Why Tkinter?

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3rd Python workshop, Dec 1995

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What Is Tkinter?

- A collection of wrapper classes around Tk
  - No need to know or use Tcl to write Tkinter apps
- Provides access to (nearly) all Tk features
- Fairly strict correspondence to Tk functionality
  - Easier to read the Tk man pages

Examples

- Tcl version:

```
button .top.quit -text Quit -command exit
pack .top.quit
```

- Python translation:

```
quit = Button(top, text="Quit", command=sys.exit)
quit.pack()
```

Meta-Advantages of Tk

- Hundreds of thousands of other users
  - Including several other languages (Perl, Scheme)
- Ousterhout is motivated to support it
- Good long-term prospects, apple pie&motherhood

- Large Tkinter user base in the Python community
- Grail is written using Tkinter

Tk Portability

Ports to Mac and Windows platforms under way at Sun

- Currently alpha quality, Motif look-and-feel
- Will acquire native look-and-feel sometime in 1996
- User community expected to grow to millions

Meta-Disadvantages of Tk

- Sun "owns" Tcl and Tk
  - No control over development
- Portability has yet to be demonstrated
  - Currently some areas are too X11 specific

Technical Advantages of Tk

- No redraw code necessary
  - all redrawing handled by Tk
- Automatic geometry management
- Multi-font text widget with embedded images
- Canvas widget allows drawing objects, text, images
- Comprehensive widget and option sets
- Full X11 window manager interface
  - titles, icons, grabbing, transient windows, geometry, etc.
- Support for async I/O handlers, timers

Technical Disadvantages of Tk

- Need to link with Tcl interpreter
- Passing all data through Tcl can be slow
  - Tcl represents everything as strings
- Sometimes Tcl peculiarities show through
  - scroll bar interface
- Occasional bad choice of interface in Tkinter
  - from Tkinter import *
  - w.config({'text': "hello world"})
    - » replaced by w.config(text="hello world")
  - use of Pack and Wm classes

Suggested Course of Action

- Continue to support current Tkinter interface
- Phase out use of dictionaries
  - use keyword arguments instead
- Improve performance by using Rivet
  - avoids passing things through Tcl most of the time
  - \- or another way of improving speed by using C
- Migrate to an improved interface called "Tk"
  - use: import Tk; b = Tk.Button(...)
- Push for Mac and Windows ports
  - initially, Motif l.a.f. is fine