MSA PROJECT

Seminar on Mining Software Repositories

2010

Imagine

You as Quality Manager

- 30,000 classes
- ~ 5.5 million lines of code
- ~3000 defect per release
- 700 developers

Your product

Your Boss

Your Testers

The Problem

- Not enough **time** to test everything
  - What to test? What to test first?
- Not enough **money** to pay enough testers
  - To which extend?

Where are the most defect prone entities in my system?

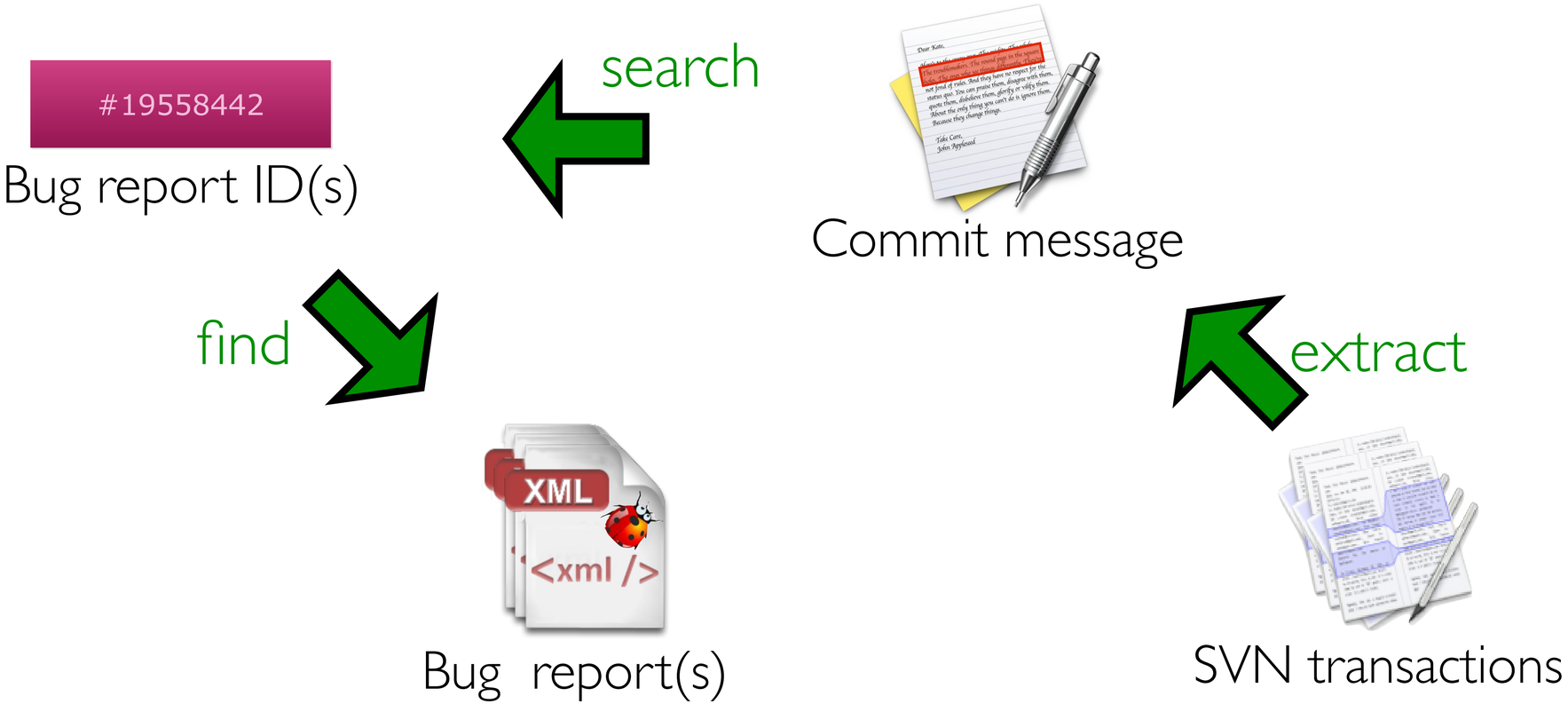
Can we learn from history?

Your Task

- Map bug reports to code changes (transactions)
  - Which code change introduced which bug?
- Map bug reports to files
  - How many defects have been fixed per source code file?

Predicting Defects for Eclipse

by Zimmermann et al. (Session 3)



Your Task

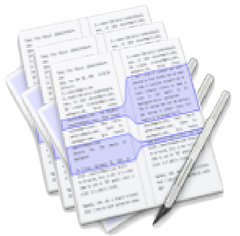
Bug description

search

#19558442

Transaction ID

find

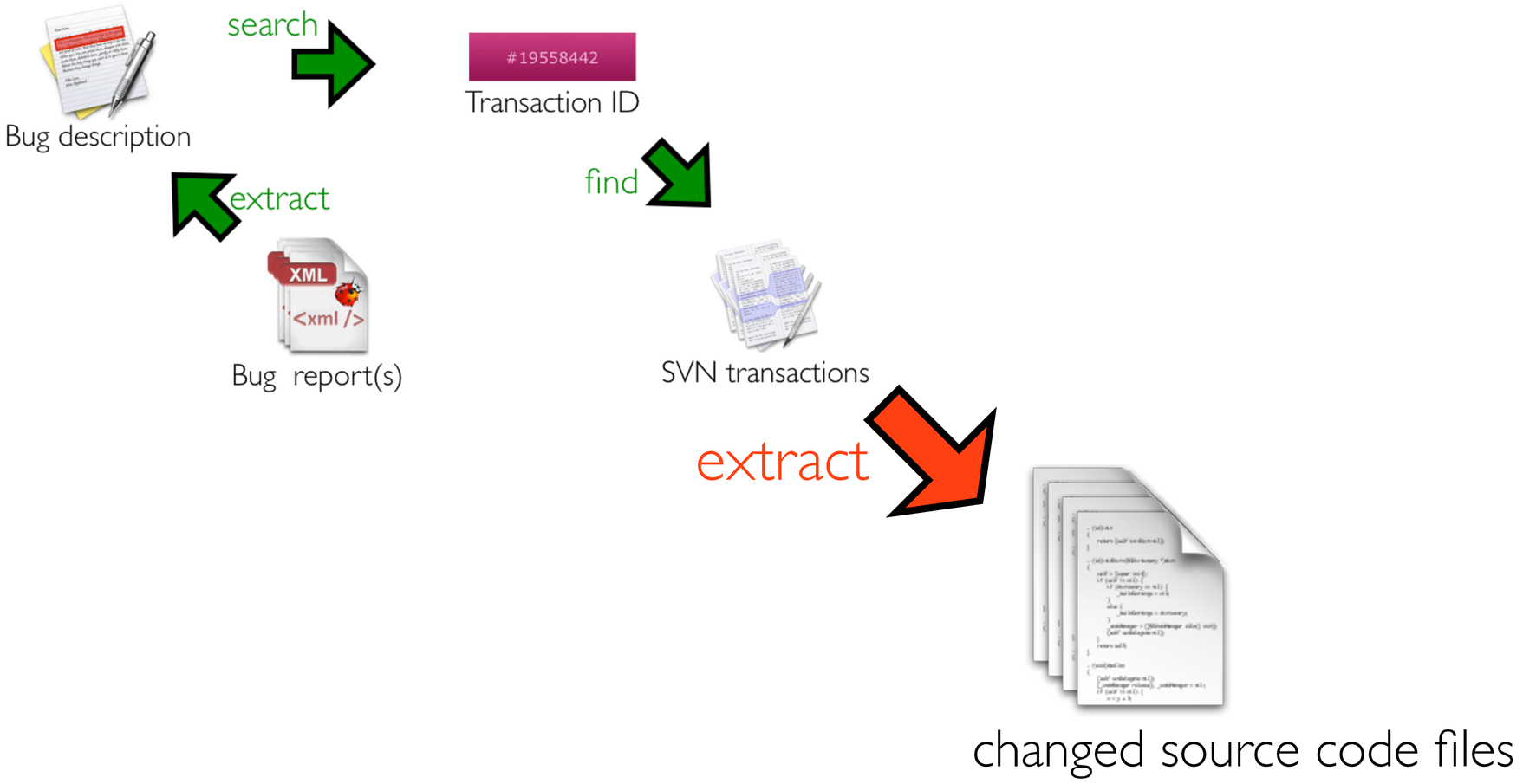


SVN transactions

extract

Bug report(s)

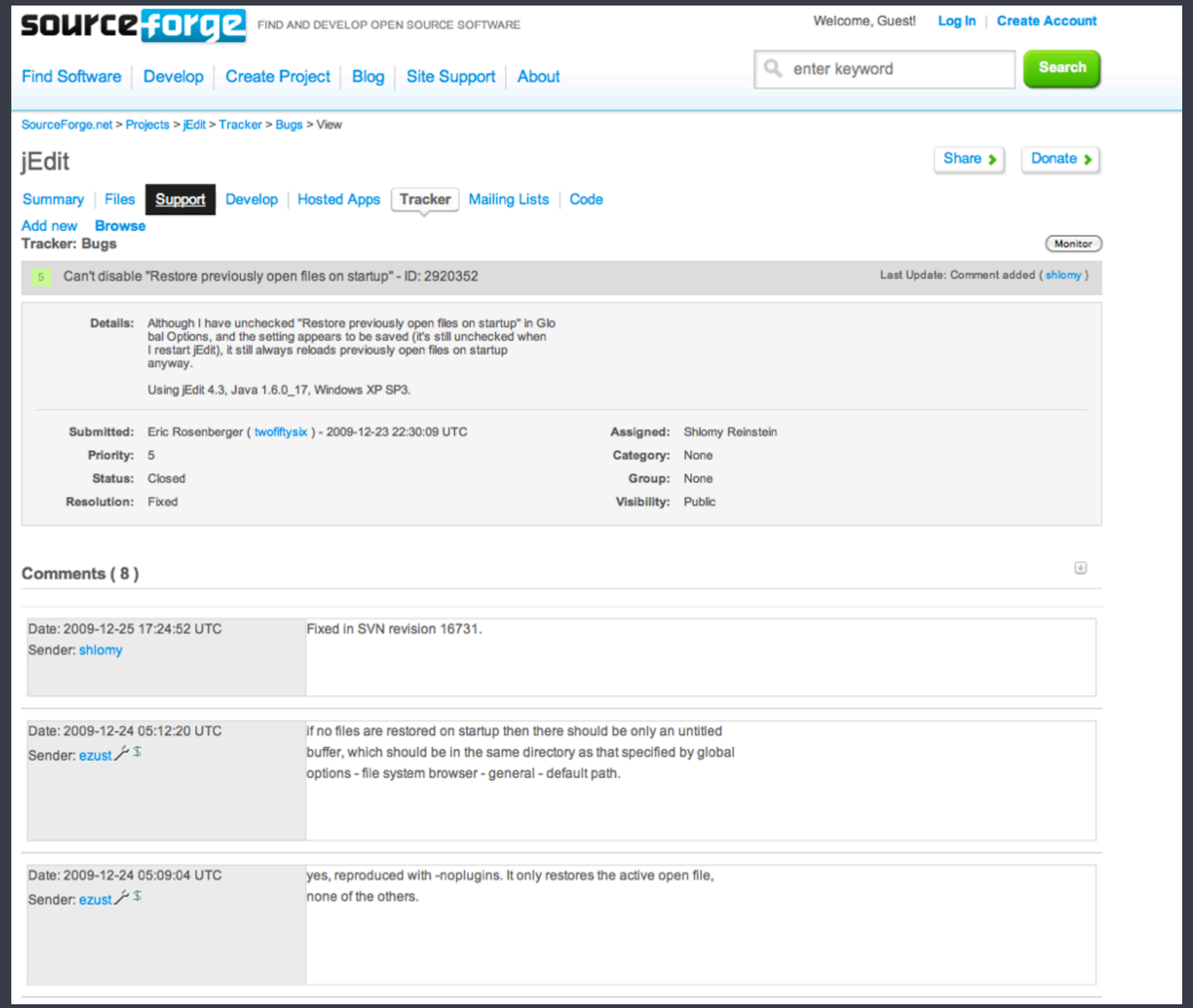
Your Task (2)


search
#19558442
Transaction ID
Bug description
find
extract
XML
<xml />
Bug report(s)
SVN transactions
extract
changed source code files

Your Input

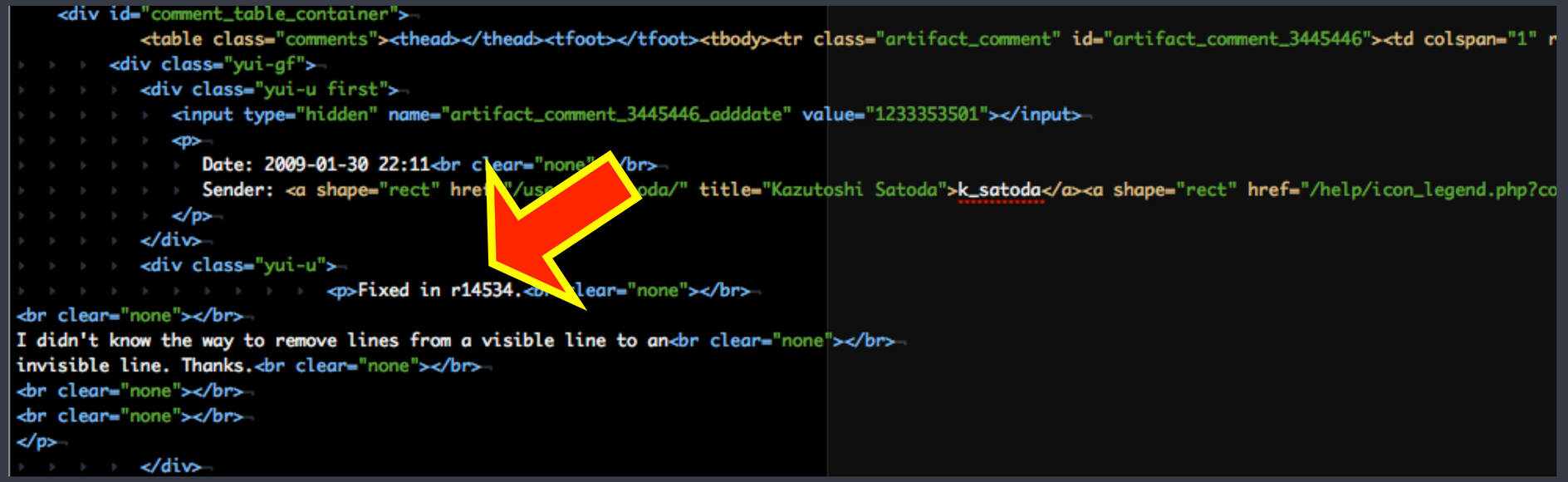
- Project: JEdit
  - Programmer's text editor
  - Sourceforge project: http://sourceforge.net/projects/jedit/
- We will provide you with
  - Bug reports (XHTML files)
  - Tarball containing SVN (Subversion) mirror
- Download from Webpage
  - http://www.st.cs.uni-saarland.de/edu/msa10/jedit_reports.tar.gz
  - http://www.st.cs.uni-saarland.de/edu/msa10/svn_repo_14_01_2010.tar.gz

Bug Reports


sourceforge FIND AND DEVELOP OPEN SOURCE SOFTWARE
Welcome, Guest! Log In | Create Account
Find Software | Develop | Create Project | Blog | Site Support | About
enter keyword
Search
SourceForge.net > Projects > jEdit > Tracker > Bugs > View
jEdit
Share
Donate
Summary | Files | Support | Develop | Hosted Apps | Tracker | Mailing Lists | Code
Add new Browse
Tracker: Bugs
Monitor
5 Can't disable "Restore previously open files on startup" - ID: 2920352
Last Update: Comment added (shlomy)
Details: Although I have unchecked "Restore previously open files on startup" in Global Options, and the setting appears to be saved (it's still unchecked when I restart jEdit), it still always reloads previously open files on startup anyway.
Using jEdit 4.3, Java 1.6.0_17, Windows XP SP3.
Submitted: Eric Rosenberger (twofiftysix) - 2009-12-23 22:30:09 UTC
Assigned: Shlomy Reinstein
Priority: 5
Category: None
Status: Closed
Group: None
Resolution: Fixed
Visibility: Public
Comments (8)
Date: 2009-12-25 17:24:52 UTC
Sender: shlomy
Fixed in SVN revision 16731.
Date: 2009-12-24 05:12:20 UTC
Sender: ezust
if no files are restored on startup then there should be only an untitled buffer, which should be in the same directory as that specified by global options - file system browser - general - default path.
Date: 2009-12-24 05:09:04 UTC
Sender: ezust
yes, reproduced with -noplugins. It only restores the active open file, none of the others.

Bug Reports

XHTML



- Hint: One transaction can fix more than one bug!

SVN tarball

pearl:~ kim$ **svn info file:///Users/kim/Documents/Teaching/msa2010/project/svn_repo_14_01_2010/**
Path: svn_repo_14_01_2010
URL: file:///Users/kim/Documents/Teaching/msa2010/project/svn_repo_14_01_2010
Repository Root: file:///Users/kim/Documents/Teaching/msa2010/project/svn_repo_14_01_2010
Repository UUID: 25ceb265-6a78-4dce-b758-64b437aadf78
Revision: 16942
Node Kind: directory
Last Changed Author: ezust
Last Changed Rev: 16942
Last Changed Date: 2010-01-17 06:05:58 +0100 (Sun, 17 Jan 2010)

- To parse log you can use:
  - svn log --xml
- or use any SVN library

Programming Language

We don’t care!

But: It has to run on CIP pool computers!

Hand In

- A CSV file containing pairs <transaction_id, bug_id>
  - Which bug was fixed in which transaction?
- A CSV file containing pairs <svn_path, #bugs>
  - How many bugs could be mapped to file.
- Executable program or script (CIP-pool)
- Documentation
  - How to reproduce the provided files?
  - How did you manage the mappings? (heuristics)
  - Why is your program/script good, where could it be improved?

Questions