

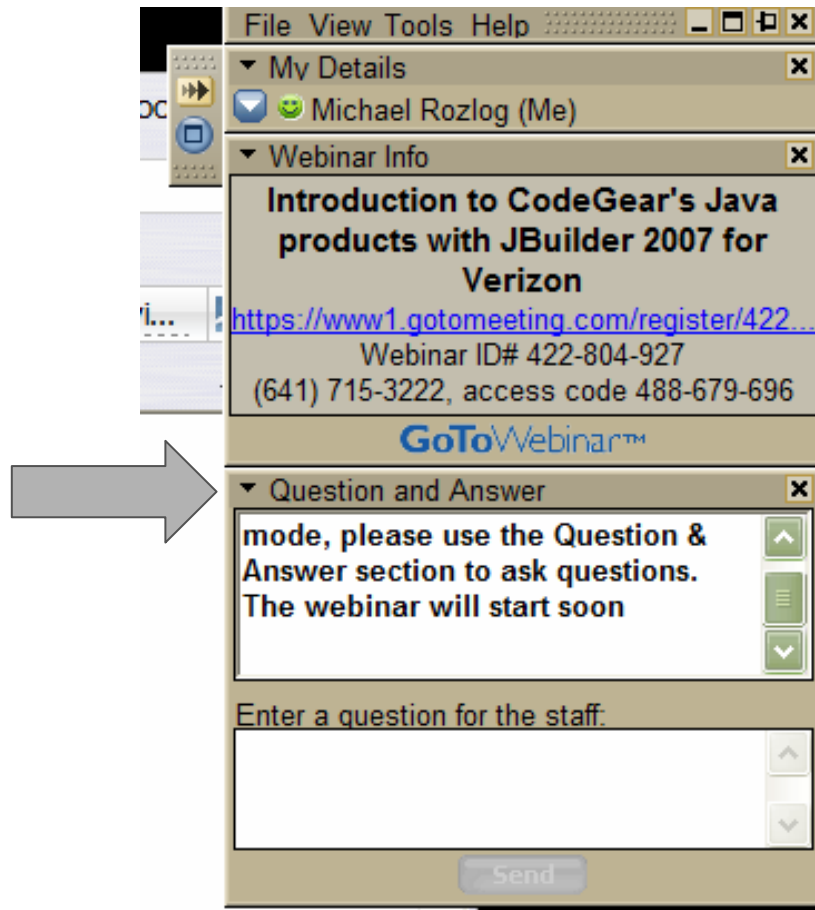
Delphi, C++Builder, RAD Studio... what you need to know!

Presented for: CodeGear Webinar Series

Wednesday, December 12, 2007

- Michael Rozlog – michael.rozlog@codegear.com
- CodeGear

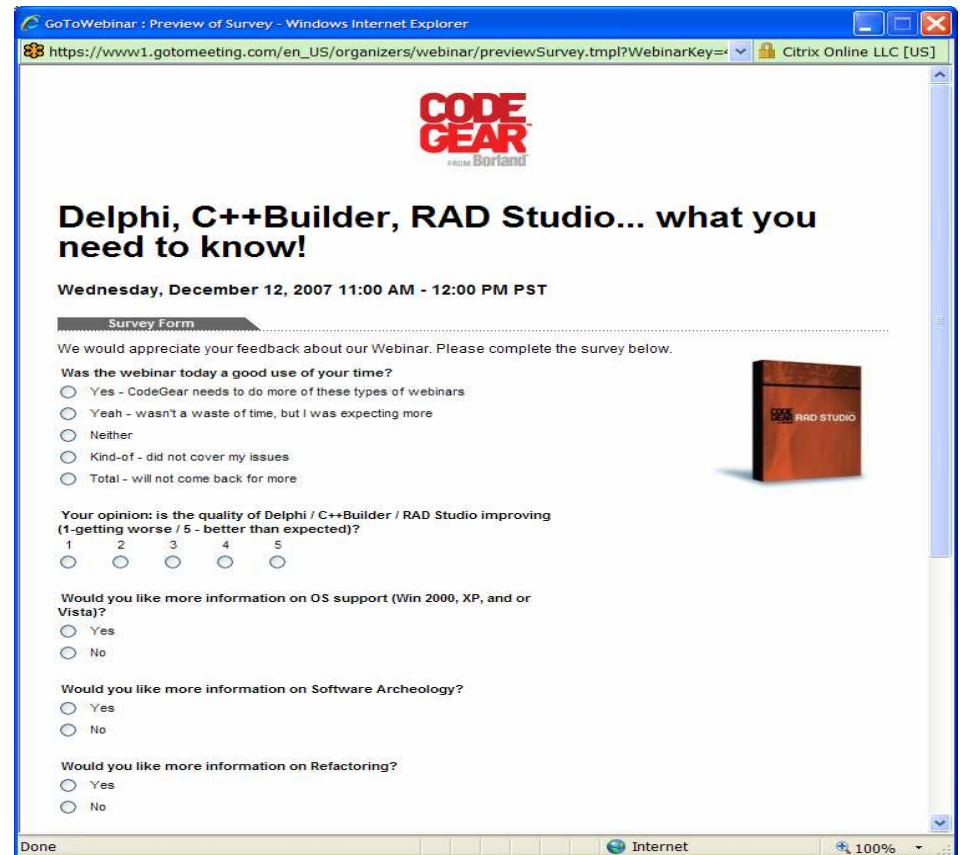
Using the GoToWebinar Interface



- To ask a question, please click the Question and Answers part of the interface.
- Type the question and we will see it and try to answer it.

Follow-up Survey...

- After the presentation is finished the survey will be displayed
 - Please help us, help you
- Some Polling Questions will be asked throughout the presentation



GoToWebinar : Preview of Survey - Windows Internet Explorer
https://www1.gotomeeting.com/en_US/organizers/webinar/previewSurvey.tmp?WebinarKey= Citrix Online LLC [US]

**CODE
GEAR**
FROM Borland

Delphi, C++Builder, RAD Studio... what you need to know!

Wednesday, December 12, 2007 11:00 AM - 12:00 PM PST

Survey Form

We would appreciate your feedback about our Webinar. Please complete the survey below.

Was the webinar today a good use of your time?

- Yes - CodeGear needs to do more of these types of webinars
- Yeah - wasn't a waste of time, but I was expecting more
- Neither
- Kind-of - did not cover my issues
- Total - will not come back for more

Your opinion: is the quality of Delphi / C++Builder / RAD Studio improving (1-getting worse / 5 - better than expected)?

1 2 3 4 5

-
-
-
-
-

Would you like more information on OS support (Win 2000, XP, and or Vista)?

- Yes
- No

Would you like more information on Software Archeology?

- Yes
- No

Would you like more information on Refactoring?

- Yes
- No

Done Internet 100%

Agenda

- Company background
- Quality focus
- Software Archeology
- Demo
- Q&A

CodeGear background/history

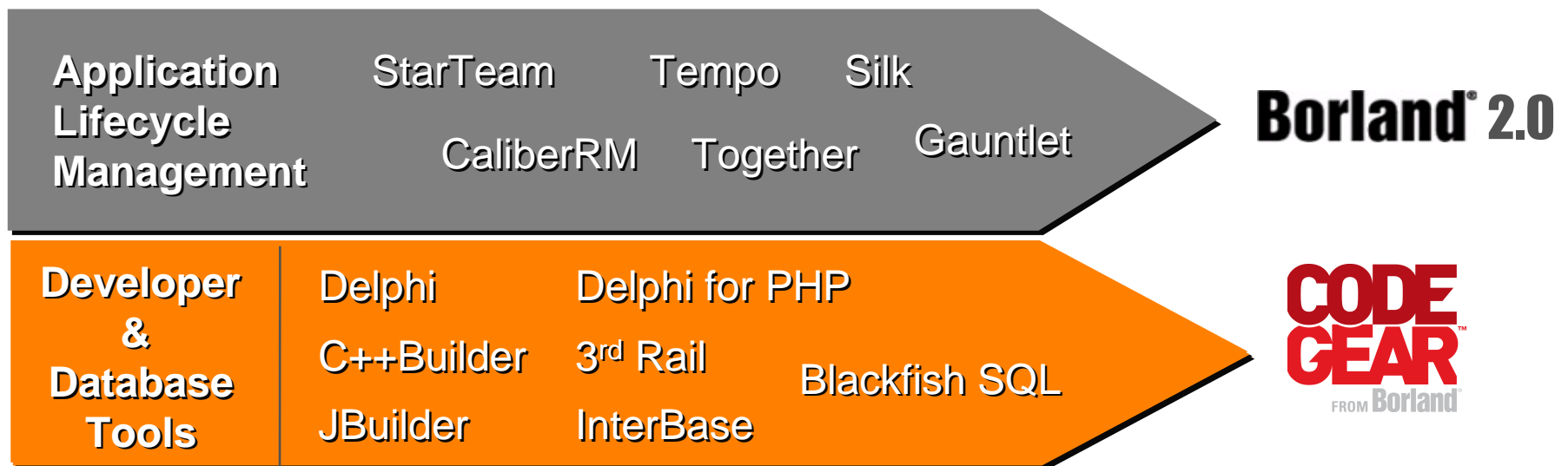
Evolution of Borland

Borland Founded in 1983 – By French Immigrant Philippe Kahn

Focused on:

- 100% Focus on Developer Productivity
- Target Market: Developers
- First Product: Turbo Pascal

Late 2006: CodeGear – the tools division created



Personal relationship

- Focus on Quality

Reestablishing the connection

- Focus on our customers and the needs of them including Delphi and C++Builder
- Rebuilding relationships
- Rebuilding our brand
- Rebuilding our stature in the marketplace

First source of information...

CDN News

- [NEW! Delphi, C++Builder, and RAD Studio 2007 documentation update](#)
 - [NEW! Delphi Case Study: Euclid Technology](#)
 - [Webinar Series: Productivity Secrets of Java Development](#)
 - [Tour of the 3rdRail IDE](#)
 - [RAD Studio 2007 developer days - The Replays](#)
 - [RAD Studio 2007 announcement video replay](#)
 - [CodeGear JGear Eclipse plug-in products videos](#)
 - [JBuilder Roadmap and JGear\(s\) Community Chat Replay](#)
 - [Watch the JBuilder 2007 Videos](#)
-
- [JBuilder Product Roadmap](#) (updated 10/30/2007)
 - [Delphi and C++Builder Roadmap](#)



It's over but the session replays are available

3rdRail, Ruby, and Rails videos

- <http://dn.codegear.com/>
- Updates, tech articles, video sessions
- Roadmaps...
- Don't forget... newsgroups.borland.com

CodeGear's renewed focus on Quality

- The Delphi product lines benefit from renewed focus on Quality
 -
 - Doc update – 4th QTR
 - Quality release—2 3rd QTR
 - Quality release—1 2nd QTR

Deep information... check the blogs...

The screenshot shows a web browser displaying the CodeGear blog for Steve Shaughnessy. The page features a navigation menu with links for Home, Products, Developer Network, Support, Education, Downloads, How to Buy, and About Us. A sidebar on the left lists categories (Delphi, Family, Games, General, Generics, IDE, Links, Personal, Uncategorized, Wii, Work, Xbox) and archives by month from November 2007 to August 2006. The main content area shows a post titled "Blackfish SQL part 2" under the "Uncategorized" category. The post text discusses the features of Blackfish SQL, including simple deployment, industry compliance, performance, and in-process execution.

Categories:
CodeGear
Delphi
Family
Games
General
Generics
IDE
Links
Personal
Uncategorized
Wii
Work
Xbox

Archives:
November 2007
October 2007
September 2007
August 2007
July 2007
June 2007
May 2007
April 2007
March 2007
February 2007
January 2007
December 2006
November 2006
October 2006
September 2006
August 2006

Categories:
Uncategorized

Archives:
September 2007
March 2007
February 2007
December 2006
May 2006

Blackfish SQL part 2
In my second blog on Blackfish SQL I have highlighted several of its key features. Mar work with and easy to deploy.

Simple deployment.
There are single file deployment options for both the .NET and Java platforms. If you you need to deploy. This is particularly nice for ASP.NET applications. No longer need there is a single jar file to deploy. The license file also needs to be deployed, but this to do simple xcopy deployments. On both platforms the deployment size of the binary

Industry compliance.
SQL-92 compliant. Local and remote ADO.NET providers. Local and remote JDBC dr

Performance.
Early on we would do benchmarks against other Java databases. However we quickly them. We also found that we had no problem competing with databases written in na native code can be made faster for simple code, but with the complexity of transaction: king. We have not performed major tuning for a while, and I'm not going to claim it's th

In-process execution.
The local ADO.NET and JDBC "local" drivers execute in process for improved perform:

Delphi, C#, VB.NET, and Java stored procedures and triggers.

- Great resource that is underutilized

3rd party components...

RAD Studio 2007 and Delphi 2007 compatible components_mjr.pdf - Adobe Reader

File Edit View Document Tools Window Help

1 / 3 56.8% Find

CODE GEAR FROM Borland **2007 RAD STUDIO** 3rd party compatible components

	Vendor	Components	Vendor web site	Compatible with Delphi 2007
1	woll2wooll	InfoPower	http://www.woll2wooll.com	X
2		1stClass Studio 2007		X
3	Steema	TeeChart Pro	http://www.steema.com	X
4	LMD Innovative	LMD Tools	http://www.lmdinnovative.com	X
5	Developer Express	Express Product Suite	http://www.devexpress.com	X
6	QUSoft	QuickReport	http://www.devexpress.com/Downloads/VCL/index.xml http://www.qusoft.com	X (not included in RAD Studio 2007, only in Delphi 2007 for Win32)
7	QUSoft	QRDesign	http://qusoft.com/qrdfeat.html	X
8	FastReport Inc	FastReport	http://na.fast-report.com/en/	Officially Delphi 2006, but works for 2007
9	Rave Reports (Nevrona)	Rave Reports (Nevrona)	http://www.nevrona.com	X
10	Keiver IT	EzPlanIT	http://www.keiver.com	Officially Delphi 2006, but works for 2007

List of all components:
<http://www.devexpress.com/Downloads/VCL/index.xml>

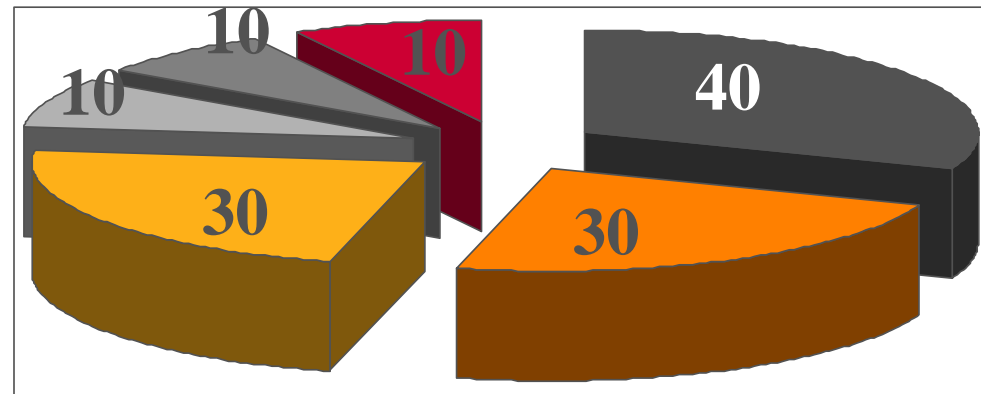
- <http://dn.codegear.com/article/37455>

Software Archeology

Where has the Delphi product line improved since Delphi 7?

- IDE Enhancements
- New Developer Functionality
- DataBase Support
- VCL
- OS Support
- Support for latest frameworks

Areas of change with Delphi 2007



- Combination of functionality (non-scientific)
- The best way to show is through the approach of Software Archeology and Refactoring...

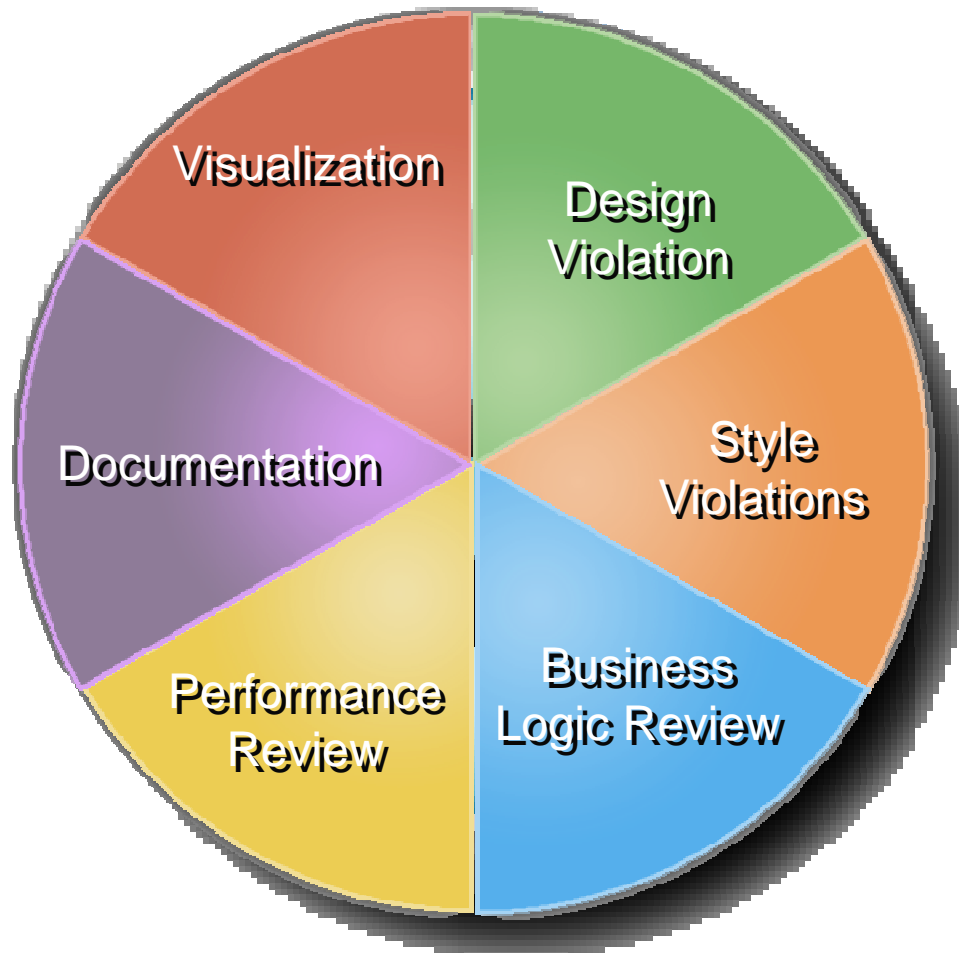
What is Software Archeology?

- A process for approaching unknown software that we have become responsible for...
- An approach to unraveling the complexities of an existing application
- The analysis of past applications to learn and understand why it was done that way

Software Archeology



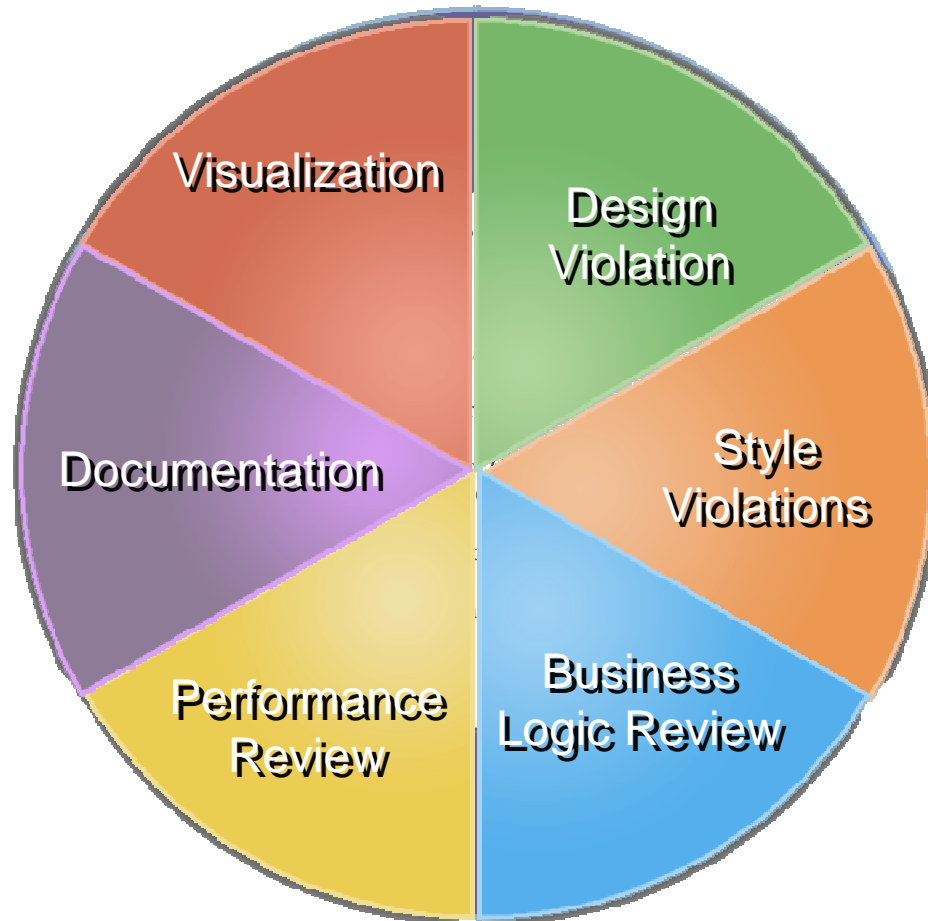
Software Archeology



Software Archeology



Software Archeology



Why is Software Archeology important?

- Always asked to rebuild the wheel
 - How many times have you been asked to recreate this current implementation, but better?
- Inheritance of code
- Outsourcing
- Graying of IT

Why is Software Archeology important?

- Always asked to rebuild the wheel
- Inheritance of code
 - How many times have you picked up someone else's code or project... to be enhanced?
- Outsourcing
- Graying of IT

Why is Software Archeology important?

- Always asked to rebuild the wheel
- Inheritance of code
- Outsourcing
 - Projects get outsourced, rural sourced, in-sourced, local sourced, and every other kind of sourced...
 - Do you understand the systems that were created?
 - Do the outsourcers understand the system they are inheriting?
- Graying of IT

Why is Software Archeology important?

- Always asked to rebuild the wheel
- Inheritance of code
- Outsourcing
- Graying of IT
 - By 2010... almost 37% of the software industry will consist of persons older than 50!
 - Do you understand the systems they have created?

What can be learned?

- High-level architectural understanding
- Weak-points in existing software
 - Maintenance nightmares
 - Performance bottlenecks
- Standards compliance or lack there of...
- The overall health and value of the application
- Architectural approaches or how not to solve a problem
- Finding and Harvesting of Algorithms and patterns

What tools are needed?

- Need to be able to get a picture
- Need to be able to do static analysis
- Need to be able to do Dynamic analysis
- Need to be able to test the system
- Need to evaluate the performance
- Can it be done by hand?
 - Yes... but very time consuming... code reviews, system tests, and primitive system performance models
- Is there a better way?
 - Use a software tool

What is the cost of code reviews

- Very controversial subject
- But for me tools can enhance the approach
- **Task**
 - Review by hand a small example set of code
 - 5 classes, 139 lines of code, 4 “experts” in 15 minutes
 - Average audit violations detected: **21** **time: 0.25 hr**
- **Comparison**
 - The same set of code analyzed by a machine:
 - Audit violations detected: **150** **time: 2 sec**
 - Humans @ 84/hr
- **Real “sample” Project**
 - 187,600 violations in 100 minutes on a project with 1233 classes and 199,146 lines of code
 - **32,443** violations using the default set
 - Actual customer case studies show **~400 man/hour savings** per code review

Other functionalities highlighted with SA

- UML
- Patterns
- Audits and Metrics
- Documentation generation
- Refactoring

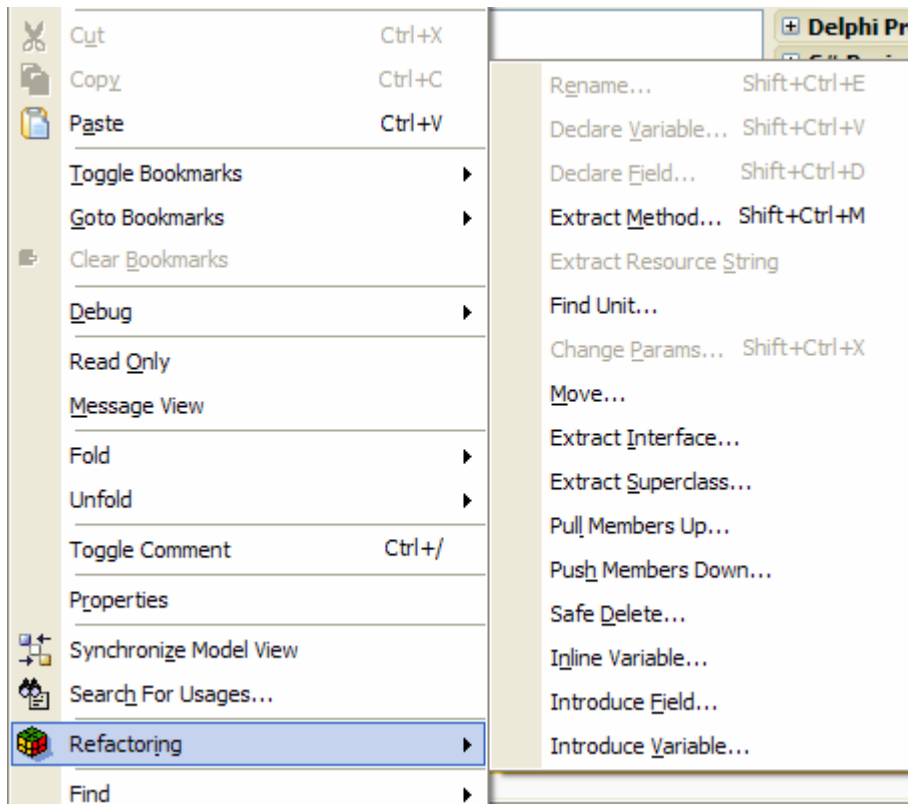
Refactoring with Delphi...

Refactoring...

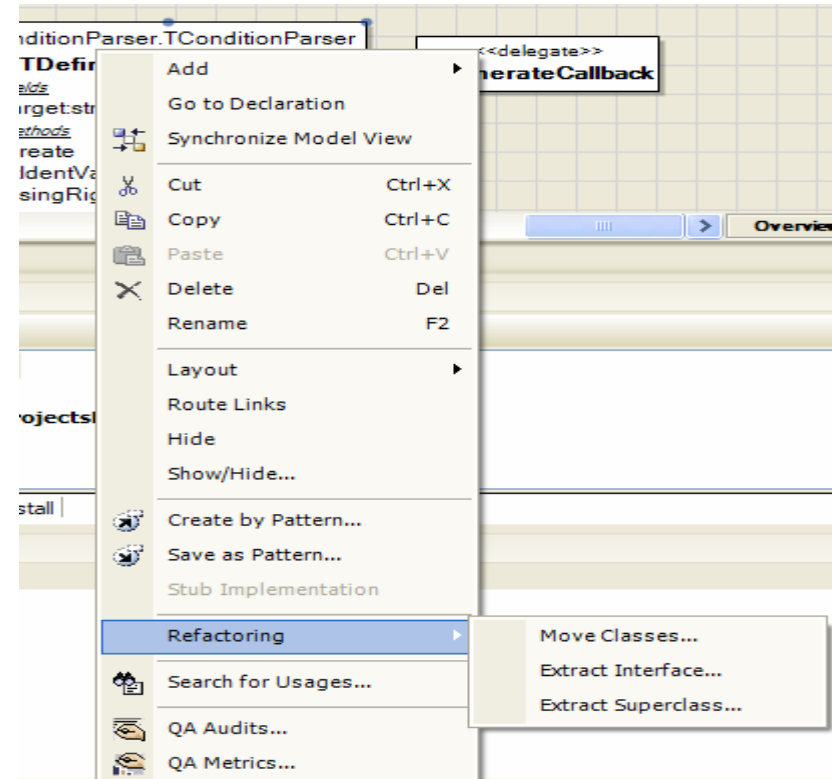
- It's one of the buzzword conversations about software development.
- Made famous by a book of the same title [Fowler], it is a term for what has always occurred during the development of software.
- Basically, refactoring involves changing source code in a way that does not change its behavior but that improves its structure.
- The goal is to more easily understand and maintain software through these usually small changes in its design and implementation.
- Smells (Beck)

What is in Delphi

- Code Based



- Model Based



What and when...

- How does a developer know what to refactor on a large, somewhat unfamiliar code base?
- Using Metrics...
- Using Audits...

Refactoring – Metric-Driven

- Configure Metrics sets that are aimed at certain refactorings:
 - Extract Class
 - CBO, NOIS, NOC, LOCOM3, FO, NOAM, LOC, NOA, NOO, NORM, HPLen
 - Extract Subclass
 - NOA, NOM, NOO, RFC, WMPC1, NOAM, WMPC2, DAC, FO, NOCC
 - Extract Method
 - MSOO, NOCON, RFC, MNOL, CC, NORM, WMPC1, MNOP, WMPC2, CBO
 - Extract Interface
 - NOOM
 - Inheritance-Based Refactorings
 - DOIH, NOCC

Refactoring - Some Considerations

- Use Audits to target certain refactorings:
 - Reverse Conditional, Remove Double Negative
 - NOIS (Negation Operator in 'if' Statement)
 - Encapsulate Field
 - PPA (Public and Package Attribute)
 - Renaming
 - NC (Naming Conventions – uses regex)
- Run Audits before Metrics
 - UPCM and ULVFP before WMPC2, NOA etc.
 - ILC before NOIS
- Format Code before Metrics, as may impact:
 - LOC (Lines Of Code) – consider using HPLen
 - (CR) Comment Ratio & (TCR) True Comment Ratio

Demonstrations

- Brief Software Archeology
- Brief Refactoring

Thank You 😊

- Additional Delphi product line Resources:
- Delphi Products pages:

<http://www.codegear.com/products/radstudio>

<http://www.codegear.com/products/delphi/win32>

<http://www.codegear.com/products/cppbuilder>

- Developers Network: Delphi products

<http://dn.codegear.com/delphi>

<http://dn.codegear.com/cpp>