

ActiveState



Applied Open Source

The (Active) State of Tcl



Tcl'Europe 2003

Andreas Kupries

ActiveState Corporation

- Introduction
- What has happened...
- Developments in the Tcl community
- Developments of the Tcl/Tk core
- Future directions



About ActiveState

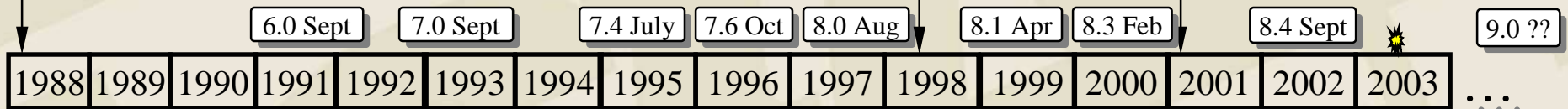
- ActiveState provides multi-language, cross-platform software & services
 - Tcl, Perl, PHP, Python, XSLT
 - Linux, Solaris, Windows, HP-UX, AIX, ...
- Mission: Make Programming Easier
 - Software development tools
 - High quality language distributions
 - Programmer Resources
- PureMessage email filtering gateway

1. Tcl created as general-purpose command/scripting language by John Ousterhout

4. Scriptics formed:

- Evolve and extend Tcl platform
- Create development tools

7. ActiveState introduces Tcl support and services



2. Open source distributions from U.C. Berkeley:


- Easy GUIs under Unix
- Extensible applications

5. Tcl Core Team formed (August)

6. Scriptics/Ajuba Acquired by Interwoven (Nov.)

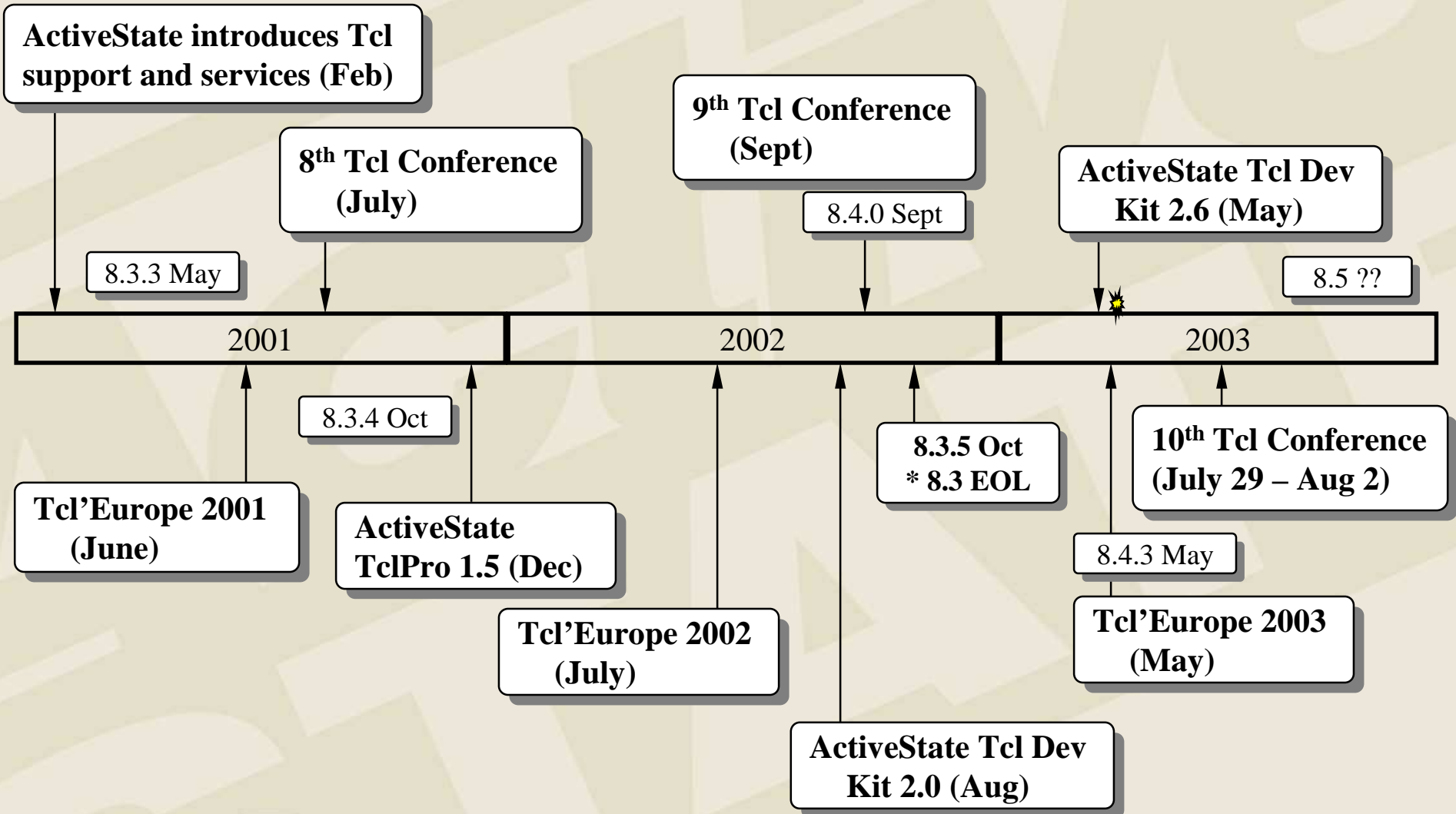
3. Tcl enhanced at Sun Microsystems:


- Windows, Macintosh ports
- Web/Internet support
- Java support

 You are here



Recent History of Tcl



 You are here

- Tcl usage is still growing
- Used extensively for mission-critical applications:
 - Cisco, Motorola, Lucent, Nortel, etc.:
 - Automated hardware testing
 - Coordinate different pieces of test equipment
 - Tcl soon to be standard on all Cisco routers
 - AOL Digital City, Travelocity:
 - Dynamic Web content
 - Integrate information from different sources
 - Content developers are not programmers

- More mission-critical applications:
 - NBC:
 - Digital broadcast control system
 - Mix programming content, control transmission through satellites to local stations
 - Pixar:
 - Used in animation tools (RenderMan software)
 - Technical directors write Tcl scripts to animate characters
 - Shell Oil:
 - Real-time control for offshore oil platforms
 - Coordinate, manage various systems

- Tcl/Tk 8.3.4 was the stable version
 - 8.3 now base standard in Linux distros
- 8.4b1 was just released
 - Feature frozen after 2 years in development
 - Numerous enhancements and additions

- Formed in August 2000 with 14 charter members based on community voting to collectively manage development of the core

Mo DeJong	Andreas Kupries
Donal Fellows	Karl Lehenbauer
Mark Harrison	Michael McLennan
D. Richard Hipp	Jan Nijtmans
Jeffrey Hobbs	John Ousterhout
George Howlett	Don Porter
Jim Ingham	Brent Welch

Kevin Kenny

- TIP page for Tcl
www.tcl.tk/cgi-bin/tct/tip/
- TIPs are intended to guide and document development on the core
 - They focus on new or changing features, not bugs
 - Voted on by the TCT following community discussion using the TYANNOTT process
- Currently over 130 TIPs
 - Divided into process, informational & project TIPs
- TCT discussion is open on the public mailing list: tcl-core@lists.sourceforge.net

- Tcl/Tk maintainers are separate from the TCT
- Maintainers oversee a specific area of the core, as defined in TIP #16 for Tcl and TIP #23 for Tk
- They assist, but are not solely responsible for, fixing bugs and adding documentation in their area
- They are responsible for reviewing code and approving code changes to their area
- Open to anyone willing to learn the core
- New volunteers always welcome



The Maintainers...

Tcl (TIP #24):

Daniel Steffen	Jim Ingham	Kevin Kenny	Jeff Hobbs
Miguel Sofer	Andreas Kupries	Rolf Schroedter	Vince Darley
Don Porter	Jan Nijtmans	Donal Fellows	Mo DeJong
Pat Thoyts	Joe Mistachkin	Pavel Goran	

Tk (TIP #30):

Allen Flick	Peter Spjuth	Todd Helfter	Jeff Hobbs
George Smith	Frédéric Bonnet	Kevin Griffin	Vince Darley
Chengye Mao	Jan Nijtmans	Donal Fellows	Mo DeJong
Joe English	Daniel Steffen	Ben Riefenstahl	Miguel Bañón

Always open for new recruits ...



- Scriptics became Ajuba Solutions in May 2000
 - New focus as a B2B infrastructure company
- Interwoven: content management company in need of B2B...
 - Ajuba assimilated on Nov 1, 2000
 - Tcl/Tk moved to SourceForge:
<http://tcl.sf.net/>
 - Further open source work not continued at Interwoven
 - Most other projects at Ajuba moved to SourceForge
- References to Scriptics site should all be changed to <http://www.tcl.tk/>

- SourceForge provides a wealth of services for open source projects
 - Bug and patch database
 - Mailing lists
 - CVS repositories
 - File server
 - Web pages
- Managed by TCT and Tcl/Tk maintainers
- Not the Tcl Developer Xchange



Tcl @ ActiveState

- ActiveState established 1997
 - “Applied Open Source”
 - Used to be Perl specific
 - Well known ActivePerl distribution
 - Added Python and XML/XSLT expertise in 2000
- Jeff Hobbs hired in Feb 2001
- Andreas Kupries follows soon after
 - Other knowledgeable Tcl’ers on staff
- Wealth of scripting knowledge at ActiveState

- ActiveState provides the Tcl community with...
 - Improvements to open source Tcl core
 - Host of the Tcl Developer Xchange
 - Commercial support infrastructure
 - <http://www.ActiveState.com/TclDirect/>
 - Professional services for Tcl (TclDirect)
 - High quality development tools
 - ActiveTcl
 - ASPN Tcl (Tcl Dev Kit + Komodo IDE)
 - <http://www.ActiveState.com/Tcl/>

- Based on the 8.4.3 Tcl core
- Enhanced with many popular extensions
 - [incr Tcl], TclX, expect, tcllib, Bwidgets, iwidgets, tktable, tkcon
- A standard batteries-included distribution for Tcl users
 - Available for Win, Lin, Sol, HP-UX
- Code repository (still) in the works

The screenshot shows a web browser window with the address bar containing `http://www.tcl.tk/`. The page title is "Tcl Developer Xchange" with the URL `www.tcl.tk` below it. A navigation bar contains links for "GETTING STARTED", "ADVOCACY", "SOFTWARE", "DOCUMENTATION", "COMMUNITY", and "Links". A search box contains the text "site.tcl.tk" and a "GO" button. A "SITE MAP" button is also present. The main content area is divided into three columns:

- Latest Releases:** Lists several versions of Tcl/Tk and ActiveTcl, including dates. Links include "Download Tcl/Tk 8.4.3", "Tcl Dev Kit 2.6", "ActiveTcl 8.4.3.0", "Tcllib 1.4", "Tcl/Tk 8.3.5", and "Thread 2.5". A link for "Info on other Tcl packages available via CVS" is also present.
- Tcl News:** Announces the "4th European Tcl/Tk Conference" (May 30-31, 2003) and the "10th Annual Tcl/Tk Conference" (July, 2003). It also mentions the "9th Annual Tcl/Tk Conference" (Sept 16-20, 2002) and the "3rd European Tcl/Tk Conference" (June 27-28, 2002). A link for "Other News and Events" is provided.
- Tcl Resources:** Includes links for "Web Resources", "Documentation", "Software", and "Community".

Additional sections include:

- Tcl Core Team:** Describes the team's role and provides links to "TCT mailing list archives" and "Tcl Improvement Proposals (TIPs)".
- Source Forge:** Features the SourceForge logo and a link to "Tcl at Source Forge", describing it as the main CVS source code repositories.
- Tcler's Wiki:** Describes "The Tcler's Wiki" as a collaborative site with tips and tricks.
- Tcl Features:** Lists "OpenACS", "Javanti", and "Magic" with brief descriptions.

The browser's status bar at the bottom shows the date "May 25, 2003".

ASPN: Tcl Cookbook: Obtaining the name of a procedure - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Address http://aspn.activestate.com/ASPN/Cookbook/Tcl/Recipe/65429

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All Cookbooks

View by Category

- Data structures
- Databases
- Development, Debugging
- Distributed processing
- Mathematics and Graphics
- Miscellaneous
- Network resources
- Platform
- Interfaces
- Software
- Interfaces
- System Administration
- Text Processing
- Threads and Processes
- User Interfaces
- Web programming
- WebSphere/WSCP
- XML

Title: Obtaining the name of a procedure
Submitter: Jeff Hobbs ([other recipes](#))
Last Updated: 2001/06/21
Version no: 1.0
Category: [Miscellaneous](#), [Development](#), [Debugging](#)

Description:

How to obtain the name of a procedure from within it.

Source: [Text Source](#)

```
proc myProc {args} {
    set procName [lindex [info level 0] 0]
    puts "You called \"\$procName\""
    puts "The full call was \"[info level 0]\""
}
```

The license for this recipe is [available here](#).

Discussion:

[info level n] returns information about a specific level in the callstack of procedures, namely the name of the command in that level and its arguments. This information is in a list and the name of the command is the first element. Level 0 refers to the currently executing procedure.

[Add comment](#)

Number of comments: 2

Some fixes, Richard Suchenwirth, 2001/09/12
 The proc as shown would constantly return "myProc", as it is asked for its name. Also, "puts" should be left to the caller. I propose to rewrite it as

SEARCH

this section

[advanced](#) | [search help](#)

Highest rated recipes:

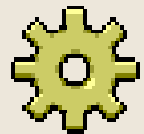
1. [LCD Number Display](#)
2. [With busy cursor](#)
3. [Supporting mouse wheel ...](#)
4. [Get widget info](#)
5. [Inline GIF image into ...](#)

Not Rated yet

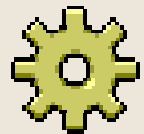
APPROVED

Internet

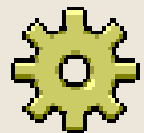
- Introduced December 2001
- Tcl Dev Kit (based on TclPro)
- Komodo Pro IDE
- Safari Bookshelf online books



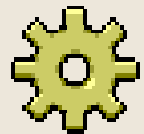
- Re-launched TclPro as updated commercial quality “Tcl Dev Kit”
 - **Debugger**: source-level debugger with GUI
 - **Checker**: find errors without running application
 - **TclApp (Wrapper)**: create self-contained applications for distribution
 - **Compiler**: protect your source code

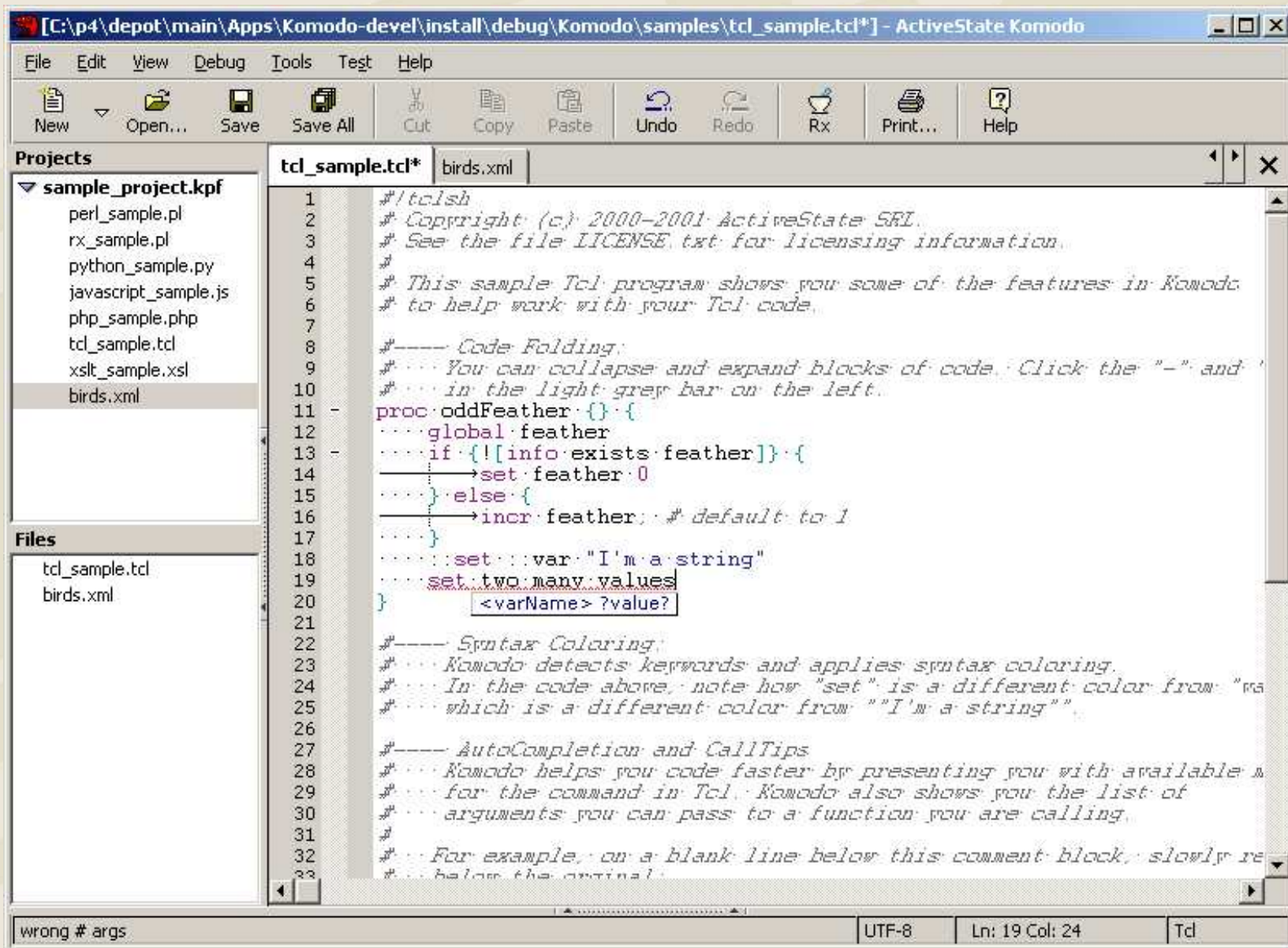


- New and enhanced tools
 - **Coverage**: coverage and hot-spot analysis built into the Debugger
 - **TclSvc**: create and manage Tcl scripts as Windows NT services
 - **TclApp**: rewrite of the wrapper based on VFS and starkit architecture
 - **Inspector**: runtime Tcl application browser to complement the Debugger
 - Enhanced features and UIs for original tools

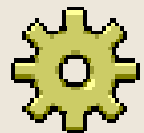


- Professional IDE for scripting languages
 - Professional IDE features
 - Tight integration with Tcl Dev Kit
 - Unique Tcl editing features
 - Integrated Tk GUI Builder
 - Cross-platform (Windows & Linux)
 - Also supports Perl, Python, PHP, XSLT and more
- Demos to follow

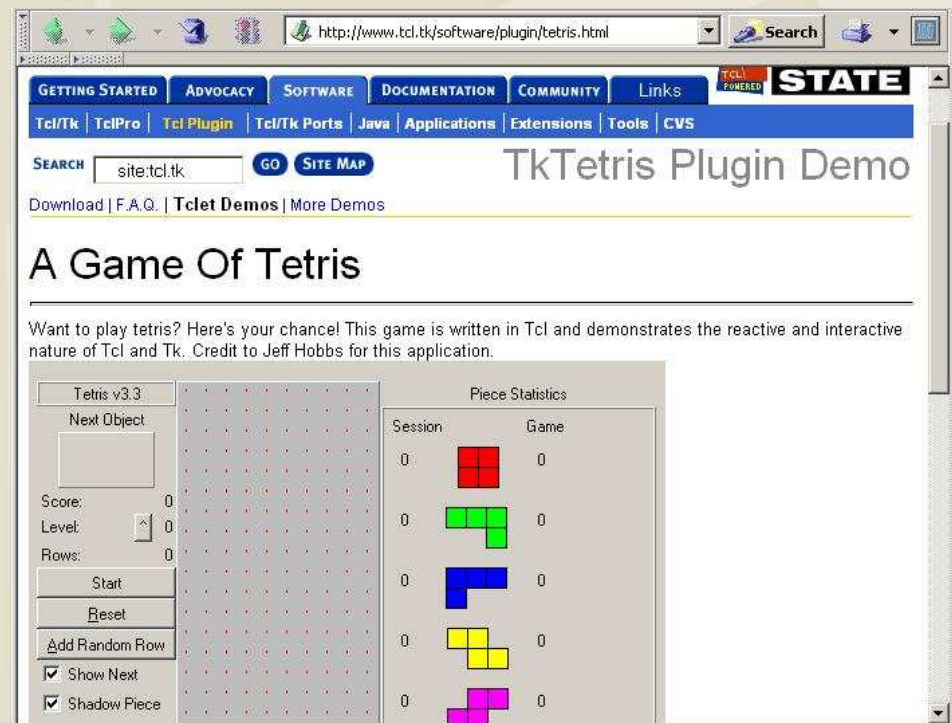




- Continuing development of Tcl tools
- Tcl Dev Kit 2.6 released May 20
 - Enhanced debugger with std channel interaction
 - Revamped Inspector UI
- Tcl Dev Kit 3.0 on the drawing board
- GUI Builder v2 in development
 - Support for many widgets sets
 - Menu builder



- It's baaaaaack ...
 - Support for IE6 and latest NPAPI browsers
- Still in development
 - v3.0 alpha
 - Requires 8.4.2
- Ships with TDK
 - Freely redistributable



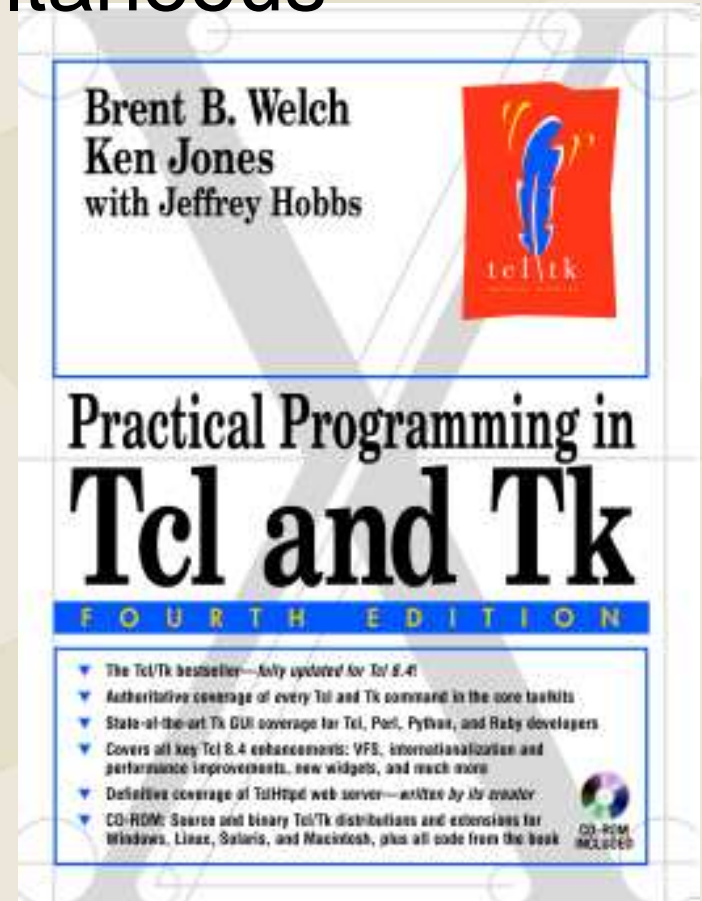
- The Tcl'ers Wiki has increased in activity:
 - <http://wiki.tcl.tk/>
 - Now with interactive chat

[Check out the wiki!](#)
- The Tcl Developer Xchange official URL:
 - <http://www.tcl.tk/>
 - <http://tcl.ActiveState.com/>
- Tcl-URL! continues to provide weekly news:
 - <http://www.ddj.com/topics/tclurl/>
 - Or subscribe to tcl-announce@listserv.activestate.com
- Lots of extension updates

- Download rate steady:
 - Windows: 55%
 - Unix: 40%
 - Mac: 5%
 - 8.4 now considered the stable version
 - New virtual file system (VFS)
 - Significant performance enhancements
 - Improved locale support in Tk
 - Ports now exist for Windows/CE and Palm
- ActiveTcl downloads
Data point:
- >2x ActivePython d/ls
- ~1/7th ActivePerl d/ls

- 8.4.3 released May 20
- 8.4 added spinbox, labelframe, panedwindow widgets
- Several core feature enhancements
 - VFS, lset, command tracing
- Significant work on performance
 - 20+% performance improvement over 8.3
 - Near or better than 8.0, but now unicode aware and thread-safe
- 64-bit integer and file-system support

- Most widget have updated features
- Compound buttons (simultaneous image and text)
- Asymmetric padding
- New books from Flynt and Welch coming soon updated for 8.4



- Currently in development
- Release schedule not finalized
 - Planning Q4'03/Q1'04 final
- Numerous TIPs already targeting 8.5
 - 'dict' data structure
 - Extended 'expr'
 - Proposals for more widgets
- Community input is important

- On the drawing board, but really just at the wishlist stage
 - Rationalize C APIs
 - Possible restructuring of Tcl level commands and global data
 - More OO / encapsulation features in the core (ensembles)
 - Remove octal support
 - Feather improvements

- Versions in use
 - Pre-8.0
 - 8.0
 - 8.2
 - 8.3
 - 8.4
 - 8.5 (unreleased)
- Response

- Develop/Deploy:
 - Windows
 - Macintosh OS 9
 - Macintosh OS X
 - Linux
 - Solaris
 - HP-UX
 - Other unix ...
- Response

- The core is guided by community input
 - Anyone can write a TIP
 - Anyone can be a core maintainer
 - 8.5 now in development
 - 9.0 on the drawing board
- What issues are most pressing?
- ActiveState will continue to work with the Tcl community and build more Tcl related products
- Demos to follow

- (More) improved Tcl performance
- Core archive file support (.jar/.zip)
- Larger source / binary distributions
- Tcl Installer
- 64-bit overhaul
- More modules shipped with core (ie: incr Tcl)
- Smaller, modular core
- Drag & Drop
- Windows Tk Performance
- Printing support
- Tk abstraction layer (TkGS)
- Megawidgets (roll your own)
- New Widgets
- ...

- On to Tcl Dev Kit & Komodo demos ...