How To Make Your Application or Widget Style Accessible

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How To Make Your Application or Widget Style Accessible

Accessible to whom?

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Accessible with low vision

Usability test of KDE Accessibility, Berlin 2006
Accessible with low vision

- High contrast
- Individual colours
- Large screen content
Accessible to blind users

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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
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Accessible with unusual hands

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Accessible with unusual hands

- Non-standard keyboard use
- Non-standard mouse use
- Slower computer use (Time-outs can be difficult)
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Accessible without hands

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Accessible without hands

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

...deaf people
...users with learning difficulties
...old users
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Accessible to you...

...if your 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

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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
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
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
1 - United colours of kcontrol

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

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

- Do not hardcode colours (e.g. blue text in aKregator)
1 - United colours of kcontrol

- Extended colour palette in kcontrol
- Standard widgets for colour settings in applications
- Programmer needed!
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!)
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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
3 - Mouse traps

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

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

![Hand gesture symbolizing trap]
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
5 - Allow Qt to handle the sophisticated stuff

- Qt can talk to assistive technologies if your widgets provide the information
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5 - Allow Qt to handle the sophisticated stuff

KDE Application

QWidget

QAccessible

Accessibility bridge (plugin)

AT-SPI

screen reader
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
5 - Allow Qt to handle the sophisticated stuff

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