Got Git?
Getting More Out of Your GitHub Repositories

Terry Brady, Georgetown University
[www.library.georgetown.edu/lit/code](http://www.library.georgetown.edu/lit/code)
SCCS
Source Code Control System
SCCS: Before Git

Workstation

Work Folder

Enterprise Network

Checkout Commit

SCCS

Internet

SCCS Client

CVS

SVN
SCCS: Local Git

Workstation

Work Folder

Checkout Commit

Git

Enterprise Network

Internet

Git Shell

Git Client
SCCS: Local Git + Cloud Remote

Workstation

Enterprise Network

Internet

Work Folder

Git Shell

Git Client

Enterprise Remote
Options are not in the scope of this talk

Web Client

Git Remote

GitHub

BitBucket
Focus of This Talk

Workstation

Work Folder

Checkout
Commit

Git

Git Shell
Git Client

Enterprise Network

Internet

Web Client

Git Remote

GitHub
BitBucket

Push
Pull
Advantages of GitHub Web for Novice Users

● Easy to visualize Git concepts
  o No software to install
  o No command line
  o Embedded editor
● Meaningful URL’s
● Rich online tools
● All online resources linked to the code
Georgetown University Libraries Organization

github.com/Georgetown-University-Libraries

public + private repositories
owners, viewers, contributors
Projects

1. File-Analyzer-Test-Data
   - Sample data files to illustrate the capabilities of the File Analyzer
   - Updated 7 hours ago

2. Marc-File-Analyzer
   - Extension of the File-Analyzer using Marc4j
   - Updated 4 days ago

3. Georgetown-University-Libraries-Code
   - Catalog of Existing Projects and Code Samples
   - Updated 4 days ago

4. File-Analyzer
   - forked from temyweb/Website
   - File Analyzer and Metadata Harvester
   - Updated 6 days ago
Project Page

https://github.com/Georgetown-University-Libraries/File-Analyzer

**PURPOSE**


The File Analyzer and Metadata Harvester is a general purpose desktop (and command line) tool designed to automate simple, file-based operations. The File Analyzer assembles a toolkit of tasks a user can perform.

The tasks that have been written into the File Analyzer code base have been optimized for use by libraries, archives, and other cultural heritage institutions.
The File Analyzer and Metadata Harvester is a general purpose desktop (and command line) tool designed to automate simple, file-based operations. The File Analyzer assembles a toolkit of tasks a user can perform.

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File-analyzer

File Analyzer and Metadata Harvester

PURPOSE: The File Analyzer is a general purpose desktop (and command line) tool designed to automate simple, file-based operations. The File Analyzer assembles a toolkit of tasks a user can perform.

The tasks that have been written into the File Analyzer code base have been optimized for use by libraries, archives, and other cultural heritage institutions.

See the File Analyzer Wiki for detailed instructions.
Project Home Page

- Visually compelling landing page
  - Sometimes you only get one click to tell the story
- Stored as a project branch: gh-pages
- Trackable by Google Analytics
Navigating to Code
File Analyzer and Metadata Harvester http://georgetown-university-libraries.github.io/File-Analyzer/

Browse
Code
Directories
<table>
<thead>
<tr>
<th>File</th>
<th>Description</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>CriteriaPanel.java</td>
<td>Clean up combo box init warnings</td>
<td>6 days ago</td>
</tr>
<tr>
<td>CriteriaPanel.java</td>
<td>Maven structure, JDK1.6 compatibility</td>
<td>2 years ago</td>
</tr>
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<td>2 years ago</td>
</tr>
<tr>
<td>DirectoryTable.java</td>
<td>Create a file property widget</td>
<td>a year ago</td>
</tr>
<tr>
<td>FileCatalog.java</td>
<td>Maven structure, JDK1.6 compatibility</td>
<td>2 years ago</td>
</tr>
<tr>
<td>FileSelect.java</td>
<td>Maven structure, JDK1.6 compatibility</td>
<td>2 years ago</td>
</tr>
</tbody>
</table>
package gov.nara.mwts.ftapp.gui;

import javax.swing.JFileChooser;
import javax.swing.JFrame;
import javax.swing.JTextField;

/**
 * Displays a directory selection dialog; results will be saved to a specified text field.
 * @author TBrady
 */

class DirSelect extends FileSelect {
    private static final long serialVersionUID = 1L;

    public void configureChooser() {
        jfc.setFileSelectionMode(JFileChooser.DIRECTORIES_ONLY);
    }

    DirSelect(JFrame parent, JTextField result, String title) {
        super(parent, result, title);
    }
}
```java
JPanel advanced = new JPanel(new BorderLayout());
JPanel adv1 = new JPanel();
adv1.setBorder(BorderFactory.createTitledBorder("Directory Identification"));
advanced.add(adv1, BorderLayout.NORTH);
ignorePeriods = new JCheckBox();
ignorePeriods.setSelected(true);
ignorePeriods.setText("Assume directory names do not contain periods (faster)");
adv1.add(ignorePeriods);

JPanel adv2 = new JPanel();
adv2.setBorder(BorderFactory.createTitledBorder("Auto-save Output directory"));
```
Code Navigation

● File-system like navigation within a project

● Every node has a meaningful URL
  o Even to a block of code!

● “Raw” Access by URL
  o Can run a simple html/css/js app from the code repository
  o Great for test data!
Code Editing
package gov.nara.nwts.ftapp.gui;
import gov.nara.nwts.ftapp.filetest.FileTest;
import java.awt.BorderLayout;
import java.awt.FlowLayout;
import java.awt.Font;
import java.awt.Insets;
import java.awt.event.ActionEvent;
import java.awt.event.ActionListener;
import java.awt.event.FocusEvent;
import java.awt.event.FocusListener;
import java.io.File;
import java.util.ArrayList;
import java.util.Collections;
Inline Text Editor

Edit and commit files with no need to install client software.

Example: Your team has a designer who only modifies CSS. A Simple solution!
Make your Gists Discoverable or “Secret”
This code provides a sample implementation of a BIB and ITEM extract using the Sierra REST API.

This code has been shared for illustrative purposes. Some of this code contains institution-specific logic.

Wiki

Purpose

The Georgetown University Libraries provide quarterly, monthly, and daily extracts our catalog from the Washington Regional Library Consortium (WRLC). Prior to the creation of this program, these extracts were generated by our Systems Librarian using Sierra client functionality. This program was created to address the efficiency of this practice.
Code Editing with GitHub Web

- Language-specific formatting
- Quick editing using only the browser
  - Support non-developer contributors!
  - 2015 Goal: extend code contributors on our projects
- Markdown is a powerful wiki syntax for documentation
Change History / Pull Request
Compare code by branch, by release, or by date

Releases, commits, and branches can be compared against each other or by date.
Clean up combo box init warnings

@jerrywbrady authored 6 days ago

1 parent df13103 commit 709759667a2d6f373b0b2b1d3d6096e80c0209cde2

Showing 7 changed files with 27 additions and 27 deletions.

```
17  public class FTPropEnum extends DefaultFTPprop {
18  -   JComboBox combo;
19  +   JComboBox<Object> combo;
20  
21  public FTPropEnum(FTDriver ft, String prefix, String name, String shortname, String descr, 
22   super(ft, prefix, name, shortname, descr, def); 
23  -   init(vals);
24  +   combo = new JComboBox<Object>();
25  
26  combo.addItemListener(new ItemListener()
   public void itemStateChanged(ItemEvent arg0) { 
```

```
10  core/src/main/gov/nara/nwts/tapp/gui/CriteriaPanel.java
```

Visualize changes
Capture notes about a commit
function checkCompleted() {
  if (doesFileExist($fname)) {
    window.open("$fname", "_self");
  } else {
    $fname = substr_replace($fname, "complete.txt", strpos($fname, "running.txt"));
    window.open("$fname", "_self");
  }
}

document.getElementById('queue').addEventListener('click', function(e) { ...}
Create a “pull request” to propose a set of changes.
Hi, Terry,
Please review the new PHP code, I commented out the JavaScript and used PHP functions to validate if the running.txt file exists or not.
-Wei

wz24 commented on Nov 10, 2014

wz24 added some commits on Nov 10, 2014

test
test using javascript
typo
test
typo
add javascript
see log
change argument
clean up
changed the jobstat.php
use str_replace

wz24 commented on Nov 10, 2014

and it is deployed on aux now
Change History / Pull Request

● Visualization of changes
  o Only a browser is needed
  o Powerful compare options by URL
    ▪ By Date: ../compare/master@{1month}
    ▪ By Release: ../compare/v2.0.2...v2.0.5

● Conversation around a pull request/commit
  o Great tool for mentoring staff on changes
  o Conversation captured right with the code
  o Rich Markup
Release Tracking
View named releases for a project.
The release history is particularly helpful with embedded screenshots.
The release editor is easy to use, supports markdown and drag & drop images.
Release Tracking

- Document every release to production
- Rich documentation makes it easy to recall the contents of a release
  - Very useful for annual review accomplishments
  - Can function like a blog/project portfolio
- GitHub will automatically email release notes to defined team members
Rich Documentation
A simple issue tracking system for the project.
Document local overrides to an open-source package (until the issues are resolved in the source project)

<table>
<thead>
<tr>
<th>Number</th>
<th>Issue Title</th>
<th>Code</th>
<th>Description</th>
<th>Author</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>101</td>
<td>app.statistics.SolrLogger.java</td>
<td>code-override</td>
<td>dspace-api-additions</td>
<td>terrybrady</td>
<td>Sep 18, 2014</td>
</tr>
<tr>
<td>102</td>
<td>app.discovery.SolrServiceImpl.java</td>
<td>code-override</td>
<td>dspace-api-additions</td>
<td>terrybrady</td>
<td>Sep 18, 2014</td>
</tr>
<tr>
<td>103</td>
<td>app.sitemap.GenerateSitemaps.java</td>
<td>code-override</td>
<td>dspace-api-additions</td>
<td>terrybrady</td>
<td>Sep 18, 2014</td>
</tr>
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<td>104</td>
<td>app.mediafilter.ImageMagick*.java</td>
<td>code-override</td>
<td>dspace-5 dspace-api-additions</td>
<td>terrybrady</td>
<td>Sep 18, 2014</td>
</tr>
<tr>
<td>105</td>
<td>app.mediafilter.HTMLFilter.java</td>
<td>code-override</td>
<td>dspace-api-additions</td>
<td>terrybrady</td>
<td>Sep 18, 2014</td>
</tr>
<tr>
<td>106</td>
<td>aspects/Statistics/sitemap.xmap: Firefox redirect issue</td>
<td>code-override</td>
<td>dspace-xmlui</td>
<td>terrybrady</td>
<td>Sep 18, 2014</td>
</tr>
<tr>
<td>107</td>
<td>bitstream-ordering.js: Fix bitstream re-ordering issue</td>
<td>code-override</td>
<td>dspace-5 dspace-xmlui</td>
<td>terrybrady</td>
<td>Sep 18, 2014</td>
</tr>
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</table>
Wiki for project documentation

Georgetown-University-Libraries / File-Analyzer

File Analyzer and Metadata Harvester http://georgetown-university-libraries.github.io/File-Analyzer/

221 commits 5 branches 8 releases 2 contributors

branch: master File-Analyzer /

Clean up combo box init warnings
terrywbrady authored 6 days ago latest commit 769759667a
- core Clean up combo box init warnings 6 days ago
- demo Handle worksheet iteration 2 months ago
- doc move screen shots to ghpages a year ago
- dspace Remove dc date created test 7 days ago
- gitignore Merge pull request #1 from Georgetown-University-Libraries/master 10 months ago
- README Merge pull request #40 from terrywbrady/master 10 months ago
- pom.xml Marc Validator and Image Properties a year ago

README

PURPOSE
Project Page: http://georgetown-university-llibraries.github.io/File-Analyzer/

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The tasks that have been written into the File Analyzer code base have been optimized for use by libraries, archives, and other cultural heritage institutions.
The Georgetown University Library has developed File Analyzer tasks for nearly every department within the library. Where practical, code has been made available on GitHub.
Let’s talk...

- Check out our repository, let me know what you think
- Likely open positions
  - Developer/Systems Admin
  - Systems Librarian
- Others in Seattle?
More Information?

terry.brady@georgetown.edu

https://github.com/terrywbrady

https://github.com/Georgetown-University-Libraries
Other Tools
Visitor Tracking

Visitors

1,031 Views

20 Unique visitors

Referring sites

<table>
<thead>
<tr>
<th>Site</th>
<th>Views</th>
<th>Unique visitors</th>
</tr>
</thead>
<tbody>
<tr>
<td>github.com</td>
<td>32</td>
<td>2</td>
</tr>
<tr>
<td>staffwiki.library.georgetown.edu</td>
<td>31</td>
<td>1</td>
</tr>
<tr>
<td>georgetown-university-libraries.gith</td>
<td>16</td>
<td>3</td>
</tr>
<tr>
<td>wiki.code4lib.org</td>
<td>14</td>
<td>3</td>
</tr>
<tr>
<td>code4lib.org</td>
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<td>4</td>
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</table>

Popular content

<table>
<thead>
<tr>
<th>Content</th>
<th>Views</th>
<th>Unique visitors</th>
</tr>
</thead>
<tbody>
<tr>
<td>File Analyzer Uses Georgetown</td>
<td>115</td>
<td>3</td>
</tr>
<tr>
<td>File Analyzer Use Cases at Georgetown</td>
<td>67</td>
<td>2</td>
</tr>
<tr>
<td>Marc File Analyzer Package Content</td>
<td>54</td>
<td>2</td>
</tr>
<tr>
<td>DSpace Institutional Repository Ingestion</td>
<td>49</td>
<td>5</td>
</tr>
<tr>
<td>Home</td>
<td>43</td>
<td>9</td>
</tr>
</tbody>
</table>
OAuth Tokens

- Grant a build process access to private repositories