VASmalltalk™
Today and Tomorrow

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instantiations
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Agenda

- Introduction
- History
- VA Smalltalk™ 8.0
- Future Directions
- Q&A
Who am I?

- First saw (Digitalk) Smalltalk in 1987; first used Smalltalk shortly thereafter
- Joined original IBM Smalltalk prototype team in 1990
- Joined IBM VisualAge Smalltalk development team as a founding member in 1991
- Team Lead and Chief Architect of IBM VisualAge Smalltalk from 1997 to 2007
- Retired from IBM and joined Instantiations in February 2007 to lead VA Smalltalk development team
Product History

- **2004** Instantiations provides VisualAge® Smalltalk support for IBM
- **2005** Instantiations licenses VisualAge Smalltalk
- **2005** VA Smalltalk 7.0
- **2006** VA Smalltalk 7.0.1
- **2007** VA Smalltalk 7.5, 7.5.1 and 7.5.2
- **2009** VA Smalltalk 8.0, **8.0.1**
VA Smalltalk 8.0

- Seaside
- Browser and Tools Enhancements
- Web Services Enhancements
- Revised Documentation
- Small Enhancements
- What’s Missing?
VA Smalltalk 8.0 Driving Forces

- Industry-accepted functionality
  - Seaside and friends
- Modernization
  - Browsers
- Compatibility
  - ANSI Exceptions, Internationalization
- Performance
  - Under the covers
Seaside – what is it?

- Framework for developing sophisticated web apps
  - Base for higher-function frameworks
- Layered abstraction over HTTP and HTML
- Quickly build highly-interactive apps
  - HTML concepts exposed in Smalltalk
  - HTML markup hidden
Scriptaculous – what is it?

- Scriptaculous
  - Javascript libraries
    - Visual effects engine
    - Drag and drop (including sortable lists)
    - Ajax controls
jQuery – what is it?

- jQuery Core
  - Fast, concise JavaScript Library
  - Simplifies HTML document traversing, event handling, animating, and Ajax interactions

- jQuery UI
  - Abstractions for low-level interaction and animation, advanced effects and high-level, theme-able widgets
VA Smalltalk V8.0 Seaside

- Seaside 2.9alpha3 +
  - Core
  - jQuery
  - Scriptaculous
  - RSS
  - Slime
    - Extension to RB Smalllint

- Seaside Tools
- Seaside Porting Layer
Seaside Tools

Seaside Server Control Panel

<table>
<thead>
<tr>
<th>Server Adaptor</th>
<th>Port</th>
<th>Current</th>
<th>Peak</th>
<th>Total</th>
<th>Start Timestamp</th>
</tr>
</thead>
<tbody>
<tr>
<td>WASstServerAdaptor</td>
<td>8788</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>12:57:27 PM 4/6/2009</td>
</tr>
</tbody>
</table>

# Seaside Tools

![Seaside Tools screenshot](image-url)

<table>
<thead>
<tr>
<th>Name</th>
<th>Priority</th>
<th>State</th>
<th>Resumable</th>
<th>Switch Count</th>
<th>Blocking Object</th>
</tr>
</thead>
<tbody>
<tr>
<td>CwAsyncIOProcess: userInterrupt (4)</td>
<td></td>
<td>suspended</td>
<td>true</td>
<td>179516</td>
<td>Delay(100ms)</td>
</tr>
<tr>
<td>UI: (4/6/2009 11:35:04 AM): userScheduling (3)</td>
<td></td>
<td>suspended</td>
<td>true</td>
<td>198492</td>
<td>Semaphore(-1)</td>
</tr>
<tr>
<td>HTTP Server Process for: http://:8788/ (1): userScheduling (3)</td>
<td></td>
<td>ready</td>
<td>true</td>
<td>60</td>
<td>nil</td>
</tr>
<tr>
<td>Worker 16393: userScheduling (3)</td>
<td></td>
<td>ready</td>
<td>true</td>
<td>53</td>
<td>nil</td>
</tr>
<tr>
<td>WASstServerMonitor Refresh: userScheduling (3)</td>
<td></td>
<td>suspended</td>
<td>true</td>
<td>2064</td>
<td>Delay(5000ms)</td>
</tr>
<tr>
<td>Dispatch worker: 16396: userScheduling (3)</td>
<td></td>
<td>suspended</td>
<td>true</td>
<td>4</td>
<td>Semaphore(-1)</td>
</tr>
<tr>
<td>Worker 16392: userScheduling (3)</td>
<td></td>
<td>suspended</td>
<td>true</td>
<td>1</td>
<td>Semaphore(-1)</td>
</tr>
<tr>
<td>16397: systemBackground (1)</td>
<td></td>
<td>suspended</td>
<td>true</td>
<td>1</td>
<td>Delay(300000ms)</td>
</tr>
<tr>
<td>Idle 10:04:31 AM: systemBackground (1)</td>
<td></td>
<td>ready</td>
<td>true</td>
<td>970184</td>
<td>nil</td>
</tr>
</tbody>
</table>

New Session Configure Halos XHTML 219/312 ms
Seaside Porting Layer

- Classes and class extensions to enable porting of Seaside
  - Driven primarily by needs of Seaside
    - Content is changing (as Seaside changes)
  - Implementation modeled on Squeak
  - Useful for doing other ports
    - Portions promoted to Base over time
VA Smalltalk Seaside Cautions

- Seaside is alpha level
  - API changes likely
- Seaside Flow unsupported
  - No `#wait:` because no continuations
    - `<some code>.
r := self call: aComponent. "NO, does self wait:"
<more code using r>.

Bereken uw premie

Uw auto
- Weet u het kenteken van de auto? [ja/nee]
- Kenteken
- Aantal kilometers per jaar

Bent u de hoofdbestuurder? [ja/nee]

Uw gegevens
- Geboortedatum
- Postcode
- Schadevrije jaren

Uw verzekering
- Ingangsdatum: 03-09-2009
VA Smalltalk 8.0

- Seaside
- Browser and Tools Enhancements
- Web Services Enhancements
- Revised Documentation
- Small Enhancements
- What’s Missing?
Driving Forces for Change

- User requests for modernized browsers
- User requests for functional merge
  - Standard browsers, VA Assist browsers, Trailblazer, Refactoring browser
- Multiple input channels
  - Conference attendees
  - VA Smalltalk Online Forum
subApplications

"Return the sub-applications which are a direct part of the receiver."

^subApplications
subApplications

"Return the sub-applications which are a direct part of the receiver."

^subApplications^
Affected Windows

- All EtWindow children (toolbar)
- Classes browser
- Class browser
- Application browser
- Shadow application browser
- Script browser
Inspector Enhancements

- Integer shows decimal, hex, octal, and binary
- Workspace contents discarded on inspector close
- Use Options menu to toggle workspace on/off
Other Tools

- Refactoring Browser enhancements
  - contributed by Niall Ross
  - Changes reflected in MED RB Extensions
- SUnit Browser enhancements
  - contributed by Niall Ross
ByteArray

byteAt: index put: value

"Store the Object argument value in the variable position of the receiver represented by the Integer argument index. Answer the Object argument value that was stored.

Fail if index is not a kind of Integer Fail if index is < 1 Fail if the receiver does not have indexed variables Fail if index is greater than the number of indexed variables in the receiver Fail if the class of value is not appropriate for the index variable type of the receiver."

<primitive: VMprObjectBasicAtPut>
self primitiveErrorValue = PrimErrReadOnly ifTrue: [
  ^self basicAt: index put: value

ByteArray>>#byteAt:put:

0000 00  temps = 0
0001 02  args = 2
0002 4A  prim = 74 VMprObjectBasicAtPut
0003 00  stackFrame = 0
0004 87  BCsendUnary0 - (sp) send unary 0 (#prim
0005 1F 20  BCpushAssocB - (b) push assoc 1 ('pri
0007 06  BCsendEqual - (sp) send #=
0008 30 00 06 00  BCPopJumpFalseWP - (wp) pop, jum
0012 3F  BCpushSelf - push self
0013 80  BCpushTemp1 - (sp) push temp 1 (index
0014 7F  BCpushTemp0 - (sp) push temp 0 (value
0015 64 24  BCsendArgs2 - (sp) send literal 2 (#bas
0017 44  BCReturnTOS - return TOS
0018 3F  BCpushSelf - push self
VA Smalltalk 8.0

- Seaside
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- Web Services Enhancements
- Revised Documentation
- Small Enhancements
- What’s Missing?
Web Services Enhancements

- Framework extensions
  - Document/literal and Document/literal wrapped WSDL

- Web Services Cookbook
  - Step-by-step “How do I” for deploying and invoking
    - Debugging tips
    - Serialization/de-serialization customization future
    - Hosting a web service future

- Xml Basic Tools Goodie Upgrade To Wizard
VA Smalltalk 8.0

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Revised Documentation

- **Content**
  - First significant content revision since IBM VisualAge Smalltalk V6.0

- **Delivery mechanism = WebWorks**
  - VA Smalltalk Documentation Server is gone
  - All capability available from web or local
    - Web will get ‘between release’ updates
    - ‘Between release’ updates rolled up for next release
  - PDF books future

- **Appearance**
  - Uses CSS for formatting
Working with the Composition Editor

When creating or modifying a part, you open the Composition Editor for that part. The Composition Editor is made up of several components: the parts palette along the left side, the status area along the bottom left, the tool bar along the top, the free-form surface where you layout the part and subparts, and the visual tool symbols at the bottom right corner.
Introduction

Using the VA Smalltalk Documentation
Browse topics in the Contents frame on the right. Click on a topic in the Navigation frame on the left to have it displayed in the contents.

Use the Back and Forward buttons on the browser to navigate within the history of viewed topics. Use the Back ( Back ( ) and Forward ( Forward ( ) buttons above the Contents frame to navigate topics immediately before and after the current topic.

Navigate up the current branch of the table of contents tree by clicking on the breadcrumbs at the top of each contents page.

Searching
To quickly locate topics on a particular subject in the documentation, enter a query in the Search tab. You can narrow the scope of your search by selecting the single book you are interested in.

When you perform a search, the results are displayed by topic title. Topics with a higher rank number are more likely to contain the information you need.

Synchronizing
After you run a search and find a topic you were looking for, click the Show in Contents button ( Show in Contents ( ) to match the navigation tree with the current topic. You might also find it useful to synchronize after following in-topic links.

Favorites
Use the Favorites tab to bookmark topics you will want to find again quickly. You will get
Text Prompter properties

The Text Prompter part has the following properties:

answerString
The answerString property represents the string that the user last entered into the text field. The value of this property changes when the user presses the Enter key or selects OK in the prompter. If the user selects Cancel, the value of the answerString property does not change.

defaultAnswerString
The defaultAnswerString property represents the string of characters displayed in the text field each time the prompter is displayed.

messageString
The messageString property specifies the string of characters you want to use as the text of your message.

partName
The partName property specifies the name you want to use to describe the part. For nonvisual parts, this text appears under the icon for the part on the free-form surface.

The name of the part can consist of alphanumeric characters, and must be different from those of all other parts on the layout surface.

If you do not specify a part name, VA Smalltalk generates a unique name based on the class name of the part.

className
The className property specifies the class name of the part.

prompterStyle
The prompterStyle property specifies the type of dialog you want the prompter to
Text Prompter properties

The Text Prompter part has the following properties:

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VA Smalltalk 8.0

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Miscellaneous

- Theme support on Windows XP
- XD image parameter import/export
- ENVY/Image Interactive Test Suites added to provide additional examples
- Simple benchmarking methods
  - #sampleAndBrowse
  - #traceAndBrowse
Goodies from VA Smalltalk

- Mechanism for delivery of
  - *not-quite-ready* features
  - Existing website goodies

- Location
  - In product code repository
    - UML Designer
    - ...
  - In VAStGoodies.com repository
VA Smalltalk 8.0

- Seaside
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- What’s Missing?
Unsupported Platforms

- OS/2
  - Hasn’t officially shipped since VAST V6.0.1
  - Most code **REMOVED**
  - Some tidbits remain, but do not function
    - Being removed as we find it
Deferred Function

- Full Unicode (UTF-8) support
  - Staged into V8.0.x
VA Smalltalk V8.0.1 Planned Content

- Seaside 3.0 Beta
  - Some porting extensions promoted to Base **
- VASTGoodies.com Tools
- Unicode (UTF-8) initial support
- Portable ProgressView part added to CE palette **
VA Smalltalk V8.0.1 Planned Content (continued)

- Windows Server 2008 and Windows 7 official support
- cdecl calling convention supported on Windows **
  - EsEntryPoint support future
UNIXProcess defaults to `bash` on Linux

UNIX install enhancements **
- No `csh` symbolic link needed on Linux
- Legacy `x11` directories created and linked to system `x11` directories on Linux
- Install directory automatically created

Sections of Web Services Cookbook on VA Forum
VA Smalltalk V8.0.2 Top Candidates

- Seaside 3.0 GA (if available)
  - Seaside Flow
  - Development tools
    - Class browser
    - Profiler
    - ...
  - Deployment tools
    - Sample packaging instructions
    - Runtime startup
  - Seaside on Apache, etc.
    - FastCGI or AJP or …
VA Smalltalk V8.0.2 Top Candidates (continued)

- SST Servlet multipart forms
- Unicode (UTF-8) support \textit{partial}
- Glorp object/relational database mapper
  - ActiveRecord support \textit{future}
- ANSI Smalltalk
  - Timezone
- OpenSSL
  - Currency (OpenSSL 1.0)
  - Security framework
    - Wrap OpenSSL security interfaces
Ongoing

- Platforms
  - Ubuntu 9.04
  - Fedora Core 11
  - ...

- Performance (hotspot analysis)
  - Base classes
  - XML parser
  - VM
  - ...
Ongoing (continued)

- VM Enhancements
  - Investigate 64 bit (extended memory addressing)
  - Investigate incremental garbage collection

- Look & Feel
  - More browser enhancements
  - More native Windows widgets
  - Improved icon support
  - .png support
  - .tiff improvements
- Improved install/uninstall
  - Single installer for Client and Manager
  - Install/Repair/Uninstall
  - Seamless on Vista and Windows 7 with User Account Control (UAC)

- Windows Services in Smalltalk
  - Eliminate special startup executable
  - More flexibility in structuring services

- TCP/IP V6
Ongoing (continued)

- **Web Services**
  - XML editor (enhancement to current XML Viewer)
  - XML <-> Smalltalk classes translation
  - Automated definition of Smalltalk-based web service
  - Diagnostic tools
    - TCP/HTTP/SOAP Monitor
    - Performance Monitor
When?

- Planned release dates:
  - 10/2009  VA Smalltalk V8.0.1
  - 04/2010  VA Smalltalk V8.0.2

- Check website for latest information
How do I get VA Smalltalk?

- Download evaluation copy
- Buy development licenses
How do I get VA Smalltalk?

- Download evaluation copy
- Buy development licenses
- Download development build
V8.0.1 Development Builds

- An experiment in
  - Early delivery
  - Continuous integration

- Availability
  - From VA Smalltalk website
  - Irregular schedule
  - Documentation updated to match build
  - Windows and Linux only

- Fix List for build on VA Smalltalk forum
VA Smalltalk 8.0.1 development build

last updated August 7, 2009, [b-124]

This code is provided for testing purposes only -- it is not intended for use in production.

Windows VA Smalltalk 8.0.1
Client 39mb Download
Manager 42mb Download
Server 3mb Download
Windows Instructions (below) »

Downloading VA Smalltalk Version: General Information

In general, each supported VA Smalltalk platform has three downloadable components:

- Client
- Manager
- Server Runtime
How do I get VA Smalltalk?

- Download evaluation copy
- Buy development licenses
- Download development build
- Be a committer on an Open Source project
Open Source project committer

- Instantiations will donate a perpetual VA Smalltalk license
  - to committers
  - working on non-commercial open source project

- **No charge**

- Details on the VA Smalltalk home page
  - Click on Company at the top of any page
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- Be an educational institution
Academic License

- Accredited educational institutions
  - Teaching staff
  - Students
- No charge
- Details: Pricing & How to Purchase link on VA Smalltalk homepage
More info about VA Smalltalk

General Info: vast@instantiations.com
Sales: sales@instantiations.com
Support: vast-support@instantiations.com
John O’Keefe: john_okeefe@instantiations.com
Website: www.instantiations.com/vast

Slides available at http://www.instantiations.com/VAST/more/st+news+events.html