no Javascript required). This browse supports fast paging, sorting and filtering, and is currently operating on a table containing about 50,000 records.

Comment ID	Visible	Subject	Action
11573	True	Blue Screen of Death lobotomy demented	Edit   Delete
11574	True	fork bomb systems jock operating system	Edit   Delete
11575	True	boot box dogwash	Edit   Delete
11576	True	Doom, X of grind crank sufficiently small	Edit   Delete
11577	False	Purple Book zbeba alpha geek	Edit   Delete
11578	True	dentro like kicking dead whales down the beach firewall code	Edit   Delete
11579	True	flower key ENQ hem	Edit   Delete
11580	False	syntactic salt dinosaur ill-behaved	Edit   Delete
11581	True	BLOB flag ambimouseterous	Edit   Delete
11582	False	raster burn zeroth LART	Edit   Delete
11583	True	BWQ Iron Age heavyweight	Edit   Delete
11584	False	bit decay muggle rave	Edit   Delete
11585	True	write-only language HAND fork bomb	Edit   Delete
11586	True	clobber tanked horked	Edit   Delete
11587	True	memory smash mega-hacked up	Edit   Delete
11588	True	spawn treeware phage	Edit   Delete
11589	False	beanie key obscure C Programmer's Disease	Edit   Delete
11590	True	ad-hockey PBD moby	Edit   Delete
11591	True	veeblefester spell pencil and paper	Edit   Delete
11592	False	cracking cracking lithium tick	Edit   Delete

Create a new record first | prev | next | last

Clarion Magazine ISSN 1718-9942

**Figure 2.** An HTML browse

Figure 3 shows an AJAX version of the browse created with the [ExtJS toolkit](#). When you request a new page of data on the HTML browse (Figure 2) an entire new page is returned. The ExtJS browse handles paging in a more desktop-like way, requesting new data from the server and displaying that data in place without the need to refresh the entire page. Like the HTML browse, the ExtJS browse uses fast server-side paging.

Please note that the ExtJS browse implementation is still experimental and not fully functional.

The screenshot shows a web page titled "CLARION MAGAZINE" with the tagline "READ. LEARN. SOLVE." A navigation bar at the top includes links for "Labs Home", "Browse Comments", and "Log in". Below the navigation is a message: "Here's an Ajax version of the browse, built with ExtJS." A data grid titled "Comments" displays a list of records. The columns are "CommentID", "Visible", and "Subject". The data grid contains approximately 49,999 records, with the current view showing records 21 to 40. The footer of the page includes the text "Clarion Magazine ISSN 1718-9942".

CommentID	Visible	Subject
53462	true	like kicking dead whales down the beach slim Dave the Resurr
53550	true	yak shaving You are not expected to understand this Big Red
53708	true	You are not expected to understand this verbiage guru medita
53741	true	jump off into never-never land Saturday-night special enhanc
53773	true	shift left (or right) logical source of all good bits hotlin
54015	true	jump off into never-never land nailed to the wall space-cade
54050	true	Infinite-Monkey Theorem real user Knights of the Lambda Calc
54106	false	winged comments If you want X, you know where to find it. In
54204	true	Jeopardy-style quoting mickey mouse program C Programmer's D
54717	true	Imminent Death Of The Net Predicted! strided interrupts lock
54736	true	can't happen If you want X, you know where to find it. real
54941	false	angle brackets You know you've been hacking too long when sp
55289	true	spaceship operator Zero-One-Infinity Rule brute force and ig
55384	true	eighty-column mind since time T equals minus infinity twig
55524	true	source of all good bits Chinese Army technique Church of the
55566	true	bread crumbs Lubarsky's Law of Cybernetic Entomology Tinkerb
55743	true	swapped in You know you've been hacking too long when Green'
55802	true	Knights of the Lambda Calculus Chernobyl chicken copy protec
55877	true	like kicking dead whales down the beach Big Red Switch Disco
55993	true	You are not expected to understand this postmaster chicken h

**Figure 3. An ExtJS browse**

Figure 4 shows an HTML form for updating records. This form contains client-side validation (in Javascript) as well as server-side validation. Never ever rely on just client-side validation as it is easily circumvented.

The screenshot shows a web application interface for 'CLARION MAGAZINE'. At the top, there's a blue header bar with the magazine's logo and the tagline 'READ. LEARN. SOLVE.'. Below the header, a navigation bar includes links for 'Labs Home', 'Browse Comments', and 'Log out'. The main content area is titled 'CommentUpdate'. It contains a form with fields: 'Visible' (checkbox checked), 'Subject' (text input: 'Doom, X of grind crank sufficiently small'), and 'Contents' (text area input: 'Unix BUAG chain swizzle lightweight'). At the bottom of the form are 'Save' and 'Cancel' buttons. A footer at the bottom of the page reads 'Clarion Magazine ISSN 1718-9942'.

**Figure 4. An HTML update form (called from the HTML browse)**

The web application also demonstrates controlled access to pages; to update records you need to log in, either with the guest account or create a new login.

If you've seen the screencast you'll remember that I described the application as an *MVC* web application. But what is MVC anyway and why should you care?

### What is MVC?

MVC stands for the Model-View-Controller architecture. MVC is an old idea, but of late it has become quite popular for web development. You've probably heard of [Ruby on Rails](#) - that's just one of many MVC frameworks currently available. Even Microsoft has jumped on the MVC bandwagon with its [ASP.NET MVC](#) product. And ClarionMag has been an MVC web app for years; the server side code is written in Java.

MVC isn't just one toolkit or framework or library. It's an architecture or, if you like, a design pattern. It's a specification that says "your application needs to be structured according to the following principles" (which I'll get to in a moment).

But why is the industry seeing a move to MVC web development in the first place? To understand that, you need to think about how web sites are typically delivered.

To get to a page you have to supply your web browser with an address to that page, also known as a URL. You might type in the address directly, or you might obtain it by clicking on a link in an existing page, but either way you're providing the browser with a URL:

`http://www.somewebsite.com/somewebpage.html`

Consider a traditional web site containing only static HTML pages (that is, pages with no code). When you

request somewebpage.html the web server looks on the hard disk for a matching file. If it finds that file, it sends it back to your web browser.

But static web sites are old school; these days it's common to customize pages on the fly, often by retrieving data from a database. And that means that instead of just returning a static page the server needs to execute some code associated with that page. Simple web sites have given way to *web applications*, which is really just a fancy way of saying that code that affects the appearance of the web page is executing on the server.

There are many different ways to execute server-side code, but the most common approach is to either embed the source code in the web page itself or to place it in a source code file that's linked to that page. The server's job is to load up the page, execute any needed server-side code associated with the page, then blend the two into an HTML document that can be sent back to the user. With variations, this is how PHP, ASP, ASP.NET and many other web technologies work. Think of shopping carts, or your favorite news page, or any web site where the content is dynamic.

This kind of web development is page-centric; everything revolves around the concept of a web page that is extended with code. You can think of this kind of web page as being like a Clarion procedure; there's the part the user sees, and then there's all the code under the hood that gets things done. And it's quite possible to create web pages in a way that's similar to desktop development. In fact, Microsoft's mainstream web development environment, ASP.NET WebForms, is [specifically designed](#) to mimic event-based desktop development.

But web development really is quite unlike desktop development. A desktop application serves only one user at a time; a web application may serve thousands of users. And a desktop application exists in memory over time; a web application is creating web pages, sending them out (with no knowledge even of whether they were received) and then freeing up that memory. Any effort to do web development using a desktop metaphor needs to provide a translation layer to insulate the developer from the nuts and bolts of the web server/browser interaction.

I'm clearly biased; I think MVC is a superior approach to web development, and I'd rather not have to deal with that translation layer. But that's me.

It's possible to do some awesome development in WebForms, and having a desktop-like development metaphor really can make some tasks easier. Clarion# supports ASP.NET development, and I'm sure there will be a template set that further simplifies the process of creating ASP.NET applications. And for many developers, that will be a good thing.

But if like me you enjoy digging below the surface, if you like having full control over how your web applications work and you want the maximum in testability, maintainability and flexibility, then MVC may be just what you're looking for.

## **Getting down to the metal**

MVC web development is a little closer to the metal than desktop-like web development. Although MVC web apps deliver pages just like other web apps, they don't use a *page-centric* approach. Instead, MVC apps consist of three core areas:

- The controller - a class or set of classes that receives URL requests and decides what to do with them
- The model - the application's business logic and data store
- The view - the web page that is returned to the user

The benefits of separating the app into these functional areas include:

- Improved testability
- Better opportunities for multi-tier, scalable design
- Simpler program logic
- Improved maintainability

In this article I'll mainly deal with the controller and the view; in the next article I'll talk about browses and forms and that's where the model will become more important.

## Choosing an MVC framework

These days hardly anyone writes MVC web apps from the ground up. I've been through that process with the ClarionMag server, and it's not one I care to repeat.

As I said earlier, MVC itself isn't a toolkit; it's an architecture, a design pattern. But there are numerous toolkits out there that provide the basics of MVC web development, including a handful for .NET. I've already mentioned Microsoft's brand new [ASP.NET MVC](#) product; although I'll probably migrate to Microsoft's code in a year or two, for now I'm sticking with the more-established [Castle Monorail](#) which seems to have largely inspired ASP.NET MVC's design. Neither of these frameworks is a standalone server; both require a hosting web server. I use [Cassini](#) in testing and [IIS7](#) in production; you could also use [Apache](#), and I'm reasonably sure you could use the SV development web server for testing.

## The home page controller

In an MVC web app URLs don't necessarily correspond to actual physical web pages on the server. Instead, URLs are sent to a matching *controller* which decides what sort of page is needed and how it will be rendered.

The demo app contains a class called HomeController, declared in the /Controllers/HomeController.cln file. Here's the code:

```

MEMBER(")

NAMESPACE(ClarionMag.Mvc.Sample.Controllers)
MAP
END

using System
using Castle.MonoRail.Framework
using Castle.MonoRail.ActiveRecordSupport

[Layout('default')]
[Rescue('generalerror')]
HomeController  class(SmartDispatcherController),public
Index          procedure()
end

HomeController.Index  procedure()
code

self.PropertyBag['PageTitle'] = 'Home Page'
! The following line is not needed as 'home'
! is the default view which will be automatically
! rendered if there's no explicit call to RenderView

self.RenderView('index')

```

When the user types (or clicks on) <http://labs.clarionmag.com:8080/home/index.html> IIS7 forwards the request to Monorail. Monorail examines the URL and translates that into a call to a controller class method. The 'home' part of the URL gets the text 'Controller' slapped onto the end, and Monorail matches this string up with the HomeController class. The 'index' part of the URL is mapped to the Index method on HomeController. Presto! The HomeController.Index method is now running. (Actually the mapping of URLs to methods can be much more complex, but this is the basic idea.)

The controller's ultimate job is to render the view, which is the web page that gets sent back to the browser. I've included a call to self.RenderView in the Index method, but in fact that isn't necessary. The RenderView method (which comes via the parent class) creates the web page that is sent back to the user, but if you don't call RenderView Monorail will do it for you, and will default to a view by the same name as the requested page (and, of course, the controller method).

The first part of the URL (home) corresponds to a directory. Because I'm using the [NVelocity view engine](#) (a .NET port of the [Java Velocity view engine](#)) the actual file is

```
/Views/home/index.vm
```

Index.vm is a simple text file containing just the following statement:

```
#parse('/home/index_include_top.vm')
```

The #parse statement is an import directive; it tells NVelocity to read in index\_include\_top.vm and execute it like any other .vm file. In fact there's no script code in that file, just several paragraphs of text in HTML format. This is the text that appears in Figure 1.

What index\_include\_top.vm doesn't include is all of the page layout: the header menu, the columns etc. That's taken care of in a layout file, which is like a master page. The master page is associated with the controller via a [class attribute](#):

```
[Layout('default')]
```

The Layout attribute specifies the view page into which the current view should be rendered. And as with most things Monorail, the directory structure is important. There are two special directories under \Views: one called Layouts and the other called Rescues. For

```
[Layout('default')]
```

the actual layout page is

```
\Views\Layouts\default.vm
```

That default.vm page contains all of the HTML markup common to all the pages, and I won't include that here. But default.vm also includes this one line of text at the point in the layout where the URL-specific view is to be rendered:

```
$childContent
```

That one statement tells the NVelocity view engine where to place the view it's currently rendering.

Actually there's also a line of code somewhere in default.vm that looks like this:

```
<h2>$PageTitle</h2>
```

This code looks for an object called PageTitle and places its contents, as a string, inside the HTML tags for a level two heading. But where does PageTitle come from? Go back to the Index method and you'll see this line of code:

```
self.PropertyBag['PageTitle'] = 'Home Page'
```

The PropertyBag object is something called an *indexer*, which is much like a QUEUE with a STRING field and an ANY field except you access it more the way you would an array. And the PropertyBag is also available to the view. So if I stuff a string called PageTitle into the PropertyBag, and that string has a value of 'Home', when the view is rendered this code

```
<h2>$PageTitle</h2>
```

becomes

```
<h2>Home Page</h2>
```

This is the same technique used to put an HTML browse on a page (in that case there's also some looping involved) or to populate form fields. You could consider the PageTitle object part of the model, but really it's just a little piece of data and doesn't really qualify. I'll get into the model in more detail next time.

## Summary

The controller is the MVC web application's first point of contact with the outside world. The controller decides how to handle the request, typically making calls into the application's model (data and business logic) and then passing needed information on to a view. Applying an MVC architecture improves maintainability and testability and makes program logic easier to follow.

The sequence of events for the demo application's home page is:

1. The web server gets the page request and routes it to Monorail
2. Monorail locates the HomeController class and calls the Index method.
3. Index stuffs the PageTitle variable into the PropertyBag object
4. When Index completes, Monorail renders both \Views\Home\index.vm and \Views\Layouts\default.vm into a single page, inserting the contents of the PageTitle object contained in the PropertyBag.
5. Monorail returns the rendered page to the user

Other pages within the application are served up in similar fashion. There's a controller for the browse, and another for the form; both of these controllers have multiple methods; each controller can reference as many different views as needed. I'll cover browses and forms, and the place of the model in MVC, next time.

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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](#)).

## Reader Comments

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# Clarion Magazine

## Creating Test Data With Stored Procedures

by Dave Harms

Published 2009-03-30

Recently I created a demo Clarion# web application (you may have seen the screencasts and articles), and for that application I needed some dummy data for PostgreSQL database. There are lots of tools out there for test data generation (just Google for them) but I thought it might be a useful exercise to create a couple of PostgreSQL stored procedures to do the job.

SQL is first and foremost a query language which you (and/or your programs) use to retrieve and update data in SQL databases. But most SQL database vendors also offer the ability to write procedures in SQL and store those procedures in the database itself (hence the term "stored procedure").

Stored procedures typically do the same sorts of things your own code might do with the data, but they offer significant advantages including:

- They're fast: because they execute on the server they don't use any network bandwidth.
- They're available to any program - essentially this gives you not just shared code across applications but also across application platforms (a Mac app can execute the stored procedure as well as a Windows app).
- They can be used to protect access to sensitive data; you give access to the stored procedure but not to the underlying data.

Stored procedures also have some disadvantages:

- Debugging tends to be more difficult
- Stored procedures are seldom portable across SQL systems
- You have two code bases to manage

In my case speed wasn't a critical factor, but I did want the data creation to happen reasonably quickly. And I wasn't overly concerned about portability, again because the creation of test data in this case was more of a "nice to have" feature.

I also thought I could have a little fun with the data itself, depending on my choice of raw data. Figure 1 shows a screen shot from the web app in question.

Comment ID	Visible	Subject	Action
11205	True	blow an EPROM lurker spoiler	Edit   Delete
11206	True	IYFEG rotary debugger overclock	Edit   Delete
11208	True	Chernobyl chicken ginger doc	Edit   Delete
11209	True	Real Soon Now link farm nipple mouse	Edit   Delete
11210	True	code droid cross-post	Edit   Delete
11211	True	iron box critical mass uninteresting	Edit   Delete
11212	True	tube time molly-guard Unix weenie	Edit   Delete
11214	True	WYSIWYG splat snarf down	Edit   Delete
11215	True	Foolny Dave the Resurrector cough and die	Edit   Delete
11216	True	snap Camel Book open source	Edit   Delete
11219	True	fora mickey mouse program bogon filter	Edit   Delete
11220	False	open switch scram switch chemist	Edit   Delete
11221	False	showstopper bubble sort mobo	Edit   Delete
11222	True	ambimouseterous blow up pilot error	Edit   Delete
11223	True	search-and-destroy mode GNU toaster	Edit   Delete
11224	False	netlag CLM poke	Edit   Delete
11225	True	kilo- engine var	Edit   Delete
11226	True	J. Random Hacker user-friendly twiddle	Edit   Delete
11227	True	bogue out speed of light go flatline	Edit   Delete
11228	False	qux ubergeek hacker	Edit   Delete

[Create a new record](#)[first](#) | [prev](#) | [next](#) | [last](#)**Figure 1. Demo data**

The create script for my test table looks like this:

```
create sequence comment_commentid_seq;
CREATE TABLE comment
(
commentid bigint DEFAULT
nextval('comment_commentid_seq') NOT NULL,
visible char default('Y') not null,
subject character varying(100),
contents character varying(1000),
CONSTRAINT comment_pkey PRIMARY KEY (commentid)
CONSTRAINT visible CHECK
(visible = ANY (ARRAY['N'::bpchar, 'Y'::bpchar]))
);
```

The first line of code creates a sequence, which is essentially an automatically incrementing number.

The table has a primary key id; on inserts the next value is obtained from the comment\_commentid\_seq sequence.

There are three other columns: a Visible flag (which in this case I've chosen to store as a single character string - I could also have used a boolean value), a subject string, and a contents string. There are two constraints. One prevents duplicate commentid values and the other constrains the Visible flag to either 'Y' or 'N'.

And here's the SQL statement I would like to use to populate that table:

```
select CreateCommentTestData(1000);
```

That means I need to create a stored procedure by that name. Here's the code for the first version of the procedure:

```
CREATE or replace function CreateCommentTestData(count int)
RETURNS integer AS $$
```

```

DECLARE
    temp varchar;
    result varchar;
    x integer;
    vis char(1);

BEGIN
    x = 1;
    while x < count LOOP
        if (select random() > .2) then
            vis = 'Y';
        else
            vis = 'N';
        end if ;
        insert into comment (visible,subject,contents)
        values(vis,(select CreateRandomString(3,100)),
               (select CreateRandomString(6,1000)));
        x = x + 1;
    END LOOP;
    return 0;
END;
$$ LANGUAGE plpgsql;

```

Note that I'm using the Create or Replace syntax for the definition; this way I can run the SQL script to create the stored procedure, and as long as the procedure signature (the name and parameter list) remains unchanged I'll simply replace the previous version.

CreateCommentTestData executes a loop the specified number of times. I determine the Visible flag by using a select random() statement which returns a value from 0 to 1. I'm biasing toward Y in this case.

I'm creating string values for the subject and the contents via yet another stored procedure called CreateRandomString.

I don't know about you, but I find test data pretty boring. I thought it might be more interesting to create some test data based on hacker jargon. So I found a list somewhere I don't recall and dumped it into a table. Here's the table definition; the actual SQL insert statements in the downloadable source:

```

CREATE SEQUENCE randomwords_randomwordsid_seq ;

CREATE TABLE randomwords (
    randomwordsid integer DEFAULT
        nextval('randomwords_randomwordsid_seq') NOT NULL,
    words varchar(255),
    primary key (randomwordsid),
    unique (randomwordsid)
) ;

```

Here's my first take on the CreateRandomString function. The phrases parameter is the number of phrases to combine into a single string:

```

CREATE or replace FUNCTION CreateRandomString(phrases int)
RETURNS varchar AS $$

DECLARE
    temp varchar;
    result varchar;
    count integer;

BEGIN
    result="";
    count = 0;
    while count < phrases LOOP
        select words from randomwords
        where randomwordsid = (select round(random() * 2212))
        into temp;
        count = count + 1;
        if count = 1 then
            result = temp;
        else
            result = result||' '|temp;
        end if;
    END LOOP;
    return result;

END;
$$ LANGUAGE plpgsql;

```

The loop code uses the random function again, this time multiplying the value by the number of records in the randomwords table and rounding the result to get a record by primary key id. The loop concatenates the result for the second and following phrases.

At this point I had a working set of procedures, but I found that on some occasions CreateRandomString(3) returned a result larger than could be accommodated by my 100 character subject string, and that caused CreateCommentTestData to fail. So I revised my CreateRandomString function to take a second "maximum length" parameter. I also created a new version of the original function that called the new function with a default value, effectively overloading the function:

```

CREATE or replace FUNCTION CreateRandomString(phrases int)
RETURNS varchar AS $$

BEGIN
    return CreateRandomString(phrases,0);
END;
$$ LANGUAGE plpgsql;

```

```

CREATE or replace FUNCTION CreateRandomString(phrases int,
maxLength int) RETURNS varchar AS $$

DECLARE
    temp varchar;
    result varchar;
    count integer;

```

```

BEGIN
    result="";
    count = 0;
    while count < phrases LOOP
        select words from randomwords
        where randomwordsid = (select round(random() * 2212))
        into temp;
        count = count + 1;
        if count = 1 then
            result = temp;
        else
            result = result||' '|temp;
        end if;
    END LOOP;
    if maxLength > 0 and char_length(result) > maxLength then
        result = substring(result from 1 for maxLength);
    end if;
    return result;
END;
$$ LANGUAGE plpgsql;

```

This version of CreateRandomString trims the length if a MaxLength value of > 0 is passed.

Similarly, I overloaded the CreateCommentTestData function to provide for a flag to clear out the table first, and I also updated the code to specify a maximum string length:

```

CREATE or replace function CreateCommentTestData(count int)
RETURNS integer AS $$

BEGIN
    return CreateCommentTestData(count,false);
END;
$$ LANGUAGE plpgsql;

```

```

CREATE or replace function CreateCommentTestData(count int,
emptyTable bool) RETURNS integer AS $$

DECLARE
    temp varchar;
    result varchar;
    x integer;
    vis char(1);

BEGIN
    if emptyTable then
        delete from comment;
    end if;
    x = 1;
    while x < count LOOP

```

```
if (select random() > .2) then
    vis = 'Y';
else
    vis = 'N';
end if ;
insert into comment (visible,subject,contents)
values(vis,(select CreateRandomString(3,100)),
(select CreateRandomString(6,1000)));
x = x + 1;
END LOOP;
return 0;

END;
$$ LANGUAGE plpgsql;
```

And that's it. I now have a total of four functions I can use to create random string data. For something a little more lifelike I could set up lists of common street names, city names, and so forth.

Although these stored procedures are written in PostgreSQL's procedural language you shouldn't have too much trouble adapting them to the SQL language of your choosing. The source zip contains all the SQL statements needed to create the tables, load up the hacker jargon phrases and create some test data.

[Download the source](#)

---

**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](#)).

#### Reader Comments

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# Clarion Magazine

## C7: Will It Be Gold On April 10?

by Dave Harms

Published 2009-03-31

Clarion 7 Release Candidate 1 (beta build 5225) went out to CSP participants on March 25, 2009. SoftVelocity further [announced](#) it would release RC2 on April 3 and C7 Gold a week later, on April 10.

This announcement resulted in a flurry of activity in the beta newsgroup. Apparently some folks have been waiting on the sidelines for a usable build of C7, and on hearing that gold was imminent jumped in and did some testing. That's a good thing.

But some significant issues have come to light (or brighter light) as a result. More on those in a bit; first, here's what's new in this build.

### Build 5225 additions

The dictionary editor and the data pad now let you select multiple items for cut/copy/paste, and you can reorder items using the new up/down buttons or Ctrl-UpArrow/Ctrl-DownArrow.

In the template language, statements that result in the display of template prompts such as #SHEET, #TAB, #BUTTON, #BOXED, #DISPLAY, #IMAGE and #PROMPT now support the PROP attributes. In particular this means template authors can now specify widths for drop lists, a common complaint in past releases of Clarion. The template system now also recognizes all equates defined in equates.clw, keycodes.clw and property.clw.

The window designer now has a toolbar to show/hide controls with the HIDE attribute. There is a button to open the text definition of both windows and reports using the full text editor.

Error editing in embeds isn't a new feature per se, but it's finally working in this release. That's very good news.

Data diagrammer fixes listed in the readme were not included in the build, but will be in the next release.

### Report page view

There is no report page view in C7, only band view; to get an idea of what your report looks like you can use the previewer (available via the third-from-the-right button on the report toolbar) but that isn't an ideal solution. I hope we'll see the page view brought back.

### Window designer issues

There's been more rumbling in this release about the window designer's lack of a preview button. On the face of it, C7's ability to render a window (more or less) as it will appear in the running application *should* be enough. The only problem is Clarion developers are used to a slightly different kind of behavior, and the differences between C6 and C7 at present are, I think, a major roadblock to gold release.

For example, in C6 if you declare an IMAGE control before a SHEET control in the window structure, the window formatter will still display the IMAGE on top of the sheet, even though the SHEET comes later in the window structure. In C7 the window structure is actually interpreted as expected, with the SHEET hiding the IMAGE. The IMAGE would have to come later in the order for everything to work as expected. According to Bob Z, C6 is reinterpreting the tab order, which

as Bob noted is a bit odd.

But things get odder yet when it comes to nested controls. Consider the example of an ENTRY control inside a GROUP control.

In C6 place an entry field and a GROUP on a window, separately. Drag the entry field onto the GROUP and note the message asking whether you want to move the field into that control. Answer Yes. Move the entry field so part of it extends past the right border of the GROUP. The entry field is fully visible.

Now do the same in C7. First, you're never asked if you want to move the control into the GROUP - it's automatic. Second, the entry field is clipped. At runtime, however, the entry field is fully visible.

It appears that in C6 all controls on a window are the children of the window; in the example the entry field is the child of the window, not the child of the group. The RTL adjusts Z/tab order as necessary based on the window structure.

The C7 designer displays incorrectly because it sets nested controls to be children of their containing controls, resulting in the clipping. This also prevents the designer from displaying controls positioned outside the parent control, a technique many Clarion developers have come to rely on.

**Update:** Lee White has pointed out to me that Clarion tabs up until C7 are owner drawn and transparent, which suggests that the transparency (which some users have taken advantage of with window background images) is a casualty of the move to themed tabs.

Just having a C6-like previewer (which would require calling Win32 code) isn't enough; the C7 designer needs to display child controls in the same way the RTL does *and* it needs to restore the move in/move out functionality. I think this one's a showstopper; it needs to be fixed before gold release, and if that delays gold then it's a reasonable delay.

Another issue that doesn't have to do with the designer at all, but really annoys a *lot* of folks is to have to see the window source tab when returning from the window formatter. There's got to be a better way of getting in/out of the designer. SV might as well fix that one too.

## Windows 7

Ben Dell is one of the few beta testers reporting on Clarion 7 running on Windows 7, and there do seem to be some Windows 7-specific bugs. There was some discussion as to whether it's a good idea to be testing C7 against W7 right now. I tend to think SV is best served by keeping the variables to a minimum and not test against Windows 7 just yet. Certainly the first order of business is to get C7 stable on production operating systems. But I certainly think SV should tackle Windows 7 before that product goes gold.

## Current bugs and the gold release

Continuing the recent torrid pace, RC1 included well over a hundred bug fixes along with fifteen changes and a dozen or so new features. Since RC1 came out there have been about 20 new, confirmed non-private bug reports, and there are around 150 non-private confirmed bug reports in the system.

SoftVelocity has a little over a week and a half to make the targeted April 10 gold release date. Throw in a couple of days for closedown testing and they're looking at week of actual work. It's hard to say how many of these remaining bugs they can knock off in that time, but clearly C7 isn't going to ship bug free. And as I said earlier, I really think the window designer issue needs to be sorted out first.

Even without the window designer issue April 10 was probably a bit too ambitious, although in a way I'm pleased to see SV actually putting a release date out there. I just don't think there's any shame in waiting another couple of weeks.

The bottom line is whether or not you can do production work with C7 with the gold release. Obviously there's no full answer until we have a gold release, but some developers are using C7 for production work now, while others are waiting on changes/fixes.

C7 is an absolutely massive upgrade. The entire IDE has been rewritten in .NET and is now a platform not just for C7 and Clarion# but also for all previous versions of Clarion going back to CW 2. That's a huge accomplishment, but it's also a huge codebase, so be realistic. Expect bugs, and if you can't tolerate some beta level issues in the gold release than perhaps it's better to wait for a bit.

I expect many if not most C7 users will be reasonably happy with the gold release. And considering the recent pace of bug fixes, the level of satisfaction should rise steadily in the weeks and months after gold.

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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](#)).

## Reader Comments

*Posted on Wednesday, April 01, 2009 by Paul MacFarlane*

Good perspective Dave. Thanks for the summary.

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*Posted on Wednesday, April 01, 2009 by Dave Harms*

You're welcome, Paul.

Dave

---

*Posted on Wednesday, April 01, 2009 by Christopher Cordes*

Thanks, Dave!

In regards to the container controls issue, this same behavior occurs with any container control. Say you have a generated browse with multiple tabs for your sort orders. If you are in designer, and you move or otherwise adjust the list box, it will get contained in whatever tab you happened to have active at the time. Run this and you will see that the list box only exists on one tab.

This alone says that we're not ready for prime time, but there are a hundred other bugs reported.

Gold release? um... maybe copper this time around.

I can wait,  
chris c

---

*Posted on Wednesday, April 01, 2009 by Stephen Bottomley*

Hi Dave,

Good article with the exception of "The bottom line is whether or not you can do production work with C7 with the gold release". C7 will certainly be usable for some production work, in its current state won't be usable, by many, for all their current production applications.

I expected a bit of a VB experience going from Clarion to Clarion# but not from Clarion to Clarion.

While on the whole I'm very impressed with C7 and the effort involved I can't see a gold label (and the expectation of renewing your subscription) being justified while the designer falls short of "designing" valid runtime screens. The NoSheet attribute has effectively been "rendered" unusable because it is impossible to place controls in relation the tab orientation without dragging them outside the container hence placing them on the window.

Then again, some indication of what's involved in fixing the designer and what may be the implications for other behaviour would be very welcome from SV.

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*Posted on Wednesday, April 01, 2009 by Dave Harms*

Chris & Steve,

I think you're pretty much making my point. C7, in its current form (not sure exactly what we'll get at gold) isn't going to work for everyone. But clearly there are developers using it now, productively.

The question for anyone thinking of moving to C7 is whether it works for them. And if not now, then how soon. I don't for a minute think everyone should move to

C7 on April 10, and I trust the article was clear on that point.

I hope it was also clear that in my opinion SV has worked/is working hard at making C7 the product we all want it to be. No, they don't always understand what to us are critical issues; sometimes it takes a LOT of persuasion to get them to change their minds. Some things they still don't seem to get, or else we don't.

C7 right now is an impressive accomplishment in my books. And I take it as a good sign that most of the yelling and screaming at the moment is around usability issues like which keyboard shortcut to use for which task.

Dave

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*Posted on Wednesday, April 01, 2009 by Stephen Ryan*

the new IDE uses dot net for creating a designer

i cant see how the new ide will render a window the same way as the RTL does unless the RTL also uses winforms.

so up until now i havnt worried about if the new IDE renders a window the same way

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*Posted on Wednesday, April 01, 2009 by Stephen Bottomley*

Hi Stephen (Ryan that is),

I know this isn't a discussion forum but.. :)

With C7 and controls outside the container, you are relegated to using either C6 to design, convert to C7 compile or, adjust the the AT properties in code, compile, run, check, adjust AT properties, compile.....

The second you touch one of those controls in C7 designer (asuming you can find them) your window is hosed.

A PTSS I posted earlier explains how the NoSheet attribute is useless in C7 because of the way the tabs align themselves to the container edge.

I guess SV need to either adjust the designer in line with the RTL or(shudder) adjust the RTL in line with the designer. Option 3 is to ingore the problem in the hope it goes away but I'm hoping not. <g>

Sorry for wasting your page space Dave :) Oh, and feel free to remove the duplicate post. Not sure how that got there.

Steve B.

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*Posted on Wednesday, April 01, 2009 by Stephen Bottomley*

Dave,

I agree, C7 is a very impressive move forward and I applaude it. I certainly won't be asking for my money back because it will be usefull for projects I have that don't take advantage of current pre-C7 only design funtionalty.

Maybe I will just have to be creative and redesign those screens <shock, horror> but I'm lazy and righteous whinging is more fun <g>.

Steve B.

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*Posted on Friday, April 03, 2009 by Stephen Ryan*

Thanks to Steve B.

I will revisit the issue because of course i have not adjusted created windows, but created new ones.

Im sure for many users you are right.

Many thanks to Dave for the Article.

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*Posted on Friday, April 03, 2009 by Dave Harms*

I don't think SV has an option here - the C7 designer has to support the same kind of functionality as the C6 designer. And I'm sure it can be done, one way or another.

Dave

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A "workspace" tip for C7

### Direct link

Posted Monday, March 30, 2009 by Dave Harms

Here's a tip [Russ Eggen](#) posted in the beta newsgroup on setting up workspaces in C7 (reproduced here with Russ's permission):

My editor of choice (until recently <g>) is Textpad. It has one very nice feature I found I can't live without - workspaces. What this is you have a bunch of source files open (even if in different folders). You save the workspace like a regular file. When you open a workspace, all files opened are opened again. A marvelous shortcut to opening one file at a time. I use this for template coding, web sources (site code and shopping cart code), etc.

You could open each file in C7 on the start page, its opening one file at a time and you still have to contend with tab switching since the start page is no longer the current tab. Its slower than opening one file to open many files.

So this is how you can create a "workspace" in C7:

1. Choose File/New/solution, project or application (or press Ctrl-Shift-N).
2. Select SharpDevelop as the solution, for the type, select "empty solution".
3. Fill in the name of the "workspace", in the folder you wish.
4. You have only one item in the solution explorer. Expand this to show "solution items" - it is empty.
5. Right-click and choose Add/Add item...
6. Navigate to the folder you want, select one or multiple files and press open. The files are added there.
7. Repeat #6 until you have loaded all the sources you want.

The "solution" is now on the Start page. When you restart or select the start page again, just open the "solution" and you can then open any file in it as you wish. You don't have to worry about build state since there is nothing to build, so nothing to

change there.

There are limitations:

1. It won't remember where in the file you were editing.
2. The files won't open as the default, you have to open them.

If you are using code folding, it does remember that setting.

A few additional points came up in the ensuing discussion. You can run multiple instances of the IDE, so you can keep a workspace handy while you work on another app. The only issue I've noticed with multiple instances of the IDE is that the last one closed writes the recent projects list. So let's say you do the following:

1. Run an instance of the IDE (instance A)
2. Run another instance (instance B)
3. Create a new solution with B
4. Exit B
5. Exit A

Instance B will add the just-created solution to the recent projects list. In fact, before you exit instance A you can restart the IDE and see that project in the list. Now close B, then close A. Open the IDE again. The solution added by B will not be in the projects list, because instance A overwrote the list with what it had in memory.

Finally, you can always add files to your solution without necessarily compiling them. Just select the source file in the solution explorer, go to the Properties pad, and set the Build Action to None. Recent versions of C7 let you add "solution folders" to projects, and when you add files to these folders you are creating links to those files. I've used this feature to set up a Templates folder with links to template files I regularly edit. And since you can have multiple projects in a solution, it's easy to set up a project just for, say, frequently-edited templates which can then be attached to any solution where they are needed.

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A "run-only" option for the C7 IDE

#### [Direct link](#)

Posted Monday, March 30, 2009 by Dave Harms

After the latest beta (5225) release several developers asked for a Run button which would simply run the current project instead of building the application first. There is a Start without Debugger option (Ctrl-F5) but in fact this invokes an MSBuild task. Even if the EXE is already built MSBuild will verify that a recompile isn't needed, and that can take some time on a big multi-DLL solution.

I decided to play around with the Tools menu to see if there was a way to produce a "run only" behavior, and I did find a solution. But SV has now said that a run only button will be in the next build, but in the event that you can't wait for the next build of C7, here's what you need to do to add your own "Run only" menu option.

It was Ben Dell who got me started on the Tools menu. He pointed out that it was possible to run customized MSBuild tasks that way. And if you can run an MSBuild task on a project, why not a task to run an EXE?

First, create a new Win32 EXE solution (not an APP - this will be a hand coded program) called, say, Launcher. Launcher.clw contains just this code:

#### PROGRAM

MAP

END

CODE

run(COMMAND())

Compile the code.

Next, in Tools | Options | Tools create a new external tool called something like “Run the current application”.

Set the command to your Launcher.exe

Set the arguments to "\${TargetPath}" (the quotes take care of long file names, although they may not be necessary) and the working directory to \${ProjectDir}.

Now when you want to launch a program you just highlight it in the solution explorer and choose the “Run the current application” option from the Tools menu.

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MSBuild, C7, and other goodies

#### [Direct link](#)

Posted Thursday, March 19, 2009 by Dave Harms

This was supposed to be Clarion# web app month at Clarion Magazine, but it's starting to turn into a combination of a web theme and an MSBuild theme. Steve Parker followed up last month's closing [article](#) on MSBuild with a [treatise](#) on multi-app solutions, and tomorrow you'll see a new article on how to use MSBuild to do multi-pass compiles on systems with circular calls (but of course, none of you actually *have* any circular calls, right?). We'll also have a review of the latest C7 build (5080) tomorrow. Is it almost ready for gold release?

Next week it's back to the Clarion# web app goodies, although there will be a few bits and bobs in there to appease the non-web, non-Clarion# folk as well.

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Clarion# web apps with AppGen? Yes, just not the AppGen you think (at least not yet)

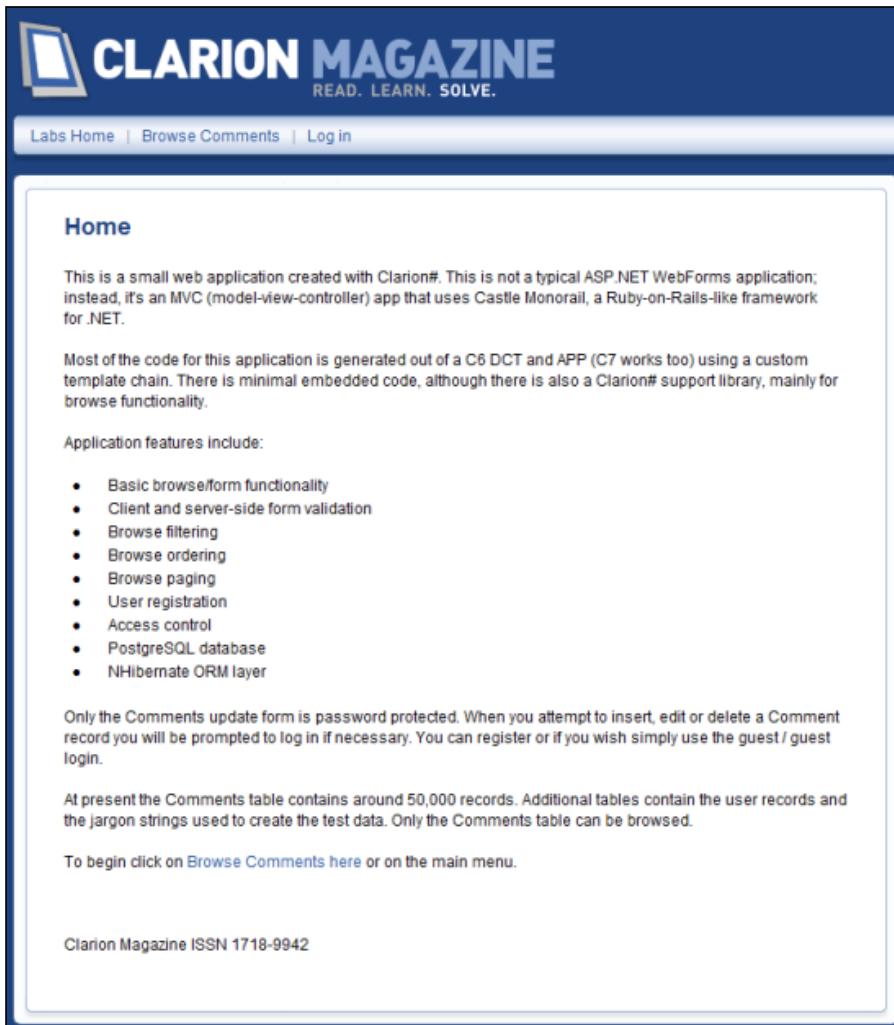
#### [Direct link](#)

Posted Thursday, March 12, 2009 by Dave Harms

Within the next couple of days I expect to post ClarionMag's first ever screencast. The subject is a small demo app showing how to do AppGen-based Clarion# web development right now, even without a Clarion# AppGen. The secret: a custom template chain we've specifically designed to create [MVC](#) web applications using [Castle Monorail](#) and [NHibernate](#). What's MVC? It's an increasingly popular way to write testable, maintainable web applications. Even Microsoft has jumped on the MVC bandwagon (although [their code](#) is still pretty green).

I'm particularly excited about this template chain as it provides us with the technology we need to begin porting the ClarionMag web application from its current Java code base to Clarion#.

Don't let the small number of pages in this web application fool you - there's a lot packed into this little app. The home page isn't particularly complex, however; it simply gives you an overview of the application's capabilities.



The screenshot shows the homepage of the Clarion Magazine website. At the top, there's a dark blue header with the Clarion Magazine logo on the left, which includes a stylized 'C' icon and the text 'CLARION MAGAZINE' in large white letters, with 'READ. LEARN. SOLVE.' in smaller white letters below it. To the right of the logo is a navigation bar with links for 'Labs Home', 'Browse Comments', and 'Log in'. Below the header is a white content area with a thin gray border. The title 'Home' is at the top of this area in bold blue font. A paragraph of text follows, explaining that the application is built with Clarion# and is an MVC app using Castle Monorail. It notes that most code is generated from C6 DCT and APP, with minimal embedded code. Another paragraph describes the application's features, including basic browse/form functionality, client/server-side validation, filtering, ordering, paging, user registration, access control, PostgreSQL database support, and NHibernate ORM layer. Below these paragraphs is a note about password protection for the Comments update form, mentioning guest login. Another note states that the Comments table contains around 50,000 records and can be browsed. A link to 'Browse Comments here' is provided. At the bottom of the content area, there's a small line of text: 'Clarion Magazine ISSN 1718-9942'.

Most of the goodies are in the browse page. There are two versions of this browse. The HTML version features column sorting, filtering (many kinds of filters are possible, although only insensitive LIKE expressions are shown here), and fast server-side paging which allows you to work with large result sets. The browse state is persistent; navigate to another page, come back to the page, and you see the same data as last time.



# CLARION MAGAZINE

READ. LEARN. SOLVE.

Labs Home | Browse Comments | Log in

## CommentBrowse

You can use the % wildcard in search terms. For instance, the term a% will find all subjects beginning with A or a. The term %binary% will find all subjects containing the word 'binary'

Search subject for:

Filter: None

Comment ID	Visible	Subject	Action
11573	True	Blue Screen of Death lobotomy demented	Edit   Delete
11574	True	fork bomb systems jock operating system	Edit   Delete
11575	True	boot box dogwash	Edit   Delete
11576	True	Doom, X of grind crank sufficiently small	Edit   Delete
11577	False	Purple Book zbeba alpha geek	Edit   Delete
11578	True	dentro like kicking dead whales down the beach firewall code	Edit   Delete
11579	True	flower key ENQ ham	Edit   Delete
11580	False	syntactic salt dinosaur ill-behaved	Edit   Delete
11581	True	BLOB flag ambimouseterous	Edit   Delete
11582	False	raster burn zeroth LART	Edit   Delete
11583	True	BWQ Iron Age heavyweight	Edit   Delete
11584	False	bit decay muggle rave	Edit   Delete
11585	True	write-only language HAND fork bomb	Edit   Delete
11586	True	blobber tanked horked	Edit   Delete
11587	True	memory smash mega-hacked up	Edit   Delete
11588	True	spawn treeware phage	Edit   Delete
11589	False	beanie key obscure C Programmer's Disease	Edit   Delete
11590	True	ad-hockey PBD moby	Edit   Delete
11591	True	veeblefester spell pencil and paper	Edit   Delete
11592	False	cracking cracking lithium lick	Edit   Delete

Create a new record

Clarion Magazine ISSN 1718-9942

But HTML browses aren't that pretty, and getting the next set of data requires a distracting page refresh. So there's a sneak peek at an AJAX version of the browse created with the [ExtJS toolkit](#). This browse isn't fully functional yet, nor is it integrated with the templates, but it does demonstrate the use of JSON requests to load a browse without refreshing the page. And it looks a lot nicer than an HTML browse, and behaves the way a browse should. We'll be doing more work with ExtJS components in the future.

The screenshot shows the Clarion Magazine website with a dark blue header. The header features the Clarion Magazine logo (a stylized book icon) and the text "CLARION MAGAZINE" in large letters, with "READ. LEARN. SOLVE." below it. Below the header is a navigation bar with links to "Labs Home", "Browse Comments", and "Log in". The main content area contains a message: "Here's an Ajax version of the browse, built with ExtJS." Below this is a table titled "Comments" with columns for CommentID, Visible, and Subject. The table lists numerous comments, each with a unique ID and subject matter. At the bottom of the table, there are navigation controls for pages and a note indicating "Displaying records 21 - 40 of 49999". The footer of the page includes the text "Clarion Magazine ISSN 1718-9942".

There isn't any security on the browse, but there is on the form. It's a simple requirement - you only need to be logged in. So if you attempt to edit, insert or delete a record (from the HTML browse) and you're not yet logged in, you'll see a login page.

The screenshot shows the Clarion Magazine website with a dark blue header. The header features the Clarion Magazine logo and the text "CLARION MAGAZINE" in large letters, with "READ. LEARN. SOLVE." below it. Below the header is a navigation bar with links to "Labs Home", "Browse Comments", and "Log in". The main content area has a "Login" heading. It displays a message "Please sign in." followed by two input fields: "Username" containing "guest" and "Password" containing "\*\*\*\*\*". Below the fields is a "Sign in" button. At the bottom of the page, there is a link "If you do not have a user id please register here or use the login guest / guest". The footer of the page includes the text "Clarion Magazine ISSN 1718-9942".

You can use the guest login or register your own user id. If you have Javascript enabled you'll see validation messages

appear below incorrectly filled fields. (If Javascript is disabled, server-side validation still ensures correct data.)

The screenshot shows the Clarion Magazine website's registration form. At the top, there's a logo of a book and the text "CLARION MAGAZINE" with the tagline "READ. LEARN. SOLVE." Below the header, a navigation bar includes links for "Labs Home", "Browse Comments", and "Log in". The main content area is titled "Register". It contains four input fields: "First Name" (Dave), "Last Name" (Harms), "User Name" (dharms), and "Password" (left empty). A note below the password field states: "Password must be from 4 to 60 characters in length. Password is required." At the bottom of the form are two buttons: "Save" and "Cancel".

Once you're logged in you're returned to the form where you can complete the desired changes.

The screenshot shows the Clarion Magazine website's comment update form. At the top, there's a logo of a book and the text "CLARION MAGAZINE" with the tagline "READ. LEARN. SOLVE." Below the header, a navigation bar includes links for "Labs Home", "Browse Comments", and "Log out". The main content area is titled "CommentUpdate". It contains three input fields: "Visible" (with a checked checkbox), "Subject" (Doom, X of grind crank sufficiently small), and "Contents" (Unix BUAG chain swizzle lightweight). Below these fields is a large text area with a scroll bar. At the bottom of the form are two buttons: "Save" and "Cancel".

There are several important caveats to this template chain.

First, it's most definitely alpha code, and there's a lot of work to be done.

Second, since the generated code uses the NHibernate ORM to talk to the database you're limited to supported SQL databases. Right now that list includes:

- Microsoft SQL Server 2005/2000
- Oracle

- Microsoft Access
- Firebird
- PostgreSQL
- DB2 UDB
- MySQL
- SQLite

No TPS files there, and wouldn't hold my breath waiting for a TopSpeed NHibernate driver.

(Actually, you can still access TPS or other Clarion# drivers if you wish, you just can't take advantage of the automated validation and data binding, both of which are enormously useful on forms.)

Third, this template chain is not ABC or legacy Clarion compatible. You cannot use it to convert an existing application; you can only use it to create a new application. MVC web development is significantly different from Clarion desktop development, and while it may be possible to write these templates as an add-on, it really isn't practical.

I hope you'll find the upcoming screencast and an accompanying series of articles interesting and useful. Web development is a different beast from desktop development, and many of the issues I'll cover apply to non-MVC web development as well.

And even if you're not interested in doing your own web development you *will* benefit as a ClarionMag user, as this template chain forms the foundation for the *next* version of the Clarion Magazine web site....

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Just another Windoid Control-Q weenie

#### [Direct link](#)

Posted Wednesday, March 04, 2009 by Dave Harms

I'm working on a demo app for a series of upcoming articles on creating MVC web applications in Clarion#, and I needed some demo data. What, I thought, would be better than programmer jargon? So I grabbed a [jargon glossary](#) and set about converting it to a PostgreSQL table. Then I wrote a couple of stored procedures to randomly assemble these terms into test data.

Unfortunately, I keep wasting time actually *reading* the data. I mean, who can say with a straight face that Clarion programmers *don't* have baroque dinosaur religious issues....

Comment ID	Visible	Subject	Action
9	True	geek out connector conspiracy IWBNI	<a href="#">Edit</a>   <a href="#">Delete</a>
10	True	bigot marginal subroutine	<a href="#">Edit</a>   <a href="#">Delete</a>
11	True	demogroup GNUMACS real hack	<a href="#">Edit</a>   <a href="#">Delete</a>
12	True	baroque dinosaur religious issues	<a href="#">Edit</a>   <a href="#">Delete</a>
14	True	stealth manager locked and loaded nontrivial	<a href="#">Edit</a>   <a href="#">Delete</a>
15	True	Real Programmer Chernobyl chicken MUD	<a href="#">Edit</a>   <a href="#">Delete</a>
1	True	backgammon depeditate virtual Friday	<a href="#">Edit</a>   <a href="#">Delete</a>
17	True	heatseeker machoflops toaster	<a href="#">Edit</a>   <a href="#">Delete</a>
18	True	fool file swapped out backreference	<a href="#">Edit</a>   <a href="#">Delete</a>
19	True	dogfood shelfware baroque	<a href="#">Edit</a>   <a href="#">Delete</a>
20	True	unwind the stack owned GPL	<a href="#">Edit</a>   <a href="#">Delete</a>
21	True	SCNR chawmp camelCasing	<a href="#">Edit</a>   <a href="#">Delete</a>
22	True	dentro net.personality dread high-bit disease	<a href="#">Edit</a>   <a href="#">Delete</a>
23	True	polygon pusher console pessimizing compiler	<a href="#">Edit</a>   <a href="#">Delete</a>
24	True	windoid control-Q weenie	<a href="#">Edit</a>   <a href="#">Delete</a>
25	True	management unwind the stack geef	<a href="#">Edit</a>   <a href="#">Delete</a>
26	True	codes priority interrupt snarf & barf	<a href="#">Edit</a>   <a href="#">Delete</a>
27	True	COBOL ken faradize	<a href="#">Edit</a>   <a href="#">Delete</a>
28	True	spongery mailbomb boat anchor	<a href="#">Edit</a>   <a href="#">Delete</a>
29	True	flytrap furrefu epoch	<a href="#">Edit</a>   <a href="#">Delete</a>

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