

# SWEVO

Software Evolution Research Group

## Fall Activities



## SWEVO Researchers



**Punit**  
Agrawal  
M.Sc.  
*Navigation*



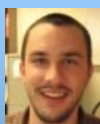
**Barthélémy**  
Dagenais  
Ph.D.  
*Documentation*



**Ekwa**  
Duala-Ekoko  
Ph.D.  
*API Analysis*



**David**  
Kawrykow  
Ugrad  
*API Analysis*



**David**  
Marple  
Ugrad  
*Traceability*



**Tristan**  
Ratchford  
Ugrad  
*Navigation*

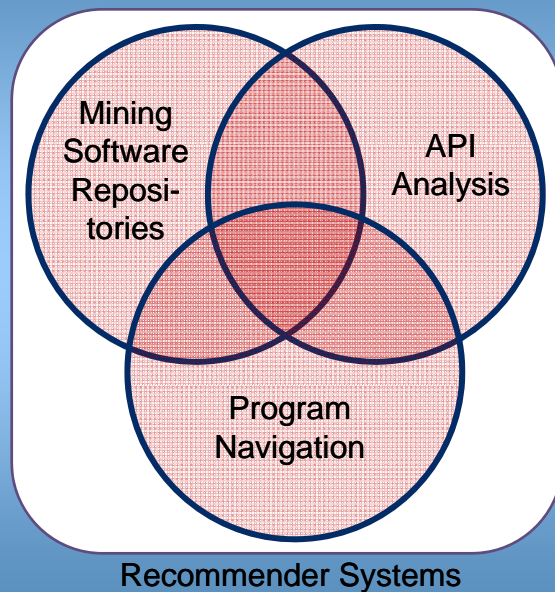


**Jan**  
Rupar  
M.Sc.  
*Security*



**Isaac**  
Yuen  
M.Sc.  
*Refactoring*

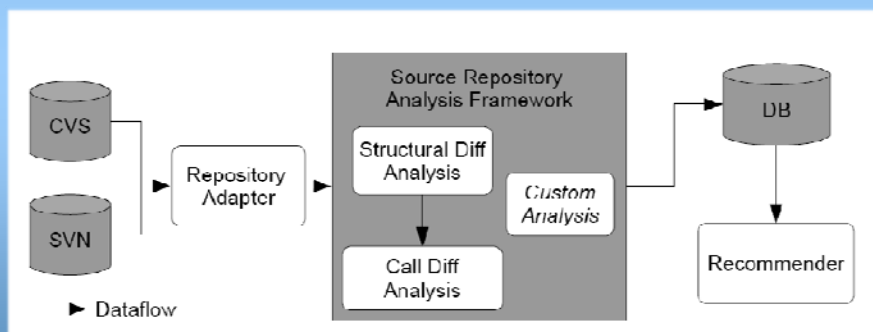
## Flavors of the Year



3

## Mining Software Repositories

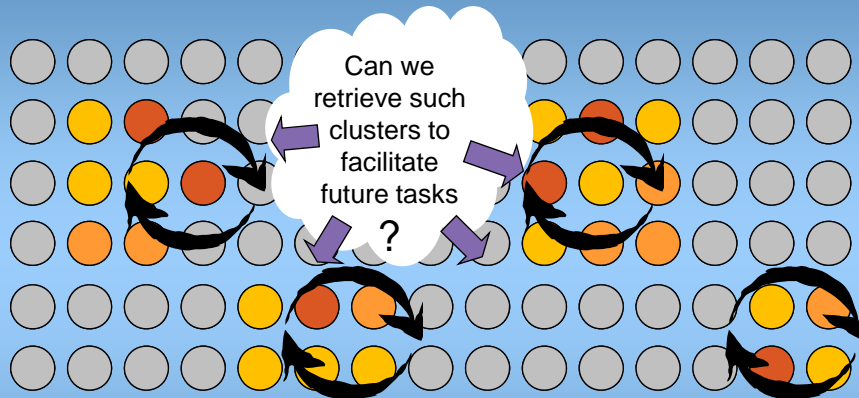
- SemDiff (Bart)
- Change Clusters (Martin & Bart)
- API Use and fault-proneness (Ekwa)
- Changes to bug reports (Dave M)



Bart's SemDiff Recommender – ICSE 2008

4

## The Idea of Change Clusters



WCRE 2008

5

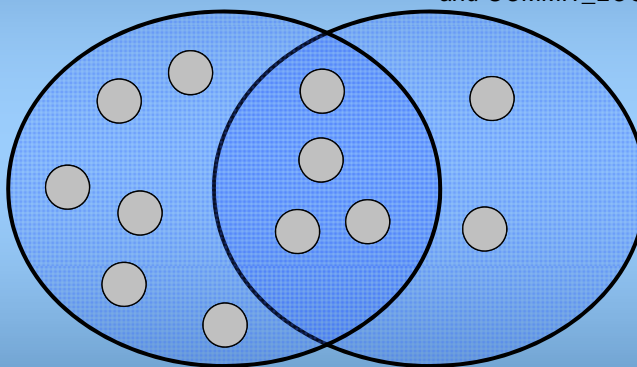
## Locking in Lucene

**August 2003:**  
added ability to wait on any Lock...

1005

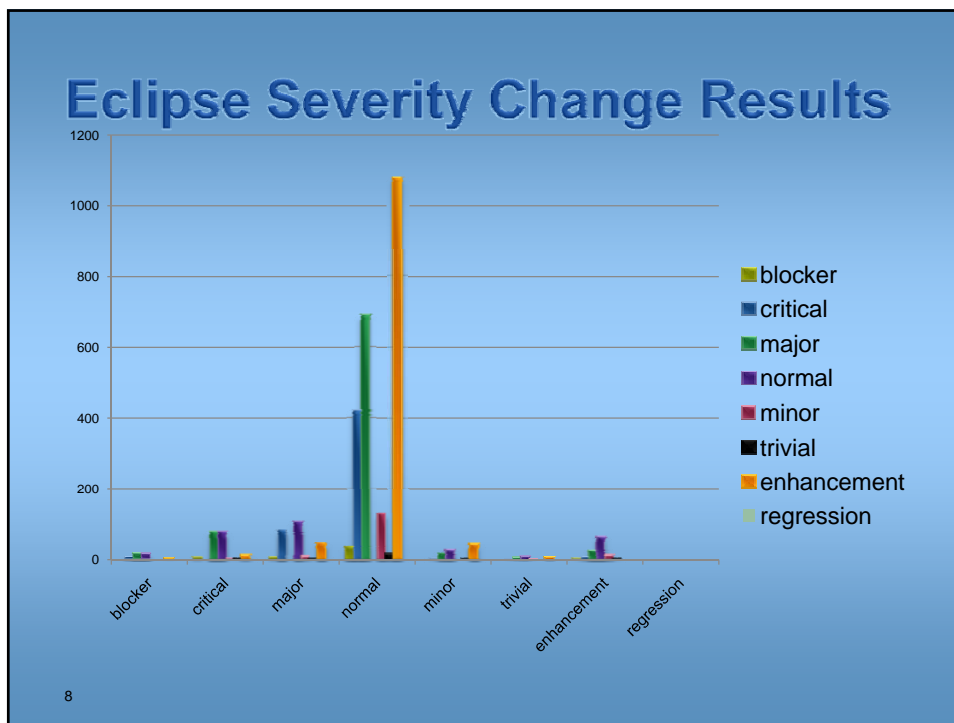
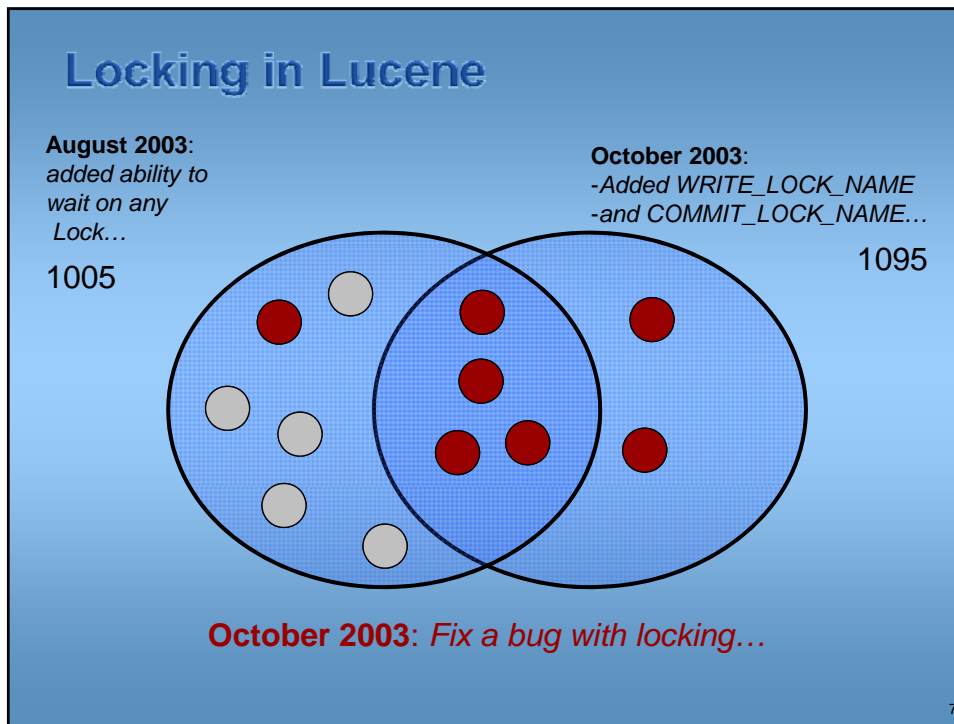
**October 2003:**  
-Added `WRITE_LOCK_NAME`  
-and `COMMIT_LOCK_NAME...`

1095

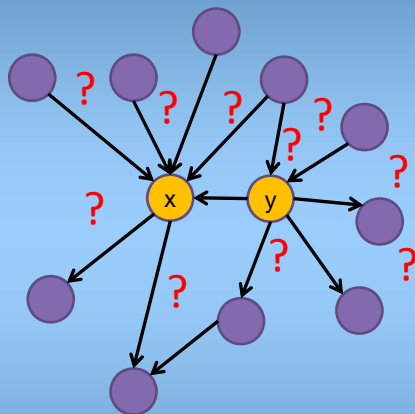


**October 2003:** Fix a bug with locking...

6



## The Scenario



```

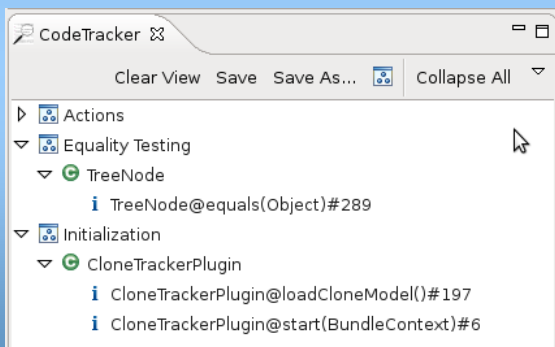
org.gjt.sp.jedit.textarea.JEditTextArea.getPainter() ... 29 references in workspace (no JRE
org.gjt.sp.jedit.gui - src - jedit-4-3-pre3
  CompleteWord
    CompleteWord(View, String, Completion[], Point, String)
    completeWord(View) (2 matches)
org.gjt.sp.jedit.textarea - src - jedit-4-3-pre3
  ChunkCache
  lineToChunkList(int, List)
  Gutter
  MouseHandler
    mousePressed(MouseEvent)
    paintComponent(Graphics) (2 matches)
    paintLine(Graphics2D, int, int)
  JEditTextArea
    userInput(char)
  MouseHandler
    doDoubleDrag(MouseEvent)
    doSingleClick(MouseEvent) (2 matches)
    doSingleDrag(MouseEvent)
    doTripleDrag(MouseEvent)
    mouseDragged(MouseEvent)
    mousePressed(MouseEvent)
    showCursor()
  StructureMatcher
  Highlight
    paintHighlight(Graphics, int, int, int, Match) (2 matches)
    paintValidLine(Graphics2D, int, int, int, int)
  TextAreaDropHandler
    dragOver(DropTargetDragEvent) (2 matches)
org.gjt.sp.jedit - src - jedit-4-3-pre3
  EditPane
    handleBufferUpdate(BufferUpdate)
    MarkerHighlight
      getToolTipText(int, int)
      paintValidLine(Graphics2D, int, int, int, int, int)
      propertiesChanged() (2 matches)
  View
    hideWaitCursor()
    showWaitCursor()
  
```

Software development tools can find these methods automatically, but...

10

## Program Navigation

- Evaluating Context-Sensitive Rankings (Tristan)
- Program Navigation Analysis Using Machine Learning (Punit)
- CodeTracker (Dave M)



11