Web Clips for Hydroinformatics

Open Source is a growing phenomenon in the computer software world, and could have significant implications for Hydroinformatics, as discussed in a paper in this issue. The two primary sites containing information about Free and Open Source Software are *http://www.fsf.org/* (the Free Software Foundation, or FSF) and *http://www.opensource.org/* (the Open Source Initiative, OSI). The FSF were the originators of the GNU project to develop a complete Unix-compatible operating system. The GNU project of the FSF can be found at *http://www.gnu.org/*. The FSF and the OSI maintain lists of licenses at *http://www.fsf.org/philosophy/license-list.html* and *http://www.opensource.org/licenses/index.html* respectively. The FSF page includes comments on the pros and cons of each listed license from a Free Software perspective, whereas the OSI simply list all the licenses they have approved as fulfilling all the criteria of the Open Source Definition (available at *http://www.opensource.org/docs/definition.html*).

High profile open source projects are *http://www.apache.org/* (home of the Apache web server software), *http://www.linux.org/* (merely one of many, many sites dedicated to the open source operating system GNU/Linux), *http://www.freebsd.org/*, *http://www. netbsd.org/* and *http://www.openbsd.com/* (three variants of the open source BSD Unix operating system, from which Microsoft took some of the networking code now integrated into Windows). *http://www.kde.org/* and *http://www.gnome.org/* are two groups dedicated to turning Linux into a usable desktop operating system, with considerable success.

Open Source software for engineering and science is also available. MOUSE (*http://www.vug.uni-duisburg.de/MOUSE/*) is an open source CFD code. SLFFEA (*http://slffea.sourceforge.net/index.html*) is a software package and OFELI (*http://wwwlma.univ-bpclermont.fr/touzani/ofeli/*) a library for finite element analysis. EcoLab (*http://parallel.hpc.unsw.edu.au/rks/ecolab/*) is an object oriented simulation environment. GRASS (*http://www.baylor.edu/grass/*) is a Geographical Information System which includes a number of hydrological modelling modules. Check *http://www.freshmeat.net/*, *http://www.openscience.org/* or *http://sal.kachinatech. com/* for more. Note that the last lists all types of applications for Linux, including closed source and non-free. Check the licence to make sure software is really open source.

Companies involved with open source software include the leader in GNU/Linux packaging and distribution, Red Hat (*http://www.redhat.com/*). Zope Corporation (*http://www.zope.com/*) released the source code to their web application server software (to be found at *http://www.zope.org/*) at the suggestion of their venture capitalist in order to focus on providing services. IBM, investing large sums of money in open source software, has assisted in porting Linux to its high end hardware such as the S/390 mainframe (*http://www-1.ibm.com/linux/*), and is involved with many open source projects (*http://oss.software.ibm.com/*) including Apache (*http://www.apache.org/*).

The Open Source Development Lab (*http://www.osdlab.com/*) provides computing facilities and support to open source developers with a focus on improving Linux and Linux based software for enterprise applications. It was founded with the support of a veritable who's who of the IT industry (details of the lab sponsors at *http://osdlab.org/sponsors/*).

http://www.freshmeat.net/ is the nearest thing to a comprehensive database of open source software. *http://www.slashdot.org/* is a web site dedicated to the dissemination of news related to open source, freedom of information, intellectual property, and many related issues. The front page consists of stories submitted by readers and edited by the site managers. Each story then has an attached discussion area.

http://www.sourceforge.org/ is a free hosting site for open source projects. A full set of tools for managing software development is provided, including revision control (through CVS), bug and request tracking, mailing lists and discussion forums, and web site hosting.

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