



# Cincom Smalltalk™ Roadmap 2015

By Arden Thomas



 Cincom®



# Overview

- **Cincom Talks**
- **Products**
- **Cincom Smalltalk Past / Present / Future**
- **One More Thing:**
  - Items of Interest
  - Smalltalk Promotion

# Cincom Talks

## Andreas Hiltner

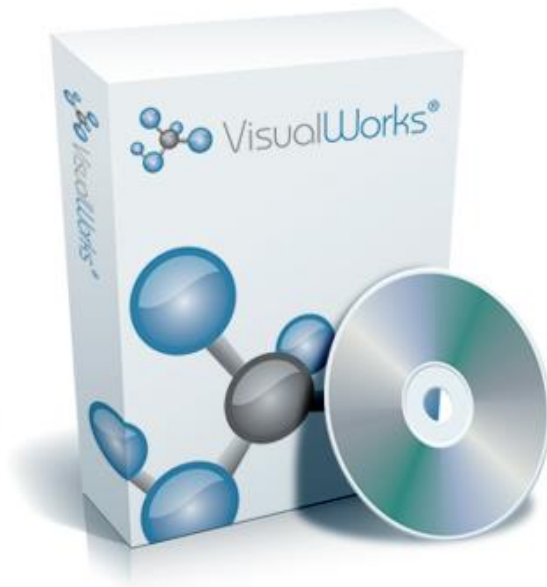
- Cincom Smalltalk on a Tablet
- Windows System Tools in Smalltalk
- Smalltalk-driven GUI Testing

## Jerry Kott

- Cincom Smalltalk Security Update
- Single Page Web Application Development with SiouX and AppeX

## Niall Ross

- From Legacy Database to Domain Layer in the Cincom® VisualWorks® Mapping Tool



# The Products

**ObjectStudio**

**VisualWorks**

**Cincom Smalltalk Foundation**



# Past / Present / Future - Products

## Past / Present / Future

- **ObjectStudio 8.6**
- **ObjectStudio 8.6.1**
- **VisualWorks 8.0**
- **VisualWorks 8.0.1**



# Past / Present / Future - Products

## Past / Present / Future

- **ObjectStudio 8.7**
- **VisualWorks 8.1**





# Past / Present / Future - Products

## Past / Present / Future

- **ObjectStudio 8.7.1**
- **ObjectStudio 8.8**
- **VisualWorks 8.1.1**
- **VisualWorks 8.2**



# Past / Present / Future - Foundation

## Past / Present / Future

- **ObjectStudio 8.6**
- **VisualWorks 8.0**



# Past / Present / Future - Foundation

## Past / Present / Future

### Foundation 8.0+

- Big changes
- Digesting new work
- Feedback critical
  - Making course corrections
  - Making refinements
- Why we listen
  - Make sure it is usable
  - Meets needs



# Past / Present / Future - Foundation

## Past / Present / Future

### Foundation 8.0+ Millennium Changes

- Text2
- SourceCodeEditor2



# Past / Present / Future - Foundation

## Text2

- 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
- Sparklines
- 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

# Past / Present / Future - Foundation

## New Source Code Editor

- **Autocomplete**
- **Editor Themes**
  - Many to chose from
  - Customizable
  - Build your own
- **Warnings et al, are Annotations**
- **API, pluggable, DSL's etc**

# Past / Present / Future - Products

- **ObjectStudio 8.7**
- **VisualWorks 8.1**





# Past / Present / Future - Products

## Stability Release

- Taking time to “Sharpen the Saw”

# Past / Present / Future - Products

## Refinements / Fixes – Action Requests (AR's)

- Support tracks resolutions
- 79 resolutions were addressed in Foundation / VisualWorks 8.1
- 32 resolutions addressed in ObjectStudio 8.7

# Past / Present / Future - Products

## GUI/Tools - Text2 refinements

- Improved parsing time for Text2 documents
- Added delete-(next/previous)-word operations
- SourceCodeEditor –
  - Incorporated SpellChecker2 for selector hints

# Past / Present / Future - Products

## GUI

- Flicker issue addressed enabling double buffering
- Old Browsers now deprecated
- Early testing on El Capitan and Windows 10
  - L&F2 (skinning) accommodates, looks up to date

# Past / Present / Future - Products

## Protocols - AppeX

What is AppeX?

- **A new Web application framework using**
  - SiouX
  - Xstreams
- **Core Javascript library on the client**
  - seamlessly connects to the server (Smalltalk)
- **JS code editor integrated in CSTIDE**
  - Uses CST themes
- **Object-Oriented JS with class hierarchy (before ECMAScript 6)**
- **What You Write Is What You Get**

# Past / Present / Future - Products

## Protocols - AppeX

AppeX:

- JavaScript theme support
- RESTful API support
- ActiveRecord support
- CSS Theme support

# Past / Present / Future - Products

## AppeX: Scaffolding Tool

- The new Scaffolding tool is a tool that helps create a web application from existing database tables
- A web application can be created:
  - Using “Create Web Application” from VW Tools menu
  - Programmatically using WebApplicationBuilder class.
- Uses
  - ActiveRecord
  - GLORP



# Past / Present / Future - Products

## Appex: Examples *“Play well with others”*

- Mobile
- Stateful
- ActiveRecord
- 3<sup>rd</sup> party library
- Seaside integration

# Past / Present / Future - Products

## Protocols – Security

### TLS

- **TLS session renegotiation support**
- **Elliptic Curve Cryptography (ECC)**
- **Ephemeral Diffie-Hellman key exchange (DHE)**

# Past / Present / Future - Products

## Protocols – Sioux: RequestFilters

Sioux-Examples and Sioux-WebSocket packages:

- **LocaleFilter**
  - Implements locale extraction from an HttpRequest, based on a customizable set of rules.
- **WebSocketFilter**
  - Upgrades an HTTP connection to a WebSocket connection.
- **PAMAuthFilter**
  - Authenticates a user using LinuxPAM libraries.
- **ETagRequestFilter from AppeX-Core parcel**
  - ETagRequestFilter is a request filter that may be added to an application responder to enable client-side resource caching through the use of 'ETag' response header as per RFC 7232
- **NoCacheRequestFilter from AppeX-Core parcel**
  - Ensures that the specified services set HTTP response headers to no caching.

# Past / Present / Future - Products

## Protocols – SiouX

### Support for Linux Pluggable Authentication Modules (PAM)

- **Linux (PAM)**
  - “provide dynamic authentication support for applications and services in a Linux system”
- **User authentication using LinuxPAM libraries**
- **See**
  - [http://www.linux-pam.org/Linux-PAM-html/Linux-PAM\\_ADG.html](http://www.linux-pam.org/Linux-PAM-html/Linux-PAM_ADG.html)
  - <http://linux.die.net/man/3/pam>
- **Appex demo**

# Past / Present / Future - Products

## Glorp New / Refinements

- **GlorpAtlasUI**
  - VisualWorks tool
  - Assists new application development from legacy Db starting point
  - Assists AppeX scaffolding
- **Glorp Mapping**
  - Mapping improvements
  - Stability refinements

# Past / Present / Future - Products

## Database: Drivers

- **ODBC 3.0 Preview**
  - ODBC 2.0 is default, 3.0 optional (VW8.1)
  - Next (major) release ODBC 3.0 extended to
    - Threaded ODBC connect
    - ObjectStudio's ODBC wrapper
- **PostgreSQL 3.0 driver refinements**
  - Faster
  - More robust
- **31+ Refinements/Fixes/Improvements for Database this cycle**

 ObjectStudio®





# Past / Present / Future - ObjectStudio

## ObjectStudio 8.6 Millennium Change

Foundation Millennium improvements

\* Next Generation UI introduced

# Past / Present / Future - ObjectStudio

## ObjectStudio 8.6 Millennium Change

### Next Generation UI

- No primitives
- All Smalltalk (Win32)
- Native Widgets
- Support for jpg, png, gif, tif
- Access to GDI+ features
  - Gradient Brushes
  - Alpha Blending

# Past / Present / Future - ObjectStudio

## ObjectStudio 8.6 Millennium Change

Next Generation UI improvements

# Past / Present / Future - ObjectStudio

## ObjectStudio Improvements

- Foundation enhancements
- Gesture touch support
- NG UI Improvements
- DB2 array fetching support
- Performance enhancements

# Past / Present / Future - ObjectStudio

## ObjectStudio Next Generation GUI - Enhancements

- UIOwnerDrawButton
- UIView
- NGWorkspace
- UITab
- UIOwnerDrawTab
- UIEdit
- ImageList
- TestGUIDGenerator
- NamedImageList
- UICharFormat

# Past / Present / Future - ObjectStudio

## ObjectStudio – New System Tools!

- Windows System tools
  - Windows Power API
    - Battery state
    - Sleep
    - Thermals
    - Suspend/Resume API
- Windows Process Explorer
  - Show time and CPU spent in
- Windows Spy tool
  - Shows all registered Windows
  - All processes
- Windows GDI Log

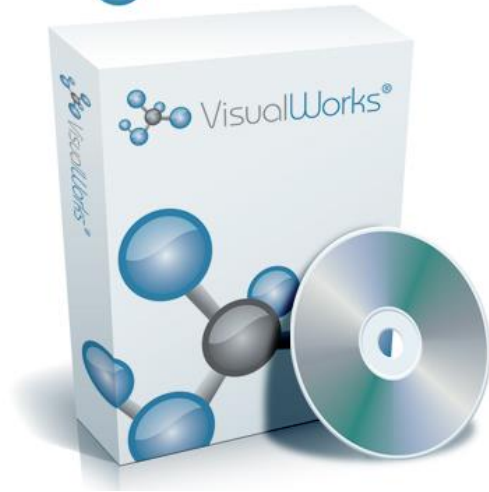
# Past / Present / Future - ObjectStudio

## ObjectStudio New GUI Testing Tools

- Test almost any Windows GUI (not just Smalltalk)
- See Andreas' Talk

The VisualWorks logo consists of a 3D molecular model with a central grey sphere and five blue spheres connected by grey rods.

VisualWorks®





# Past / Present / Future - VisualWorks

## Look & Feel2 (UI Skinning)

- Native rendering while retaining customizability
  - Best of both worlds

# Past / Present / Future - VisualWorks

## Look & Feel2

### UISkinning

- Added support for OS X 10.10 (Yosemite)

# Past / Present / Future - VisualWorks

## Upgrades to Platform Baselines

- **Linux**
  - Customer survey
  - RHEL 5.6
  - Glibc 2.5, libx11 1.0.3, zlib 1.2.3
- **OSX**
  - OSX 10.8 (Mountain Lion)
- **Windows**
  - Vista & Server 2003 dropped

# What's Next?



# Past / Present / Future

## What's on the Radar?

- More Millennium changes

# Past / Present / Future

## Future Millennium Changes

- **Next Generation UI (ObjectStudio)**
- **Widgets2 (VisualWorks)**
  - DataSet2

# Past / Present / Future

## Future Millennium Changes

- **UIPainter2**

# Past / Present / Future

## Future Millennium Changes

- **Graphics2**



## General Interest to Smalltalkers

# Smalltalk

# General Interest to Smalltalkers

## Things that you may want to know about...

- **Customer**
- **Smalltalker**

# General Interest to Smalltalkers

Things that you may want to know about...

- **MatriX**
- **Polycephaly**
- **MapReduce & Hadoop**
- **Fonts**
- **Smalltalk in the news**
- **Language survey**

# General Interest to Smalltalkers

## MatriX and Polycephaly

- **Easy Concurrency**
- **Lets you leverage multi-core processors**
- **Extremely effective way to boost throughput**

# General Interest to Smalltalkers

## MapReduce and Hadoop

- **MapReduce** is a popular and effective technique used to apply concurrency to problems often involving large amounts of data, in order to improve performance.
- **Hadoop** is a popular implementation of the MapReduce model or technique.
- **MapReduce** is named after the functional programming functions `map` and `reduce`.
- The ***map*** function applies a function to each element in a list and ***reduce*** aggregates or combines the results.
- MapReduce can distribute the Map work to many machines, and then Reduce summarizes the work into a final answer.

# General Interest to Smalltalkers

## MapReduce

- ***map*** function applies a function to each element in a list
- ***reduce*** aggregates or combines the results.
- So in Smalltalk:
  - **collect**: can be our ***map***
  - **fold**: can be our ***reduce***

# General Interest to Smalltalkers

## MapReduce Example

```
runExampleLocal
"self runExampleLocal"
| files wordCounts summary results |
files :=self myFiles.
wordCounts := files collect[:fileStr | self wordCountFor: fileStr ].
summary := self reduce: wordCounts.
results := summary associations sort: #value descending.
(results first: 100) do[:ea |
    Transcript cr;
        show: ea key; tab;
        show: ea value printString ].
```

```
runExample
"self runExample"
| files vms wordCounts summary results |
files :=self myFiles.
vms := MatriX.VirtualMachines new:3.
wordCounts := [vms do[:fileString | MapReduceExample wordCountFor: fileString] with: files] ensure:[vms release].
summary := self reduce: wordCounts.
results := summary associations sort: #value descending.
(results first: 100) do[:ea |
    Transcript cr; show: ea key; tab;
        show: ea value printString ].
```

# General Interest to Smalltalkers

## Fonts

*Symphonique Stassi* **SHADOWCAST**  
*School Week Rocket Diner*  
**Rodeo Drive** *Pirate Island*  
**Retropop** **ORION NEBULA**  
*Polynesia* *Opening Night*  
**Olde Lilliput** *Olde Germanica*  
**NEATONIAN** **Neverlonie**  
**News Chronicle** **Master Scholar**  
**Modern 101** **Memotype**  
*Rundero* **Neon Show**  
**TINSELTIP** **Orvelian Brush** **OPTIKO**



# **General Interest to Smalltalkers**

## **Smalltalk Still the Smart Choice**

# General Interest to Smalltalkers

## Smalltalk Still the Smart Choice

*“Function Points as a Universal Software Metric”*

by Capers Jones of Namcook Analytics, 7/13/2013

*“Function point metrics are the most accurate and effective metrics yet developed for software sizing and also for studying software productivity, quality, costs, risks, and economic value. ”*

- Our customers want third party reassurance that Smalltalk remains a good economic choice
- This recent paper is very clear about Smalltalk’s proven productivity

# General Interest to Smalltalkers

## Smalltalk Still the Smart Choice

*“Function Points as a Universal Software Metric”*

by Capers Jones of Namcook Analytics, 7/13/2013

Language	Language level	Coding months	Non-code months	Total months
C	2.5	128	50	178
FORTRAN	3	107	50	157
JavaScript	4.5	71	50	121
Lisp	5	64	50	114
C++	6	53	50	103
Java	6	53	50	103
Python	6	53	50	103
C#	6.25	51	50	101
Ruby	7	46	50	96
Haskell	8.5	38	50	88
Delphi	11	29	50	79
Objective-C	12	27	50	77
Visual Basic	12	27	50	77
Smalltalk	15	21	50	71

# General Interest to Smalltalkers

## StackOverflow Developer Survey

- + Good survey on current Languages
- No Smalltalk!

***2016 – Let's change this!***

# General Interest to Smalltalkers

## Smalltalk Digest



Sign up today!

<http://www.cincomsmalltalk.com/main/community/resources/smalltalk-digest/>

# Questions?

# Contact Information

## Star Team (Smalltalk Strategic Resources)

- **Suzanne Fortman** (sfortman@cincom.com)  
*Cincom Smalltalk Program Director*
- **Arden Thomas** (athomas@cincom.com)  
*Cincom Smalltalk Product Manager*
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# Try Cincom Smalltalk

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