

A Tcl/Tk-based integrated programming environment

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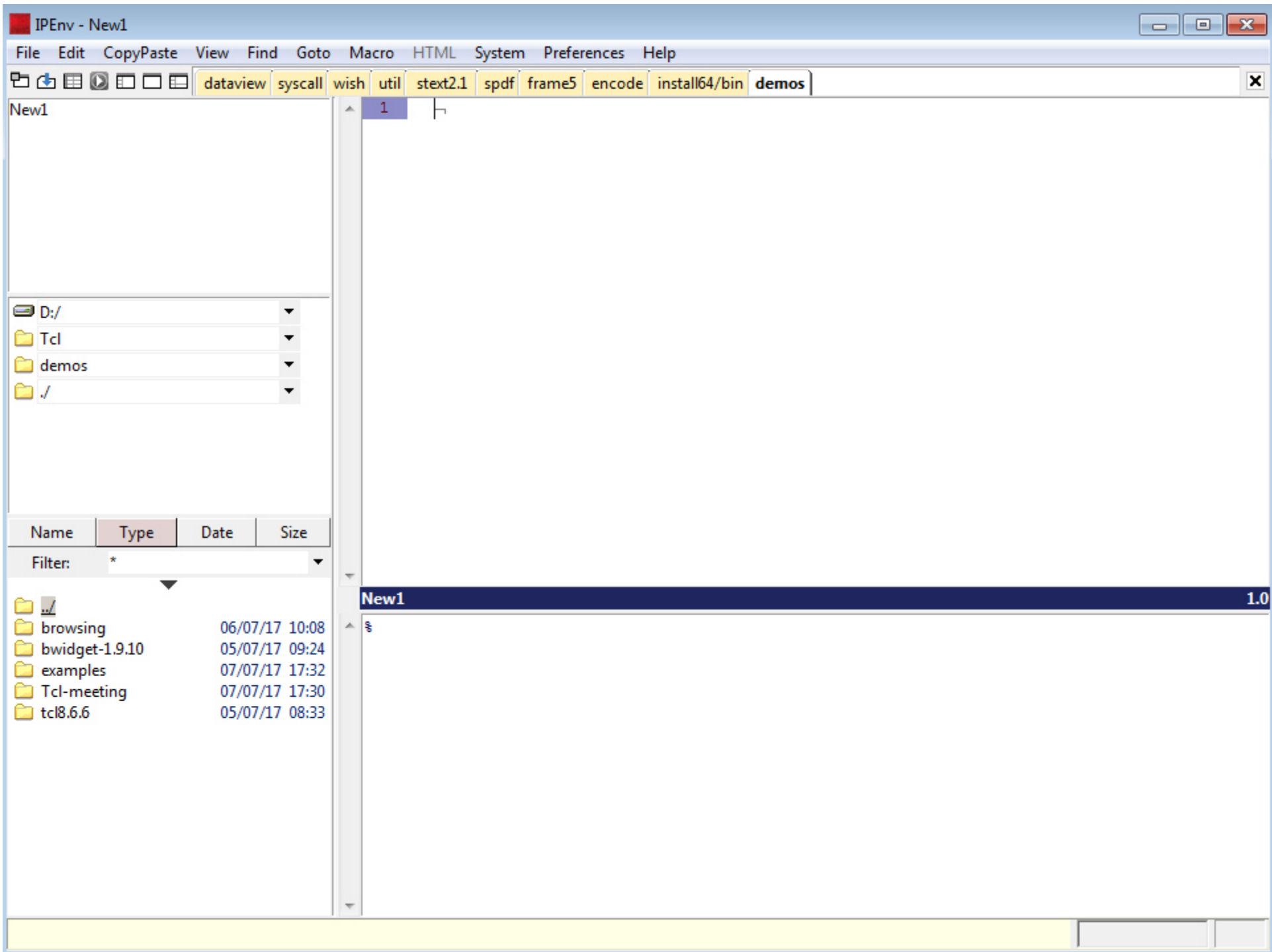
What is IPEnv?

IPEnv
the
Integrated
Programming
Environment

IPEnv is an Integrated Programming Environment for
Tcl/C++/JS-HTML programmers

Components

- ◆ a file manager
- ◆ a generic file viewer
- ◆ an multilingual source code editor
- ◆ a Tcl/Tk-Windows integrated console
- ◆ interface to several developer utilities (many embedded)



What are my guiding principles?

- ◆ A good user interface is about ergonomics
 - ergonomics is not *what* it does, but *how* it does
 - intuitive but easy to handle as well
 - bad example: Windows File Explorer
 - always clear feedback
 - short menus. Menus are a reminder, not a catalogue
 - avoid dialog windows and pop-up windows
 - avoid annoyances

Guiding principles (continued)

◆ Shortcut principles

- use commonly used shortcuts
- vi shortcuts: ctrl+~, ctrl+O, ctrl+shift+O, ctrl+Y
- ctrl+shift is opposite command of ctrl or closely related
ctrl+shift+Y instead of ctrl+P to paste lines (~ vi)
ctrl+shift+C force file copy (in file browser)
- generic shortcuts (single shortcuts that apply to different actions)

Generic shortcuts

Selection	
Split into Lines	Ctrl+Shift+L
Add Previous Line	Ctrl+Alt+Up
Add Next Line	Ctrl+Alt+Down
Single Selection	Escape
Invert Selection	
Select All	Ctrl+A
Expand Selection to Line	Ctrl+L
Expand Selection to Word	Ctrl+D
Expand Selection to Paragraph	
Expand Selection to Scope	Ctrl+Shift+Space
Expand Selection to Brackets	Ctrl+Shift+M
Expand Selection to Indentation	Ctrl+Shift+J
Expand Selection to Tag	Ctrl+Shift+A

selection menu in Sublime Text

Generic shortcuts

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selection menu in Sublime Text

Select Text Block
Select Word

Ctrl+B
Ctrl+Shift+W
Shift + cursor shortcuts

selection options in IPEnv



Guiding principles (continued)

- ◆ Full integration between the components
 - switching easily between the components
 - easy exchange between the components
 - integrated functionality
- ◆ Embedding external tools and utilities to retain an integrated user interface

File manager and viewer

- ◆ **generic file viewer**
 - text
 - images
 - pdf
 - html (4.0.1)
 - archive files
- ◆ versatile file copy and replace options
- ◆ easy to change the current folder (several options)

File manager and viewer (cont.)

- ◆ launch executables
- ◆ ftp access
- ◆ flexible find file
- ◆ quickly find a file in the current folder
- ◆ simple file/directory comparison
- ◆ simple conversion of several documents formats to pdf

Editor

- ◆ **getting info**
 - variable declarations; function prototypes; structure definitions; classes + methods
 - menu list of function definitions in file
 - menu list of included header files
 - menu list of occurrences of current word or selection
 - additional info about selections (number of chars etc.)
 - info about the current file
 - line number in current procedure
- ◆ quick-find options (single + multiple files)
- ◆ **easily moving around**

Editor (continued)

- ◆ quick selection
- ◆ run macros (editable)
- ◆ execute Tcl scripts, batches and makefiles [F7]
- ◆ **asynchronously restore and compare modifications in edit files during a session**
- ◆ display and edit data in a table
- ◆ syntax coloring (some are built-in + user-defined)

Automatic code completion for C++, Tcl/Tk, HTML/JS/CSS

- ◆ for **C/C++**: variables, function names, structures + field names, definitions, classes + methods recognition
- ◆ for **Tcl**: namespaces, procedures, standard commands + subcommands, local variables, namespace variables + array values, options, pre-defined option values
- ◆ for **HTML/JS/CSS**: all built-in classes and methods, jQuery, inheritance, DOM, external js code, objects+properties, events
- ◆ if statements
- ◆ switch statements
- ◆ for statements
- ◆ special characters
- ◆ word repetition on the next line

Tcl/Tk console

- ◆ written for Windows
- ◆ working environment same level as cygwin/bash, i.e.
 - **multi-threaded** (no blocking commands, all commands can be interrupted)
 - **embedded in the Windows OS environment**
 - **interactive IO with the processes**
- ◆ hyperlinked output (make, diff, grep, ls, find)
- ◆ finding text as in an editor
- ◆ quick recall in command history

Tcl/Tk console (continued)

- ◆ simply jump to previous command prompts
- ◆ simply change the working directory instead of using the cd command
- ◆ **Tk is pre-loaded**
- ◆ can load standard Tcl packages (no user-compiled versions)
- ◆ **run Tcl commands in the background**
- ◆ redirecting Tcl output to a file
- ◆ pipes including Tcl commands
- ◆ mkmf

Access to external utilities

- ◆ CVS
- ◆ winmerge
- ◆ imagemagick
- ◆ curl
- ◆ pdf24
- ◆ 7z
- ◆ zip
- ◆ using: tclthread, tktable, tkdnd, ctext, tkhtml30

IPEnv: more than just an IDE

And now...
the demo

