

VA Smalltalk Update

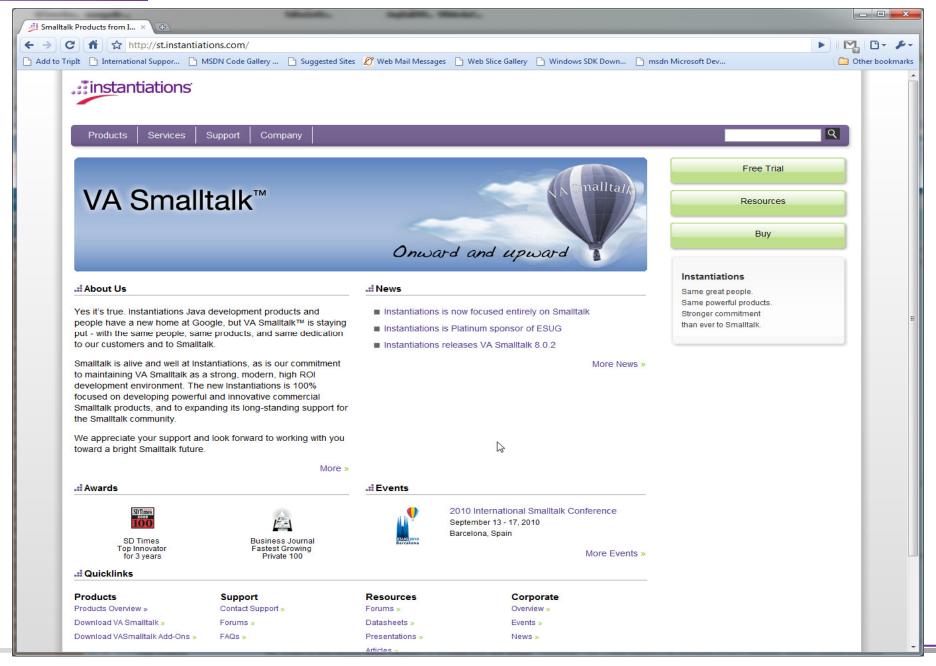
John O'Keefe Principal Smalltalk Architect Instantiations, Inc.



But first, the rebirth of Instantiations

- Instantiations roots are in Smalltalk development tools
- The company licensed Smalltalk technology and grew
- The Smalltalk tools were very good, so the company redid them for Java and grew
 - and redid them again for Eclipse and grew
- Google liked the Java tools, so they bought that part of Instantiations
 - and Instantiations took the money and went back to its roots
- VA Smalltalk...Onward and Upward!







VA Smalltalk V8.0.2 May 2010

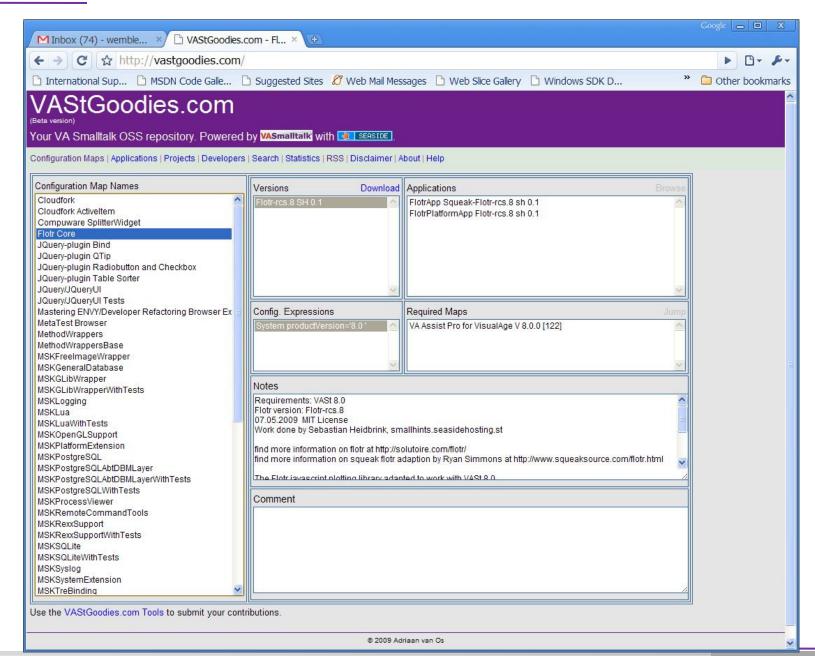
- Seaside 3.0 update
- GLORP initial release
- Platform currency and enhancements
- Database currency and enhancements
- Class library enhancements
- SUnit 4.0 release
- Documentation updates



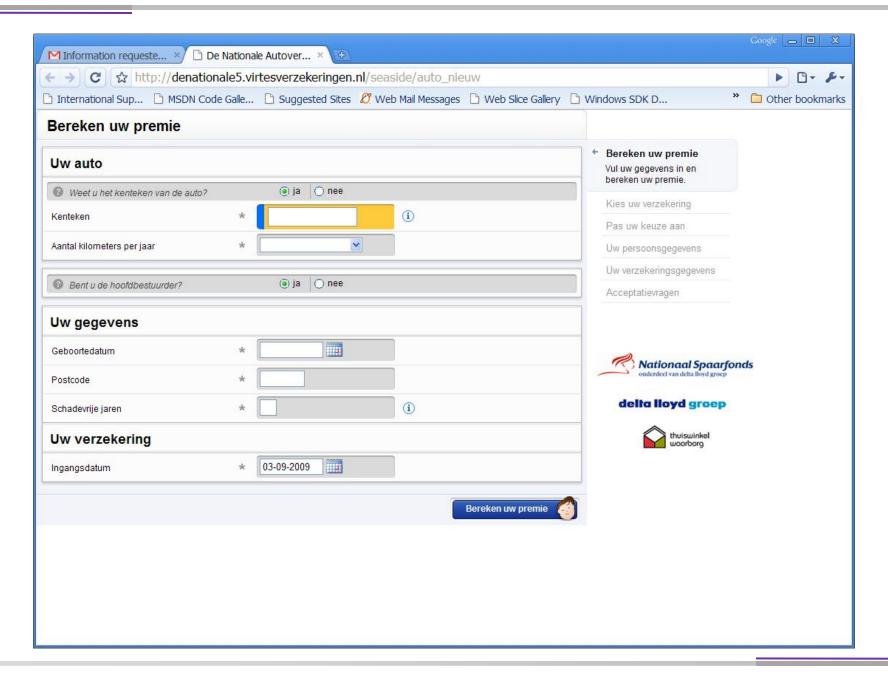
Seaside 3.0

- Seaside is an open source framework for developing sophisticated web applications
 - Layered abstraction over HTTP and HTML
 - HTML concepts exposed in Smalltalk
 - HTML markup hidden
 - Base for higher-function frameworks
 - Quickly build highly interactive applications
- Scriptaculous and jQuery frameworks
 - JavaScript Ajax libraries
 - Programmed through Smalltalk artifacts











Seaside Cautions

- Seaside Flow (currently) unsupported by VA Smalltalk
 - No #wait: because no continuations

```
• <some code>.
  r := self call: aComponent. "NO, does self
  wait:"
  <more code using r>.
```

```
• <some code>.
  self show: aComponent onAnswer: [ :r |
     <more code using r ]. "YES"</pre>
```



GLORP Initial Release 0.3.178+

- Generic Lightweight Object-Relational Persistence
 - Open Source framework for Object/Relational database access
 - With concepts reminiscent of popular TOPLink product
 - Provides:
 - Mapping of objects into relational databases
 - Transactions for change grouping
 - Non-intrusive implementation
 - Support for queries based on objects and data
 - High performance through optimized database access
 - Documented in <u>Database Guide</u>



Platform Currency and Enhancements

- Support added for:
 - Ubuntu 9.04 (32- and 64-bit)
 - Windows Server 2008 R2 (64-bit)
- Windows executables are digitally signed
 - Enhanced security
 - Windows Logo Certification requirements



Platform Currency and Enhancements (cont.)

- Windows power management events supported
 - GUI apps can react to Sleep/Hibernate and Resume
 - New protocol on Subapplication class
 - #suspending
 - #resume
 - Useful for resetting sockets, reconnecting development manager, etc.
 - Documented in <u>Smalltalk User's Guide</u>



Database Currency and Enhancements

- Support added for Oracle 11g
 - Compatibility mode
 - No code changes
- Support added for Oracle function calls
 - Eliminates need to wrap function calls in stored procedures
 - Examples of usage shown in <u>Database Guide</u>



Database Currency and Enhancements (cont.)

- Support added for Anonymous SQL blocks
 - Provides ability to send user-defined data types
 - Provides ability to retrieve user-defined data types
 - Supported in Oracle
 - Examples of usage shown in <u>Database Guide</u>



Class Library Enhancements

- Method pragmas
 - Allow you to annotate methods with userdefined processing information
 - Stored as literals in instances of CompiledMethod
 - Pragma class has protocol for finding and processing annotations
 - Provided for <u>Pier Content Management System</u>
 - Documented in <u>Programmer's Reference</u>



Class Library Enhancements (cont.)

- Instance- and class-based exceptions are now polymorphic
 - Providing clearer and more efficient handling of errors
 - Brings back function dropped in VAST 6.0.1

• Example:

Primitive failed in: Object>>#at: due to Index out of range in argument 1



SUnit 4.0 Just in Time Resources

- Resources made available just-in-time:
 - First test that needs it prompts setup
 - Later tests that need it can see whether it has been (or failed to be) setup
 - Tear down guaranteed at end of run; can be done anytime
- Resource-processing is ordered
 - A test's resources are setup in order and torn down in reverse order
 - A resource's resources are setup before it is setup and torn down after it is torn down



SUnit 4.0 Class Changes

- First there were three classes ...
 - TestCase, TestSuite and TestResult
- And then there was a fourth ...
 - TestResource to manage resources
- And now a fifth ...
 - TestAsserter abstract superclass of
 - TestCase
 - TestResource
 - any user-created TestCase delegate class
- Resources understand #assert:... protocol
 - #setUp and #isAvailable run inside the handler



SUnit 4.0 Class Changes (cont.)

- Logging
 - TestCase methods moved to the class-side
 - #isLogging, and #failureLog (and #logFailure: is now on both sides)



Documentation Updates

- Web Services Guide
 - Added <u>Getting Started: Web Services in a Day</u>
 - Added <u>Cookbook</u> with debugging hints, XML deserialization tips, and guidance on securing a Web service
- Smalltalk User's Guide
 - Added <u>Application behavior when Windows Power</u> <u>Management events occur</u>
 - Moved Namespace support to the Programmer's Reference
- Programmer's Reference
 - Added <u>Pragmas</u>, <u>Namespace pragmas</u>, and <u>Annotation</u> pragmas
- Database Guide
 - Added <u>GLORP Tutorial</u>, <u>Anonymous PL/SQL Blocks</u>, and <u>Function Calls using Native Oracle</u>



Looking to the Future

Future Releases

- Release schedule is twice a year
 - Usually May and November
- Next release is November 2010
 - Web interface
 - Seaside 3.0
 - Development Tools
 - Message extraction tool
 - Platform
 - Ubuntu 10.04
 - Fedora Core 13



Priority Technologies

- Internationalization
- Web interface
- Database
- GUI Look and Feel
- Development Tools
- Security
- Performance and Scalability
- Platforms
- Other



Future Releases Candidates

- Internationalization
 - Unicode/UTF-8
- Web interface
 - Seaside 3.1
 - SST Servlet multipart forms
 - Web services tooling improvements
 - Web services debugging tools/doc
 - Validating XML parser



Future Releases Candidates (cont.)

- GUI Look and Feel
 - GTK+ 2.x on Linux
 - Additional Windows Common Controls
 - Additional icon/image support
- Development Tools
 - New 'Settings' framework and dialogs
 - Improved Changes Browser
- Database
 - GLORP infrastructure improvements
 - GLORP Programmer's Reference
 - Active Records built on GLORP



Future Releases Candidates (cont.)

- Security
 - "Basic" security framework -- current OpenSSL
 - "Full" security framework -- OpenSSL 1.0
- Performance and Scalability
 - Incremental garbage collection
 - 64-bit Smalltalk
 - Class library performance hotspots
- Platform
 - Windows Services control moved to Smalltalk



Future Releases Candidates (cont.)

- Installation
 - Single installer for Client and Manager
 - Install/Repair/Uninstall
 - Seamless with User Account Control (UAC)
- Class Libraries
 - Collection hashing policies
 - Collection sorting policies



How Do I Get VA Smalltalk?

- Download evaluation copy
- Buy development licenses



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Development Builds

- An experiment in
 - Early delivery
 - Continuous integration
 - **1** for V8.0.1, **2** for V8.0.2, **2** for V8.0.3
- Availability
 - Announced on VA Smalltalk Forum and comp.lang.smalltalk
 - Download from VA Smalltalk website
 - Irregular schedule
 - Documentation updated to match build
 - Windows and Linux only
- Fix-list for build on VA Smalltalk forum



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- 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
 - Hint: release something to VAStGoodies.com
- No charge
- Details: <u>Instantiations' Donations to Open</u> <u>Source Projects</u> page



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- Be an educational institution



Academic Licenses

- Accredited educational institutions
 - Teaching staff
 - Students
- No charge
- Details: <u>Academic License Program</u> page



Backup

GLORP Basics

- Create a session object
 - Made from an accessor object
 - Which is made from a connection object
 - Which is made from a login object
- Within a unit of work, make changes
- Use session to query existing data
- Create new objects and add them
 - Sub-objects are automatically noted
- Commit or rollback the unit of work



GLORP Mapping

- Simple mapping is one-to-one
 - Describe a table
 - Create an object that looks like a row
 - Describe that object and its mapping
- Complex mappings
 - One row becomes variant object type
 - Multiple rows combine for one value
- Can map existing objects to RDB



GLORP Descriptor

- What a table contains
- What objects will participate
- How to map them
- Very flexible system
- When in doubt, refer to the unit tests for examples



VA Smalltalk V8.0.1

- Seaside 3.0 alpha5
- Continued Web Services enhancements
- Additional enhancements for tabbed browsers
- Windows 7 (32-/64-bit)
- "cdecl" calling convention on Windows
- Improved error diagnostics for memory allocation
- Enhanced SST resource management for faster execution using less memory



VA Smalltalk V8.0

- Seaside 2.9 alpha3 Core, jQuery, Scriptaculous, RSS, porting layer and development tools
- Enhanced Web Services supporting "Document Literal/Document Literal Wrapped" style
- Enhanced IDE with tabbed browsers, native
 Windows widgets, inspector improvements, a
 new Method List Pane, Text Pane, Version Graph
 Tab, more
- New documentation delivery system (web or local) with improved navigation, formatting and updated content

