
**23rd ESUG Conference
Brescia, Italy
July 13-17, 2015**

VA Smalltalk Update

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Agenda

- Company Update
- Current Release Content
- Demo
- Next Release Candidates
- Q&A

Company Updates

VAST remains strong - new technology and users

- Community Outreach
 - Conference/workshop sponsors and participants
 - ESUG, FAST Smalltalks, Camp Smalltalks
- Intense new technology development
 - Upcoming product release
 - New 64-bit VM
- VA Smalltalk Google Group
 - Aggregated on [**Smalltalk**] <http://forum.world.st>
 - Old forum content (prior to May, 2011) still available (read only)
- “Videos and Podcasts” pages on website
 - http://www.instantiations.com/resources/st4u_videos.html
 - <http://www.instantiations.com/resources/videos.html>

New Release

V8.6.2 available Q4 2015!

V8.6.2 Content

Base Class Libraries

- OSObject symbolic field access
 - Simplifies structure mapping
 - Supports 32/64-bit environments
- Smalltalk namespace query improvement
 - Improved performance of class/global/pool lookup and iteration
- In-memory and stream inflate/deflate
 - Add APIs to use zlib to inflate and deflate data to and from streams (collections, strings, and files)
 - Add APIs to create Zip archives of files
 - Add APIs to create a Gzip of a file

V8.6.2 Content

Graphics Framework Improvements

- New PNG file read and write support
- JPEG parser improvements
 - Silently ignore metadata that is not in the proper order

V8.6.2 Content

Development Tools Improvements

- Image startup scripting improvements
 - abt.cnf was originally used to setup image parameters using chunk-formatted scripts
 - Function was replaced by declarative abt.ini
 - abt.cnf processing has remained in the product as a mechanism used to script operations at image startup
 - but has always been a bit difficult to use since the image is not fully initialized at the time it is run
 - Added capability to designate code chunks to run at either pre-image startup time or post-image startup
 - Post-startup code chunks are run after the image is fully operational
 - giving the user freedom to write scripts that use of any part of the system, such as GUI components, loaded code, etc.

V8.6.2 Content

Text Editor Improvements

- Updated Scintilla APIs to support displaying embedded NUL characters
 - previously it thought a NUL identified the end of the string and would cut off everything after
- Multilingual Workspace support (see later)

V8.6.2 Contents

General Browser Enhancements

- Optional Virtual Compiler for Class Definitions (On by default)
 - Problem: Deleting variables from a class definition can leave methods in an inconsistent state if removed variables are still referenced
 - Reason: Class Definition and Methods are separate compilation units
 - Solution: When saving a class definition, a virtual compiler is run that treats the class definition and methods as a single compilation unit
 - for the purposes of identifying and reporting a class definition that will become inconsistent if the operation takes place
 - If this is identified, the operation will be cancelled

V8.6.2 Contents

ENVY Manager Library

- Updated source code compression functions
 - Compression reduces source code size by up to 50%
 - Now cross-locale and cross-platform
 - Requires 8.6.2 library access prims for full function
 - 8.6.2 image and 8.6.2 prims – OK
 - 8.6.1 or earlier image and 8.6.2 prims – OK
 - 8.6.2 image and 8.6.1 or earlier prims – NO (Transcript warning at startup)

V8.6.2 Contents

Seaside and Grease

- New port levels available
 - Grease 1.1.14
 - Seaside 3.2.0
- Mostly small bug fixes
- Configuration maps identify the Metacello package version used for the port:
 - *ConfigurationOfGrease-JohanBrichau.304*
 - *ConfigurationOfSeaside3-JohanBrichau.242*

V8.6.2 Contents

Secure Communications

- Support for OpenSSL 1.0.x
 - Uses operating system provided OpenSSL modules
 - Updated OpenSSL interface to use TLS cryptographic protocol by default
- SST HTTPS support also changed to use TLS by default

V8.6.2 Contents

GLORP

- GLORP port updated to 8.1-7
 - Was 7.10.1-3 in V8.6.1
 - Bug fixes
 - Added support for SQLite
- GLORP Test port updated to 8.1-5
 - Added support for SQLite
- New features for SQLite Glorp and SQLite Glorp Testing

V8.6.2 Contents

SQLite

- Added transaction control support: BEGIN, COMMIT, and ROLLBACK
- Added support for Host Variables

V8.6.2 Contents

Installers

- New installers for AIX and Solaris
 - Based on standard Unix package managers
 - AIX: RPM format installed using the RPM package manager
 - Solaris: pkg format installed using the Solaris package manager
 - Much faster than the old GUI installers
- Installers have simple to use install/uninstall scripts which run from the command line
 - Scripts can upgrade from 8.6.0 and 8.6.1
 - Scripts can run the importer tool to update an 8.6 manager
- Headless installer on all UNIX platforms

V8.6.2 Contents

Environments Management Tool

- Early validation
 - Installation and environments content validated before any processing is attempted
- Enhanced support for multiple installations
 - Can create environments for all versions of VA Smalltalk

V8.6.2 Content

Documentation

- ENVY/QA added to online library
- Many small updates

V8.6.2 Content

New Platforms

- Windows 10
- Fedora 21
- Ubuntu 15.04

V8.6.2 Content

Multilingual Workspace – Design Goals

- Keep it in Smalltalk
- Provide a first-class editing experience for:
 - Configuration Files
 - System Scripts (Shell or Batch)
 - Web Languages (HTML/Javascript/CSS)
 - C/C++/Assembler for Native Development
 - and of course... SMALLTALK!
- Pluggability: New support for languages should be easy to develop and plug-in

V8.6.2 Content

Multilingual Workspace - Optimizations

- Workspaces were rather inefficient in content management
 - Always collecting up the complete contents of the file into a string for most every algorithm
 - For small documents (i.e. Smalltalk snippets) this didn't matter
 - For large documents, this creates a lot of garbage and performance issues
- Workspace algorithms now take advantage of our ability to natively interface with Scintilla's (our editor component) internal character buffer
- File I/O algorithms have been updated for more efficient large document operations

V8.6.2 Content

Multilingual Workspace – Language Adaptability

- Workspaces dynamically adjust their algorithms when a language is specified
 - Bracket/Brace Matching
 - Code Completion
 - Comments
 - Code Folding
 - Indentation/Tabs
 - Syntax Highlighting
 - Menus
 - Refactorings
 - Text Selection
 - Word Characters

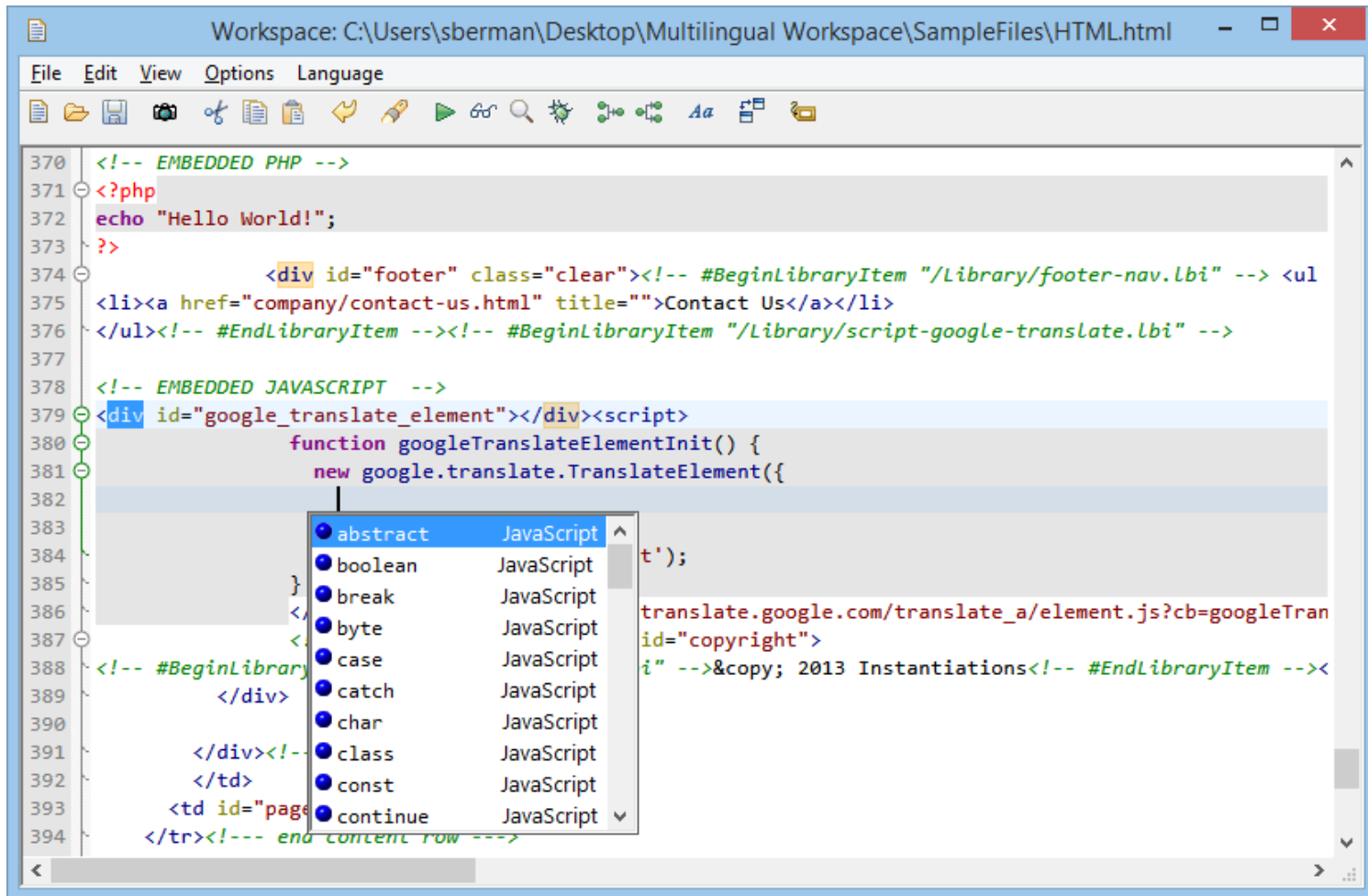
V8.6.2 Content

Multilingual Workspace - Pluggability

- Workspaces have an active “Language Provider”
 - They provide implementation details to the various algorithms
- Pluggability is all well and good...but isn't creating support for a new language hard?
 - **Answer:** No, its not - that's because you won't be doing most of the work
 - Scintilla provides language support for 100+ languages
 - Handles Syntax Color Highlighting
 - Handles Code Folding
 - Currently only 6 methods for you to override - 4 of them are simple 1 liners, the other 2 are easy to implement
 - If you want more language specific features, you simply override some simple methods that provide default assumptions

V8.6.2 Content

Multilingual Workspace - Example



The screenshot shows a code editor window titled "Workspace: C:\Users\sberman\Desktop\Multilingual Workspace\SampleFiles\HTML.html". The editor displays a mix of HTML and JavaScript code. A dropdown menu is open over the JavaScript code, listing various JavaScript keywords and their associated language, all of which are "JavaScript". The code includes a PHP echo statement, HTML navigation links, and a JavaScript function for Google Translate.

```
370 <!-- EMBEDDED PHP -->
371 <?php
372 echo "Hello World!";
373 ?>
374 <div id="footer" class="clear"><!-- #BeginLibraryItem "/Library/footer-nav.lbi" --> <ul
375 <li><a href="company/contact-us.html" title="">Contact Us</a></li>
376 </ul><!-- #EndLibraryItem --><!-- #BeginLibraryItem "/Library/script-google-translate.lbi" -->
377
378 <!-- EMBEDDED JAVASCRIPT -->
379 <div id="google_translate_element"><div><script>
380     function googleTranslateElementInit() {
381         new google.translate.TranslateElement({
382
383         abstract JavaScript
384         boolean JavaScript
385         break JavaScript
386         byte JavaScript
387         case JavaScript
388         catch JavaScript
389         char JavaScript
390         class JavaScript
391         const JavaScript
392         continue JavaScript
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```

Multilingual Workspace Demo

Looking to the Future

Future Releases

- Release schedule is about once a year
 - Depends on volume of content
 - Current content information in Product Roadmap
 - <http://www.instantiations.com/products/roadmap.html>
- Content based on requirements from:
 - Direct customer interactions
 - Forums
 - Support cases
 - Internals

Next Release

Candidate Items

- Internationalization
 - Unicode/UTF-8 (including VM and system APIs)
 - Based on International Components for Unicode (ICU) module
- Web interface
 - Seaside 3.x
 - Continuation support
- Middleware
 - Postgres
 - NOSql (Voyage/MongoDB or ???)
 - TCPIP V6

Next Release

Candidate Items

- GUI Look-and-Feel
 - Common Widgets Application Window framework
 - Useful for SUnit, Seaside, and Roassal
 - Windows Common Controls
 - TreeView improvements
 - GTK replaces Motif on UNIX platforms
- Server
 - Easy to use server farms

Next Release

Candidate Items

- **Development Tools**
 - Improved code library access over WAN
 - Revamped Changes Browser
 - New Code Merge Engine
- **Security**
 - Basic crypto framework (consolidate existing OpenSSL wrappers)
- **Performance and Scalability**
 - Incremental garbage collection
 - 64-bit Smalltalk

Dino2 32/64 Bit VM Project

- Come back after coffee to see the latest update

How Do You Get VA Smalltalk?

- Download evaluation copy
 - <http://www.instantiations.com/products/vasmalltalk/download.html>
- Buy development licenses
 - <http://www.instantiations.com/products/purchase.html>
- Download development build
 - Announced in VA Smalltalk Google Group
- Be a committer on an Open Source project
 - <http://www.instantiations.com/company/open-source.html>
- Work for an educational institution
 - <http://www.instantiations.com/products/academic-license-program.html>

Contact us

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Thank you for your attention

Questions?

Backup

Future Releases

Candidate Items

- Web interface
 - Web services debugging support/doc
 - Web services tooling improvements
 - Validating XML parser
- GUI Look-and-Feel
 - GTK+ 3.x on Linux
 - Windows Common Controls additions
 - Back-port widgets from add-ons (ex: UML Designer)

Future Releases

Candidate Items

- Infrastructure
 - Consolidate product settings using Settings Framework
 - Settings Dialogs to complement Settings Framework
 - Consolidate product logging using Logging Framework
- Middleware
 - GLORP Programmer's Reference
 - MQ currency
 - TCP/IP V6
 - OMQ

Future Releases

Candidate Items

- Development Tools
 - Redesigned Change Browser & Merge Tool
 - C API wrapper generation tool
- Security
 - 'Full' security framework -- OpenSSL 1.0.2 or later wrappers
- Performance and Scalability
 - Parallel garbage collection
 - Class library performance hotspots
 - Integrate KES/Stats goodie for object monitoring
- Platform
 - Windows Services control moved from C to Smalltalk

Future Releases

Candidate Items

- External Interfaces
 - JNIport (currently available on VASGoodies.com)
 - .NET/C#
 - Other
- Class Libraries
 - Collection hashing policies
 - Sorted collection sorting policies
- Other
 - *We're always looking for suggestions*

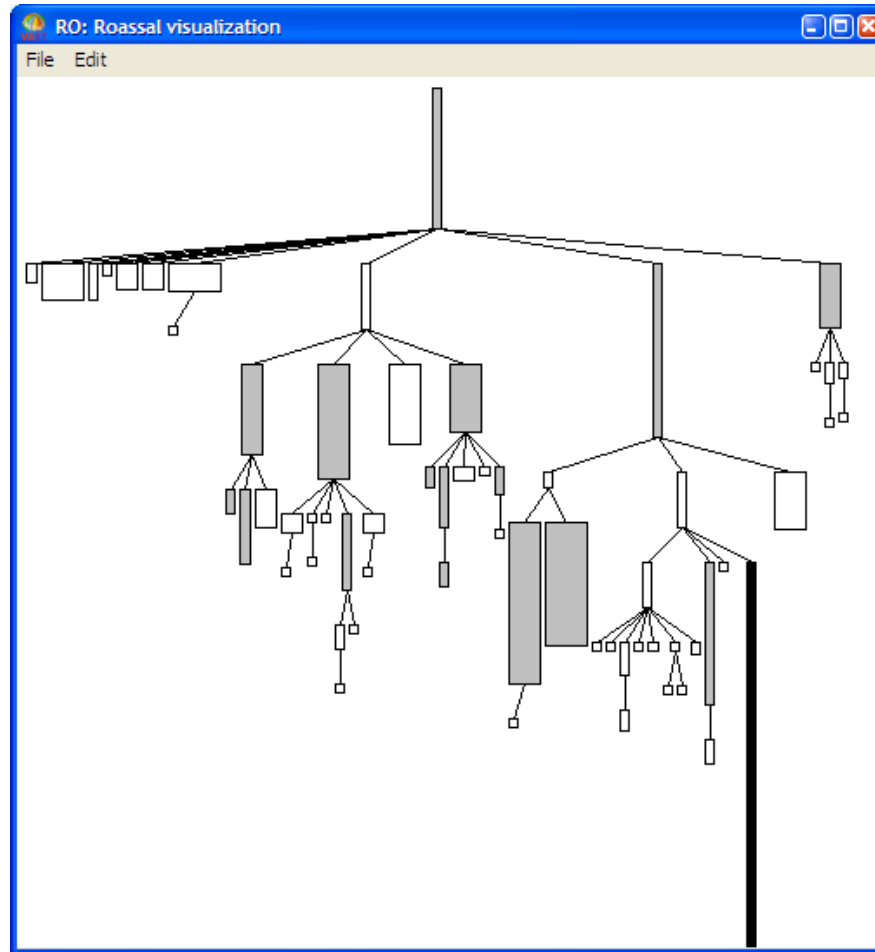
Announcements

- A framework for event notification
 - Based on Observer pattern
 - Replaces traditional event symbols (`#changed`) with event objects (`ChangedEvent`)
 - Event objects can carry context-oriented information
 - Clients can subscribe, unsubscribe, and handle event
 - Event handling uses `#on:do:` like exception handling
- Supplied because Roassal uses it, but you can use it too

Roassal Visualization Framework

- Roassal is an open-source project of ObjectProfile
- Roassal graphically renders objects using short expressive Smalltalk expressions
- A large set of interaction are offered for a better user experience
 - Painting
 - Brushing
 - Interconnecting
 - Zooming
 - Dragging and dropping
- Using Roassal can enhance your understanding of any arbitrary object model

Roassal Visualization Framework continued



Open Source Project Committer

- Instantiations will donate a perpetual VA Smalltalk license
 - to committers
 - working on non-commercial open source project
 - Hint: release something to VASTgoodies.com
- **No charge**
- **Details**
 - <http://www.instantiations.com/company/open-source.html>

Academic Licenses

- Accredited educational institutions
 - Teaching staff
 - Students
- **No charge**
- Details
 - <http://www.instantiations.com/products/academic-license-program.html>