



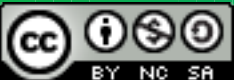
# Crucible

Code Freeze 2012

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Brian Repko

<http://www.learnthinkcode.com>



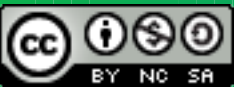
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# Agenda

- Why a Code Review Tool?
- Introduction to FishEye
- Introduction to Crucible
  - What it is / How it works (screenshots)
  - Integration with JIRA
- Effective Code Reviews
- What do you mean by “code”?
- Open Source Alternatives to Crucible





# Why a Code Review Tool?

- We have all kinds of tools for this (static analysis)
  - Lots that can't be tested (clean code)
  - Doesn't mentor / increase domain knowledge
  - Doesn't find opportunities for reuse
- Formal Reviews
  - Printed source / shared machine
  - Co-located / transient discussion
  - Slow
- Pair Programming
  - Co-located / Transient Discussion
  - 1 person with 1 person



# Introduction to FishEye



- Web-based view of your VCS (++)
- Atlassian product...not open source
- FishEye makes Crucible easier to use, technically not required
  - Single Repository / ChangeSet model
- FishEye offers...
  - Scans / monitors repositories
  - ChangeSets / Diffs / Lines of Code and entities/links
  - Activity Stream / Watches
  - Search, Charts, REST API
- Integrations
  - FishEye ChangeSets tied to JIRA issue (source tab)
  - Code Review activity included in FishEye activity



# Introduction to Crucible



- Web-based Code Review Tool
- Atlassian product...not open source
- Roles in a review
  - (the) Author, (a) Reviewer, (the) Moderator
  - Reviewers and Moderator are optional
- Workflows for reviews
  - Self-Review (w/o Reviewers or Moderator)
  - One-to-One / One-to-Many (w/o Moderator)
  - Moderated
    - Author creates, Moderator closes

# Code Reviews



- Create a Review
  - Add content to the Review
    - What to review
      - Patch file, ChangeSets, Files in repositories, Attachment, Snippet
      - Defaults to your own ChangeSets in reverse order
    - How much to review
      - Whole file, Diffs, Diffs since last review, Diffs since a revision
  - Invite Reviewers
    - Crucible offers suggestions
    - Can include external folks (given setup)
- Start the Review
  - Emails all Reviewers
  - Adds activity to the FishEye Activity Stream



# Code Reviews




**Edit Review Details TEST-54**

Project: Testing Project

Title: Quick Review for Compliance

Author: Edwin Dawson      Moderator: Edwin Dawson

Reviewers:       Suggest Reviewers...       Allow anyone to join

 Geoff Crain

---

Objectives:

Due Date:

Linked Review:

Linked Issue:







          



# Code Reviews



Add Content to Review TEST-53

-  **Browse Changesets**  
Browse recent changes for revisions to add to this review
-  **Explore Repositories**  
Use a directory tree to find files
-  **Search for Files**  
Use Crucible's search to find revisions to add to this review
-  **Suggest files**  
Get Crucible to suggest changes that can be added to this review
-  **Pre-commit**  
Upload a patch file to be reviewed - diffs of files will be extracted
-  **Attachments**  
Upload a file to be reviewed

[Edit Details](#) [Abandon Review](#) [Start Review](#) [Done](#)

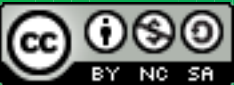




# Code Reviews



- Perform the Review
  - Dashboard to show your reviews
  - Add comments to
    - Whole review
    - A ChangeSet
    - A particular revision
    - Source (Lines of code)
  - Any one can reply / Threaded discussion
  - Can save Draft comments (must deal with at close)
  - Top-level comments can be flagged as defects
    - Defects get suggested action / categorization
  - Tracks progress – based on # of items / time
    - Can mark items as done



# Code Reviews

A screenshot of a web-based code review dashboard. The interface is divided into several sections. At the top, there is a navigation bar with tabs for 'Dashboard', 'Source', 'Projects', 'People', and 'Reviews'. A search bar and user profile 'Andrew Lui' are also visible. The main content area is titled 'Dashboard' and features a sidebar on the left with categories like 'My Reviews' (Inbox, Outbox, Archive) and 'My Snippets'. The main panel shows a list of recent reviews under the heading 'Today', with filters for 'All', 'Commits', 'Reviews', and 'Issues'. The reviews are listed with user avatars, names, and timestamps, including replies to specific review items.

Dashboard Source Projects People Reviews Create Snippet Create Review

Dashboard Tools

My Reviews

All Commits Reviews Issues Expand all Show My Activity

Today

Joe 24 mins ago  
Re: CR-FE-5416 replied to Adam Ahmed  
hhmm - good question.

Seb Ruiz 29 mins ago  
Re: CR-FE-5385 replied to Seb Ruiz  
I fixed the one actual breakage

Adam Ahmed 1 hr ago  
Re: CR-FE-5416 commented on review  
The bug was that edges would trace back to the focused changeset, but would continue the current path, even if we already found a known unrelated changeset.  
Also, my path wasn't storing the traversed path correctly, so sometimes the wrong edge would be marked as related/unrelated, and duplicate changesets would show up in the path.

Re: CR-FE-5416 replied to Joe 1 hr ago  
Yeah I could do that. How does that work if this is going into a plugin?



# Code Reviews



TEST-164 23 (11)

Details

Participant	Role	Time Spent	Comments	Latest Comment
<a href="#">Seb Ruiz</a>	Author & Moderator	7m	8 (1 defect)	<a href="#">This file should be renamed -&lt;cf-crucibleSourceFinderRespodt...</a>
<a href="#">Geoff Crain</a>	Reviewer - 100% complete	4m	7	<a href="#">you shouldnt be being spammed yet... it should wait until ei...</a>
<a href="#">Brendan Humphreys</a>	Reviewer - 29% complete	1m	2	<a href="#">this should be moved to an imaginary project</a>
<a href="#">Nick Pellow</a>	Reviewer - 17% complete	4m	6	<a href="#">bp. This is not a new feature, we have actually reworked the...</a>
<a href="#">Matthew Watson</a>	Reviewer - 0% complete			
<b>Total</b>		<b>15m</b>	<b>23 (1 defect)</b>	

Files: 7

**Objectives** [Add](#)

Please ensure you add an acceptance test to your review comments

**General Comments** [Add](#)

[Seb Ruiz](#) says: 10:45  
This work was done because crucible json actions should not be used in fisheye pages  
[Reply](#) [Edit](#) [Delete](#)

[Seb Ruiz](#) says: 10:46  
the problem is that the urls will 404 on FE only instances  
[Reply](#) [Edit](#) [Delete](#)

[Nick Pellow](#) says: 10:46

Atlassian FishEye repository viewer with Crucible code review. (Version:2.5.0.RC1 Build:5800cc3ce74e 2011-02-04) - Administration - Page generated 2011-02-07 11:38 +1100  
Your database is not using a case sensitive UTF8 encoding for character fields.



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# Code Reviews



## CR-CLOV-136 Test Review for Documentation

Under Review Author & Moderator: Edwin Dawson Edit Review Summarize Tools

Under Review for: 45 days  
Overdue: 52 days  
Comments: 4  
Reviewers:

Review Comments

- trunk
  - core/src/com/cenqua/clover
    - BranchInfo.java
    - ClassInfo.java
    - ElementInfo.java 4
    - MethodInfo.java
    - StatementInfo.java
  - idea7/src/com/cenqua/clover
    - IdeaTestFilter.java
  - src/tutorial
    - build.xml

### ElementInfo.java MODIFIED

Revisions: 32288 35536 36696 Edit Revisions

Comments: 4 4 0

Display Preferences Filter

File View FishEye File Outdated

```
4 4 import com.cenqua.clover.context.ContextSet;
5 5 import com.cenqua.clover.context.NamedContext;
6 6
7 - public abstract class ElementInfo extends SourceRegion implements
8 -     private ContextSet context;
9 -     private int relativeDataIndex;
```

**Edwin Dawson** says: 13 May  
What is this relative to?  
[Reply](#) [Edit](#) [Delete](#) [Add Favourite](#)

**Geoff Crain** says: 13 May  
the speed of light  
[Leave Unread](#)

```
10 -     private int dataLength = 1; // by default an element occup
11 -     private int complexity;
```

**Edwin Dawson** says: 13 May  
Is this variable name sensible?  
[Reply](#) [Edit](#) [Delete](#) [Add Favourite](#)

**Geoff Crain** says: 13 May  
i think so - may not be complex enough, though  
[Leave Unread](#)

```
7 + import java.io.Serializable;
12 8
13 -     public ElementInfo(
14 -         BaseFileInfo containingFile, int relativeDataIndex, Co
15 -         SourceRegion region, int complexity) {
16 -         super(containingFile, region);
17 -         this.relativeDataIndex = relativeDataIndex;
18 +     public abstract class ElementInfo<T extends SharedElementInfo>
19 +         protected BaseFileInfo containingFile;
20 +         protected ContextSet context;
```





# Code Reviews

- Complete the Review (Reviewers)
  - Warnings about unread items
  - Draft comments – publish or discard
  - Summary notes
  - Emails / Activity
  - Can still go back in until Review is closed
- Summarize/Close the Review
  - This is either Author or Moderator
  - Summary notes
  - Emails / Activity
  - Can still go back in until Review is closed



# Snippets and Reports

- Snippets
  - Simple “paste-bin” functionality
  - Any one can comment, reply, raise defect
  - All participants notified
  - Appears in Activity stream
  - Does not need to be code – Ideas? Designs?
- Reports
  - Review Blockers Report
  - Review Coverage Report

# Integration with JIRA



- From JIRA
  - Can link/create a review from JIRA
  - Automatically picks up ChangeSets (FishEye)
  - Configures review dates based on JIRA/GH
  - Issue is not resolved until review is done
- From Crucible
  - Comments flagged as defects become subtasks of parent issue
  - Can manage (resolve) the subtask
  - Report – JIRA Blockers
- Crucible also integrates with other APM



# Effective Code Reviews



- From Brendan Humphreys
  - Team Lead for FishEye and Crucible
  - #1 – Ego-Free Reviews
    - Its about the code, not the people
  - #2 – Don't be a Pedant
    - Use tools for style, common errors
  - #3 – Find Problems / Questions / Scenarios
    - Don't find solutions
  - #4 – Embrace Feedback
    - Everything is a contribution
- Limit number of Reviewers
- Encouraging feedback means faster reviews





# What do you mean by “code”?



- If you are doing ATDD/BDD
  - Imagine comments/review of stories!
  - With actual customers!!
  - That might be remote even?!
- If you are doing system cm (Chef/CFEngine)
  - Imagine comments/review of files!
  - Before you push it out to run!!
  - Or maybe test it even?!
- Having code review tools in place makes this easier for these new teams/practices



# Alternatives to Crucible

- Mondrian/Rietveld/Gerrit/Malvich
  - Forks from one another for VCS support
  - Patch reviews only(?) – Google
  - Mondrian (Perforce) – used by Google
  - Rietveld (svn, hg?, git?) – FOSS / runs on GAE
  - Gerrit (git) – fork from Rietveld
  - Malvich (TFS) – fork from Rietveld
- ReviewBoard – django-based
- CodeStriker – perl-based
- Jupiter – more code comprehension(?)

# Q/A - Thank You!

