KDE Accessibility

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About me

Frederik Gladhorn

- Digia – the Qt company
- KDE hackery since ~2005
- Maintainer Qt Accessibility
- Improved/implemented Qt a11y on Linux, Windows, OS X, Android and iOS

What is Accessiblity?

it's exciting!

Why?

- KDE is inclusive
- I want KDE to be usable by everyone
- KDE is configurable (e.g. shortcuts, colors)
- high contrast and font support
- great basis

Fixes for everyone

- Keyboard [TAB]
- Fonts follow systemsettings! No, really.
- Colors follow system settings
  - inverted and high contrast
  - color weakness (red/green, red/blue, ...)

Setting the next goal

Blind users should be able to enjoy our software

Why now?

Accessibility

- 4.8 + qt-at-spi: some level of a11y for Linux
- 5.0: big refactoring, simplification of the API
  - Linux qt-at-spi merged into QtBase
- 5.1: Fixes and polishing on Windows
- 5.2: Android and OS X added
- 5.3: iOS added, OS X actually works
- 5.4: QtWebengine is a new module, accessible at release, Qt Quick a11y improvements
- research project: mobile device accessibility

What is badly needed?

- Virtual Keyboard that works
  - auto completion
  - touch friendly
- Spell checking

What is badly needed? (2)

- Settings
  - global shortcut that launches screen reader
  - KCM
- Integrate with Orca
- Testing by blind users

Screen reader users

- We are close...
- A few missing pieces
  - KickOff and KRunner needs work
  - System tray
  - KWin might need a few improvements
- Once it's «good enough» we will get feedback from the blind community and listen to them

Testing and improving apps

- It used to be cumbersome++
- Qt 5 to the rescue – it just works!
- Run Accerciser/Randamizer and Orca
- KShortcutCollection

QWidget

- Source incompatible Qt 4 -> 5 (much better in 5)
- QWidget::setAccessibleName
- QWidget::setAccessibleDescription
- custom QAccessibleInterface subclasses

Qt Quick

- Keyboard usage often neglected
  - not easy to get the focus handling right

- A11y easy to add...
  - but either needs manual doing, or:
  - Use QtQuickControls/Plasma Controls
  - New controls? I wrote docs for you: `qt-project.org/doc/qt-5/qml-qtquick-accessible.html`)

Should KDE provide a screen reader?

- Fragmentation bad
- Orca works!
- Orca supports braille
- Few people working in this area
- I started writing one for educational purposes...
- Orca sometimes doesn't work – especially with Qt apps...
- Orca means pygtk, distros don't want both KDE and GTK on their install CDs
- Orca keyboard handling - *shiver*
- Security issues in the stack and wayland
- Can we reach a good enough level of quality?
- It's not easy and will need a long time to reach a good enough quality...
- could offer a good tutorial
- visual clues where the focus is (kwin dbus plugin -> highlight this rect)
- extensibility (orca has py scripts, some sort of scripting needed – qtscript/qml)
- sensible shortcut handling
- powerful - comes with script editor

Conclusion

- Virtual Keyboard, prettyplease!
- Help needed with KCM
- Testing – Plasma Next and applications
- Qt 5 enables us
- Join the KDE Accessibility team
- Cooperation with design needed (HIG)

Questions?

join us in #kde-accessibility

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