TkAqua Cocoa

• Current TkAqua port based on Carbon API
  ▪ Carbon is deprecated since Mac OS X 10.4
  ▪ no new functionality being added
  ▪ not available on 64bit architectures
  ▪ Mac OS X ecosystem migrating quickly to all 64bit

• Cocoa is the modern Mac OS X ObjectiveC-based GUI API
  ▪ fully available on 64bit as of Mac OS X 10.5
TkAqua Cocoa

- Cocoa port in development since Sept 08
  - developed against Tk HEAD in github repository
    - http://github.com/das/tcltk/tree/de-carbon
  - backport to Tk 8.5 branch also available
- Feature complete as of April 09
- Integration into mainline planned for Tk 8.6
  - new minimum system requirement: Mac OS X 10.5
    - current minimum is Mac OS X 10.3
TkAqua Cocoa

- Current integration plan is to freeze existing TkAqua source
  - move to new tk source subdirectory `macosx-legacy`
  - add configure switch `--enable-cocoa` (on by default)
  - if cocoa disabled, fallback to `macosx-legacy`
- Same approach would be possible for Tk 8.5
  - `--enable-cocoa` off by default
  - unclear if this is a good idea/if there is a demand for this?
TkAqua Cocoa Changes

• In general no script visible changes
  ▪ distinguish from Carbon TkAqua via [winfo server]

• A few obsolete TkAqua specific bits removed
  ▪ tk::mac::useCGDrawing
  ▪ some args to tk::unsupported::MacWindowStyle

• Signature changes to platform-specific APIs in stubs tables
  ▪ almost all are platform pointer types changed to void*

• Various platform-specific stubs API are now NOPs
TkAqua Cocoa Changes

• Tk Extensions that use only public Tk API work unchanged
  ▪ same for generic internal Tk API

• Tk Extensions will likely need to be ported if they
  ▪ use platform-specific internal Tk API
  ▪ make assumptions about the inner workings of TkAqua
    ▪ e.g. presence of QuickDraw, current QD port
  ▪ use Carbon API to draw
TkAqua Cocoa Additions

- Button metrics: identical to Carbon TkAqua by default
  - `set tk::mac::useCompatibilityMetrics 0`
    - more native-looking button spacing
- Access to native image types via native bitmaps
  - any image format readable by NSImage
  - native bitmap names via `tk::mac::iconBitmap`
  - c.f. `tk/macosx/README`
- Access to native image types via `@cursor` names
TkAqua Cocoa Additions

• Sheet (i.e. modeless resp. window-modal) versions of standard Tk file & messagebox dialogs:
  ▪ new -command argument
    ▪ command prefix evaluated when dialog closes
    ▪ dialog command returns empty result
  ▪ if -parent also present
    ▪ dialog is sheet attached to parent window
    ▪ dialog command returns immediately
TkAqua Cocoa Additions

- Standard Cocoa About panel
  - `tk::mac::standardAboutPanel`
  - automatically populated with info from .app bundle

- Standard platform menus
  - `.apple`, `.window`, `.help`
  - add to menubar before configuring as toplevel menu

- 3 argument form of
  - `tk::unsupported::MacWindowStyle style window ?class? ?attributes?`
TkAqua Cocoa Additions

• New magic tk::mac:: proc name
  ▪ tk::mac::ShowHelp

• Existing tk::mac:: handlers:
  ▪ ShowPreferences, OpenApplication, ReopenApplication, OpenDocument, PrintDocument, Quit, OnShow, OnHide

• Existing magic name in global namespace:
  ▪ tkAboutDialog
Thanks

http://categorifiedcoder.info/