

Ubuntu 12.04 for the visually impaired

FULL VIEW AHEAD!

We look at how Ubuntu 12.04 works for users with visual impairments. **BY ANDRÉ SKORA AND MICHAEL QUAY**

A few things have changed for the visually impaired since the previous LTS version of Ubuntu, including the introduction of Unity. We decided to test Ubuntu 12.04 to see how friendly it is for visually impaired users.

Installation

If you already have Ubuntu 12.04 installed, quickly pressing the Super (Windows) key once on the keyboard and entering *Univ* in the search field brings up the accessibility options. When you start Ubuntu 12.04 from the installation or Live CD, pressing F5 brings up accessibility options in the boot menu. You should see a blue icon of a human figure marked Universal Access right under the search dialog. Click the icon to view the accessibility options.

The first tab is marked *Seeing* and is for adjusting visual access, including implementing the screen magnifier (Figure

1). Changing the Text size from the drop-down adjusts the text to your liking. After closing the window, double-click the *Install Ubuntu 12.04 LTS* desktop shortcut to start the actual installation. Based on your *Seeing* adjustments, the installation dialogs should be easier to read.

Blind users also have the option of booting Ubuntu from the CD – not the DVD – and waiting for the log-in sound, which sounds like drums. Double-clicking *Ctrl + S* starts the Orca screen reader for the voice-synthesized installation.

Desktop Accessibility

The accessibility settings continue working after the installation. The Universal Access dialog provides most of the settings for Ubuntu 12.04. Whereas older

versions had some problems with magnification, Ubuntu 12.04 seems to have overcome them, particularly when displaying nested context menus. The content is clearly displayed and easy to read.

Previous versions simply enlarged the section of the screen, with a resulting pixelated and blurry

resolution, making things tough for the visually impaired user. Ubuntu now handles things very differently. The operating system doesn't just simply enlarge all the screen elements, but does so selectively, only where needed, particularly in the text areas. Ubuntu 12.04 scales the dialog windows and elements only in exceptional cases, which ensures clearer text and easier readability.

Settings

The *Seeing* dialog allows Display settings in four text sizes. Table 1 shows how the four sizes are implemented. Unfortunately, the options are limited and do not allow a more granular gradation to suit some users' tastes.

The settings next to *Contrast* relate to dialog boxes, but do not affect the desktop as such. Content such as videos, photos, and websites are presented in the usual way, which simplifies daily operation.

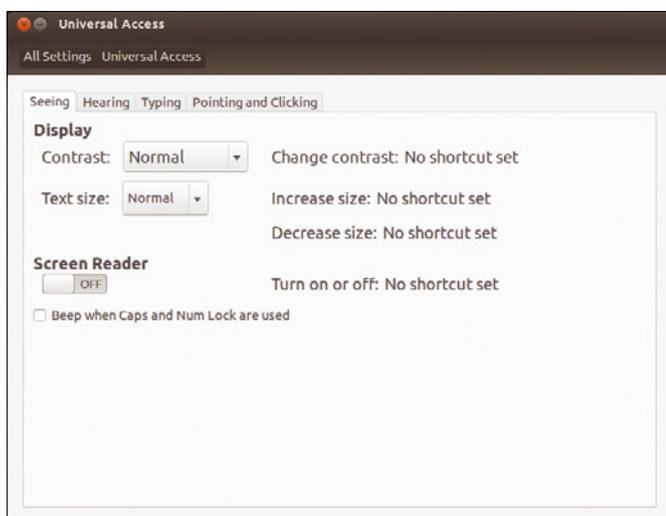
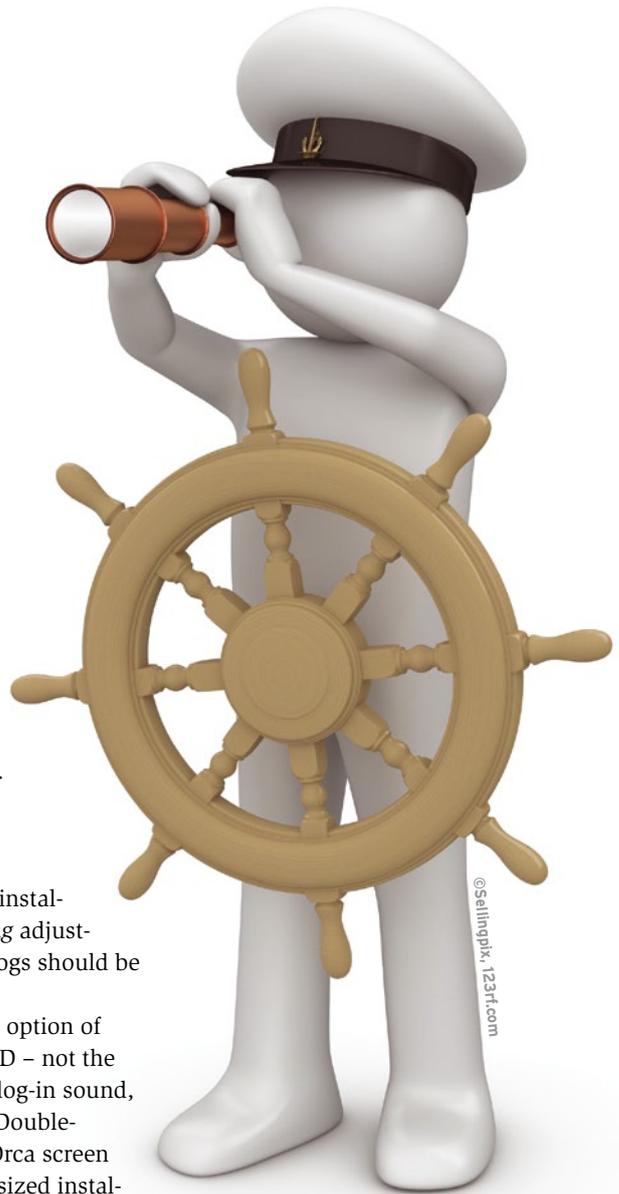


Figure 1: The *Seeing* tab provides options to adjust the size of text.

Table 1: Text Sizes

Setting	Factor
Small	ca. 50%
Normal	100%
Large	150%
Larger	200%

The *Contrast* settings are limited to four stages. (These should normally be sufficient, but a user-defined inversion would have been a nice extra feature.) Table 2 shows the contrast settings and their effects (Figure 2).

Worldwide Accessibility

The problem arises when Ubuntu users surf the web, which circumvents the accessibility functions. This is not an Ubuntu bug in particular, but a result of websites not built with accessibility in mind. Because individual users have little or no workaround, their daily website interaction is less than optimal. Hopefully web developers will soon be more mindful of accessibility issues. Meanwhile, one workaround for the visually impaired is to press *Ctrl + +* and *Ctrl + -* to zoom in and out of text.

Problems and Solutions

Unfortunately, the new Ubuntu does come with a few more bugs. If you switch the *Contrast* setting from *Normal* to something else, the important *Session Indicator* icon disappears from the top right panel, preventing you from accessing the System Settings, locking the

screen and shutting down the computer; however, installing all the Ubuntu updates fixes the situation.

If you invert the contrast, LibreOffice shows up with black text on a dark blue background, which is unreadable. To fix this, highlight the text with *Ctrl + A* and change the font color to white.

Conclusion

Compared to older versions of Ubuntu, developers have done remarkably well with accessibility – especially for the visually impaired. The presentation is crisp, and media files, even when inverted, are true to the originals. Finding the accessibility options requires only a few mouse clicks, and the settings persist with every restart.

Developers still could improve future versions by tweaking a few options. In particular, increasing the size of the mouse pointer would be a good localization for the visually impaired. Also, the option to use alternative pointers, such as heavy dots, cross-hairs, or different color contrasts, would be helpful.

As previously mentioned, only four inversion options are provided. People with color vision

deficiencies or color blindness would welcome being able to define the inversion color schemes. Unfortunately, the official Ubuntu is missing alternative magnification capabilities, such as for a defined area or a cursor-centered movable window. In many cases, these alternatives would be more practical than the current full-screen magnification. The only available option is to use the *CompizConfig Settings Manager* plug-in (Figure 3) in the *compizconfig-settings-manager* package, which has proven to be unstable. See the *Compiz Effects* box for more details.

Some work still needs to be done on Ubuntu's accessibility features so that screen magnification settings and modes, color modes, inversions, and reaction times don't fall by the wayside. ■

Compiz Effects

The *CompizConfig Settings Manager* can provide the Ubuntu window manager some visual effects, including *Accessibility*; however, use the effects (magnifier, color filters, and zoom) with some caution.

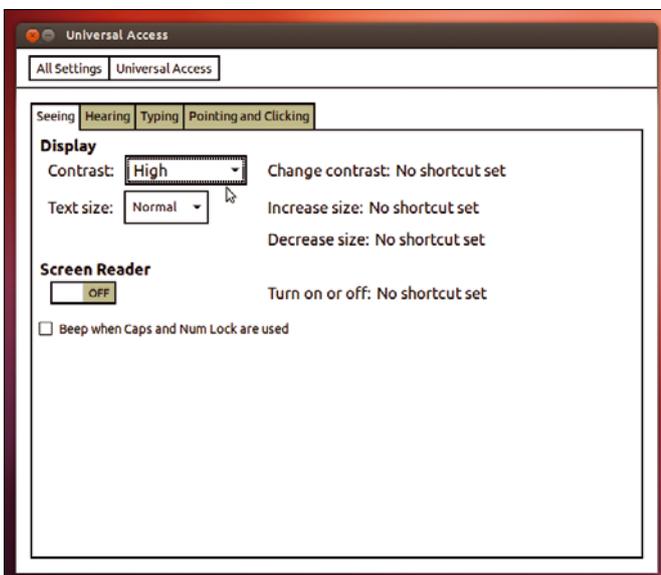


Figure 2: High contrast settings improve visibility.



Figure 3: The *CompizConfig Settings Manager* provides a few accessibility features, to be taken with a grain of salt.