



The Advanced Manual





Welcome to the OLPC's Advanced Manual. This is a continuation of the User's Guide, but with more in depth details.

It will outline some tips and tricks, how to update the system and how to check what kind of system you're running so you know what versions to update to.

Basic Info:

Fedora is the underlying operating system of the OLPC. It's a distribution of Linux under the name Fedora Core—developed by the Fedora Project, sponsored by Red Hat.

If you want to develop your own software for your OLPC you can do so with Python—a program development activity native to the OLPC.

How do I change the system settings?

The terminal is where everything in the Sugar (Sugar is the operating system) can be accessed and changed. For details as to how to change different settings, refer to the Internet for specific codes and details.

Type “sugar-control-panel -h” into the terminal activity log—(a box with a dollar and an underscore) This will bring you to the internal settings of the computer. Follow the instructions to modify your XO

Keyboard Short Cuts

- Ctrl: solid black diamond
- Alt: open diamond
- Esc: white X inside a black circle
- Tab: double arrows on it
- Tilde: tilde on it (~)
- Frame: open rectangle on it
- F1: same as the neighbourhood view key
- F2: same as the group view key
- F3: same as the home view key
- F4: same as the activity view key
- Delete: same as Fn-Erase
- Page Up: same as Fn-Up-Arrow
- Page Down: same as Fn-Down-Arrow
- Home: same as Fn-Left-Arrow
- End: same as Fn-Right-Arrow

- Alt-Tab: Cycle forward through running activities
- Shift-Alt-Tab: Cycle backward through running activities
- Ctrl-c: copy to clipboard—*NOTE: This becomes Shift-Ctrl-c in the Terminal (only)
- Ctrl-v: paste from clipboard—*NOTE: This becomes Shift-Ctrl-v in the Terminal (only)
- Ctrl-x: cut (and copy to clipboard)
- Ctrl-a: select all (current input/dialogue/text box)
- Alt-Esc: quit activity
- Alt-Enter: Toggle full-screen mode
- Alt-Space: Toggle tray visibility (works in Browse but not in Record)
- Ctrl-u: View source in Browse (opens copy of source in Write)
- Fn-Space: View source (system wide, not enabled in all applications)
- Ctrl-Alt-Erase: Restart Sugar
- Alt-1: Screen capture; saved to Journal as a PNG file named “Screenshot”
- Ctrl-Alt-F1 (neighbourhood key): Console 1
- Ctrl-Alt-F2 (group key): Console 2
- Ctrl-Alt-F3 (home key): Sugar/X Windows
- Esc-Frame-Right Arrow-Fn (four corners of the keyboard): Recalibrate touchpad (aka. The Four Finger Salute) - Fn should be pressed last

- Fn-Up Arrow: Page Up
 - Fn-Down Arrow: Page Down
 - Fn-Left Arrow: Home
 - Fn-Right Arrow: End
 - Ctrl-Brightness Down: Backlight off black & White mode
 - Ctrl-Brightness Up: Full brightness colour mode
 - Ctrl-Volume Down: Mute
 - Ctrl-Volume Up: Full Volume
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Updating the OS

To update the OS for the OLPC's you'll need a USB key and another computer with Internet Access.

1. Go to http://wiki.laptop.org/go/The_OLPC_Wiki and type "Update the OS" in the Google Search to the left of the page.
 2. Click on the first result
 3. Under the subheading of "What Versions Are Available" click on *Build 767 (8.2.0!)*
 4. Download all the files onto your UBS key **NOTE: You cannot use a SanDisk Cruzer (U3 Smart) USB key as it will not work unless you format your key to do so—<http://www.u3.com/uninstall/>*
 5. Turn off the OLPC
 6. Plug the OLPC into an electrical outlet
 7. Plug the USB key into the OLPC
 8. When you turn on the OLPC, hold down the left set of gamer controls until the OLPC prompts you to release them
 9. After that, follow the instructions on the OLPC pertaining to finishing the update
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Checking the OS and firmware version of your OLPC

There are several ways to check what kind of OS and firmware your OLPC is running. Depending on which instruction you type in, you'll either get OS or firmware or both.

1. Go into the Terminal (after the \$) type: **cat /etc/issue OR cat /boot/olpc_build OR cat /ofw/openprom/model OR CTR+ALT+GROUP (F2)** [to exit from this type CTR+ALT+HOME] this will display the build and the OS you are running
 2. You can go into your home view, hover over the XO and when the drop down box appears, click: Control Panel and then About My XO. This will also give you the Identity Number and Copyright/Licensing Information
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How do I develop software for my OLPC?

At this point, we're going to assume you know the basics of coding and how to create a program. In order to create a game for your OLPC for the Sugar platform you need to know how to use the Pygame (see link: <http://wiki.laptop.org/go/Pygame>) library for Python (programming language) for game development. Pygame is a low-level interface suitable for creating 2-D games.

To create a limited/easier game (activity), you will want to check out Pippy's Pygame (see link: <http://wiki.laptop.org/go/Pippy>) Pippy is the activity which teaches the Python programming by providing code samples and an interactive interpreter.

In order to create a game for the OLPC you'll need to have Sugar running on another computer. You can either run it natively on your computer, or run it in an emulated environment.

A good idea when creating a game/activity is to take a look at the developers guide: http://wiki.laptop.org/go/Developers_manual.

Ideally you'll want to do the following:

1. Learn Sugar inside and out
2. Get very familiar with the Python language
3. Set up `sugar.jhbuild`—the primary development environment (see link: http://wiki.laptop.org/go/Sugar_with_sugar-jhbuild)
4. Sign up for the devel list—and become a lurker (if you do IRC, join #olpc on irc.freenode.net; see link: <http://lists.laptop.org/listinfo/devel>)

There is lots of help on the OLPC wiki to guide you through your first creation. Help is always available through the OLPC chat as well: <http://en.forum.laptop.org/chat/irc.cgi>

How do I access the root?

Use the Terminal: type "su" at the prompt and press enter; your computer will now end with "#" and this means you have achieved the root and can change any file on the computer

For more tips and information about the OLPC check out the following sites:

<http://en.flossmanuals.net/>—*Online manual*

http://laptop.org/8.2.0/manual/XO_GiveMeTheInternet.html—*problems with the Internet*

http://wiki.laptop.org/go/The_OLPC_Wiki—*OLPC wiki*

<http://laptop.org/en/>—*OLPC home website*



For more information about accessing an OLPC contact Jeremy Littler: jlittler@ryerson.ca