Black Knight: Eclipse Smalltalk Development Environment

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Goals

- Create a Smalltalk IDE using Eclipse
  - Leverage Eclipse power, momentum
- Accommodate existing Smalltalk applications
  - Maximize function; minimize migration effort
- Use Smalltalk inside Eclipse
  - “scriptable eclipse”
- Evolve Smalltalk - explore, innovate, have fun
  - Let everybody play
Why? Depending on who you ask, we’re …

1. Idiots
2. Crazy
3. Stupid
4. Visionary
5. Reckless
6. Java lovers
7. Smalltalk haters
8. Java haters
9. Smalltalk lovers
10. <space for rent>
Who might be interested initially?

- Smalltalk enthusiasts
  - Exposure to power/promise of Eclipse
- Smalltalk experts in enterprises
  - Help them choose WSAD over .NET
- Universities
  - Single IDE to learn
- Customers with limited Smalltalk needs
  - Scripting, server apps, standalone apps
What is it?

- Early “tech preview” of proposed Eclipse Technology Subproject

- 3 major parts
  - STDT: Eclipse Smalltalk Development Tools
  - STCL: Smalltalk Class Library
  - STRT: Smalltalk Runtime Support
STDT: Eclipse Smalltalk Development Tools

Products built with Eclipse inherit these capabilities plus 'plug-ins' built by others
STDT: Eclipse Smalltalk Development Tools
STDT: Eclipse Smalltalk Development Tools

- File-based Smalltalk source
  - Develop while disconnected from repository
- Editor, outliner, class hierarchy browser
- Smalltalk franchise functions
  - senders, implementers, references
- Debugger
- Intent is to be Smalltalk neutral (volunteers?)
STDT: What’s there now

- Package Explorer View
  - Your “workspace” at a glance
  - Hides all non-Smalltalk files
- Editor
  - Syntax coloring
  - Outliner
  - Content assist
STDT: What’s there now (continued)

- Search support
  - Senders, implementers, references, etc
- Scrapbook Dolts
  - JNI to running Smalltalk image
- Debug
  - Step into, over
  - Variable views
  - self halt support
STCL: Smalltalk Class Library

- Initial release matches ENVY Smalltalk closely
- Applications -> Projects
- (Sub)Applications -> Packages
- Application lifecycle same as existing
  - #loaded, #preStartUp, #startUp, etc.
- Pragma methods converted to Pool Definition files
STRT: Smalltalk Runtime Support

- Command line Smalltalk
  - Compiler, runtime with dynamic class loading
  - Image (.icx) is used as performance-enhancer
- NOT released through eclipse.org
  - Proprietary VM technology
  - Free download from IBM website
- Initially Windows-only
What’s missing

- ENVY metadata
  - Categories
  - Public/private
  - App/class/method comments and notes
- ICs
  - Replaced by dynamic loading
Demo

- Please be very very quiet, the IDE is shy
STDT: What’s next

- Package Explorer
  - JAR file creation
- Editor/Outliner
  - Method-at-a-time editing
- Class Hierarchy Browser
  - Unified view of class definitions and extensions
- Wizards
  - Source folder, package, class creation
STDT: What’s next (continued)

- Preferences/properties
  - Greater customization of tools
- Debugger
  - Inspectors
  - Breakpoints
  - Hot loading of classes
STCL: What’s next

- Additional applications ported from VAST
  - Server Smalltalk
- Rework of lifecycle
  - Expanded API to support dynamic loading
- Rework of NLS
  - Resident NLS pools (no .CAT files)
- Reorganization into ConfigMap based projects
STCL: What’s next (continued)

- Rework of fragments
  - Breaks dependency model
- Scripting support
  - STDIN/OUT/ERR
  - Sync and async EXEC
  - Unix shell and WSH startup
  - Compile and go
STRT: What’s next

- Dynamic loading from JAR files
- Minimize fixed-content of class cache
- Saving of class cache (.icx)
- Additional platforms
  - Linux
  - zOS
In summary

- You have heard about a project very early in its development cycle
- Some things I’ve talked about may not happen as we move toward an official eclipse.org release
- We want and need your feedback on the value and content of this project
Q & A