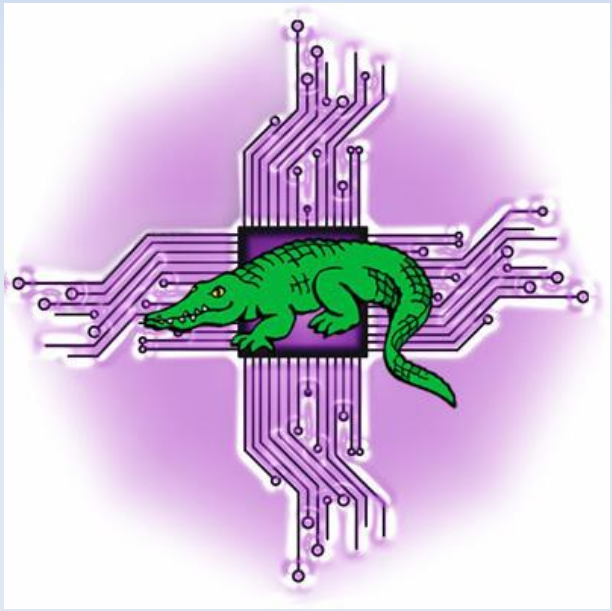
Free and Open Source Business Applications

Presentation to Young Professionals CPA Discussion Group



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http://levlafayette.com

About Free and Open Source Software

Some definitions of open-source software claim that it means sourcecode available for viewing; some definitions of "free" software are restricted to notions price. But "Free and Open Source Software" (FOSS) is unambigious.

Development for the GNU operating system began in January 1984, and the Free Software Foundation (FSF) was founded in October 1985, led by Richard Stallman. The FSF defines free software as that which gives the users have the freedom to run, copy, distribute, study, change and improve the software.

Open Source software began as a movement that supported free software for instrumental, rather than a moral objective, adopting a term that was perceived as friendlier to business culture. The Open Source Initiative (OSI) was founded in February 1998, by Bruce Perens and Eric S. Raymond.

Licenses and Patents

Software licenses exist as a continuum, with varying degrees of being free and open or proprietary and closed. At one of the scale is software licensed with restrictions on the use, modification, sharing, review, or even reverse engineering.

This "damaged good" is a supposed temporary monopoly nominally established to encourage investment in software. At the other end of the scale are a variety of increasingly free and open-source licenses. Some allow freedom of use, others for review, others for sharing ("freeware", "shareware" etc). Among the free licenses, the General Public License (GPL) requires that subsequent products provide the same freedoms included in the orginal; the BSD license does not.

Two related core principles from the free and open-source perspective is (a) any function on natural numbers is effectively computable (Church-Turing thesis) (b) algorithms and source code are most effectively treated as a research project.

This has a profound implication for claims of software patents (with a strict distinction with software copyright). Patents should be the physical embodiment of the results of computation; instead they are sometimes applied on the computation itself. Software is data, abstract, mathematics, and discovered - not invented.

Australia's Most Famous Innovation Patent

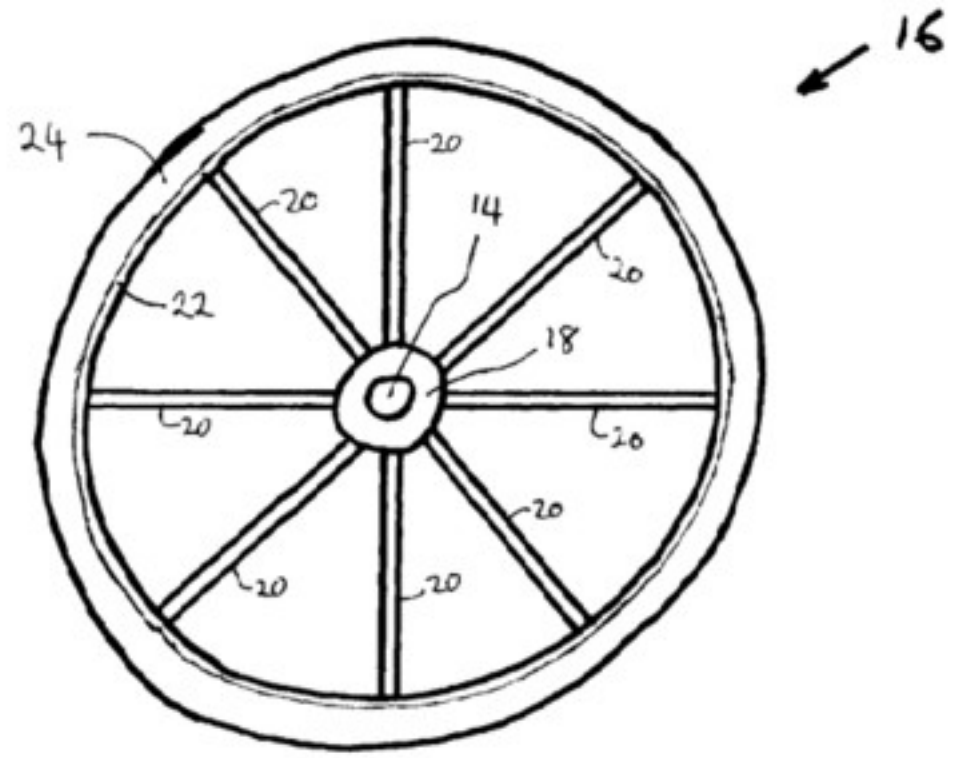


FIGURE 2

How Prevalent is FOSS?

The distribution of computer operating systems and applications can be distinguished by form and function. This includes mobile devices (phones and tablets), laptops and desktop systems, server systems, and supercomputers. In summary: free and open source software overwhelmingly dominates core infrastructure, but is a minor part of most end-user applications.

Hardware Form
Mobile devices: According to IDC Android (with the opensource Linux kernel) has an overwhelming majority of the mobile phone market as of 2013Q4 (c78%, IOS 18%, Windows 4%). According to Strategy Analysis tablets OS distribution is between IOS and Android as of 2013Q1 (IOS 48%, Android 43%, MS-Windows 8%).
Laptops and Desktops: According to Net Applications, MS-Windows has an overwhelming market share as of May 2014 (c91%,OS X 7%, Linux 2%).
Server Systems: Based on W3Techs Feb 2014 of Internet servers (web, mail and DNS servers), Linux is dominant (c65%, MS-Windows 33%)
Supercomputers: Based on the Top500 Linux has an overwhelming majority (97%, UNIX 2.4%, MS-Windows 0.4%)

How Prevalent is FOSS?

User Applications
Webbrowsing: Stat Counter Aug2014, Chrome (and Chromium) has 46.26%, Internet Explorer 20.31%, and Firefox 17.50%, Safari 10.81%, Opera 1.47%, and "Mobile" 30.64%. According to NetApplications (June14) "Mobile" is 22.77% Android Browser, 16.67% Chrome, 2.01% Internet Explorer, 47.06% Safari, 7.82% Opera, 4.69% Others.
Office Suite (Word Processing, Spreadsheet, Presentation, Basic Database): Estimations (based on Gartner, 2012) : MS-Office 91%, GoogleDocs 3%, Libre/OpenOffice 3%, Others 3%. Note ODF vs OfficeOpen ISO standards.
Email: Estimations (based on Litmus Sep 2014) Apple Mail 47%, Gmail 15%, Outlook 11%

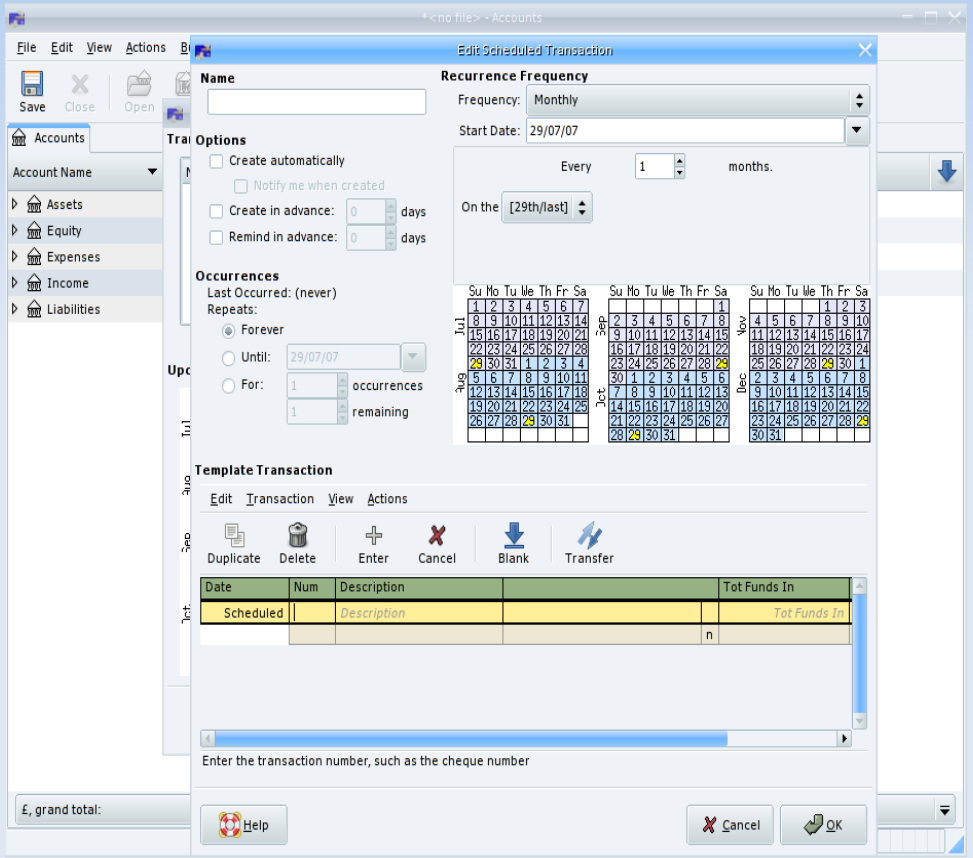
Server Applications
Relationship Database Management System: (Gatner, 2008, normalised to 100%) Oracle Database 24%, Microsoft SQL Server 24%, MySQL 17%, IBM DB2 13%, SAP Sybase 8%, IBM Informix 6%, Teradata 3%
Web Servers: (Netcraft, Aug2014) Apache 47.83%, Microsoft IIS 31.00%, nginx 9.79%

Business Applications

Numerous products available for business systems, typically taking advantage of existing free and open source products (e.g., use of open source database systems in the backend)

Accounting:
GNU Cash: Mature (1998), double-entry bookkeeping, scheduled transactions, depreciation, tax schedules, receivable and payable journals etc.

LedgerSMB: Multitenancy web-based, fork from SQL-Ledger (2006), double-entry bookkeeping, inventory management, project accounting and invoicing



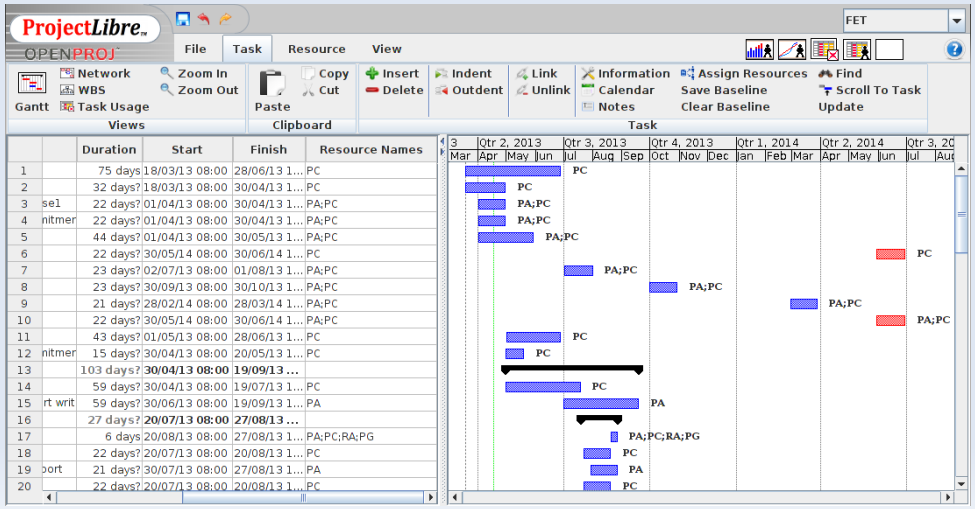
Business Applications

ERP/CRM/SCM

ADempiere: Started in 2006, a fork of Compiere. Includes Enterprise Resource Planning (ERP), Supply Chain Management (SCM), Customer Relationship Management (CRM), Financial Performance Analysis, Integrated Point of sale (POS) solution, Integrated Web Store, Material Requirements Planning, Workflow Management, Business Process Management.

Project Management

ProjectLibre: Initial release was in August 2012, being a fork of OpenProj (which had been abandoned). Compatible with Microsoft Project 2010, earned value costing, Gantt chart, PERT graph, Resource breakdown structure (RBS) and Work Breakdown structure, Task usage reports.



The Future Is Free and Open Source

FOSS succeeds because of (a) historical development - largely derived from UNIX development (1972) and prior to that Multics (1964) (b) scalable, stable, secure, and efficient (c) available to short-term inspiration and long-term development (d) develops a powerful community of enthusiasts, professionals, and supportive businesses.

Computational devices become increasingly powerful. The future of hardware is "the Internet of things", and with big data implications; storage and processing of this data will invariably be done on FOSS systems. Proprietary software models are poorly suited to a dynamic enviroment which requires a high level of user input and closed source reduces technological development. FOSS is extremely well-suited for bespoke development, maintenance, and support.

A calculation from me from 2011 for desktop systems: Total cost of ownership on the desktop, not including hardware, not including lost productivity due to outage times, MS-Windows $2950, Linux, $1550. Per annum, per seat (http://www.levlafayette.com/node/252). Lowered costs partially due to reduced license costs, mainly due to reduced sysadmin costs through stability.

Companies that take up FOSS software in the workplace will gain a competitive first (or early) mover advantage.