

Big Changes!

The Cincom Smalltalk Roadmap

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"ALL THE NEWS
YOU NEED TO KNOW"

News·Today

FOUNDED 1881

CHANGES AHEAD!

Contents

- Cincom Talks
- Foundation
 - Recent changes
 - The “X” factor
 - Millennial Changes
- ObjectStudio
- VisualWorks

Cincom Talks

- 2048 Contest – Advocacy and Innovation
- AppeX – The Next Generation Web development
- SiouX – A Modern Smalltalk HTTP server
- Advanced GLORP; round trip refactoring

Product Focus

- Product changes focused on customer needs
- Continued innovations
- New fundamental improvements



The Products

ObjectStudio

VisualWorks

Cincom Smalltalk Foundation

The Products

ObjectStudio

VisualWorks

Cincom Smalltalk Foundation

Product Changes

- Recent past improvements
- Millennial changes
- ObjectStudio 8.6
- VisualWorks 8.0 8.0!
 - Big number change
 - Big changes!



Foundation – Recent Past

- 64 bit VM's (most platforms)
- Store revamped
- WSDL
- COM
- GLORP
- Cairo

Foundation – Recent Past

- External Encryption
- Database driver upgrades

The “X” factor

- Xstreams – new streaming for Smalltalk
- MatriX
 - Simplified concurrency
 - Get the most performance from your multicore processor
- SiouX
 - “build an HTTP server with Xstreams with the goal of squeezing as much scalability and performance out of it as we can”
 - Replaces several older http servers with one better
- AppeX
 - Our Next Generation Web App Framework

Foundation – New!

Sioux - New

- Moved from preview to production
- Request filters
 - BasicAuthenticationFilter
 - SessionCookieFilter
 - LocaleFilter
- LoadBalancing options
- Session support
- WebSockets
- Improved Tools
- Examples

Appex - New

- Moved from preview to production
- JavaScript editor with syntax highlighting
- Integration with SiouX's;
 - Session management
 - WebSockets
 - Web configuration for SiouX server
- Amber example

PostgreSQL

PostgreSQL is widely used in CST

- Socket api requires no driver installation
- Used for public repository
- Accessed with contributed driver

New PostgreSQL drivers

New Drivers

- Protocol 3 supported
 - Protocol 2 is being phased out by Postgres
- Cincom supplied and supported drivers
 - Works with PostgreSQL 8+
 - Recommend PostgreSQL 9+
- New Libpq C driver
 - May offer greater performance
 - Will use array binding when available

Protocols

- Client/Server Authentication (MASSL)
 - Client can authenticate with RSA based certificates
 - Server can authenticate with RSA/DSA certificates
 - Using SSL & TLS

“What’s past is prologue”



*** Millennial Changes ***

- Major Frameworks developed - prior to 2000
- Major Frameworks revamping - post 2000
 - New, modern
 - “You CAN get there from here”
 - PM directives
 - “If it requires change, make it worth it”



Millennial Changes

- Text2
- SourceCode Editor 2
- UISkinning (Look&Feel2)
 - Foundation tools
 - VisualWorks applications
- Next Generation UI
 - ObjectStudio



Text -> Text2




Text2

- Capable
- Performance
- Accessible

Text2 - Capable

- Document
 - Word wrapping
 - Line numbers
 - Paragraph numbers
 - Line numbers
 - Line striping
 - Hidden characters
 - Read-only
- Paragraph
 - Direction
 - Alignment
 - Paragraph spacing
- Alignment
 - Indent, first line indent, padding
 - Left, right, center, justify
- Fonts
 - Family, size, color, bold/italic
 - Variable sizes in same line
- Adornments
 - strike through
 - underline, double underlines, dashed underline, more
 - overline
 - Shadow
- Actions
 - clicking on a text can run code, open a web browser
- Annotations
 - Annotate with text
 - hover-help
 - Wrap, dodge, stretch
- Cursor change property
 - Bullseye, caret, crosshair, database, earth, hand, marker, scroll, square, wait, hyperlink

Text2 - Capable

- Sparklines The goal of a sparkline is to represent data  inline
- Vertical alignment within lines
- Bidirectional content
 - with support for embedded direction marks
- Unicode
 - font measuring
 - rendering
- Images in documents
- Lists
 - bulleted
 - Numbered
 - with international numbering schemes
- Sparse editing history to support large documents

Text2 - Performance

- Smart Algorithms
- Treap - binary search tree
 - Acts like a Dictionary
 - Acts like a double linked list
 - Used in Document

Text2 - Accessible

- 3 Widgets
 - DocumentView
 - DocumentEditor
 - InputEditor

Text2 - Accessible

- New SourceCodeEditor
- Refactoring Browser
- Debugger
- Workspace
- Trippy
- Launcher

..... Its all in Smalltalk!

New SourceCodeEditor

New SourceCodeEditor

- New source code editor needs
 - Modern / capable
 - Fast
 - Accessible/extensible

New SourceCodeEditor

- Built in capabilities
 - Auto-Complete
 - Code Highlighting

New SourceCodeEditor

- Warnings and other information are annotations

New SourceCodeEditor

- Code critic
- Breakpoints overhauled
 - Disabled,once,infinite
- Lexical navigation (alt+ctrl+arrow)
- Ctrl-E(xplain) -> implementors
 - Cursor dependent
- Integrated find, find/replace

New SourceCodeEditor - Themes

Themes are a display properties syntax for document elements

Assign font, size, colors & more to:

- Messages
 - Unary, binary, keyword
- Comments, strings, arrays
- Class
- Errors, Warnings
- Variables, Constants
- Syntax
 - Brackets, bracket depth

- Twenty seven themes to choose from
 - Write your own!

New SourceCodeEditor - Themes

at: anInteger

"Answer the element at index anInteger.

at: is used by a knowledgeable client to access an existing element"

```
anInteger isInteger iffFalse: [^self nonIntegerIndexError: anInteger].
^(anInteger < 1 or: [anInteger + firstIndex - 1 > lastIndex])
  ifTrue: [self subscriptBoundsErrorFor: #at: index: anInteger]
  ifFalse: [super at: anInteger + firstIndex - 1]
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New SourceCodeEditor - Themes

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New SourceCodeEditor - Customizable

- Plugins
 - Intercept events and states (VEC)
- Decorators
 - Apply on each change
- Pluggable “Other language support”
 - DSL's, Javascript, Other
 - Plugins and decorators can be specific to each
- Themes

New SourceCodeEditor - Customizable

Examples of Plugins and Decorators

○ Plugins

- SourceCodeAutoComplete
- SourceCodeAutoQuote
- SourceCodeAutoIndent

○ Decorators

- SyntaxHighlightingDecoration
- UrlHighlightDecoration
- SmalllintDecoration

Millennial Changes

Text2

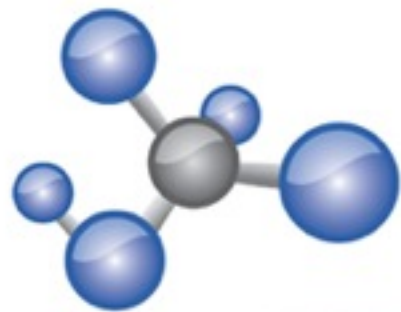
SourceCodeEditor2

ObjectStudio

ObjectStudio

VisualWorks

Cincom Smalltalk Foundation



ObjectStudio®



Millennial Changes

- Foundation Millennial Changes
- Next Generation UI

Next Generation UI

“Makes most or all of Windows widget options available to the developer”

- No primitives
- All Smalltalk using FFI (DLLCC) -> Win32
- Native Widgets
 - Latest features of Native Widgets
- Support for jpg, png, gif, tif
- Access to GDI+ features
 - Gradient brushes
 - Alpha blending

More Changes

- Continued work on OLE2
 - Shared more capable COM
 - Support for ActiveX controls (8.6)
- Better class icons for ObjectStudio classes
 - Used in browsers and inspectors
- TabularListBox, TabList
 - Cell content specific formatting enhancements
- AR's
 - 122, over 900 for Foundation

ObjectStudio Future

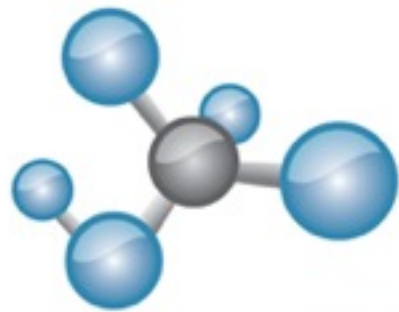
- Next Generation UI integration and compatibility
- OLE2 completion
- GUILayoutTools2
- 64 bit

VisualWorks

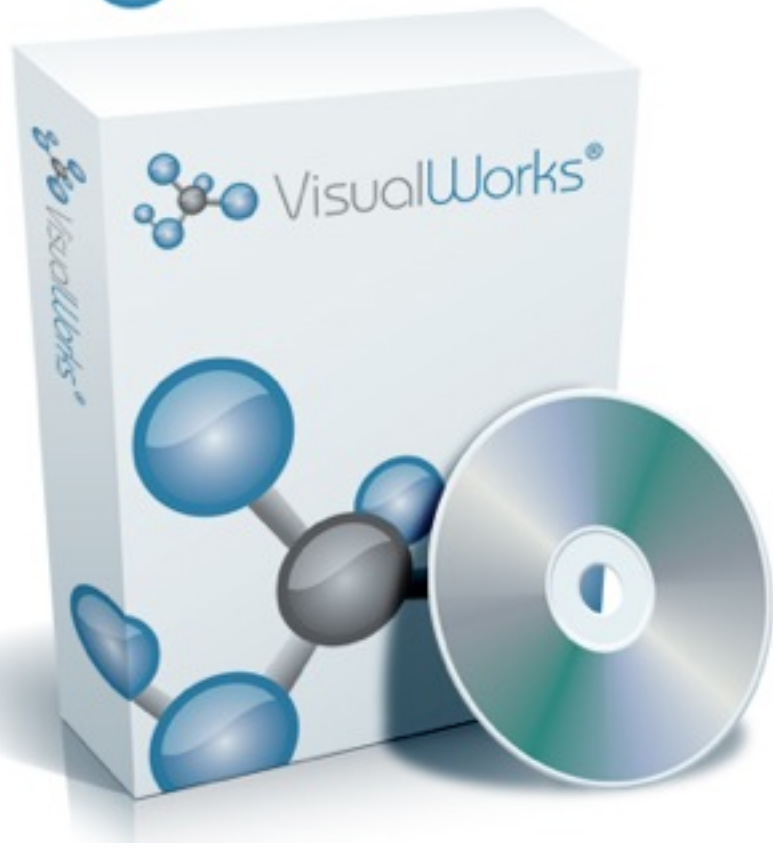
ObjectStudio

VisualWorks

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VisualWorks®



Millennial Changes

- Foundation Millennial Changes
- UISkinning (L&F2)
 - Native widget rendering on Windows, OSX
 - New default look
 - Replaces a much larger, older framework
 - Makes it simpler to create a custom look
 - Red/green look to distinguish images
 - Enables new layout strategies

Whats Next?

More Millennial improvements

- UIPainter 2
- Widgets 2
- Graphics 2
- Help 2
- DataSet 2

Whats Next?

Your requirements needed!

Try Cincom Smalltalk

- ❖ Download from Cincom Smalltalk web site:

try.cincomsmalltalk.com

- ❖ Join our Developer program:

develop.cincomsmalltalk.com

<http://www.cincomsmalltalk.com>



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