

Abstract

The Luminance desktop is an amalgam of Open Source software customized for use in an K-12 educational environment. The Luminance desktop will be built upon the Debian Distribution and the GTK 2.0 toolkit. The goal of this project is to create an user-friendly, appliance-like, easy to administer desktop/distribution.

Many of the world's schools do not possess the monetary resources to continually upgrade their hardware and software therefore must utilize their existing technology infrastructure to its fullest. Open Source, in conjunction with intelligent hardware purchasing techniques, can maximize the benefit of existing assets. However, Open Source's highly configurable and distributed nature has prevented it from been widespread acceptance in the common school.

In order to remedy this problem, the Luminance desktop aims to provide a simple consistent user interface (GTK 2.0), a core set of useful applications (Luminance Filemanager and Luminance Panel) and a simple administrative interface (The Luminance Desktop Settings Manager).

Background

What is Open Source? Open Source most often refers to computer projects which release their source code, the human readable instructions for the computer. By releasing source code openly to the public other computer programmers are able to fix glitches, add features or even start brand new projects with the previous code. Some may dismiss this attribute as simple extra when viewed against its price of nothing. However it has been proved in numerous case studies that code which has been written using an open development model contains fewer bugs and better security due to the increased number of people looking at the code.

However the true advantage of Open Source is not its price but its freedom. Computer users are no longer solely tied to their vendors for support. If users do not wish to upgrade to the latest version of the software they can choose to stay with their current version. If a vendor does not fix a bug or security hole the company can assign the task to one of its programmers who can then fix the problem and return the source code back to the community where all may benefit. In the past if a software vendor went out of business companies were left out in the cold with their only choice to migrate to another vendor's system. However, if the code is Open Source it continues to live on after the vendor has been long gone (a good example of this is the nautilus project. Eazel, a now defunct dot com, closed its business in early 2000, yet nautilus is still one of the most actively developed projects in the Open Source community).

Open Source and Education

Open Source and education go together. The Open Source movement was born in academia and still receives support from some of the United States leading colleges. However, Open Source has had little penetration into K-12 education the reasons for which are mostly historical. However these reason no longer exist, it is time for K-12 education in the United States to seriously consider Open Source.

Open Source software costs nothing. The savings in software licensing agreements alone would be substantial. However, if you add in the savings from hardware upgrades (every two to three years) to run the latest software, the savings become gargantuan. These savings can then be passed back to the educational systems where its needed most to buy new facilities, hire more teachers and increase their training budgets. Consider if every K-12 school system decided to use 90% of their current software licensing costs to invest in other areas and 10% to further the development of Open Source. This 10% could go to hiring two or three full time programmers who write or customize applications for the school system and release their projects as Open Source. Now remember there are thousands of school districts in the United States, suddenly there are thousands of programmers contributing and refining the Open Source code base. Now all the schools are receiving higher quality software customized to their purposes for less than they were paying before, much less.

Commercial software companies understand this scenario and are attempting to prevent it at all costs (and why shouldn't they, it is their livelihood.) by offering donations of proprietary software so that school systems will become entangled in their proprietary systems and have no choice. School Systems must stand against this and evaluate all options fairly.