WASDeTT-3
3rd Workshop on Academic/Advanced Software Development Tools and Techniques

WASDeTT-3, Antwerp, Belgium
September 20, 2010

Welcome!

workshop organizers

- Mark van den Brand, TU/Eindhoven, The Netherlands
- Kim Mens, Université catholique de Louvain (UCL), Belgium
- Holger Kienle, Mälardalen University, Sweden
- Anthony Cleve, INRIA Lille, France

Roadmap

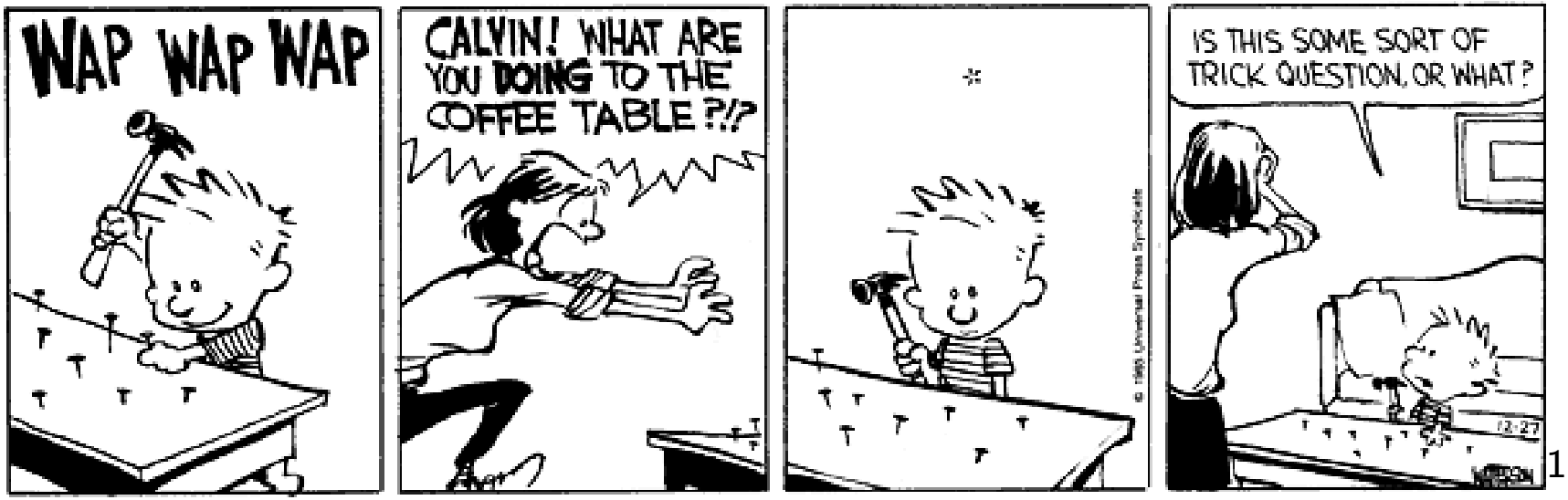
- workshop motivation and context
- WASDeTT-1/2 observations
- WASDeTT-3 schedule

WASDeTT! What's That?

- tool building plays an important role in applied research
  - tool prototypes to demonstrate feasibility
  - enable user studies
  - transitioning research into industry
  - ...
- but: comparably little reflection on state-of-the-practice
  - where are we right now?
  - can we do "better"?
    - cheaper, faster, more user-centered, more evaluation-driven, more results-oriented, more ...

WASDeTT! What's That?: Reflection on what we are doing...

- this workshop is not about the finished product
- but about how the tool was designed and built



[1]

[1] Susan Sim found this one.

WASDeTT! What's That?: Questions

- What are the positive lessons learned in building tools?
- What are the good practices and techniques?
- Are there architectures and patterns for tool building?
- What are the (recurring) pitfalls in tool building?

WASDeTT-1 at ECOOP 2008

accepted papers

- program understanding and visualization
  1. Churrasco
  2. CodeCity
  3. MARPLE
  4. Rigi
  5. Small Project Observatory
  6. TestQ
- program checking and refactoring
  7. ConGu
  8. CScout
  9. IntensiVE
  10. RefactorErl
- miscellaneous
  11. Compose (aspect compiler)
  12. Hopscotch (UI framework)
  13. mCRL2 (specification)
  14. Nix Build Farm
  15. Primus (modeling)

WASDeTT-2 at ICSM 2008

invited talks

- tools in an industrial context
  1. Bauhaus (Rainer Koscke)
  2. LS/2000 (Jim Cordy)
  3. reengineering large systems (Harry Sneed)
  4. experiences with Sun (Mike Godfrey)
- tools in a research context
  5. MSR-tools (Daniel German)
  6. MAKAO (Bran Adams)
  7. web-based visualization tools (Marco D'Ambros and Mircea Lungu)
  8. IntensiVE (Andy Kellens)
  9. SE tools (Dirk Beyer)

1st Observation: Tools Are Leveraging Components

Churrasco	MOOSE, FAMIX, SVG
CodeCity	OpenGL, MOOSE
MARPLE	Eclipse: JDT, GEF, Glassfish, Weka
Rigi	Tk
SPO	Seaside, SVG, MOOSE
TestQ	Fetch toolchain: SN, CDIF2RSF, Crocopat, Guess
ConGu	Eclipse

CScout	btyacc, STL, mySQL, dot
IntensiVE	JDT/javaconnect, Mondrian, star-browser
RefactorErl	Emacs (UI)
Compose	—
Hopscotch	—
mCRL2	ATerm, Boost, C++ STL
Nix B. F.	—
Primus	Eclipse: OCL, UML2, UML2Tools

2nd Observation: Tools as Web 2.0 Bandwagon Jumpers

increasing interactivity and multi-user

- Small Project Observatory, WASDeTT-1
- Churrasco, WASDeTT-1

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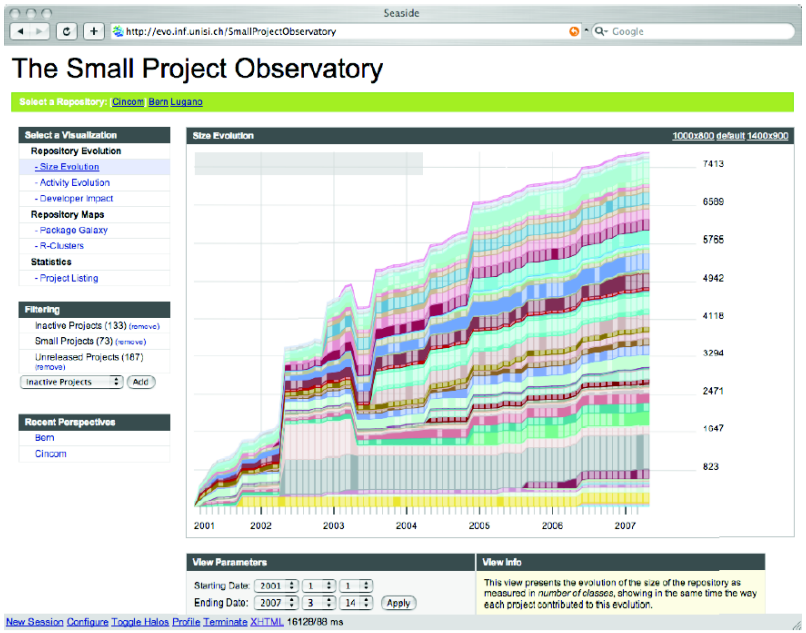

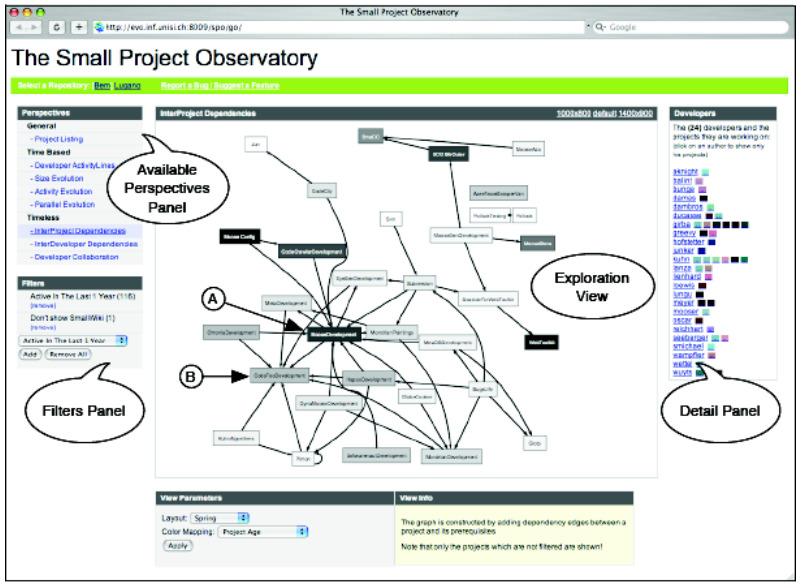

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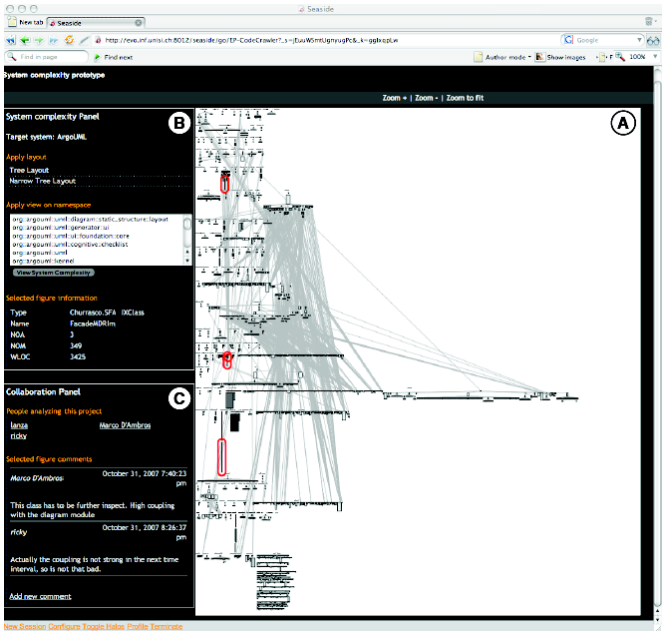

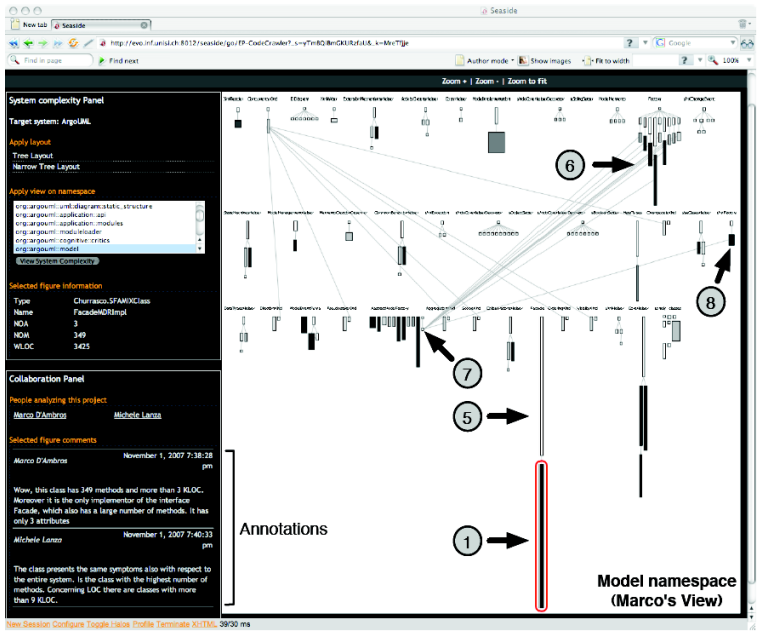

2nd Observation: Tools as Web 2.0 Bandwagon Jumpers

new technologies and techniques

- AJAX
- data in the “cloud”
- browser becomes the OS
  - Lively Kernel (originated at Sun)
  - EyeOS

3rd Observation: Moore's Law Helps Not Only MS Office

- tools are becoming more and more "powerful" because of increasing computing resources
  - memory, CPU speed, screen real estate, ...
- CScout refactoring tool
  - Linux kernel (4.1 MLOC): 7.5h to process[2]
    - prerequisite: multi-gigabyte memory and 64-bit CPU
    - RDBMS: more than 40 million records
  - interactive refactoring: up to 10 KLOC

[2] For comparison, awk (6 KLOC): < 1s

WASDeTT-3 Schedule

- session 1: invited talk + long paper
- session 2: 3 long papers
- session 3: 4 short papers + discussion
- session 4: 3 short papers + discussion

detailed schedule is online at
`http://www.info.fundp.ac.be/wasdett2010/?page_id=194`

WASDeTT-3 Schedule: Interactive Parts

- session 3
  - 4 short talks (40 min.)
  - open discussion (50 min.)
- session 4
  - 3 short talks (30 min.)
  - open discussion (60 min.)

tell us your ideas!

WASDeTT-3 Schedule: Interactive Parts
Discussion Topics

1. tool building in an industrial context
   - how to transition tools into industry?
   - how to commercialize your tool?
   - satisfying both research and industrial clients
2. reusing existing software (component-based tool building)
   - experiences (with Eclipse, Smalltalk, . . .)
3. software engineering practices for tool building
   - do we need a (dedicated) process/methodology?
   - tool building in (distributed) teams
   - process as the enemy of creativity?
4. influences of programming language (for implementation and as target)
5. leveraging Web 2.0 for tool building
6. . . . propose your own . . .

Many Thanks

- program committee
- paper submitters
- paper presenters
- audience

be interactive, have fun! :-)