Behind the Scenes of Google Project Hosting

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Overview

1. What is Google Project Hosting?
2. Key Features and Examples
3. Pro-tips and Power-user Features
4. How It All Works
What is Google Project Hosting?

- It's a collaborative development environment for open source projects

- Features:
  - Easy project creation and administration
  - Version control with Subversion or Mercurial
  - Source code browsing and reviews
  - Issue tracker for defects, enhancements, other tasks
  - Wiki for project documentation
  - Downloads for project releases
ZXing ("Zebra Crossing")

ZXing (pronounced "zebra crossing") is an open-source, multi-format 1D/2D barcode image processing library implemented in Java. Our focus is on using the built-in camera on mobile phones to photograph and decode barcodes on the device, without communicating with a server. We currently have support for:

- UPC-A and UPC-E
- EAN-8 and EAN-13
- Code 39
- Code 93
- Codabar
- RSS-14 (all variants)
- Data Matrix
- PDF 417 (alpha' quality)
- Aztec (alpha' quality)

This library is divided into several components; some are actively supported:

1. core: The core image decoding library, and test code
2. javascript: J2SE-specific client code
3. android: Android client, called Barcode Scanner
4. android-test: Android test app
5. android-integration: Supports integration with our Barcode Scanner app via Intent
6. zxing.org: The source behind zxing.org/w
7. zxing.appspot.com: The source behind our web-based barcode generator

Some modules are contributed and/or intermittently maintained:

- javaime: JavaME client
- csharp: Partial C# port
What kind of projects do we host?

- The stats for our projects look similar to the OSS community as a whole, but skewed toward web tech
- We also host focused communities for eclipselabs.org and apache-extra.org

Languages

Topics

Technologies
Project Languages

- Java: 32.1%
- Python: 16.4%
- PHP: 14.5%
- Javascript: 11.1%
- C/C++: 8.8%
- CSharp: 7.8%
- Actionscript: 6.2%
- SQL: 5.6%
- ASP.net: 5.6%
- Perl: 4.7%
- Lua: 4.3%
- Ruby: 4.3%
- Objective-C: 4.3%
- Delphi: 4.2%
- "...

...
Project Topics

Academic
Game
Web
Database
CMS
Robotics
3D

Simulator
Accessibility
Security
Mobile

Graphics
Operating System
Emulator
Music
Video
Networking
Embedded
Editor ...

[Diagram showing various project topics and their percentages]
Project Technologies

- Android
- Ajax
- MySQL
- Linux
- Chrome
- Windows
- XML
- HTML
- jQuery

- AppEngine
- Browser
- .Net
- GWT
- iPhone
- OpenGL
- Flash
- Flex
- CSS

- Spring
- Django
- qt
- Eclipse
- ...
Why does Google offer this product?

● When we launched in 2006:
  o Promote long-term health of OSS community
  o Help make OSS developers productive
  o Reinvigorate the CDE category

● Today in 2011:
  o Even more focused on developer productivity
  o Support strategic OSS Google-sponsored projects
    ■ GWT, Chrome, Android, and ~1000 smaller ones
  o Help bring more development into the cloud
Key Features

When we designed GPH, we took some risks and did some things a little differently than they had been done before.

- Easy project creation with no moderation
- Simple project home pages
- Subversion and Mercurial on Bigtable
- Googley artifact search and key-value labels
- Wiki centered on the page list
- Integrated source code browsing and code review
Easy project creation with no moderation

- **Problem:**
  - It's tedious to host software engineering tools yourself

- **Status Quo:**
  - Project creation wizard, then wait for moderation

- **Our solution:**
  - Simple one-page form to create a project
  - No moderation or review at creation time
  - Allow empty projects to proliferate, but rank them low in search results
  - Open the door to spam projects, but detect and demotivate abuse
Create a new project

Instantly create your open source hosting project by filling out the form below. For your project, you'll receive:

- Subversion and Mercurial code hosting with 2 gigabytes of storage space
- Download hosting support with 2 gigabytes of storage space
- Integrated source code browsing and code review tools
- An issue tracker and project wiki

Learn more

Project name
Example: my-project-name

Project summary

Description

Version control system
Select a version control system

Source code license
Select a license...

Project label(s)

Create project

add another row
prssr - pRSSreader is a free RSS reader for Windows Mobile
Activity: Medium - Updated: Last 30 days
5.2.2008: Project discontinued. Formats pRSSreader can handle many versions of feeds: RSS 0.90, 0.91, 0.92 and 2.0, RDF 1.0 and Atom 0.3. Google Reader Synchronization pRSSre...
RSS, Reader, PocketPC, News, WindowsMobile

vkontakte-android - Android client for vk.com social network
Activity: High - Updated: Apr 17, 2010
Исправлена ошибка при экспорте в контакты. Исправлены различные ошибки части...
userapi, vkontakte, android

haggie - A content-centric network architecture for opportunistic communication
Activity: Medium - Updated: Dec 16, 2010
NEWS Release 0.3 of Haggie is now available from the Downloads page. Haggie is a network architecture for content-centric opportunistic communication. In laymen's terms, it means that Haggie ...
Content-Centric, Data-centric, Content-oriented, Android, WindowsMobile, Architecture, Network, Mobile, Social, Community, Opportunistic

bogha - IMS/RCS client for Windows and WinPhone7
Activity: High - Updated: Last 7 days
This application uses Dobbango Framework. RCS (Rich Communication Suite) was a joint industry effort aiming to speed up the evolution of mobile phone communication toward rich communication...
Windows, WinPhone7, SIP, IMS, 3GPP, LTE, RCS, GSMA, VoIP, MMTel, XCAP, MGAP, TISPAN, IPTV, VoLTE

jaikuengine - Jaiku, now with more open source!
Activity: Medium - Updated: Last 30 days
JaikuEngine is a social microblogging platform that runs on AppEngine. JaikuEngine powers Jaiku.com. For the mobile client source, see: Jaiku Mobile client Python 2.4 or 2.5 D...
Google, microblogging, Jaiku, AppEngine

msaw - A mobile social semantic web client for android.
Activity: Low - Updated: Last 30 days
The aim of this project is to provide a minimal mobile social semantic web client framework for the android platform. It will support: Authentication with FOAF+RDF in the social network Sv...
Easy project creation with no moderation

- How has it worked out?
  - Many thousands of projects have been created
  - People used to complain about empty projects, but now we have so many good projects that bad ones are easily out-ranked
  - We still fight spam, but it has decreased
Problem:
- If users visit ten different OSS projects, they need to learn ten different website navigation schemes.

Status Quo:
- Limit project owners to plain text descriptions, but then they put the real info in custom websites instead.

Our solution:
- Use a standard project nav for accessing tools, but give some flexibility to replace tabs with wiki pages
- Project logos
- Use wiki markup for project descriptions
ZXing ("Zebra Crossing")

ZXing (pronounced "zebra crossing") is an open-source barcode image processing library implemented in Java. Our focus is on using the built-in camera of a cell phone or other mobile device, without communicating with a server. We currently support:

- UPC-A and UPC-E
- EAN-8 and EAN-13
- Code 39
- Code 93
- Code 128
- QR Code
- ITF
- Codabar
- RSS-14 (all variants)
- Data Matrix
- PDF 417 (alpha-quality)
- Aztec (alpha-quality)

This library is divided into several components; some are actively supported:

- The core image decoding library, and test code
- Android- and BlackBerry-specific client code
- iPhone-specific client code
- Windows Phone specific client code
- Java Scan code generator
- Android Barcode Scanner app via Intent
- Android Barcode Scanner app via ContentResolver
- iOs Scan code generator
- Source code generator
- C# Scan code generator

Quick Links to Featured Items:

- Downloads
- Wiki pages
- Links

Members:
- arv_two2@gmail.com
- dewt372@gmail.com
- dewt372@outlook.com
- 17 contributors

Featured:
- Downloads
- Wiki pages
- Links
Simple project home pages

- How has it worked out?
  - People have built a lot of great project home pages
  - Feels like a community site, not like a card catalog
  - It breaks down where project owners don't bother to provide any details
Subversion and Mercurial on Bigtable

- **Problem:**
  - Host a million OSS source code repositories reliably

- **Status Quo:**
  - Run stock subversion servers sharded across a fixed number of machines

- **Our solution:**
  - Dynamic load balancing across any number of servers
  - Fits into Google infrastructure
  - Bigtable is a NoSQL database that is inherently scaleable and reliable within one datacenter
  - We added distribution across datacenters
Subversion and Mercurial on Bigtable

- How has it worked out?
  - We host many, many thousands of projects
  - We handle a huge number of concurrent users
  - Speed is a problem, because of SVN's protocol
  - We still have occasional read-only periods
Googley artifact search and key-value labels

● Problem:
  ○ Let users search complex artifacts easily
  ○ Let project owners customize the tools

● Status Quo:
  ○ Tons of built-in fields and widgets

● Our solution:
  ○ Single search text box with search operators
  ○ Auto-completion of search operator terms
  ○ Use key-value labels instead of enumerated fields
  ○ UI makes key-value labels feel like real custom fields
Too Complicated
### Simple Search Box w/ Auto-Complete

A search box with auto-complete feature allows users to quickly find relevant issues or keywords within a project.

### Key-Value Label Shown as Column

In the issue tracker, labels are represented as columns, making it easier to categorize issues based on specific criteria such as priority and status.
## Auto-Complete Makes Labels Feel Like Built-In Fields

### Typo-WebList
- **Type-Defect**: Report of a software defect
- **Type-MinorDefect**: Report of a minor or inconsequential defect
- **Type-Enhancement**: Request for enhancement
- **Type-Wishlist**: Would be nice, but is very difficult to implement
- **Type-Ticket**: Work item that doesn’t change the code or docs
- **Type-Review**: Request for a source code review
- **Type-Other**: Some other kind of issue
Define Possible Status Values that Match Your Development Process

Define Labels to Organize Issues in Your Project
Googley artifact search and key-value labels

- How has it worked out?
  - Certainly exceeded expectations
  - People seem to understand it and have used it extensively
  - About 1/3 of active projects use the issue tracker
  - Over 1000 active projects have 100-1000 issues
  - Largest project has 73,000 issues and growing
Wiki centered on page list

● Problem:
  o Wiki's are messy and disorganized
  o Establishing navigation takes time and distracts
  o When hunting around, you don't know when to stop

● Status Quo:
  o Start at some initial page. Use macros for page lists.

● Our Solution:
  o By default, take visitors to a complete list of pages first
  o Each page has both a WikiWord and one-line summary
  o Wiki pages can have Key-Value labels that show in the list view, just like issues
  o Optional wiki sidebar for custom navigation
# oryx-editor Wiki Pages

Web-based Graphical Business Process Editor.

## New page
- Search
- Current pages

## Table of Wiki Pages

<table>
<thead>
<tr>
<th>Page Name</th>
<th>Summary</th>
<th>Labels</th>
<th>Changed</th>
<th>Phase</th>
</tr>
</thead>
<tbody>
<tr>
<td>HowToCreateStencilSE!</td>
<td>How to create a stencil set for oryx by the example of Let's Dance</td>
<td>Featured</td>
<td>6 days ago</td>
<td></td>
</tr>
<tr>
<td>SetupDevelopmentEnvironment</td>
<td>This guide shows how to set up and configure a development environment in order to build the Oryx application from source.</td>
<td></td>
<td>Oct 04</td>
<td></td>
</tr>
<tr>
<td>RoleResolution</td>
<td>Mapping of roles to team members.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HowToUseGoogleCode</td>
<td>Guidelines on how to use Google Code for the Oryx project.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Install3rdPartyApplication</td>
<td>Provides quick installation guides for all required 3rd party applications.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Or filenames: OryxStandalone</td>
<td>How to create a Webrunner for Oryx</td>
<td></td>
<td>Feb 2010</td>
<td>Deploy</td>
</tr>
<tr>
<td>HowToDevelopAnEditorPlugin</td>
<td>Guideline on how to develop a plugin</td>
<td>Featured</td>
<td>Feb 2010</td>
<td></td>
</tr>
<tr>
<td>18N</td>
<td>Internationalization of Oryx</td>
<td></td>
<td>Feb 2010</td>
<td>Implementation</td>
</tr>
<tr>
<td>HowToContributeYourCodeInOryx</td>
<td>When contributing to Oryx, your code should be well-documented. This document provides some best practices and tools to comment your code.</td>
<td></td>
<td>Feb 2010</td>
<td>Implementation, QA</td>
</tr>
<tr>
<td>HowToTestOryx</td>
<td>This document describes how to run and write tests for oryx</td>
<td></td>
<td>Feb 2010</td>
<td>Implementation, QA</td>
</tr>
<tr>
<td>DataManagementImplementation</td>
<td>How Oryx data management and querying works. Excerpt from Bachelor's Paper.</td>
<td></td>
<td>Feb 2010</td>
<td></td>
</tr>
<tr>
<td>InstallUpdateConfigureProductiveSystems</td>
<td>This guide gives a quick overview about the default installation,</td>
<td></td>
<td>Jan 2010</td>
<td></td>
</tr>
</tbody>
</table>

## Organize Pages by Labels

- HowToCreateStencilSE!
- SetupDevelopmentEnvironment
- RoleResolution
- HowToUseGoogleCode
- Install3rdPartyApplication
- OryxStandalone
- HowToDevelopAnEditorPlugin
- 18N
- HowToContributeYourCodeInOryx
- HowToTestOryx
- DataManagementImplementation
- InstallUpdateConfigureProductiveSystems

## Users Start on the List of All Wiki Pages

- Navigate to the Wiki page to start exploring the Oryx-editor wiki.
<table>
<thead>
<tr>
<th>PageName</th>
<th>Summary + Labels</th>
<th>Changed</th>
<th>ChangedBy</th>
<th>About</th>
<th>Is</th>
</tr>
</thead>
<tbody>
<tr>
<td>sample</td>
<td>One-sentence summary of this page.</td>
<td>5 hours ago</td>
<td>sivagurunath</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>boxShadowAndRadius</td>
<td>box Shadow box Radius Shadow webkit moz</td>
<td>4 days ago</td>
<td>regh.manolo</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>BoxShadow</td>
<td>Shadow box</td>
<td>4 days ago</td>
<td>regh.manolo</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>DocumentCharacterSetProperty</td>
<td>The document.characterSet property</td>
<td>Jan 15</td>
<td>bknuhn</td>
<td>dom</td>
<td>dom-property</td>
</tr>
<tr>
<td>ArticleUtf7</td>
<td>UTF-7: the case of the missing charset</td>
<td>Jan 12</td>
<td>paul.irish</td>
<td>security</td>
<td>article</td>
</tr>
<tr>
<td>TOCArticles</td>
<td></td>
<td>Jan 12</td>
<td>abdelmomen1985</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>webkitRadiusAndShadow</td>
<td>webkit border radius corners box shadow bottom khtml moz top round roundtop</td>
<td>Jan 09</td>
<td>regh.manolo</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>ArticleFixingFlashExternalInterface</td>
<td>HOWTO fix issues in Flash's ExternalInterface API.</td>
<td>Jan 05</td>
<td>aduston</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>SEO</td>
<td>Search Engine Optimization and SEO tips from Google. seogoogle webmaster marketing advertising online</td>
<td>Jan 04</td>
<td>affordableweb</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>AffordableWebPro</td>
<td>Affordable Web Design, SEO and Internet Marketing Services.</td>
<td>Jan 04</td>
<td>affordableweb</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>ArticleGoogleChromeCompatFAQ</td>
<td></td>
<td>Jan 04</td>
<td><a href="mailto:jeremy@chromium.org">jeremy@chromium.org</a></td>
<td>best-practices</td>
<td>---</td>
</tr>
<tr>
<td>ArticleIntroductionToXSS</td>
<td>Introduction to Cross-Site Scripting Vulnerabilities.</td>
<td>Dec 24</td>
<td>dmcchull</td>
<td>security</td>
<td>article</td>
</tr>
<tr>
<td>ArticleContentSniffing</td>
<td>HOWTO protect against malicious images and other non-HTML content</td>
<td>Dec 24</td>
<td>dmcchull</td>
<td>security</td>
<td>article</td>
</tr>
<tr>
<td>WindowObject</td>
<td>The window object is the AbstractView of the document</td>
<td>Dec 05</td>
<td>guss77</td>
<td>dom</td>
<td>dom-object</td>
</tr>
</tbody>
</table>
Welcome to Google Doctype. Written by web developers, for web developers.

What do you want to learn today?

Read HOWTO articles on

- Web security
- DOM manipulation
- CSS and style
- Tips and tricks
- Creating libraries that extend web browsers

Dive into DOM objects, including

- document
- window
- history
- location
- navigator
- screen
- and other historical curiosities

Style your pages with CSS

- CSS properties
- pseudo-classes and pseudo-elements
- at-rule
- colors
- ...and more on the way

Make your site search friendly

- Use the right meta tags?
- Prevent content from being crawled/appearing in search results

Do you need help with an HTML element? We have an HTML reference from <a> to <samp>
Release Notes

Notes on current and past releases

Version 0.4

<table>
<thead>
<tr>
<th>Release Date</th>
<th>March 1, 2009</th>
</tr>
</thead>
<tbody>
<tr>
<td>Code Revision</td>
<td>238</td>
</tr>
</tbody>
</table>

Version Goal: Document editing improvements.

Document Editing
- Support for different text character sets such as UTF-16 (see Issue #11)
- Line endings of current document
- Change line ending type

User Interface
- File menu
- Project menu merged into File menu
- Edit menu
  - "Redo" item
Wiki centered on page list

- How has it worked out?
  - Page list landing page works really well: reduces workload on authors, always up-to-date
  - About 1/3 of all our projects use the wiki
  - 79 active projects have 100-1000 wiki pages
  - Of the top 20 projects with the most wiki pages:
    - 4 replaced the list with a custom page, 16 kept list
    - 3 made a wiki sidebar, 17 rely on list view
Integrated source code browsing and code review

- Problem:
  - Existing source browsing tools required too many clicks, made it hard to navigate deep trees
  - Certain OSS teams were great at using email for code reviews, others didn't try

- Our solution:
  - AJAXy directory tree browser
  - Go directly to source file content, metadata is on the side
  - Client-side syntax highlighting for speed
  - Double-click adds post-commit review comment
  - Show +1/-1 scores on the revision list page, comments on revision detail page.
<table>
<thead>
<tr>
<th>Directory</th>
<th>Filename</th>
<th>Size</th>
<th>Rev</th>
<th>Date</th>
<th>Author</th>
</tr>
</thead>
<tbody>
<tr>
<td>artwork</td>
<td>BTICmdLineDebugger.js</td>
<td>9.2 KB</td>
<td>r8201</td>
<td>Oct 28, 2010</td>
<td>darin.eclipse</td>
</tr>
<tr>
<td>branches</td>
<td>CFBreakpoint.js</td>
<td>3.1 KB</td>
<td>r8201</td>
<td>Oct 28, 2010</td>
<td>darin.eclipse</td>
</tr>
<tr>
<td>canvasispector</td>
<td>CFBrowser.js</td>
<td>11.2 KB</td>
<td>r8063</td>
<td>Oct 18, 2010</td>
<td>darin.eclipse</td>
</tr>
<tr>
<td>chromebug</td>
<td>CFBrowserContext.js</td>
<td>3.7 KB</td>
<td>r7977</td>
<td>Oct 07, 2010</td>
<td>darin.eclipse</td>
</tr>
<tr>
<td></td>
<td>CFCompilationUnit.js</td>
<td>3.5 KB</td>
<td>r8201</td>
<td>Oct 28, 2010</td>
<td>darin.eclipse</td>
</tr>
<tr>
<td></td>
<td>CFExecutionContext.js</td>
<td>2.6 KB</td>
<td>r7946</td>
<td>Oct 06, 2010</td>
<td>darin.eclipse</td>
</tr>
<tr>
<td></td>
<td>readme.txt</td>
<td>890 bytes</td>
<td>r7899</td>
<td>Sep 29, 2010</td>
<td>darin.eclipse</td>
</tr>
</tbody>
</table>

AJAX Preloading of Directories for Speed
/* See license.txt for terms of usage */
#include "nsISupports.idl"

interface jsiStackFrame;
interface jsiScript;
interface jsiValue;

interface nsIDOMWindow;

I Think I See Something Wrong
Make a Comment On Exactly That Line
<table>
<thead>
<tr>
<th>Rev</th>
<th>Scores</th>
<th>Commit log message</th>
<th>Date</th>
<th>Author</th>
</tr>
</thead>
<tbody>
<tr>
<td>r6081</td>
<td></td>
<td>Lock status change of a tied number now sets a flag to indicate that the s...</td>
<td>Jun 24, 2010</td>
<td>toontalk</td>
</tr>
<tr>
<td>r6080</td>
<td></td>
<td>Lock status change of a tied number now sets a flag to indicate that mode...</td>
<td>Jun 24, 2010</td>
<td>toontalk</td>
</tr>
<tr>
<td>r6079</td>
<td></td>
<td>Introduced two new configuration options to deal with Issue 870 single-ac...</td>
<td>Jun 24, 2010</td>
<td>toontalk</td>
</tr>
<tr>
<td>r6078</td>
<td></td>
<td>Activity documents are now posted to the server whenever the done button...</td>
<td>Jun 24, 2010</td>
<td>toontalk</td>
</tr>
<tr>
<td>r6077</td>
<td></td>
<td>[DP] New class that suggests pairs. Takes A Map Of Users To ExpresserMa...</td>
<td>Jun 24, 2010</td>
<td>sergut</td>
</tr>
<tr>
<td>r6076</td>
<td></td>
<td>Several changes for the integration with future MigenPairMaker. Change...</td>
<td>Jun 24, 2010</td>
<td>sergut</td>
</tr>
<tr>
<td>r6075</td>
<td></td>
<td>Some changes in order to be used with MigenPairMaker. Changes includ...</td>
<td>Jun 24, 2010</td>
<td>sergut</td>
</tr>
<tr>
<td>r6074</td>
<td></td>
<td>Minor improvement in comment</td>
<td>Jun 24, 2010</td>
<td>sergut</td>
</tr>
<tr>
<td>r6073</td>
<td></td>
<td>[DP] ClassGrouping now functional. Dummy code still in place, so it can be...</td>
<td>Jun 24, 2010</td>
<td>sergut</td>
</tr>
<tr>
<td>r6072</td>
<td></td>
<td>Additional test, after r6070.</td>
<td>Jun 24, 2010</td>
<td>sergut</td>
</tr>
<tr>
<td>r6071</td>
<td>-1</td>
<td>Increased the amount of memory available to Migen client. During the Dr...</td>
<td>Jun 24, 2010</td>
<td>toontalk</td>
</tr>
<tr>
<td>r6070</td>
<td></td>
<td>Added an empty model was detected like consisting of single tiles. FIXED.</td>
<td>Jun 24, 2010</td>
<td>sergut</td>
</tr>
<tr>
<td>r6069</td>
<td></td>
<td>TiedNumberExpression now uses TiedNumberHandle internally. Resolv...</td>
<td>Jun 24, 2010</td>
<td>toontalk</td>
</tr>
<tr>
<td>r6068</td>
<td></td>
<td>Changed the interval time for animating and stepping from 2 to 1. (Cell...</td>
<td>Jun 24, 2010</td>
<td>toontalk</td>
</tr>
<tr>
<td>r6067</td>
<td></td>
<td>CorrectGeneralAlignment</td>
<td>Jun 23, 2010</td>
<td>sergut</td>
</tr>
<tr>
<td>r6066</td>
<td></td>
<td>First step in converting to using HigherOrderAbstract classes.</td>
<td>Jun 23, 2010</td>
<td>darren.pearce</td>
</tr>
<tr>
<td>r6065</td>
<td></td>
<td>TeacherModel Forming</td>
<td>Jun 23, 2010</td>
<td>darren.pearce</td>
</tr>
<tr>
<td>r6064</td>
<td></td>
<td>New general data</td>
<td>Jun 23, 2010</td>
<td>darren.pearce</td>
</tr>
<tr>
<td>r6063</td>
<td></td>
<td>Removed redundant methods from class PruneMapNode.</td>
<td>Jun 23, 2010</td>
<td>darren.pearce</td>
</tr>
<tr>
<td>r6062</td>
<td></td>
<td>KK please check if this commit works it includes the getPositiveColors()...</td>
<td>Jun 23, 2010</td>
<td>maurikis</td>
</tr>
</tbody>
</table>
Increased the amount of memory available to MiGen client. During the Dry Run on Monday it seems it needed more than the 256MB previously allocated.

Note that I did more tests to confirm no memory leak in eXpresser. With IS etc it seems we just need more memory. If IS has a memory leak it is not large.

Comment by project member Darren Pearce, Jun 24, 2010
Sorry, Ken, but 'more tests to confirm no memory leak in eXpresser' is a HUGE assumption. How rigorous is your testing regime? Can you explain the sequence of tests? Is it repeatable by us?

...During the dry run, I checked the task manager on mine and Alex’s machine and the system looks to require about 300MB of RAM to run.

Comment by project member ToonTalk, Jun 24, 2010
Testing is very time consuming. See http://code.apache.com/p/migen/issues/detail?id=354
modificaciones a plugin admin

`trunk/src/ASO/framework/plugin_admin.cpp`

```cpp
if (handle == NULL)
```

> acc se tendría que construir success, con esta expresión.
> (acordate: usar siempre late declarations, osea definir las variables lo más cercano posible a donde se detengan usar).

`trunk/src/ASO/framework/plugin_admin.cpp`

```cpp
CreatePlugin create_plugin = (CreatePlugin) dsynm(handle, "create_plugin");
```
### Assigned Code Reviews

<table>
<thead>
<tr>
<th>Status</th>
<th>Owner</th>
<th>Branch</th>
<th>Summary</th>
</tr>
</thead>
<tbody>
<tr>
<td>Triaged</td>
<td>Hans.Hillen</td>
<td>Review: branches/firebug1.6</td>
<td>Review new 1.6 command line code and completion system for accessibility issues</td>
</tr>
</tbody>
</table>

### Committed Changes

<table>
<thead>
<tr>
<th>Commit log message</th>
<th>Date</th>
<th>Author</th>
</tr>
</thead>
<tbody>
<tr>
<td>related to issue 3771, clicking anywhere in the balloon notification closes it.</td>
<td>Today (2 hours ago)</td>
<td>odvarko</td>
</tr>
<tr>
<td>[tracing] Don't use <strong>lookupGetter</strong> on DOM Members</td>
<td>Today (5 hours ago)</td>
<td>odvarko</td>
</tr>
<tr>
<td>Update description for dom/storage test.</td>
<td>Today (6 hours ago)</td>
<td><a href="mailto:ho...@allpeers.com">ho...@allpeers.com</a></td>
</tr>
<tr>
<td>[bit] register http listeners to fill tabCache</td>
<td>Yesterday (17 hours ago)</td>
<td>johnjbar...@johnjbar...</td>
</tr>
<tr>
<td>Issue 4120 (Make it possible to use Ctrl+Shift+L without Firebug focused) <a href="http://c">http://c</a>...</td>
<td>Yesterday (22 hours ago)</td>
<td><a href="mailto:sebaste...@gmx.de">sebaste...@gmx.de</a></td>
</tr>
<tr>
<td>script tag insertion can be async after all, so don't remove the tag on this even...</td>
<td>Yesterday (24 hours ago)</td>
<td>johnjbar...@johnjbar...</td>
</tr>
<tr>
<td>[fbtest] Exporting list of installed extensions must be asynchronous in Gecko 2.0</td>
<td>Yesterday (29 hours ago)</td>
<td>odvarko</td>
</tr>
<tr>
<td>[fbTest-1.7b13]</td>
<td>Yesterday (30 hours ago)</td>
<td>odvarko</td>
</tr>
<tr>
<td>Set minimum size needed for running tests (only applied if -runFBTests is specific...</td>
<td>Yesterday (29 hours ago)</td>
<td>odvarko</td>
</tr>
<tr>
<td>[fbTest-1.7b12]</td>
<td>Yesterday</td>
<td>odvarko</td>
</tr>
<tr>
<td>[tests] user test case for issue 4145</td>
<td>Feb 23 (41 hours ago)</td>
<td>johnjbar...@johnjbar...</td>
</tr>
<tr>
<td>[bit] implement part of BTI for context via contextadapter</td>
<td>Feb 23 (41 hours ago)</td>
<td>johnjbar...@johnjbar...</td>
</tr>
<tr>
<td>[bit] big push to get rid of Firebug,Debugger in Script panel.</td>
<td>Feb 23 (43 hours ago)</td>
<td>johnjbar...@johnjbar...</td>
</tr>
<tr>
<td>[bit] sync to change in resetTooltip on 1.7</td>
<td>Feb 23 (45 hours ago)</td>
<td>johnjbar...@johnjbar...</td>
</tr>
<tr>
<td>[bit] merge with branches/modules up to R9469; not tested</td>
<td>Feb 23 (47 hours ago)</td>
<td>johnjbar...@johnjbar...</td>
</tr>
<tr>
<td>[modules] merge with branches/firebug1.7 up to R9469; <a href="http://getfirebug.com/test">http://getfirebug.com/test</a>...</td>
<td>Feb 23 (47 hours ago)</td>
<td>johnjbar...@johnjbar...</td>
</tr>
<tr>
<td>Yet one CSS fix for Firebug start button (Mac OS X). Related to issue 4093</td>
<td>Feb 23 (2 days ago)</td>
<td>odvarko</td>
</tr>
<tr>
<td>[swarm] testing boots to installAll, user boots to ready</td>
<td>Feb 23 (2 days ago)</td>
<td>johnjbar...@johnjbar...</td>
</tr>
<tr>
<td>fnvnet first attempt at error recovery</td>
<td>Feb 23 (2 days ago)</td>
<td>johnjbar...@johnjbar...</td>
</tr>
</tbody>
</table>
Integrated source code browsing and code review

- How has it worked out?
  - Some scalability limits on huge directories and revisions
  - Teams that really like reviews want pre-commit reviews
  - We deferred to stand-alone tools for pre-commit reviews
  - About 10% of projects have done code reviews
  - Heaviest using project has over 4000 review comments
  - Most common usage is to say "Thank you"
Pro Tips and Power-User Features

- Keystrokes
- Issue Grid
- Issue templates and filter rules
- Project people pages and custom permissions
- User groups
Pro Tip: Keystrokes

- Issue tracker has keystroke accelerators
  - Navigate: next, previous, up to list
  - Jump to search field
  - Add a comment (reply)
  - Enter issue (compose)
  - Press "?" for full list
An RSS feed for starred issues across all projects would be a nice alternative to email notifications. Filed as issue 3200.

Press '?' to Show Dialog
Issue Grid

- Issue grid view shows a 2D scatter graph
  - Triage: star count vs. type
  - Release planning: milestone vs. priority
  - Workload balancing: milestone vs. owner
<table>
<thead>
<tr>
<th>ID</th>
<th>Title</th>
<th>Type</th>
<th>Status</th>
<th>Priority</th>
<th>Milestone</th>
<th>Owner</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>190</td>
<td>defFriends怎么用？</td>
<td>New</td>
<td>New</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>107</td>
<td>配置Actx的解决方案(方法)</td>
<td>New</td>
<td>New</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>180</td>
<td>Parker 1.0b:停车随意不能限制停车位</td>
<td>New</td>
<td>New</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>172</td>
<td>3in1Kaixin-V1.0a错误</td>
<td>New</td>
<td>New</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>199</td>
<td>建议修改机制，检测到被开心网络BAN的账号后直接封号操作。</td>
<td>New</td>
<td>New</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>200</td>
<td>发现了一个停车的问题</td>
<td>New</td>
<td>New</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>219</td>
<td>3in1Kaixin什么时候出新版？</td>
<td>New</td>
<td>New</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>236</td>
<td>开心网现在有一个验证问题你们的外链登不上去，。</td>
<td>New</td>
<td>New</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>24</td>
<td>建议AddFriends中修改可以批量执行newfriend文件功能</td>
<td>New</td>
<td>New</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>164</td>
<td>拉力架加油小工具</td>
<td>Accepted</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>25</td>
<td>是否可以考虑一下增加查询号好友的小程序</td>
<td>New</td>
<td>New</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>38</td>
<td>完善common代码</td>
<td>Assigned</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>66</td>
<td>建议在PARKER中将显示车位的“满”“空”作为可选参数</td>
<td>New</td>
<td>New</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>131</td>
<td>建议升级模块升级完毕以后必须要注意以显示退出</td>
<td>Assigned</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>16</td>
<td>系统托盘和日志记录</td>
<td>New</td>
<td>New</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Issue templates and filter rules

- Project owners can define templates for new issues
  - Makes it easier to enter new issues of common types
  - Channels the efforts of non-members toward good issue reports

- Project owners can define if-then rules that automatically add labels and CC users
  - E.g., if it is labeled Security, automatically restrict access
  - E.g., if it is labeled Component-Printing, automatically CC the person in charge of printing
New issue templates

Choose Template:
- Defect report from user
- Defect report from developer
- Security Bug
- Translation Issue
- Regression
- Defect on Linux
- Defect on Mac OS
- ChromeFrame Issue
- Broken Webpage
- Layout Test Failure
- New Feature
- NaCl Issue
- Flash Issue (private)
- Flash Security Issue (private)
- Privacy Issue
- Enterprise Issue

☑ Only offer this template to project members

Summary:
Enter one-line summary

☑ Users must edit issue summary before submitting

Description:
1.
2.
3.

What is the expected result?

What happens instead?

Please provide any additional information below. Attach a screenshot if possible.

Status:
Unconfirmed

Owner:

☑ Default to member who is entering the issue

Labels:
<table>
<thead>
<tr>
<th>Type-Bug</th>
<th>Pri-2</th>
<th>Area-Une</th>
<th>Defined</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
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</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Default template for project members: Defect report from developer

Default template for non-members: Defect report from user

List and grid preferences
Default columns shown in list view: Learn more

ID Status Pri Area Feature Type Status Summary Modified Owner Milestone OS
<table>
<thead>
<tr>
<th>If the item has all these labels:</th>
<th>Then, do the following:</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. regression, channel-stable</td>
<td>Add Cc:</td>
</tr>
<tr>
<td>2. regression, channel-stable</td>
<td>Also notify email:</td>
</tr>
<tr>
<td>3. area-Webkit</td>
<td>Add Cc:</td>
</tr>
<tr>
<td>4. javascript</td>
<td>Add Cc:</td>
</tr>
<tr>
<td>5. ReleaseBlock-</td>
<td>Add Cc:</td>
</tr>
<tr>
<td>6. video</td>
<td>Add Cc:</td>
</tr>
<tr>
<td>7. FlakyTest</td>
<td>Add Cc:</td>
</tr>
<tr>
<td>8. Feature-Sync</td>
<td>Add Cc:</td>
</tr>
<tr>
<td>9. NewFTP</td>
<td>Add Cc:</td>
</tr>
<tr>
<td>10. os-mac</td>
<td>Add Cc:</td>
</tr>
<tr>
<td>11. Security</td>
<td>Add Cc:</td>
</tr>
<tr>
<td>12. os-chrome</td>
<td>Add Cc:</td>
</tr>
<tr>
<td>13. Feature-Bookmarks</td>
<td>Add Cc:</td>
</tr>
<tr>
<td>14. Feature-Sessions</td>
<td>Add Cc:</td>
</tr>
<tr>
<td>15. Area-Compat</td>
<td>Add Cc:</td>
</tr>
<tr>
<td>16. if8n</td>
<td>Add Cc:</td>
</tr>
<tr>
<td>17. 3D-</td>
<td>Add Cc:</td>
</tr>
<tr>
<td>18. Area-Compat-Web</td>
<td>Add Cc:</td>
</tr>
</tbody>
</table>
Project people pages and custom permissions

- The "People" pages show what each project member is responsible for doing
  - An easy way to give credit to people for their work
  - Declaring who's in charge of X can motivate them
  - The auto-complete list of common "duties" helps project owners notice roles they might need to fill

- On the people detail pages you can grant fine-grained permissions
  - E.g., allow a contributor to make certain kinds of edits
  - E.g., allow certain project members to access restricted artifacts
## Project People

<table>
<thead>
<tr>
<th>Name</th>
<th>Role</th>
<th>Duties</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>tortoisesvn</td>
<td>Owner</td>
<td>• Lead by providing a project vision and roadmap&lt;br&gt;• Lead the UI design and incorporate feedback</td>
<td>Lead Developer</td>
</tr>
<tr>
<td>luebbe.tortoisesvn</td>
<td>Owner</td>
<td>• Translate UI text and documentation to new locales&lt;br&gt;• Write end-user documentation and examples</td>
<td>TortoiseSVN fossil. Project member since the early days. Organizing a world-wide pack of translators is fun!</td>
</tr>
<tr>
<td>simon.tortoisesvn</td>
<td>Owner</td>
<td>• Write end-user documentation and examples</td>
<td></td>
</tr>
<tr>
<td>stefan.fuhrmann.1974</td>
<td>Owner</td>
<td>• Lead by providing a project vision and roadmap&lt;br&gt;• Design core libraries, write code and unit tests&lt;br&gt;• Design new features, write code and unit tests</td>
<td>Boring infrastructure stuff gets me exited.</td>
</tr>
<tr>
<td>DarlRavem</td>
<td>Committer</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>iDkravitz</td>
<td>Committer</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>toschaef</td>
<td>Committer</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>sltumanyan</td>
<td>Committer</td>
<td>• Help with the UI to improve it for blind people</td>
<td></td>
</tr>
<tr>
<td>kari.greno</td>
<td>Contributor&lt;br&gt;+ Committer</td>
<td>• Translate UI text and documentation to new locales&lt;br&gt;• Finnish</td>
<td></td>
</tr>
</tbody>
</table>

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User groups

- Project owners can create user groups and make them project members
  - Create user groups on groups.google.com, or in your FYD control panel
  - Add the email address of the group to the project
  - Group members get to see other group members in auto-complete menus
How it all works

- Architecture
- Implementation
- Operational experience
Google Project Hosting Architecture

- Search Index
- Batch Workers
- Front End Web App
  - Issue Tracker
  - Wiki
  - Downloads
  - Code Reviews

- Browser
- VC Client
  - Subversion
  - Mercurial
  - Apache

- Bigtable & GFS
Google Project Hosting Replication

- Multiple datacenters, but only one is live at any give time
- Asynchronous replication of Bigtable data
- When failing over from one datacenter to another, the site must be in a read-only mode until replication catches up
New GPH Replication

- Multiple datacenters, all live all the time
- Megastore writes synchronously to multiple Bigtable cells
- Custom replication for version control (also Paxos)
Implementation

- About 200 KLOC of Python, 80 KLOC of C, Some Java
- Custom Python web app framework
- Parallel threads to make each request faster
- Follow-up work done in a batch processing system
- Not internationalized, but we handle unicode
- Unit tests and selenium tests
Operational experience

- Frequent server-side updates, not user-visible
  - Schema changes must be backwards compatible
  - Flags to control new feature launches

- Biggest operational challenges:
  - latency spikes and fail-overs

- Technical support and community management:
  - We use our own issue tracker for tech support
  - Google Group for tech support
  - Automated analysis for spam and malware
  - Usage reports highlight unusual projects
  - We ban spammers and abusive users from the site
The Team

Ali Pasha
Ben Collins-Sussman
Nathan Ingersoll
Jason Robbins
Logan Hanks
Robert Spier
Lucas Bergman
Jon Trowbridge

Tony Zale
Nathaniel Manista
Nate Kopchick
Vijay Menon
Augie Fackler
Jeremy Wall
Jacob Lee
David Borowitz