State of Text Rendering

Behdad Esfahbod
behdad@gnome.org
http://behdad.org/text

July 5th, 2009

Gran Canaria Desktop summit

Check the paper:
http://behdad.org/text

July 5th, 2009

Gran Canaria Desktop summit

Agenda

- The Stack
- Shapers
- Shaper Consumers
- Problems
- Recent Advances
- More Problems
- Road Ahead

July 5th, 2009

Gran Canaria Desktop summit

Meet the Stack

- Pango
- HarfBuzz
- FriBidi
- Fontconfig
- FreeType

July 5th, 2009

Gran Canaria Desktop summit

OpenType

July 5th, 2009

Gran Canaria Desktop summit

HarfBuzz

July 5th, 2009

Gran Canaria Desktop summit

Other Free Shapers

- ICU
- m17n
- SIL Graphite

July 5th, 2009

Gran Canaria Desktop summit

Consumers

- GUI Toolkits
- Web Browsers
- Word Processors
- Designer Tools
- Font Design Tools
- Terminal Emulators
- Batch Doc Processors
- TeX Engines

Excellence

- Supported Font Formats
- Configuration Mechanism
- Transparent Font Fallback
- Standard Compliance
- Minority Scripts

July 5th, 2009

Gran Canaria Desktop summit

Problems

- Good Enough
- Segregated Efforts

July 5th, 2009

Gran Canaria Desktop summit

Segregated Efforts

- Font packager's fault
- Font configuration GUI
- Vertical text
- Text Layout Summit
- unifont.org
- Graphite and m17n

July 5th, 2009

Gran Canaria Desktop summit

Recent Advances

- Streamlining font packaging
- Online font add/remove
- Automatic font installation

July 5th, 2009

Gran Canaria Desktop summit

Demo Time!

July 5th, 2009

Gran Canaria Desktop summit

Online font add/remove

1. gnome-settings-daemon monitors
2. g-s-d rebuilds cache
3. g-s-d signals via XSETTINGS
4. GTK+ catches, drops Pango caches
5. GTK+ sends "theme-changed"

July 5th, 2009

Gran Canaria Desktop summit

Automatic font installation

1. RPM detects font at pkg build time
2. RPM tags package using fc-query
3. PackgeKit installs GTK+ module
4. GTK+ overrides Pango default fontmap
5. PK receives font install request
6. Installed fonts are picked up

July 5th, 2009

Gran Canaria Desktop summit

Major Problems

- CJK Problem
- Indic Problem
- Latin Problem

July 5th, 2009

Gran Canaria Desktop summit

Road Ahead

- HarfBuzz: layout, API, merge
- Subpixel rendering and positioning
- Font chooser dialog
- Font configurator
- Font websites
- Font viewer
- Application fonts

July 5th, 2009

Gran Canaria Desktop summit

Where is My Vote?

July 5th, 2009

Gran Canaria Desktop summit

Q?

July 5th, 2009

Gran Canaria Desktop summit