

Seneca Freedom Toaster Project Proposal

Andrew Smith
Seneca College Linux Club
asmith15@learn.senecac.on.ca

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Summary

The Freedom Toaster will be a convenient, self-contained, computer-based "Bring 'n Burn" facility.

Similar to a vending machine, but free to use, it will burn open source software (mainly popular Linux distributions) on the user's blank CD(s) or DVD(s).

The software will be available instantly upon request, removing the hours or days necessary to find and download a copy of a DVD or several CDs.

The interface (using a touchscreen instead of a mouse or keyboard) will be pleasing to the eye and trivial to use, with concise usage instructions.

Attached to the box will be trays with instruction sheets for basic installation and use of the available software.

The picture is of a Freedom Toaster built in South Africa, sponsored by the Shuttleworth Foundation. Ours will display 'Seneca' and use white, black and red, instead of orange, to match the school's image.

The computer inside will be connected to the Seneca wireless network so most monitoring and administration tasks can be performed remotely.

The toaster will be placed on the second floor of the TEL building at the York campus, but will have wheels so we can move it to other places on special events such as Seneca's Open House, Installfests, and the Open Source Symposium among others.

Licences for software dispensed by the toaster allow royalty-free redistribution. Such open source software is developed by various interest groups around the world for different reasons. One common reason is to allow the provider to enter the market for services such as customisation of the software and support.

Personal Contribution

I am a 7th semester student in the BSD program. Since the first year I have been a Linux user, so I have significant experience in Linux system administration, scripting and graphical user interface programming. This experience will be useful for creating and setting up the user interface and the internal software for the Freedom Toaster. I will be able to work on this project for up to 8 hours per week.



Other Students, Staff and Facilities

The following people have expressed their interest in contributing to the project:

Tiago Moreira is a 3rd semester student in the BSD program. A fan of open source and a capable programmer, he will be the project leader after I graduate (May 2007). Tiago also has experience with carpentry, a necessary skill for successful completion of this project.

Evan Weaver, chair of the School of Computer Studies will provide a server cabinet with a transparent door that we can use as a base for the toaster box and the room for building the toaster.

Hassan Assiri, manager of Academic Computing Systems at Seneca will provide a Pentium4 computer with RAM to use inside the toaster.

Chris Tyler, professor at Seneca Computer Studies and author of 'Essential Fedora Linux', has built a PC with very similar functionality as the Freedom Toaster. This PC was displayed at the Open Source Symposium in October 2006. Chris will provide expert advice to the students working on this project.

John Selmys, professor at Seneca Computer Studies, coordinator of the Internet System Administrator program, founder of the Open Source Symposium and the Linux Club, will coordinate the execution of the project.

David Humphrey, professor at Seneca Computer Studies, organizer of the Open Source Symposium in 2006 and liaison to the Mozilla Foundation will promote the project and help other students get involved.

Caius Grozav, professor at Seneca Computer Studies teaches several user interface and human-computer interaction courses, will provide expert advice on usability (software user interface and hardware look).

The **Centre for Development of Open Technology** will provide web space to promote the project and a version control system account for the software.

Opportunity

Seneca has strong ties to open source. The Open Source Symposium facilitates forming relationships with important players in the industry. In the Summer of 2006 I participated in the Google Summer of Code program, writing an open source implementation of Animated PNG. In the fall of 2006 Seneca began to offer "Topics in Open Source Development", a successful course where students have the opportunity to work on "real world" projects with the Mozilla Foundation.

Open source software is used by small and medium businesses as well as large enterprises for cost and/or flexibility reasons. Skills using open source software will be a bonus to students in their career.

The Freedom Toaster will:

- Allow the students easier access to open source software, removing a barrier to training and work on open source projects. The software

provided will be selected by staff and experienced students to insure maximum relevance to the curriculum. Even if the students are not interested in programming open source, the experience of using different software and operating systems will give them a broader understanding of the IT field. The single-purpose device with a no-nonsense interface will help them get started.

- Raise the profile of Seneca College as a centre of excellence in open source software development. The Freedom Toaster will be the first of its kind in Canada and will hopefully generate some positive feedback from specialized media.

Time Frame

The project will be completed in two stages:

Stage 1, January - March 2007:

- Assemble the box: walls, shelves, racks and openings for the touch screen and the disk drives.
- Procure all necessary computer parts and assemble inside the box.
- Install and configure the software to provide basic functionality in 'kiosk mode', make use of the touch screen, connect to the wireless network.

Stage 2, April - June 2007:

- Design, manufacture, and install the plastic side panels.
- Fine-tune the software for ease of use, reliability and security.
- Install the toaster outside the Computer Studies office.

Financial Plan

Costs include taxes and shipping (when applicable).

Pentium 4 motherboard, CPU, and RAM	*600\$
Hard drive, 250G	140\$
Plextor slot-loading DVD burner	250\$
ELO panel-mount touch-screen	800\$
Server cabinet	**2500\$
Printing of 5 vinyl sheets to cover the cabinet	1100\$
Mounting hardware for the touch-screen and the burner	200\$
Total	2490\$

* will be provided free of charge by Hassan Assiri, manager of ACS

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