VA Smalltalk Update

John O'Keefe

Chief Technical Officer

Instantiations, Inc.
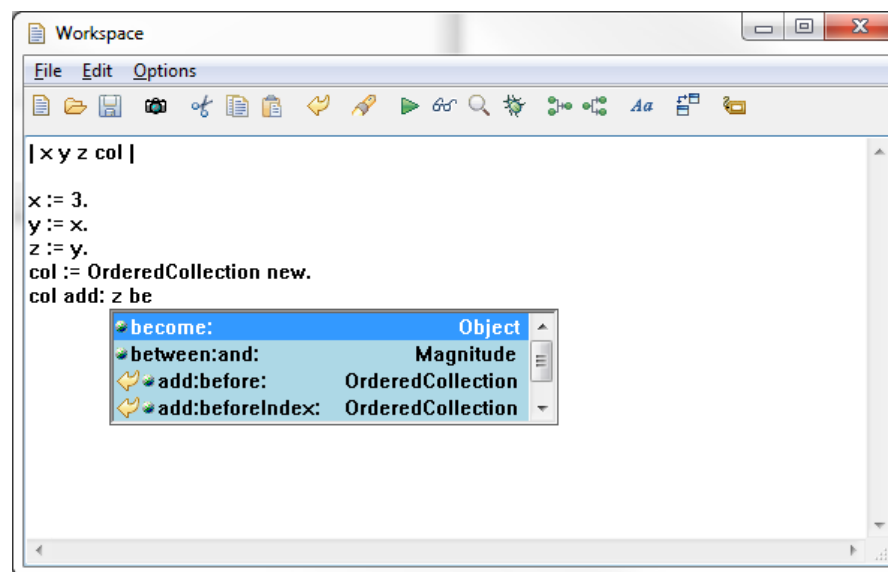
Recent Release History

- ## V8.5 (August 2011)

- ## V8.5.1 (March 2012)

  - ### See following slides

- ## V8.5.2 (September 2012)

  - ### See following slides

instantiations
VA Smalltalk

Development Tools
Code Completion

- **Problem**: The limits of memory - we can only remember 4 things at a time

- **Solution**: Use the computer's calculating capabilities to predict names as they are being entered in the text editor

instantiations
VA Smalltalk

Development Tools – V8.5.1
Code Completion Enhancements

- CamelCase matching

  - Range of matching from Very Strict to Very Lenient

- Character literal completion

- Popup list mini-toolbar

- DnD-enabled suggestions

- Additional configuration options

  - 12 new configurable policies

  - Popup list foreground/background colors

instantiations
VA Smalltalk

Development Tools – V8.5.2
Code Completion Enhancements

- Code Completion added to Inspectors

instantiations
VA Smalltalk

Development Tools – V8.5.2
Monticello Importer

- Replacement for VAPackageExporter
- Imports from .mcz files
- Maps Monticello structure
  - Package -> Application
    - Name taken from package name in .mcz
    - Holds extension methods
  - Categories -> SubApplication(s)
    - Name(s) based on categories
    - #loaded/#removing class methods generated
    - Holds defined classes
  - Pool classes -> Pool Dictionaries
    - Class renamed and _PRAGMA_ method created
- Includes zip/unzip support (beta)
- Demo (if time)

instantiations
VA Smalltalk

Infrastructure – V8.5.2
Time Zone Support

- Supported by DateAndTime class
  - Used in conversion between time zones
  - Used in arithmetic operations that span DST transitions

- Time Zone data is Olson timezone database
  - Included in Linux, AIX and Solaris
  - We ship for Windows

- No changes necessary to existing code
  - methods that specify explicit offset are deprecated

instantiations
VA Smalltalk

Infrastructure – V8.5.2
Time Zone Support

- In 2011, America/New_York DST started Sunday March 13 at 2:00AM

- Example: From noon Saturday March 12, 2011 to noon Sunday March 13, 2011 is a 23 hour day:

```
date1 := DateAndTime year: 2011 month: 3 day: 12 hour: 12 minute: 0
second: 0.
date2 := DateAndTime year: 2011 month: 3 day: 13 hour: 12 minute: 0
second: 0.

date2 – date1 --> 0:23:0:0.0
```

- Example: Time in two US time zones close to the DST transition:

```
date1 := DateAndTime year: 2011 month: 3 day: 12 hour: 23 minute: 30
second: 0 timeZone: 'America/Los_Angeles'.
date2 := date1 transformToTimeZoneNamed: 'America/New_York'.

date1 --> 2011-03-12T11:30:00-08:00 "PST"
date2 --> 2011-03-13T03:30:00-04:00 "EDT"
```
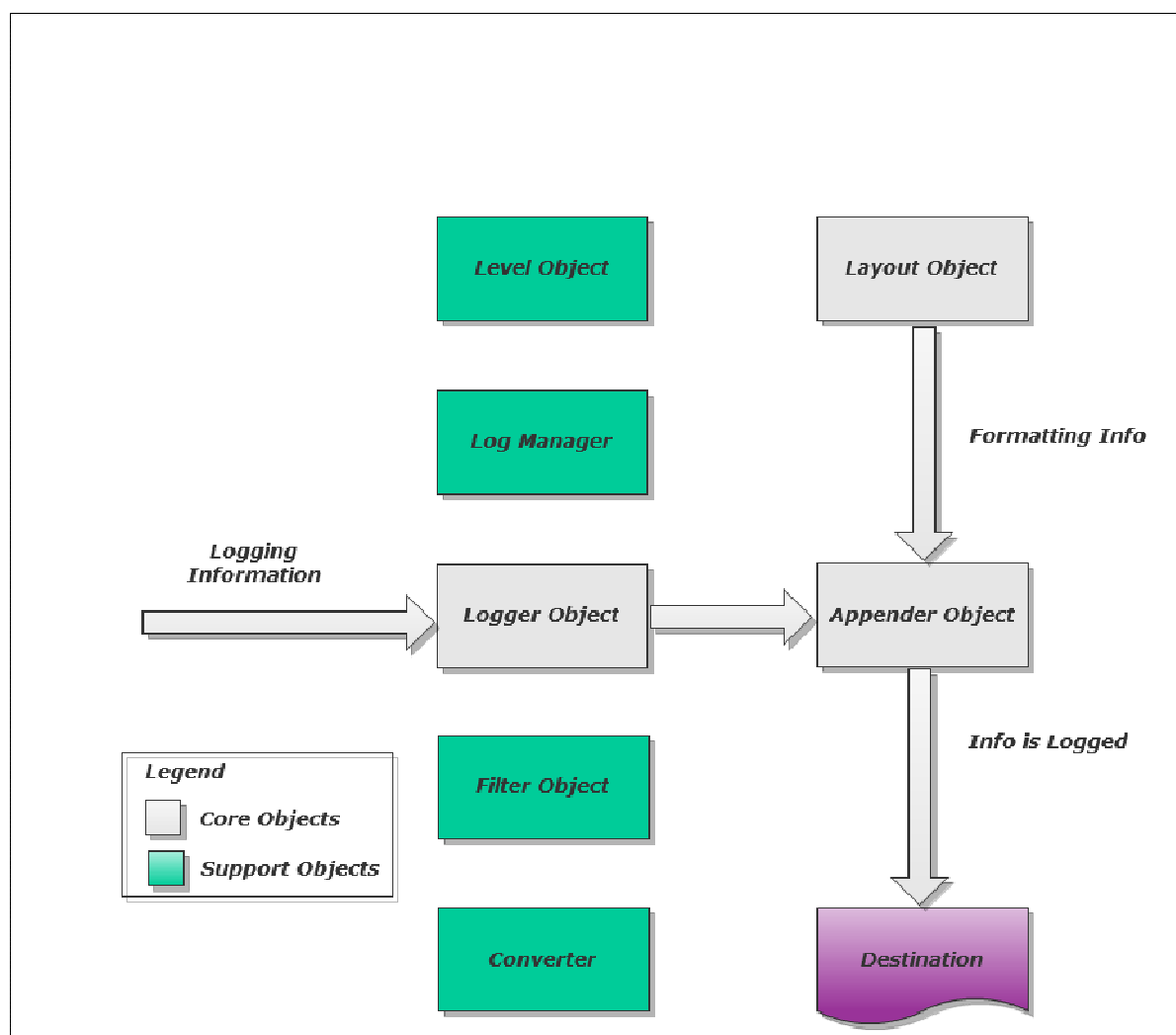
instantiations
VA Smalltalk

Infrastructure
Logging Framework

- **Problem**: The product currently contains many ad-hoc logging solutions, but no centralized facility useable by product developers and customers.

- **Solution**: Provide a Logging Framework to standardize the definition, use, and output formatting of logs.

instantiations
VA Smalltalk

Infrastructure
Logging Framework

- Log4s is based on ideas from the popular Java logging framework *log4j*

- Designed to be extended

- Configurable through .INI file

instantiations
VA Smalltalk

Infrastructure – V8.5.1
Logging Framework Enhancements

- Async appender

  - Logging request is queued for background processing

- Add block parameters for performance

  - Content not executed if logging request is filtered out

- Add SocketAppender retry count

  - Recover from transient connection problems

instantiations
VA Smalltalk

Infrastructure
Preference Settings Framework

- **Problem**: Existing customization preference settings are not well-managed or well-documented. In some cases, they are completely hidden.

- **Solution**: Provide a Preference Settings Framework to standardize the management and documentation of preferences.

instantiations
VA Smalltalk

Infrastructure – V8.5.1
Preference Settings Framework Enhancements

- *validSettings*
  - Array values can be non-homogeneous
  - Homogeneous/non-homogeneous based on Array size
  - Example

```
validSettings
^ LookupTable new
  at: self symbol asString
  put: (LookupTable with: 'fooBar' -> (Array
    with: self numberType
    with: self numberType
    with: self stringType));
  yourself
```

instantiations
VA Smalltalk

Infrastructure – V8.5.1
Logical -> Physical DLL/SO Name Mapping

- **Problem:** The physical names of .DLL or .SO files used to supply external function can change based on platform and release level. Hardcoding the physical name in the image causes fragility.

- **Solution:** Map a logical name to a physical name outside the image using the .INI file.

```
[PlatformLibrary Name Mappings]
logicalName1=physicalName1
…
logicalNamen=physicalNamen
```

instantiations
VA Smalltalk

Graphics and Windowing
Rebar Control

- **Problem**: Windows customers want Toolbars with adjustable content.

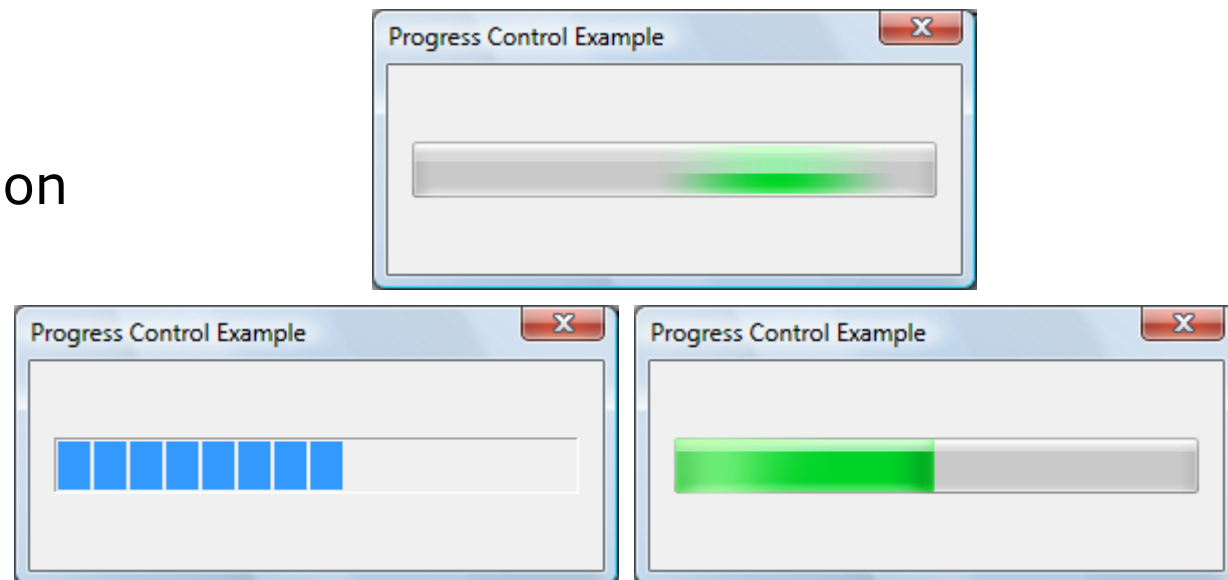- **Solution**: Add support for Rebar Windows Control

instantiations
VA Smalltalk

Graphics and Windowing – V8.5.2
Rebar Control

- Supported in Composition Editor

instantiations
VA Smalltalk

Graphics and Windowing – V8.5.1
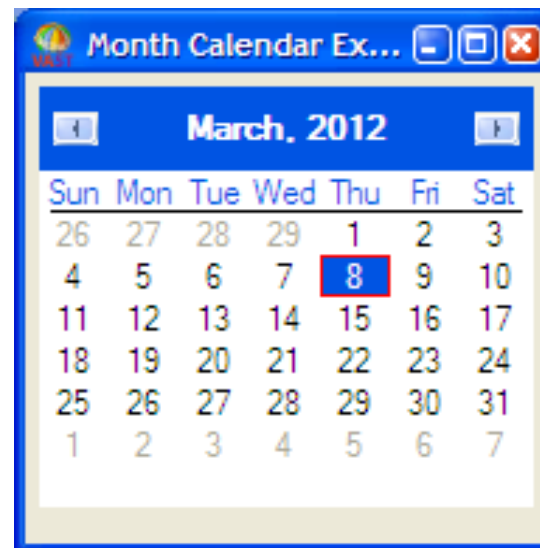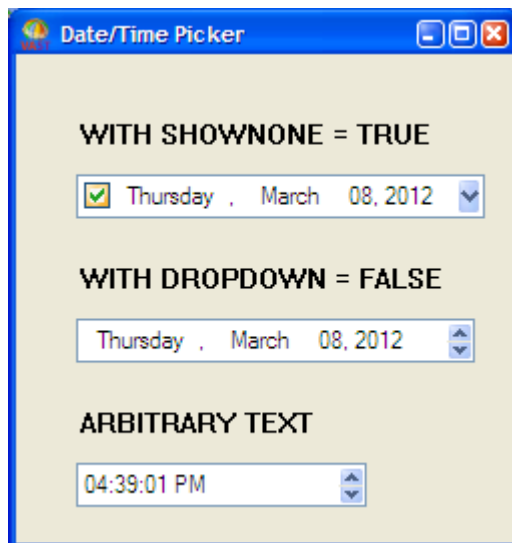## ProgressBar Improvements

- **Problem:** Windows ProgressBar Control has been enhanced, but VA Smalltalk support missing
- **Solution:** Update VA Smalltalk support for the ProgressBar
  - Marquee
  - Smooth
  - Orientation
  - State

instantiations
VA Smalltalk

Graphics and Windowing – V8.5.1
Date And Time Controls

- **Problem:** No user interface supplied supporting enter/display time and date.

- **Solution:** Add support for Date and Time Picker and Month Calendar Windows Controls

instantiations
VA Smalltalk

Web Interface – V8.5.1
Seaside 3.0.6+ / Grease 1.0.6+

- **Problem**: Seaside and Grease development has progressed since VA Smalltalk V8.5

- **Solution**: Port Seaside 3.0.6 and Grease 1.0.6 (both with updates through 1/31/2012 – exact level identified in configuration maps)

instantiations
VA Smalltalk

Documentation - V8.5.2

- On-line documentation and FAQs enabled for Google search

- New "Videos and Podcasts" page on website

  - http://www.instantiations.com/resources/st4u_videos.html

instantiations
VA Smalltalk

Miscellaneous – V8.5.1

- Performance and Scalability
  - SST Lightweight Marshaling improvements
- Middleware
  - GLORP upgrade (0.3.182+)
- Platforms
  - Fedora Core 16
  - OpenSUSE 12.1
  - Ubuntu 11

instantiations
VA Smalltalk

Miscellaneous − V8.5.2

- ## Development Tools
  - VA Assist browser performance improved when accessing repository with high network latency
  - Packaging instructions for Seaside ICs
  - *Tools -> Query -> Globals in Unmanaged Namespace*
- ## Middleware
  - GLORP upgrade (0.4.190)
- ## Infrastructure
  - `System>>getProcessId` added
  - Seaside ICs
    - Core
    - Javascript/jQuery/Scriptaculous
    - Runtime Tools

instantiations
VA Smalltalk

Miscellaneous – V8.5.2

- ## Web services
  - `SstWSContainer class>>resetWebServicesDevelopmentEnvironment` added to cleanup when debugging

- ## Platforms
  - Windows 8
  - Ubuntu 12

instantiations
VA Smalltalk

Support

- 60+ bug fixes & minor enhancements in V8.5.1
- 55+ bug fixes & minor enhancements in V8.5.2

instantiations
VA Smalltalk

Looking to the Future

instantiations
VA Smalltalk

Future Releases

- Release schedule is about twice a year
  - Next release is planned for 1Q/2013
  - Current information available in Product Roadmap
    - http://www.instantiations.com/products/roadmap.html
- Content based on requirements from:
  - Direct customer interactions
  - Forums
  - Support cases
  - Internals

instantiations
VA Smalltalk

Priority Technologies

- Internationalization
- Web interface
- Middleware
- GUI Look and Feel
- Development Tools
- Security
- Performance and Scalability
- Platforms
- External Interfaces
- Other

instantiations
VA Smalltalk

Future Releases
Candidate Items

- ## Internationalization

  - Full Unicode/UTF-8 (including VM)

- ## Web interface

  - Seaside 3.x
  - Continuation support
  - SST Servlet multipart form support
  - Web services tooling improvements
  - Web services debugging tools/doc
  - Validating XML parser

instantiations
VA Smalltalk

Future Releases
Candidate Items

- ## GUI Look-and-Feel
  - ### GTK+ 3.x on Linux
  - ### Windows Common Controls additions
    - Calendar Month improvements
  - ### Icon/image support enhancements
    - Support for alpha-channel (blending)
    - Support for .PNG file (R/W)
  - ### Back-port widgets from add-ons

- ## Development Tools
  - ### Redesigned Change Browser & Merge Tool

instantiations
VA Smalltalk

Future Releases
Candidate Items

- ## Infrastructure
  - Settings Dialogs to complement Settings Framework
  - Consolidate more settings using Settings Framework
  - Consolidate product logging using Logging Framework
  - Full .zip, .gz, and inflate/deflate support

- ## Middleware
  - DB2 Stored Procedures improvements
  - GLORP currency, Programmer's Reference
  - Active Records built on GLORP
  - 'Simple' DB support (MySQL or SQLite)
  - MQ currency
  - TCP/IP V6

instantiations
VA Smalltalk

Future Releases
Candidate Items

- ## Security
  - 'Basic' security framework (consolidate existing OpenSSL wrappers)
  - 'Full' security framework -- OpenSSL 1.0 wrappers

- ## Performance and Scalability
  - Incremental garbage collection
  - 64-bit Smalltalk
  - Class library performance hotspots
  - Integrate KES/Stats goodie for object monitoring

- ## Platform
  - Windows Services control moved from C to Smalltalk

instantiations
VA Smalltalk

Future Releases
Candidate Items

- ## External Interfaces
  - JNIport (currently available on VAStGoodies.com)
  - .NET/C#
  - Other
- ## Class Libraries
  - Collection hashing policies
  - Sorted collection sorting policies
- ## Installation
  - Move to 'standard' platform installer
    - InstallShield on Windows
    - .DEB/.RPM on Unix
- ## Other
  - *We're always looking for suggestions*

instantiations
VA Smalltalk

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

instantiations
VA Smalltalk

Contact us

- General information
  - info@instantiations.com
- Sales
  - sales@instantiations.com
- Support
  - support@instantiations.com
- Me
  - john_okeefe@instantiations.com

instantiations
VA Smalltalk