

I'm writing in support of the Computers for Social Justice Project being proposed by Sociology major Thor Halvorsen.

Computers have become a necessity for individuals living in a modern society, not only for employment, but also for education, entertainment, and communication. Yet there is still a “digital divide” separating those who have access to information technologies and those who do not. According to the National Telecommunications and Information Administration, a division of the U.S. Department of Commerce, many Americans were still “[falling through the net](#)” as of 2000<sup>1</sup>. The situation is even worse outside the United States.

Two reasons for this divide that play off each other are the cost of proprietary software and the cost of computers powerful enough to cope with proprietary software. Legal restrictions on licensing, copying, reverse engineering or altering proprietary software, make it difficult for end users to customize systems in a way that is economically advantageous to them. Software produced by large corporations doesn't have to be particularly efficient, as it is designed with built-in obsolescence. The lack of efficiency, in turn, means that often, software applications do not make good use of the hardware, and increasingly require faster computers, more memory, larger hard drives, etc. The assumption is that the consumer will pay to upgrade.

However, in both the philosophical and practical arenas, a number of efforts have been initiated in order to reduce the gap. Perhaps the “grand-daddy” of such efforts would be the [GNU Project](#)<sup>2</sup>. Although the philosophy of this project does not specifically address the issue of cost, it focuses on the ability of the end users to modify and distribute their modifications free of restrictions. This in turn has inspired a wide variety of people to collaborate and form a community of software developers interested in both improving the state of the art, and sharing the technologies globally. Aside from being less expensive to maintain, and more customizable to older equipment, the openness of the software makes it a great tool for learning. Proprietary software is like a clock with a lock on it. You can see the hands move, but you have no idea why. With open source programs, the end user can look inside. That doesn't mean that every end user will want to look inside, but should they choose to, they have the ability to.

Many in the academic field are taking this philosophy to heart. In particular, I've worked with Jeff Elkner, a high school teacher in Arlington, VA who, eight years ago, set up a very cost-effective computer lab, using inexpensive computers, and free, open source software. Together with students, and local community members, he has also established a Users Group, which hosts an “InstallFest” to help others install the GNU/Linux operating system and other open source software (OSS) on their computers and teach them how to use these. The effort has been so successful that the high school students administer the network, and have also gone out into the community and set up open source computers in three community housing projects in Arlington. The group has hosted presentations by students, teachers and professionals working in the field, including the founder of the GNU Project and the Free Software Foundation (FSF) Richard Stallman, and Internet pioneer and developer of the InterPlanetary Internet (IPN), Dr. Vinton Cerf.

As a result of the ability to look at the source code for open source applications, several of Jeff's students have been able to take programs apart and create new applications from studying the innards of older applications. For example, during Dr. Cerf's presentation, he explained the problems inherent in trying to network computers across inter-planetary space. He mentioned that he and the team he was working with were developing an open source standard to accommodate such problems. (Specifically, he was talking about the Delay Tolerant Network [DTN] protocol.) Three of Jeff's students were inspired enough by the talk to become involved. They have since won a regional science competition for their work with the DTN protocol, and are currently participating in Intel Corporation's international science competition. His students, with some guidance from a few computer professionals, have also produced a teaching tool for introducing students to computer programming concepts, whimsically named “[Guido Van Robot](#)”<sup>3</sup>, and they are working on “[CanDo](#)” — an “application that allows teachers and administrators to track student acquisition of competencies” which they hope to deploy at the county level<sup>4</sup>.

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1 <http://www.ntia.doc.gov/ntiahome/digitaldivide/>

2 <http://www.gnu.org/philosophy/free-sw.html>

3 <http://gvr.sourceforge.net/history.php>

4 <http://cando.sourceforge.net/>

As a result of their efforts and successes, Jeff and one of his students, Colin Applegate, were recently invited to participate in “Ubuntu Down Under”. A company named [Canonical, Ltd.](http://www.canonical.com/)<sup>5</sup> is sponsoring the development of an open source software system, known as “[Ubuntu Linux](http://www.ubuntulinux.org/)”<sup>6</sup>, for countries that are just now coming on-line. From the Ubuntu web site:

*"Ubuntu" is an ancient African word, meaning "humanity to others". Ubuntu also means "I am what I am because of who we all are". The Ubuntu Linux distribution brings the spirit of Ubuntu to the software world.*

*Ubuntu is a complete Linux-based operating system, freely available with both community and professional support.*

*The Ubuntu community is built on the ideas enshrined in the Ubuntu Manifesto: that software should be available free of charge, that software tools should be usable by people in their local language and despite any disabilities, and that people should have the freedom to customise and alter their software in whatever way they see fit.*

*These freedoms make Ubuntu fundamentally different from traditional proprietary software: not only are the tools you need available free of charge, you have the right to modify your software until it works the way you want it to.*

In other words, instead of leasing, end users take ownership of their systems. While perhaps a bit daunting at first (to some), it can be a very empowering experience.

Canonical's CEO, Mark Shuttleworth, paid for Jeff and Colin's conference expenses, including the airfare to Sydney, Australia. In particular, Jeff and Colin were working on two Ubuntu projects: one specifically aimed at designing and maintaining open source software for the classroom, the other focusing on the use of open source software on “legacy” hardware—older hardware which is still quite functional but is no longer state-of-the-art. In other words, exactly the type of hardware that Thor is looking to distribute in the community.

Thor will be tapping into this community, as well as others. It is my hope that Thor and other members of the Gallaudet community, as well as the community around Gallaudet will be able to benefit both from the use of open source software and free or inexpensive hardware. Also, the project will provide all participants with the ability and the opportunity to learn a great deal about technology and community and contribute towards the development of both.

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5 <http://www.canonical.com/>

6 <http://www.ubuntulinux.org/>