

Ledger SMB

Presented to GTALUG

April 10th, 2007

Christopher Murtagh

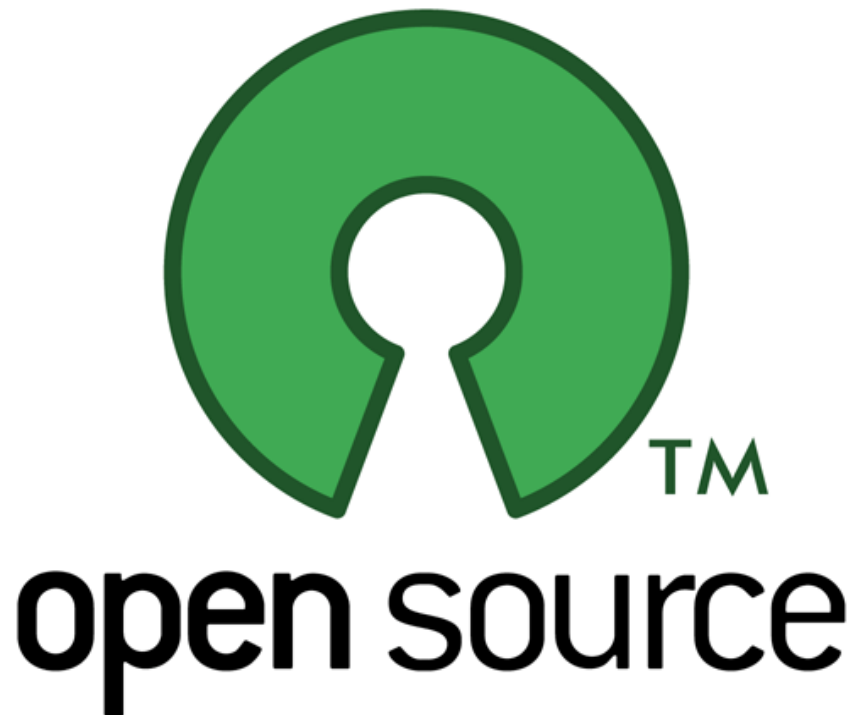
Introduction

who is this guy?

- My background

- Music major (yes, music), computer applications
- Freelance consultant (HRDC, etc.)
- OSS Advocate
- McGill WCG 2000 – 2006
 - McGill Gateway (www.mcgill.ca)
 - Linux @ McGill, McLUG
- ombú productions
- Terra Soft, SRI Canada

Why Open Source?



- Philosophy/ideology – somewhat
- Not about cost, although TCO is often lower
- Primarily about choice
 - Avoid vendor lock-in
 - Scalability
 - Flexibility

Why SMB?

- Market size
 - Far more SMB's than large companies
 - Most can't afford large vendor options
 - Most are unaware of options they have
 - Most have the need, but not the expertise on staff
- Flexibility
 - SMB's are more nimble
 - Able and willing to change
 - Modest expense can have a big impact
- Quality of life
 - Work from home
 - Constantly changing
 - Flexible hours
 - Less politics
- However...
 - Requires more discipline
 - Marketing, promotion
 - Billing, invoicing
 - Work from home vs live at the office

SQL-Ledger

- The original
 - SL developed by Dieter Simader of DWS Systems Inc.
 - Since 1999
 - Free software (was GPL)
 - Pay for documentation
 - Active mailing lists
 - Apparent CPA support
 - Perl, CGI with PostgreSQL, Oracle backend



SQL-Ledger

Pros vs Cons

- Pros

- Large user base
- Surprisingly good reputation
- Large number of willing contributors
- PostgreSQL backend
- Written in Perl

- Cons

- Lots of duplicate code
- Single, hostile developer
- No revision control
- Code state is a disaster
- No data constraints, sanity
- XSS, Injection problems everywhere
- Violates GAAP
 - Floats as data type
 - Delete posted invoices
- No longer GPL, anti-fork clause
- Written in Perl

Fork the Source Luke

- Reasons for the fork

- Found serious security flaw
- Dieter was aware of the flaw, refused to fix, probably didn't understand it
- Needed a project I could contribute to

- Initial reaction

- Most of it was positive
- SL user list became a war zone
- Drew attention to the problem
- More past-complaints came out from hiding

- Very Early days

- 2 Chris's and 1 Josh
- A lot of feedback, support from disgruntled SL users
- Addressed primary session hijack
- Word quickly began to spread

- Soon afterward

- Core team expanded
- Mailing lists grew quickly
- Users skeptical but interested, they have seen this before

The core team

- Chris Travers
 - Freelance consultant, Metatron Tech
 - author of a number of open source tools
 - over three years of experience with the SQL-Ledger code-base
 - the author of several add-ons which are now included in LedgerSMB.
 - nearly a decade of experience with Perl
 - discovered the security hole that lead to the fork
 - Wrote the inventory activity report, helped with the session handling fix
 - Original author of the LedgerSMB manual, formerly an SL training manual
 - He's Mr. LedgerSMB

The core team

- Seneca Cunningham
 - GTALUG and Linuxcafé's very own, 2nd Canadian on the project
 - Locale re-engineered to be something sane
 - Added advanced tax support (PST on top of GST, yay!)
 - Testing module, Q/A and numerous bug fixes
 - Debian packaging
- Joshua Drake
 - Owner of Command Prompt, Inc., the longest running profitable PostgreSQL support company
 - PostgreSQL Contributor, holds position of Liaison (Fundraising)
 - Database re-architecting

The core team

- Jason Rodrigues
 - Fulltime Perl programmer
 - Our 'the Perl way' guru
 - RESTful interface (more on that later)
 - Numerous bug fixes
 - Gentoo Ebuilds maintainer
- Josh Berkus
 - Core PostgreSQL developer, employed by SUN Microsystems
 - SPI Treasurer
 - Introduced the two Chris's which started the fork
 - Advisor to the project
- Christopher Murtagh (who? yes, music major)

Current status of LedgerSMB

- Version 1.2.2 released today, 3rd major release in 6 months
- Database:
 - Added script to configure Slony replication (Chris Browne)
 - Added defined primary keys to all tables (Chris T)
 - Database upgrades now use psql (Chris T)
 - Defaults table now uses a simple key->value system (Chris T)
 - Merged Pg-tables, Pg-functions, and Pg-indexes into Pg-database (Chris T)
- Security:
 - Added whitelist of allowed directories to file editor (Seneca)
 - Audited All Perl Modules for SQL Injection attacks (Chris T)
 - Forced edited files to have whitelisted extensions and no .. strings (Chris T)
 - Users are now stored in a separate database instead of fs. (Chris M)
 - User database schema now included (Joshua D)

•Localization:

- Moved localization files to standard codes (Seneca)
- Added cumulative tax support (Seneca)
- Translations now use Gettext (Seneca)
- Removed back-translation of function names for i18n (Seneca)
- Corrected parsing of numbers so that they are multi-run safe (Chris T)
- Added modular tax calculation support (no modules included yet) (Seneca)
- Added "1 000.00" number format (Chris T)
- Buttons are now localization-safe (Seneca)

•Code Quality and API:

- Added logging module (Jason)
- Added session method abstraction (Chris T)
- Broke out price matrix calls into PriceMatrix.pm (Chris T)
- Added `$form->callproc($procname, @args)` returns `@hashrefs` (Chris T)
- Corrected rounding errors (Seneca)
- Code cleanup and template correction (Chris Murtagh)

•Code Quality and API (Continued)

- New template system (Chris T)
- IC.pm, OE.pm, and IS.pm are aware of custom fields (Chris T)
- Added LedgerSMB::Sysconfig for site-wide configuration (Chris T)
- LedgerSMB::IC is aware of custom fields (Chris T)
- LedgerSMB::PE is aware of custom fields (Chris T)
- Testing suite added (Seneca)
- Moved all database calls to \$form->{dbh} (Chris T)
- Form->redirect no longer makes use of exec (Chris T)
- LedgerSMB::Sysconfig now uses more reasonable ledgersmb.conf options (Joshua Drake)
- Removal of Lock Application (Joshua Drake)
- Removal of users/ dependency (Joshua Drake)

- Packaging
 - Added first version of rpm spec from Mads Kiilerich (Chris T)
 - Added Gentoo ebuilds documentation and metadata (Jason R)
- Point of Sale
 - Added experimental TrustCommerce credit card processing (Chris T)
 - Merged most of the rest of the SL-POS interface (Chris T)
 - POS register now goes from add invoice to add invoice. (Chris T)
 - Added pole display and separate cash drawer open calls. (Chris T)
- User Interface
 - Moved IS/IR/OE the lineitem column list to the LedgerSMB::Sysconfig Chris T)
 - Invoice now has an Onhand column (Chris T)
 - Added simple text import function for invoices received (PDT's) (Chris T)
- Other
 - ledger-smb.conf is now an ini file (Seneca)
 - Experimental scripting wrapper in utils/cli (Chris T)
 - doc/database directory now contains postgresql_autodoc output (Chris T)

Technical differences between LedgerSMB and SQL-Ledger

- Support for PostgreSQL only
 - Dropped support for other databases
 - Allows for better use of PostgreSQL features
 - Add better integrity at the DB layer
 - Simplifies development and debugging
 - Allows removal of config files, now in database
 - SQL-Ledger's support for other RDBMS is dubious at best
 - Allows for stored procedures, simplifying perl code
- Unicode by default
- No floats! We use numeric
- We use CPAN when necessary
 - SQL-Ledger has copy/pasted code from CPAN modules, or re-invents the wheel (often poorly)
 - Helps us focus on standards, less code to manage
 - Move toward CGI.pm
- Actually works in Windows

Other differences between LedgerSMB and SQL-Ledger

- LedgerSMB is community driven and focused
 - A strong OSS application needs a healthy and active community
 - This includes developers, we encourage input and contributions
 - Willing to help get people started with contributions
 - SVN repository exists and is public
 - Mailing lists are not censored, however we ask users to follow the Ubuntu code of conduct
- Security, and disclosure
 - We take security very seriously
 - We disclose the bugs that we find and patch ASAP
 - We disclose bugs we find to Dieter if they apply to SQL-Ledger
 - Open and transparent
- We are, and will always be free (as in freedom and beer)
 - SQL-Ledger has changed its license, Dieter censors mention of this on the lists

Looking ahead

- Proper design structure
 - MVC model
 - Proper isolation of data, logic and presentation layers
 - Sane data structure with integrity constraints
- RESTful interface
 - Perl is great, but it has a reputation for being messy, hard
 - XML is the new über transport of data
 - LedgerSMB can be used as a reporting engine, under-the-hood system for applications written in other languages
- XHTML interface redesign
 - Valid xhtml
 - No frames! This is the 21st century.
 - Eliminate XSS and injection attacks

Looking ahead (cont'd)

- Integration with other software
 - ERP systems
 - Groupware Suites
 - PoS and Credit Card systems
 - RESTful interface and XML will make this easier
- New documentation formats
 - DocBook from LaTeX
 - Better documented APIs
- Expand the community
 - Healthy OSS means/needs healthy development community
 - Language agnostic APIs will probably help expand development
 - User base is expanding, new SL license will probably help

LedgerSMB Features

- Accounts Receivable
 - Track sales by customer
 - Issue Invoices, Statements, Receipts, and more
 - Do job costing and time entry for customer projects
 - Manage sales orders and quotations
 - Ship items from sales orders
- Accounts Payable
 - Track purchases and debts by vendor
 - Issue RFQ's Purchase Orders, etc.
 - Track items received from purchase orders
- Budgeting
 - Track expenditures and income across multiple departments
 - Track all transactions across departments

LedgerSMB Features (cont'd)

- Check Printing
 - Customize template for any check form
- General Ledger
- Inventory Management
 - Track sales and orders of parts
 - Track cost of goods sold using First In/First Out method
 - List all parts below reorder point
 - Track ordering requirements
 - Track, ship, receive, and transfer parts to and from multiple warehouses
- Localization
 - Provide Localized Translations for Part Descriptions
 - Provide Localized Templates for Invoices, Orders, Checks, and more
 - Select language per customer, invoice, order, etc.

LedgerSMB Features (cont'd)

- Manufacturing
 - Track cost of goods sold for manufactured goods (assemblies)
 - Create assemblies and stock assemblies, tracking materials on hand
- Multi-company/Multiuser
 - One isolated database per company
 - Users can have localized systems independent of company data set
- Point of Sale
 - Run multiple cash registers against main Ledger-SMB installation
 - Suitable for retail stores and more
 - Credit card processing via TrustCommerce
 - Supports some POS hardware out of the box including:
 - Logic Controls PD3000 pole displays (serial or parallel)
 - Basic text-based receipt printers
 - Keyboard wedge barcode scanners and magnetic card readers
 - Printer-attached cash drawers

LedgerSMB Features (cont'd)

- Price Matrix
 - Track different prices for vendors and customers across the board
 - Provide discounts to groups of customers per item or across the board
 - Store vendors' prices independent of the other last cost in the parts record
- Reporting
 - Supports all basic financial statements
 - Easily display customer history, sales data, and additional information
 - Open framework allows for ODBC connections to be used to generate reports using third party reporting tools.
- Tax
 - Supports Retail Sales Tax and Value Added Tax type systems
 - Flexible framework allows one to customize reports to change the tax reporting framework to meet any local requirement.

Live Demo of software

- This means you need to stop Presentation and launch a browser!