



Introduction to Accessibility

Make the life of the disabled easier

Presented by
Ziqian SUN
Fedora Community

Today's Topics

1. Accessibility in life
2. Laws and regulations
3. Computer Accessibility

1. Accessibility in life

What is Accessibility

- “Accessibility refers to the design of products, devices, services, or environments for people who experience disabilities.”

--Wikipedia



- International Symbol of Access

Common terms

- Accessibility sometimes is known as a11y, especially in information technology domain.
- Common types
 - Mobility access
 - Hearing access
 - Sight access
 - For the blind
 - For the color blind

Mobility access

- Assistive cane
- Wheelchair
- Mobility scooter
- Stairlift (seen in underground stations)

Hearing access

- Hearing aid, assistive listening device
- Sign language
 - (various from language to language)
- Prepare transcript beforehand.



Sight access

- Braille
- (I guess speech can be a kind of access here)

2. Regulations and guides

Laws and regulations



- Section 508 Amendment to the Rehabilitation Act of 1973 (US)
- Disability Discrimination Act (AU, UK)
- Web Content Accessibility Guidelines (aka Israeli Standard 5568)
- More in <https://wiki.gnome.org/Accessibility/Laws>

Guides and standards



- ISO 9241-171 : 2008 Ergonomics of human-system interaction — Part 171: Guidance on software accessibility (ISO)
- Web Content Accessibility Guidelines (WCAG) (by WAI - Web Accessibility Initiative)
- WCAG 2.0 is approved as ISO/IEC 40500:2012
 - Mandated in Australia (by DDA), Israeli (covered by Israeli Standard 5568) and UK.

3. Computer Accessibility

Web Accessibility will not be discussed in this part during GNOME 3.22 Release Party.

For Visual impairment

- Screen reader software
- Refreshable braille display
- Braille keyboard
- High contrast color profile
- Screen magnifiers

For dexterity impairments

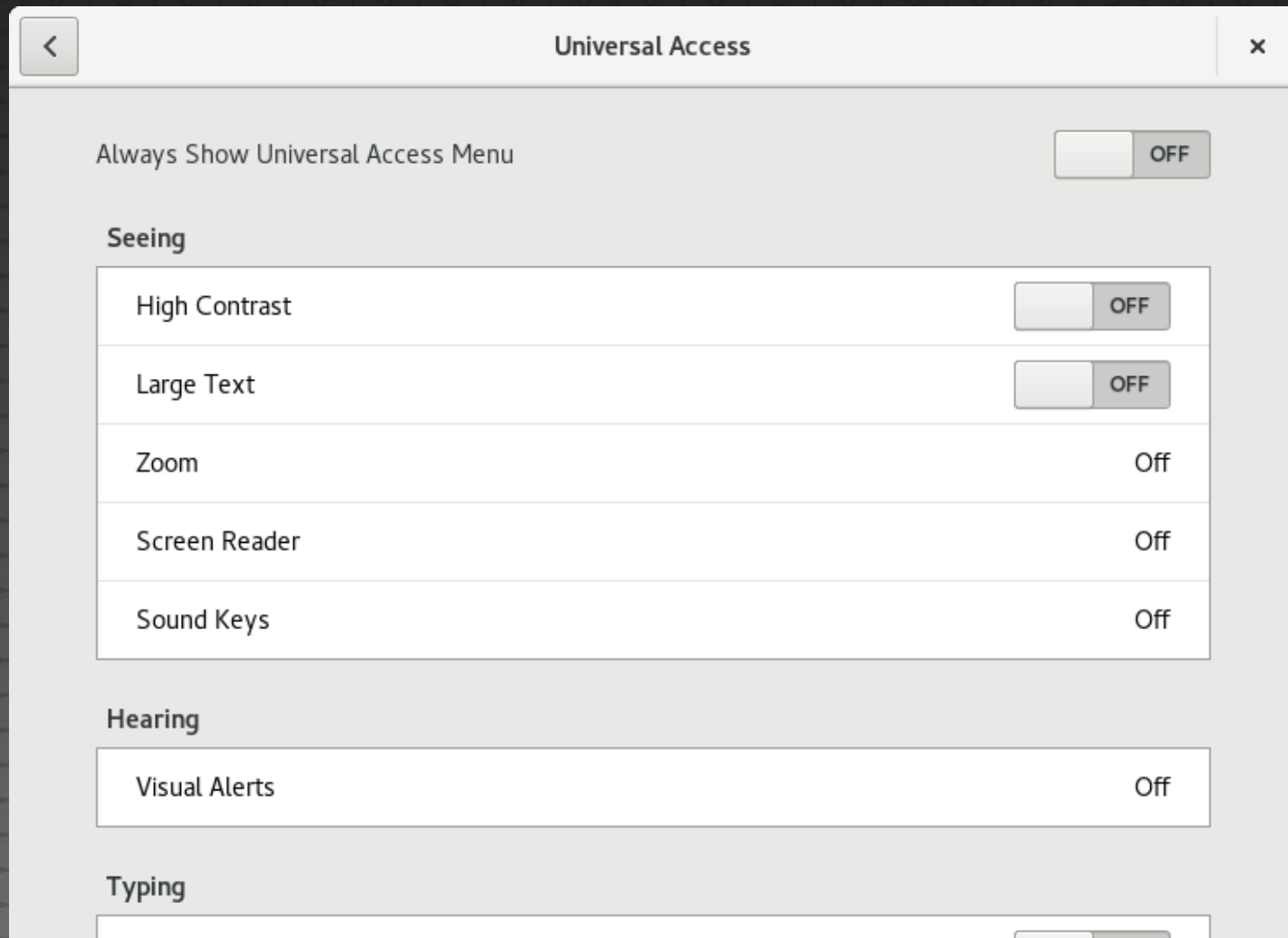
- Screen keyboard
- Keyboard shortcuts
- Sticky key, repeat key, slow key...
- Mouse gestures
- Speech recognition (speech to text)

APIs

- Assistive Technology Service Provider Interface (AT-SPI) on UNIX and Linux (being standardized as ISO/IEC PDTR 13066-4)
- Java Access Bridge for Java software (being standardized as ISO/IEC TR 13066-6)
- pyatspi

A11Y In GNOME Desktop

- Universal Access



A11Y Testing

- Manually
- Unplug your mouse, use keyboard only.
- Navigate with keyboard shortcuts
- Fire up Screen Reader (orca) to see if it works as expected
- Fire up Screen Magnifier

<https://wiki.gnome.org/Accessibility/SmokeTesting>

A11Y Testing (Cont.)

- Analyze use accerciser
- Change color profile to High Contrast
- Use your computer in various scenarios

A11Y Testing (Cont.)

- Automation
 - Mago - A Desktop Testing Initiative build on top of LDTP

For developers

- Follow GNOME Accessibility Toolkit(ATK)
 - <https://developer.gnome.org/atk/>
- Some reference
 - <http://www.tldp.org/HOWTO/Accessibility-Dev-HOWTO/>

Questions?



Contact:
zsun@fedoraproject.org