

# A Quick Guide to Sugar on a Stick, OLPC's Learning Environment for Children

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## 1 An Introduction to Sugar

The Sugar learning environment was designed with the child in mind. It relies on Python, PyGTK, the GIMP Toolkit (GTK+), and the Advanced Linux Sound Architecture (ALSA). It is based on the learning theory of *constructivism*, and therefore does away with most traditional elements of a graphical user interface (GUI).

*Linux* (or *GNU/Linux*<sup>1</sup>, as the author prefers to call it<sup>2</sup>) is the operating system that Sugar was initially written for. GNU/Linux is commonly downloaded in the form of a *distribution*, which adds the components necessary to make a complete operating system.<sup>3</sup>

Linux (as a kernel) was initially written by Helsinki graduate student Linus Torvalds in 1991 as a replacement kernel for Minix computers. Today, it works as the kernel of a standalone operating system.

The specific distribution used here is Sugar on a Stick (to learn more about it, visit <http://spins.fedoraproject.org/soas/>). It is maintained by the nonprofit organization Sugar Labs<sup>4</sup> with help from the Fedora Project. Sugar was initially developed for the OLPC XO, but has since been ported to other computers as a result of the existence of this distribution.

## 2 Getting to Know Sugar

When you first start Sugar, you will be greeted with a prompt for your name. Type your name (your real name is preferred), then click “Next”. Select your color (click on the icon to change it) and click “Done.” You will now end up on the *Home screen*.

<sup>1</sup>In this name, the slash is *not* silent, and so is the “G” in “GNU” (“GNU” for “GNU’s Not UNIX!”).

<sup>2</sup>It does not make sense to use the “GNU/Linux” name to describe Linux distributions without any GNU components (Android being an example), or to describe Linux as a kernel.

<sup>3</sup>You may also download a bare Linux kernel from <http://www.kernel.org>.

<sup>4</sup>Sugar Labs spun off from One Laptop Per Child, which is also a nonprofit organization.

## 2.1 The Home Screen

The Home screen can be arranged into two views: the *Favorites view* and the *List view*. The keyboard shortcut for the Home screen is F3.

To search for a particular item, type in the search bar at the top.

### 2.1.1 Favorites View

The Favorites view presents you with a neat arrangement of all your selected favorite activities. (To select or deselect a favorite, use the List view, which will be described later.)

To enter the Favorites view, click the left icon on the top right of the screen. (It will be recognized herein as the *Favorites icon* from now on.)

In the center of the Favorites view is an “X” with a circle on top of it. This icon is called the *Learner icon* or *XO icon*. Hover over it and you will see the name you selected earlier. Right-click the icon and you will be presented with several options: to shut down the system, to restart the system, to open My Settings, or to register this computer with a school’s server.

Below the Learner icon is an icon you can click to open the Journal, which will be described later.

You can choose from different modes of arrangement by hovering over the Favorites icon.

The keyboard shortcut for this view is Ctrl+1.

### 2.1.2 List View

The List view presents you with an alphabetical list of all the activities you have installed, as well as their version numbers, whether they are in the Favorites view, and the last time they were updated. To launch an activity, click its icon.

To enter the List view, click the right icon on the top right of the screen. (I will call that the *List icon* from now on.)

There is only one mode of arrangement for this view. Ctrl+2 is its keyboard shortcut.

## 2.2 The Group Screen

The *Group screen* displays the icons for all the people you’re friends with. Its keyboard shortcut is F2.

Searching here is the same as on the Home screen.

## 2.3 The Neighborhood Screen

The *Neighborhood screen* displays the icons for all the people with XOs near you, as well as for all Wi-Fi™<sup>5</sup> and ad-hoc networks. Its keyboard shortcut is F1.

Searching here is the same as on the Home screen.

## 2.4 The Frame

The *Frame* displays system status and Wi-Fi network signal range as well as icons for you, the Neighborhood, Group and Home screens, and the Journal and all running activities. To access the Frame, move your mouse pointer to any edge or corner of the screen.

## 2.5 The Journal

The *Journal* displays all the documents you have downloaded as well as the activities you recently ran. Its keyboard shortcut is F4.

Searching here is similar to what it is on the Home screen; the differences are that you can filter activities that are your favorites, as well as types of entries and times they were recorded, and you can also sort entries by the date they were modified, the date they were created, or their size.

## 2.6 My Settings

The *My Settings pane* is the control panel for Sugar. From it, you can access information about your screen name and color, your computer, the date and time, the Frame, your keyboard, the language, the modem<sup>6</sup> configuration, and the network, and update your activities.

## 3 Resources for Further Information

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For information about	Visit this Web site
One Laptop Per Child	<a href="http://one.laptop.org">http://one.laptop.org</a>
Sugar Labs	<a href="http://sugarlabs.org">http://sugarlabs.org</a>
The Fedora Project	<a href="http://fedoraproject.org">http://fedoraproject.org</a>
Sugar on a Stick	<a href="http://spins.fedoraproject.org/soas/">http://spins.fedoraproject.org/soas/</a>

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<sup>5</sup>For “wireless fidelity”.

<sup>6</sup>For “modulator-demodulator”.

## 4 Safety Tips

- Always ask your parents before visiting any Web site or sharing any personal information with that Web site.
- Never eat or drink anything near the computer.
- Refrain from visiting social networking sites—unless your age is the age limit set by the respective site, or older, and your parents have allowed you to visit the respective site.
- Always pull a computer’s power cord by the plug.
- Always ask your parents’ permission, turn off the computer, disconnect its power cord and discharge static electricity from your hands before working on any internal component.
- Do not touch the prongs while they are connected to the power outlet.
- Never force a serial or display cable or power cord into its port.
- Never force a floppy disk, a CD, or a USB “thumb” drive inward.
- Never connect a telephone to the Ethernet jack, or an Ethernet cord to the telephone jack.
- Never connect a telephone whose base concept is older than 1981, to the telephone jack on a personal computer.
- Refrain from visiting Web sites containing pornography or other material inappropriate for young children.<sup>7</sup>

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<sup>7</sup>It is always acceptable for your parents to make a list of Web sites of which you should stay off for this same reason.