

How To Make Your Application or Widget Style Accessible

Olaf Schmidt, KDE Accessibility Project





How To Make Your Application or Widget Style Accessible

Accessible
to whom?



Photo by Waldo Jaquith (detail)

<http://creativecommons.org/licenses/by-sa/2.0/>



How To Make Your Application or Widget Style Accessible

Accessible
with low
vision

Usability test of
KDE Accessibility,
Berlin 2006





How To Make Your Application or Widget Style Accessible

Accessible with low vision

- High contrast
- Individual colours
- Large screen content





How To Make Your Application or Widget Style Accessible

Accessible to
blind users

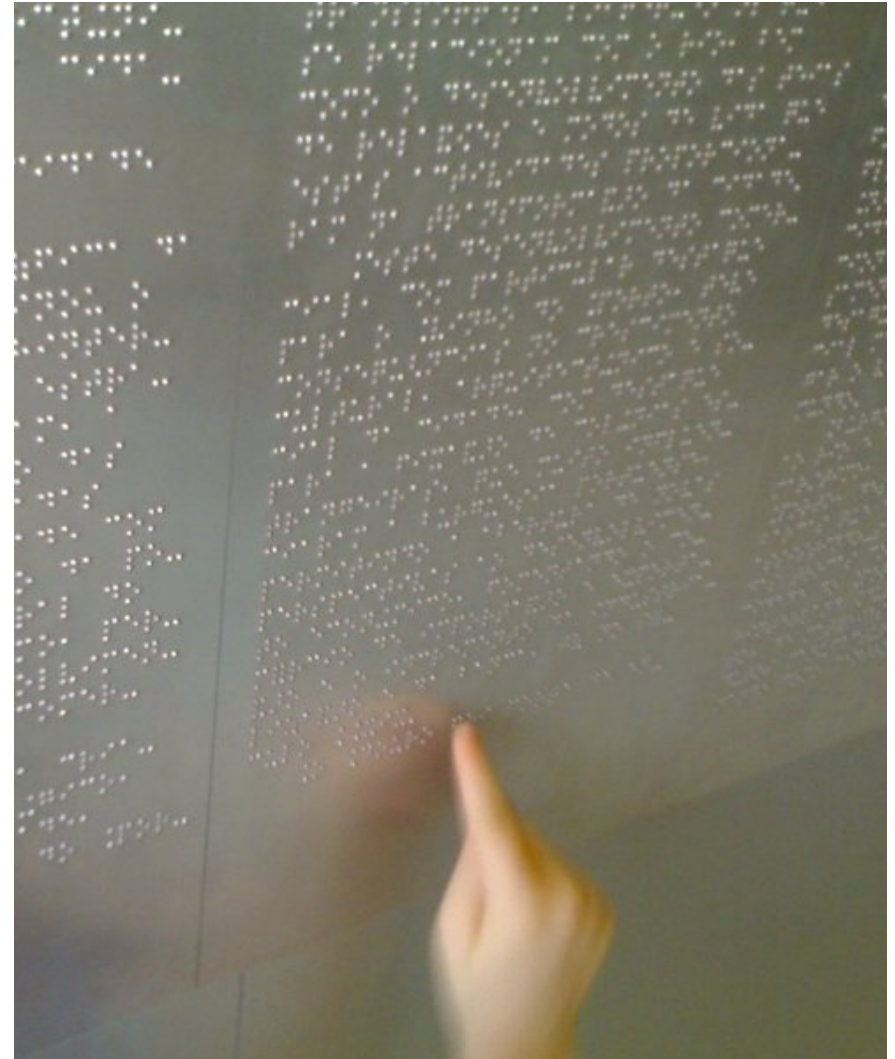


Photo by Peter Rukavina (detail)

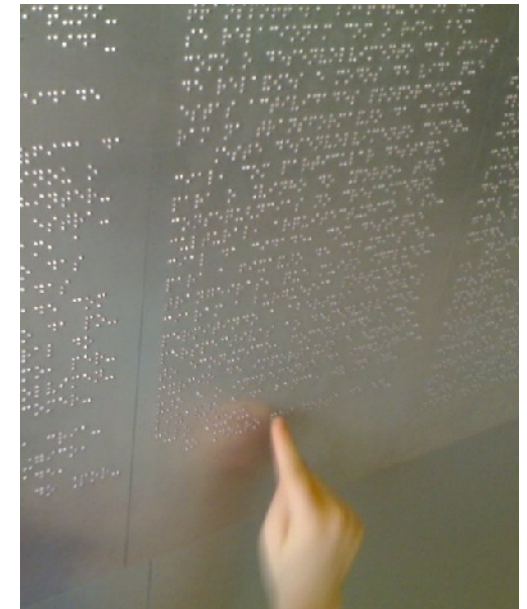
<http://creativecommons.org/licenses/by-nc-sa/2.0/>



How To Make Your Application or Widget Style Accessible

Accessible to blind users

- Screen readers need complete access to the user interface (braille devices or text-to-speech)
- Text description for images
- Keyboard navigation instead of mouse use





How To Make Your Application or Widget Style Accessible

Accessible with unusual hands



Photo by burned_leg

<http://creativecommons.org/licenses/by-nc/2.0/>



How To Make Your Application or Widget Style Accessible

Accessible with unusual hands

- Non-standard keyboard use
- Non-standard mouse use
- Slower computer use
(Time-outs can be difficult)





How To Make Your Application or Widget Style Accessible

Accessible without hands



Photo by Kate Robison (detail)

<http://creativecommons.org/licenses/by-nc-sa/2.0/>



How To Make Your Application or Widget Style Accessible

Accessible without hands

- Eye-trackers or head-pointing devices
- On-screen keyboards with buttons





How To Make Your Application or Widget Style Accessible

Accessible to...

...deaf people

...users with learning
difficulties

...old users

...



How To Make Your Application or Widget Style Accessible

Accessible to you...



Photo by Chris Owens
<http://creativecommons.org/licenses/by-nd/2.0/>

- ...if you grow old
- ...if you get ill
- ...if you have a car crash
- ...if your keyboard or mouse is broken
- ...if you go into the sun with your notebook
- ...if you buy a PDA



How To Make Your Application or Widget Style Accessible

Why care about accessibility?

- Some people with disabilities are already using your software. Others are waiting for your software to become accessible to them.
- Standard compliance (W3C, FSG Accessibility)
- Anti-discrimination laws (US and EU), especially for schools and governments (Massachusetts)
- Marketing
- Free Software should not exclude people



How To Make Your Application or Widget Style Accessible

5 rules of thumb

- 1** - United colours of kcontrol
- 2** - One size doesn't fit it all
- 3** - Mouse traps
- 4** - Time is relative
- 5** - Allow Qt to handle the sophisticated stuff





How To Make Your Application or Widget Style Accessible

1 - United colours of kcontrol

- Do not hardcode colours
- Default to kcontrol colours (including application colours schemes)
- Monochrome icons
- Background images
- Don't use background colours for text





How To Make Your Application or Widget Style Accessible

1 - United colours of kcontrol

- Test with white on black colour scheme (e.g. Konqueror in https mode: URL not readable)





How To Make Your Application or Widget Style Accessible

1 - United colours of kcontrol

- Test with white on black colour scheme (e.g. kicker arrows and tooltips with hardcoded colours)

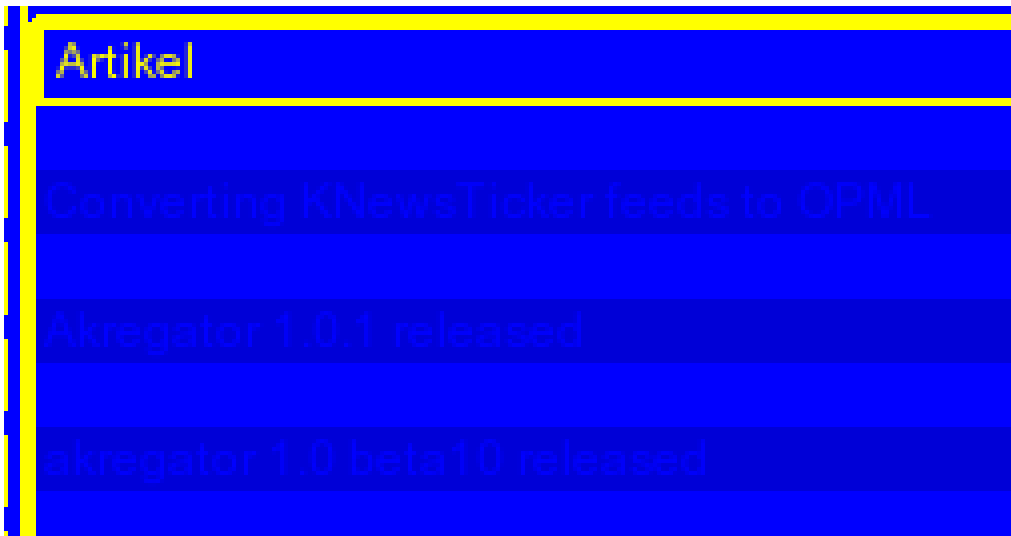




How To Make Your Application or Widget Style Accessible

1 - United colours of kcontrol

- Do not hardcode colours (e.g. blue text in aKregator)





How To Make Your Application or Widget Style Accessible

1 - United colours of kcontrol

- Extended colour palette in kcontrol
- Standard widgets for colour settings in applications
- Programmer needed!





How To Make Your Application or Widget Style Accessible

2 - One size doesn't fit it all

- Do not hardcode sizes
- Do not hardcode positions
- Use relative font and icon sizes in applications
(updated standard widget; programmer needed!)





How To Make Your Application or Widget Style Accessible

2 - One size doesn't fit it all

- All windows need to fit 800x600 with normal font sizes
- Test with huge font sizes
- Offer scrollbars where needed





How To Make Your Application or Widget Style Accessible

3 - Mouse traps

- Make sure everything can be accessed with the keyboard (accelerators, tab order)
- Remove mouse for testing
- Document keyboard shortcuts





How To Make Your Application or Widget Style Accessible

3 - Mouse traps

- New keyboard shortcuts are needed in KDE4 (e.g. desktop, panels, ...)





How To Make Your Application or Widget Style Accessible

4 - Time is relative

- Avoid hardcoded timeouts (e.g. there is a setting for the double click / drag time)
- Keep in mind that keyboard and mouse events might come from assistive technologies





How To Make Your Application or Widget Style Accessible

5 - Allow Qt to handle the sophisticated stuff

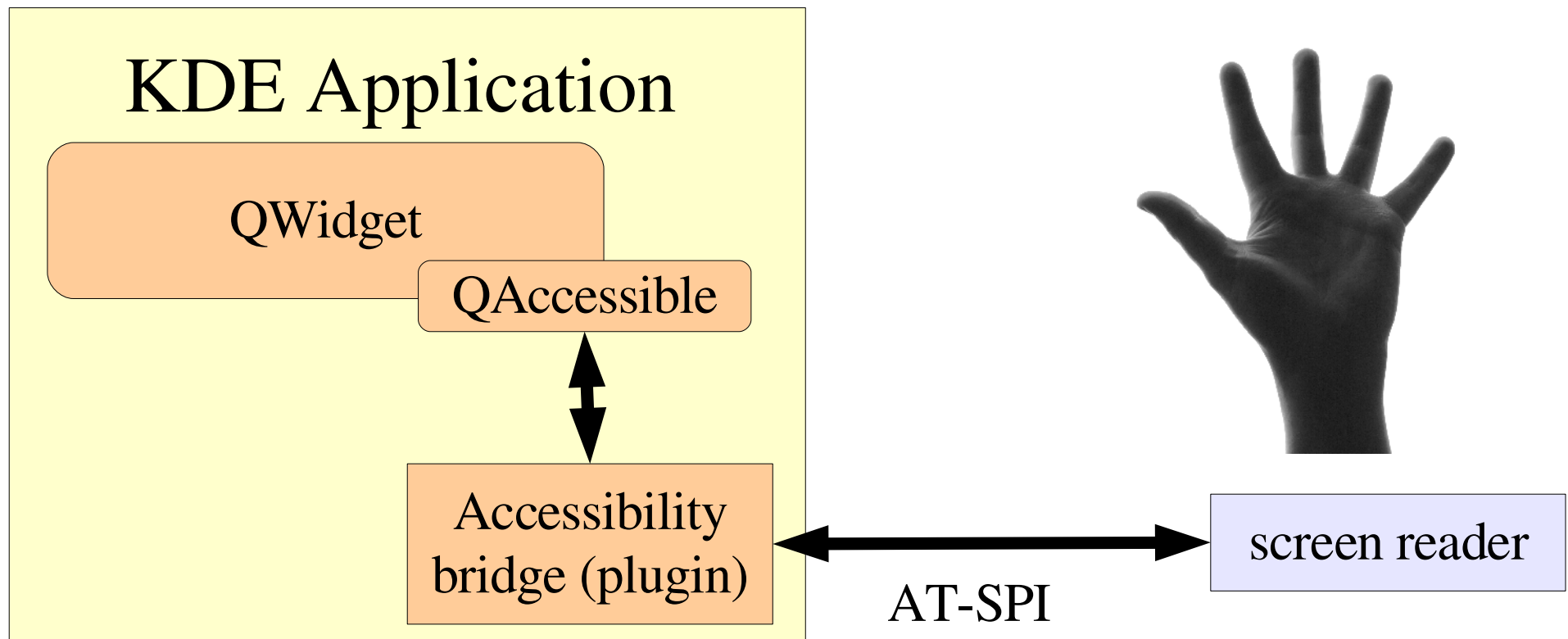
- Qt can talk to assistive technologies if your widgets provide the information





How To Make Your Application or Widget Style Accessible

5 - Allow Qt to handle the sophisticated stuff





How To Make Your Application or Widget Style Accessible

5 - Allow Qt to handle the sophisticated stuff

- For standard widgets:
“What's this” text, labels, etc.
need to be set
- Subclassed widgets also
work in most cases





How To Make Your Application or Widget Style Accessible

5 - Allow Qt to handle the sophisticated stuff

- For other custom widgets, visit the Qt4 Accessibility tutorial (12:00, Wednesday)
- HCI Day (Wednesday)





How To Make Your Application or Widget Style Accessible

5 rules of thumb

- 1** - United colours of kcontrol
- 2** - One size doesn't fit it all
- 3** - Mouse traps
- 4** - Time is relative
- 5** - Allow Qt to handle the sophisticated stuff

