

tODE:

And Now for
Something Completely
Different...

ESUG 2013
Dale Henrichs
GemTalk Systems

- the
- Object-centric
- Development
- Environment
- *A dev environment for doing remote Smalltalk development over the WAN*

Goals

- remote Smalltalk dev over WAN
- address “Smalltalk dev environment deficiencies”
- emphasis on objects and tool development

Configurati

MetacelloVersionQueryLa
RB
Ston
Tode

Hierarchy (

Object
TDDefinition
TDClassDefinition
TDBehaviorDefinition

Class (6)

TDDefinition subclass: 'TDClassDefinition'
instVarNames: #(className)
classVars: #()
classInstVars: #()
poolDictionary: #()

instance (7)

=
addToClientListFor:name
asClassDefinition
className
configurationOf
hash
itemSelected:
label
packageOf
pasteIntoPackageDefinit

class (8)

category:matches:
classHierarchyOrder:
className:
configurationOfDefinition
fullHierarchyOf:
packageOfClassDefinition
processClassNamesBlock:e
selectClassName:topez:
updatePackageAndConfigFor
_configurationGivenPackaj

Packages (4)

Topez-Server-31x-Tests
Topez-Server-Core
Topez-Server-DebugTool
Topez-Server-ProcessToc

TDClassDefinition>>itemSelected: (9)

itemSelected: topez
| cl |
cl := Smalltalk className: self theClassName.
cl
editUsing:
((TDEditorSpec topez: topez editorAspect: #'hierarchyList')
windowName: #'hierarchy';
yourself).
^ nil

Definitions

String
StringHolder
StringKeyValueDictionary
StringPair
StringPairSet
Text
TextAttribute
TextColor
TextEmphasis
TextDiffBuilder
TextStream

Definitions (2)

Object
TDAbstractDevTool
MCFileTreeTodeTool
TDDevProcessSupport
TDDefinition
TDClassDefinition
TDBehaviorDefinition
TDAbstractMethodDefinition
TDMcMethodDefinition
TDMethodDefinition
TDMethodTemplateDefinition
TDMethodVersionDefinition

1: GemStone Shell: 3.2_mac

```
tode 1 > cd /demo
[tDDirectoryNode] /demo/
tode 1 > ls
bin/ doit* expression@/ hello* readme
tode 1 > browse list expression
[Array] anArray( TDClassDefinition(Object), TDClassDefinition(TDAbstractDevTool),
TDClassDefinition(MCFileTreeTodeTool), TDClassDefinition(TDDevProc...
tode 1 > browse class ^String|^Text
[Array] anArray( TDClassDefinition(String),
TDClassDefinition(StringKeyValueDictionary), TDClassDefinition(StringPair),
TDClassDefinition(StringPair...
tode 1 > inspect
[Array] anArray( TDClassDefinition(String),
TDClassDefinition(StringKeyValueDictionary), TDClassDefinition(StringPair),
TDClassDefinition(StringPair...
tode 1 >
```

anArray(TDClassDefinition(String), TDClassDefinition(StringKeyValueDicti

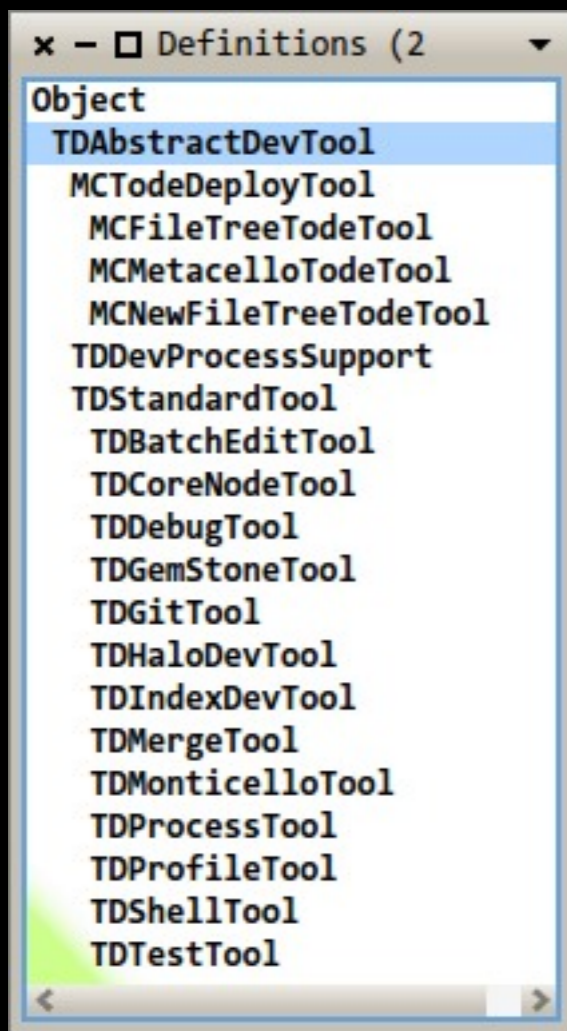
```
. -> anArray( TDClassDefinition(String), TDClassDefinition(StringKeyValueDictio
(class)@ -> Array
1@ -> TDClassDefinition(String)
2@ -> TDClassDefinition(StringKeyValueDictionary)
3@ -> TDClassDefinition(StringPair)
4@ -> TDClassDefinition(StringPairSet)
5@ -> TDClassDefinition(TextDiffBuilder)
6@ -> TDClassDefinition(TextEmphasis)
7@ -> TDClassDefinition(TextColor)
8@ -> TDClassDefinition(TextAttribute)
9@ -> TDClassDefinition(StringHolder)
10@ -> TDClassDefinition(Text)
11@ -> TDClassDefinition(TextStream)
```

Ultra Thin Client

- all application logic executes on the server
- predictable network round trips

Ultra Thin Client

Pharo



```
(class)@ -> Array
(oop)@ -> 353159937
1@ -> 'Object'
2@ -> 'TDAbstractDevTool'
3@ -> 'MCTodeDeployTool'
4@ -> 'MCTodeFileTreeTool'
5@ -> 'MCTodeMetacelloTool'
6@ -> 'MCTodeNewFileTreeTool'
7@ -> 'TDDevProcessSupport'
8@ -> 'TDStandardTool'
9@ -> 'TDBatchEditTool'
10@ -> 'TDCoreNodeTool'
11@ -> 'TDDebugTool'
12@ -> 'TDGemStoneTool'
13@ -> 'TDGitTool'
14@ -> 'TDHaloDevTool'
15@ -> 'TDIndexDevTool'
16@ -> 'TDMergeTool'
17@ -> 'TDMonticelloTool'
18@ -> 'TDProcessTool'
19@ -> 'TDProfileTool'
20@ -> 'TDShellTool'
21@ -> 'TDTestTool'
```

GemStone

```
(class)@ -> Array
(oop)@ -> 352872785
1@ -> TDClassDefinition(Object)
2@ -> TDClassDefinition(TDAbstractDevTool)
3@ -> TDClassDefinition(MCTodeDeployTool)
4@ -> TDClassDefinition(MCTodeFileTreeTool)
5@ -> TDClassDefinition(MCTodeMetacelloTool)
6@ -> TDClassDefinition(MCTodeNewFileTreeTool)
7@ -> TDClassDefinition(TDDevProcessSupport)
8@ -> TDClassDefinition(TDStandardTool)
9@ -> TDClassDefinition(TDBatchEditTool)
10@ -> TDClassDefinition(TDCoreNodeTool)
11@ -> TDClassDefinition(TDDebugTool)
12@ -> TDClassDefinition(TDGemStoneTool)
13@ -> TDClassDefinition(TDGitTool)
14@ -> TDClassDefinition(TDHaloDevTool)
15@ -> TDClassDefinition(TDIndexDevTool)
16@ -> TDClassDefinition(TDMergeTool)
17@ -> TDClassDefinition(TDMonticelloTool)
18@ -> TDClassDefinition(TDProcessTool)
19@ -> TDClassDefinition(TDProfileTool)
20@ -> TDClassDefinition(TDShellTool)
21@ -> TDClassDefinition(TDTestTool)
```

Ultra Thin Client

Pharo

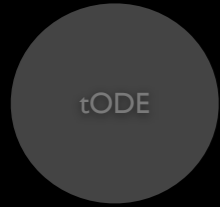


```
(class)@ -> SmallInteger
(oop)@ -> 10
(hex)@ -> '16r1'
(value)@ -> '1'
```

GemStone

```
itemSelected: listElement
  at: index
  shiftPressed: shiftPressed
  "browse the definition"

| itemAttribute def |
itemAttribute := listElement itemCache at: index.
def := itemAttribute object.
^ def itemSelected: listElement topez
```



ST Dev Deficiencies

- difficult to write Smalltalk scripts
- “window clutter”
- monolithic tools hide objects

Scripting in tODE

- Bash-style shell command processor
 - shell console window
 - objects instead of files
- Smalltalk is the script programming language

tODE

tODE Shell Demo

Windows in tODE

- Emacs-inspired “tiled” window layout to address “window clutter”
 - named window locations
 - named windows

Named Window Locations

tODE

The screenshot displays the tODE IDE interface with several named windows:

- Configurations**: Located in the top-left pane, showing project settings.
- Packages**: Located in the middle-left pane, showing a tree view of project packages like 'Topez-Common-Core'.
- Class Definitions**: Located in the bottom-left pane, showing a list of classes such as 'TDNode' and 'TDNodeBuilder'.
- Hierarchy**: Located in the top-middle pane, showing the class hierarchy for 'Object'.
- Class Definition**: Located in the top-right pane, showing the source code for a class, including 'Object subclass: 'TodeClientElement''.
- Instance Methods**: Located in the middle-right pane, showing methods for an instance of a class.
- Class Methods**: Located in the bottom-right pane, showing methods for a class.
- Definitions & Debugger**: Located in the middle-right pane, showing a list of definitions and debugger information.
- Shell**: Located in the bottom-left pane, showing a terminal window with commands like './halt', 'browse class tdnnode', and 'inspect .'. It also shows the output of 'ls' in the current directory.
- Inspector**: Located in the bottom-right pane, showing a list of objects and their paths, such as 'aDictionary' and 'Dictionary'.

Keyboard Shortcuts

```
x - □ /home/TDMethodDefinition(TDDevProcessSupport>>commit)/.keymap/ (2)
.      -> aDictionary( 'CMD-o'->'open method template [class/instance list], db over [
..     -> /home/TDMethodDefinition(TDDevProcessSupport>>commit)/
CMD-B@ -> 'browse class hierarchy/class def/methods'
CMD-b@ -> 'browse class'
CMD-C@ -> 'spawn window'
CMD-c@ -> 'copy object (class/method)'
CMD-E@ -> 'browse pkg/config classes/methods [pkgs/config]'
CMD-i@ -> 'db into [debugger shell]'
CMD-j@ -> 'db up [debugger shell]'
CMD-k@ -> 'db down [debugger shell]'
CMD-L@ -> 'list windows'
CMD-l@ -> 'refresh'
CMD-m@ -> 'browse implementors'
CMD-N@ -> 'references to'
CMD-n@ -> 'browse senders'
CMD-o@ -> 'open method template [class/instance list], db over [debugger shell]'
CMD-T@ -> 'browse pkg/confis tests [pkgs/config]'
CMD-t@ -> 'db thru [debugger shell]'
CMD-v@ -> 'paste object (compile method or add class/method to package)'
CMD-x@ -> 'cut object (remove class/method from system/package)'
```


tODE

System Browser Demo

Status

- I've been using tODE almost exclusively since February
- tool set duplicates about 95% of GemTools functionality
- starting to recruit beta testers
- hope to release tODE as 3.x GemTools replacement during first quarter 2014

Questions/Resources

- GemTalk Systems: <http://gemtalksystems.com/>
- GLASS: <http://gemtalksystems.com/index.php/community/community-for-glass-seaside/>
- tODE: <https://github.com/dalehenrich/tode>
- Pharo: <http://www.pharo-project.org/home>
- Dale dot Henrichs at gemtalksystems.com