

Centre for Research in
Evolution, Search &
Testing

Welcome to CREST

CREST Open Workshop COW



Centre for Research in
Evolution, Search & Testing

KING'S
College
LONDON

Welcome to CREST

CREST Open Workshop COW ORSEM

Welcome to CREST

CREST Open Workshop COW OR for SE Methods



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Testing

KING'S
College
LONDON

Thursday, 4 March 2010

From [The Times](#)

December 7, 2005

Student party ends in £30,000 riot

By Alexandra Blair, Education Correspondent

✓ RECOMMEND?

STUDENTS from one of the colleges of London University have caused tens of thousands of pounds of damage to a rival college after a drunken end-of-term rampage. London School of Economics (LSE) students smashed windows, kicked in doors and tore down ceilings as they ran amok through the English department of King's College London after a fancy dress party.

Rick Trainor, the principal of King's, has called on students not to carry out "retaliatory" behaviour, after the LSE apologised for the incident and agreed to pay the costs.

It was meant to be a light-hearted fancy dress party that would end in a conga around the campus. Instead, the traditional Athletics' Union Barrel Christmas party culminated in a drunken rampage last Friday, with students setting off fire hydrants and causing £30,000 of damage at King's.

TIMES RECOMMENDS

- > Middle-class students face cuts to loans
- > Schools churning out unemployable
- > You can work for nothing, but it'll cost you

HOW TO GET A JOB >>



Times graduate trainee scheme

Apply to become a journalist at one of the world's top newspapers

From [The Times](#)

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ADVERTISE

London School of Economics - Robbers pick up a penguin

19 March 2009

Students have been leaving flowers, messages and even Penguin chocolate biscuits in tribute to a stolen statue. Thieves ripped out the statue of a penguin, which was a gift to the London School of Economics from a Canadian alumnus, leaving only its feet behind. "I'm pretty gutted, to be honest," one undergraduate told *The Beaver*, the LSE's student newspaper. "I love that penguin ... I really do hope we get it back."

Comment on this story

You must fill in all fields marked *

Story date 19 March, 2009

Your Name*

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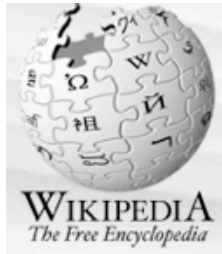




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Thursday, 4 March 2010



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search

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King's College London and UCL rivalry

From Wikipedia, the free encyclopedia

 This article is **written like a personal reflection or essay** and may require **cleanup**. Please **help improve it** by rewriting it in an **encyclopedic style**. *(August 2008)*



Contents [hide]

- 1 Origins
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- 3 The College mascots
- 4 The heyday of the rag: the 1920s
- 5 Kidnappings
- 6 Women
- 7 Other Intercollegiate battles
- 8 References
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Origins

[\[edit\]](#)

The rivalry between [King's College London](#) on the [Strand](#) and [University College](#) in [Bloomsbury](#) has been a part of [London](#) life for nearly two centuries. It has been expressed in the academic sphere, on the sports field and in the rivalry of the student populations. It can be traced to their foundation in the 1820s when King's was established as an [Anglican](#) alternative to the secular University College. King's principal objective was 'to imbue the minds of youth with a knowledge of the doctrines and duties of Christianity, as inculcated by the United Church of England and Ireland'.

Attendance at College Chapel and the study of [Christianity](#) formed an important part of College life. A flavour of the rivalry can be glimpsed in the second verse of a 1820s satirical song set to the music of the [British national anthem](#):

King's College lads arise!



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CREST is home to

4 faculty

1 administrative officer

8 post docs

12 PhD students

1 to 4 long term visitors

Search Based Software

Apply **search techniques** to Software Engineering

Multi objective optimisation:

- cost and value
- faults, coverage, time
- metric sets
- risk and reward

Software Engineering Application areas:

- Requirements
- Testing
- Project Management
- Refactoring
- Source Code Analysis

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Search Based Software

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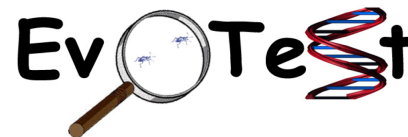
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Software Engineering Application areas:

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Search Based Software

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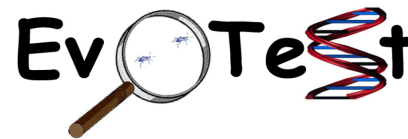
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Software Engineering Application areas:

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Search Based Software

Apply **search techniques** to Software Engineering

Multi objective optimisation:

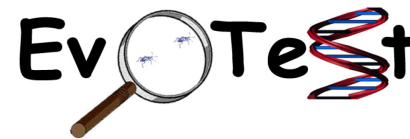
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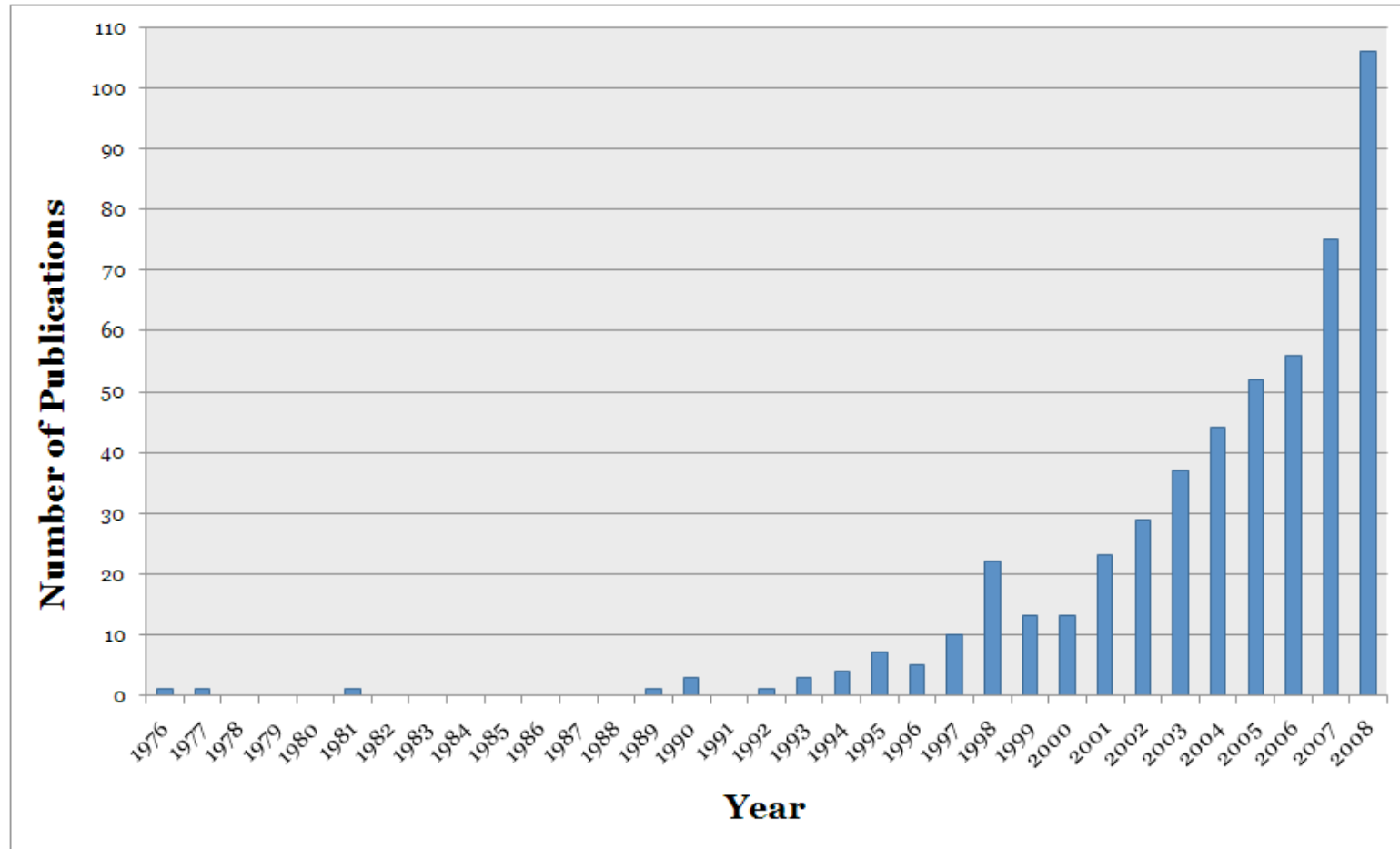
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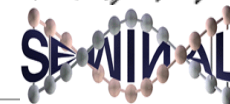
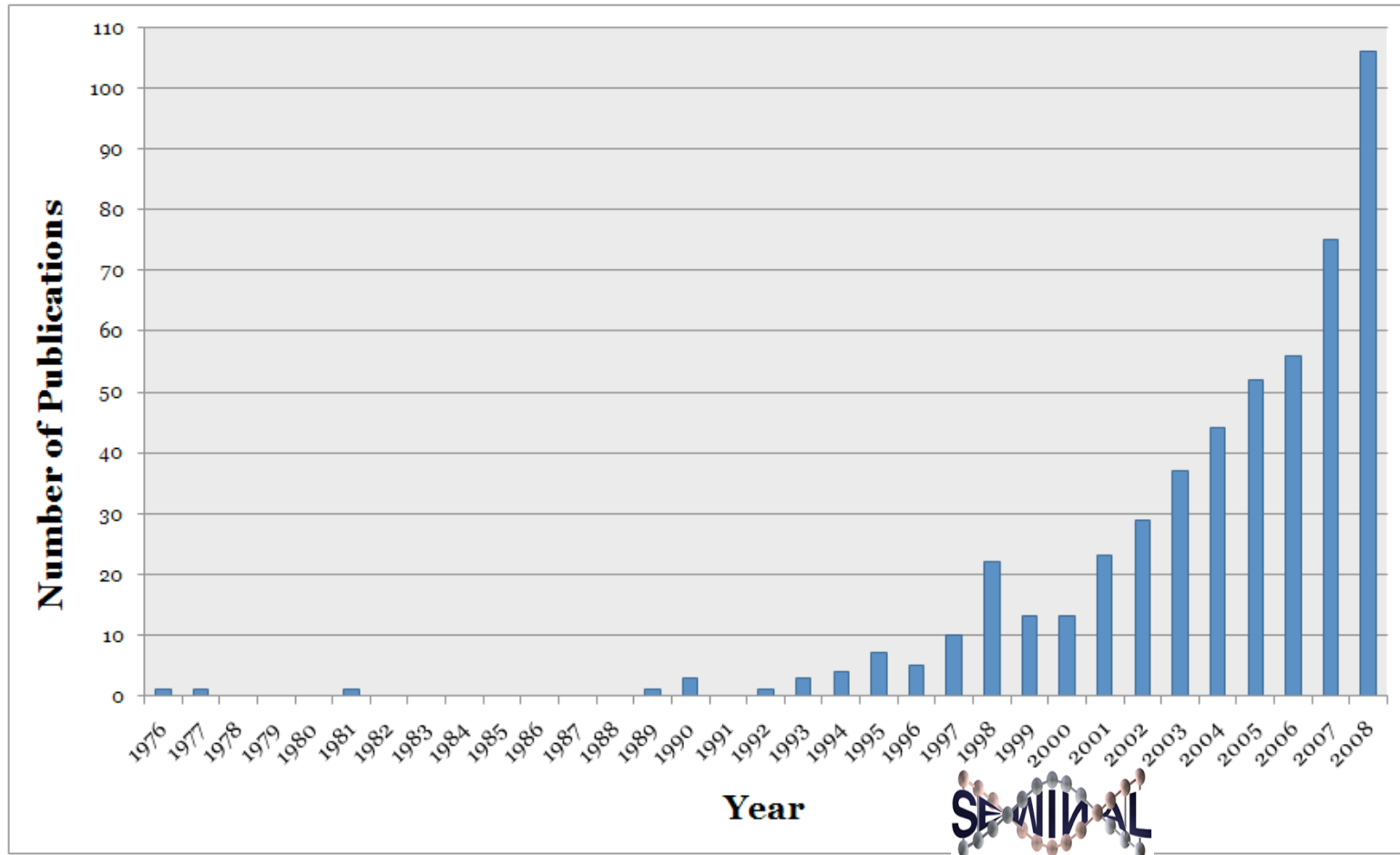


Growth in SBSE research





Growth in SBSE research



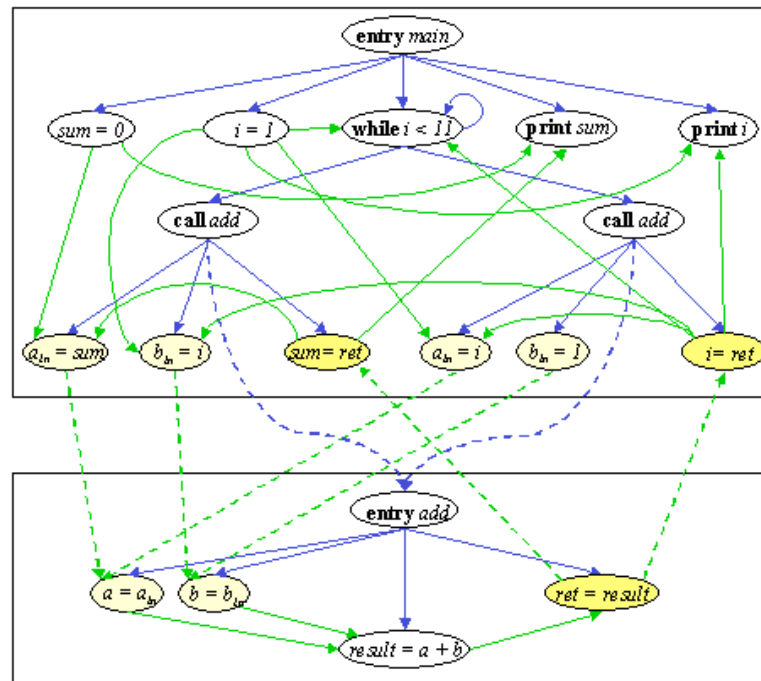
Testing

All kinds of testing:-

- Mutation testing
- Model based testing
- Automated test data generation
- Web application testing
- Service oriented testing
- Fuzz testing
- Security testing
- Regression testing

Dependence Analysis

dependence clusters
impact analysis
program and model based slicing
assessing third party code



Dependence Analysis

dependence clusters

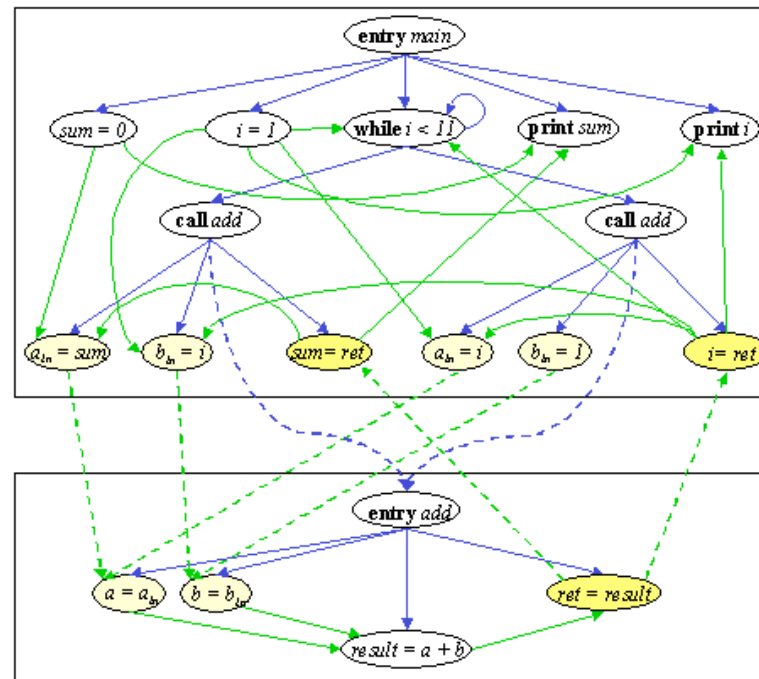
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SLIM

SLicing state based Models



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Dependence Analysis

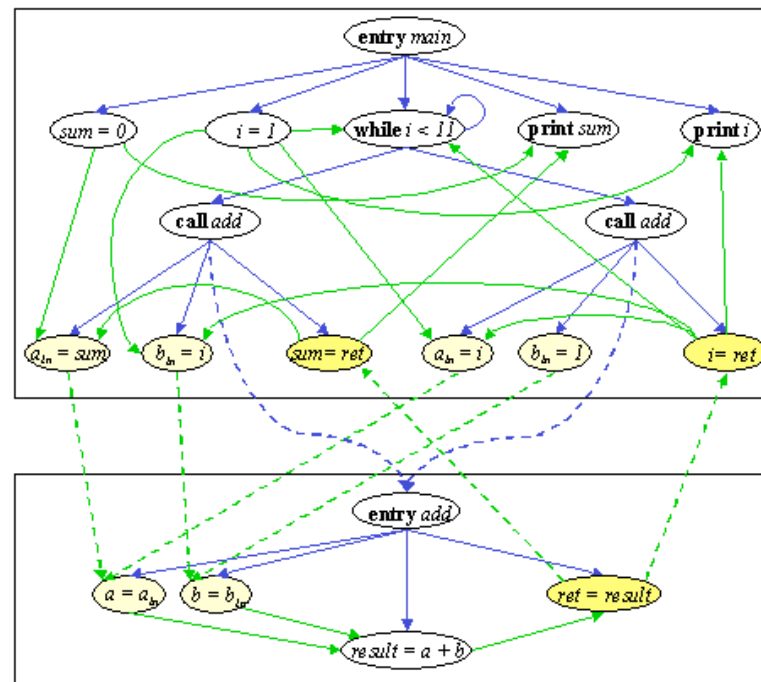
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SLIM

SLicing state based Models

ASTReNet



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Quantitative Information Flow

calculate amount of information flowing
find security leaks



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Quantitative Information Flow

calculate amount of information flowing

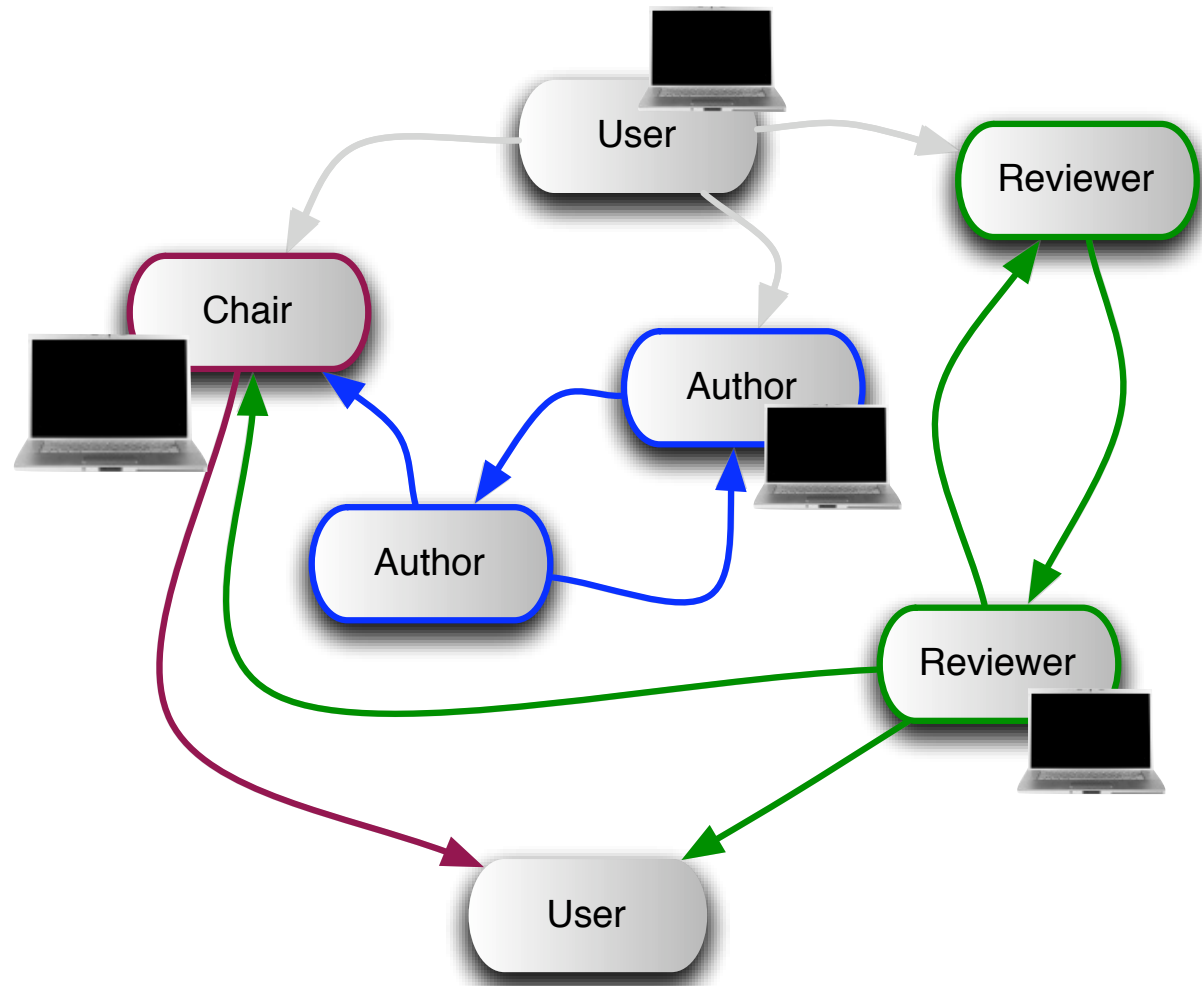
find security leaks **Quantitative Information Flow**

An [EPSRC](#) funded research project based at three sites in London:

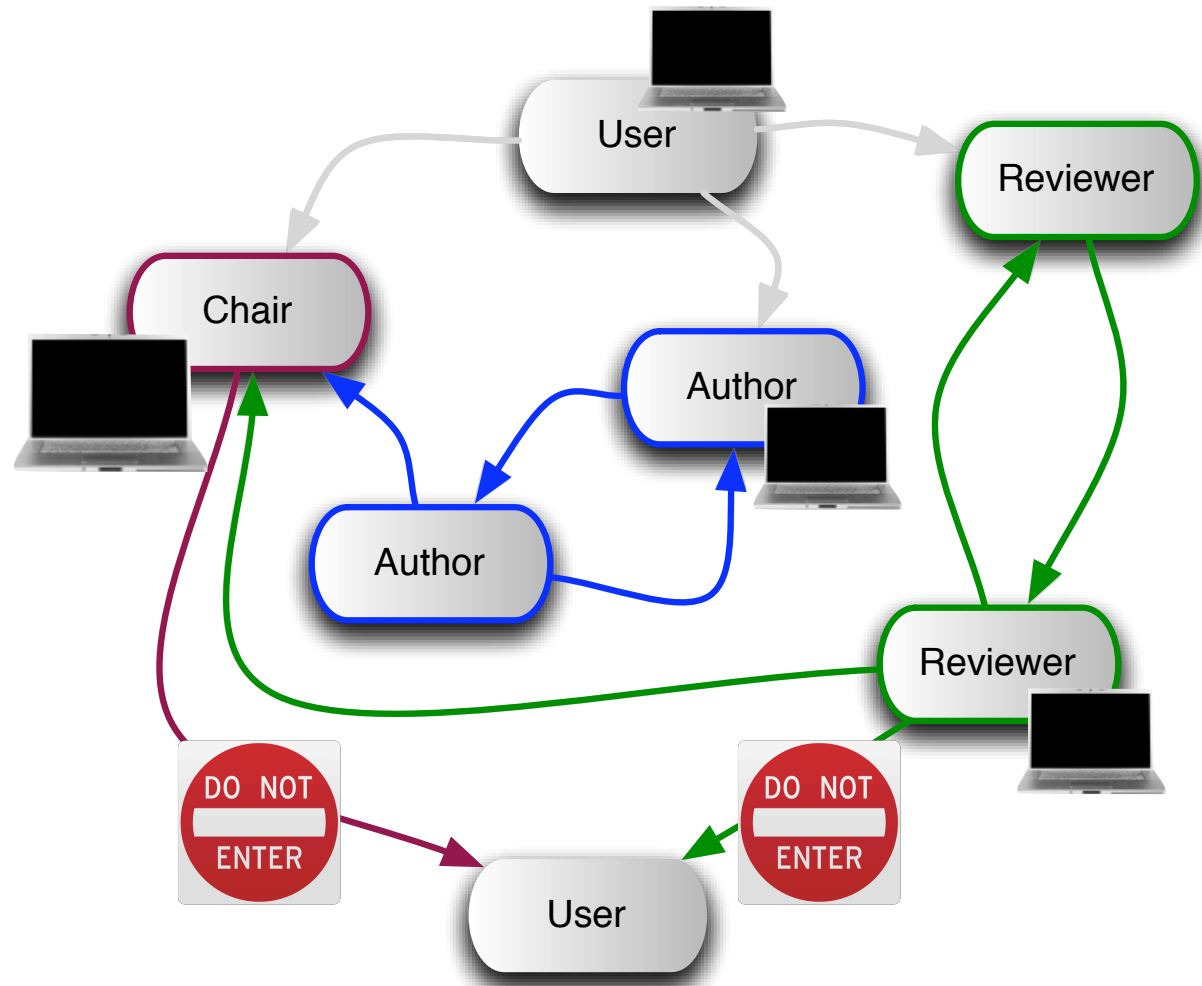


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Information Flow Control



Information Flow Control



Service Oriented Computing

Testing services with services
Optimising performance
Finding dependence



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Service Oriented Computing

Testing services with services

Optimising performance

Finding dependence



SOSoRNet
Service-Oriented Software
Research Network

<http://crest.dcs.kcl.ac.uk/>

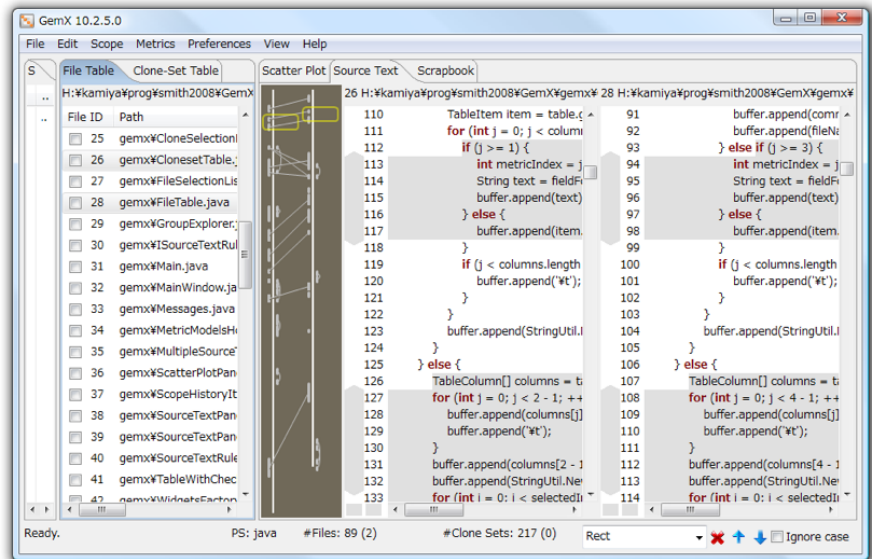
Clone detection

using static analysis
applied to code provenance
applied to graphical languages



Clone detection

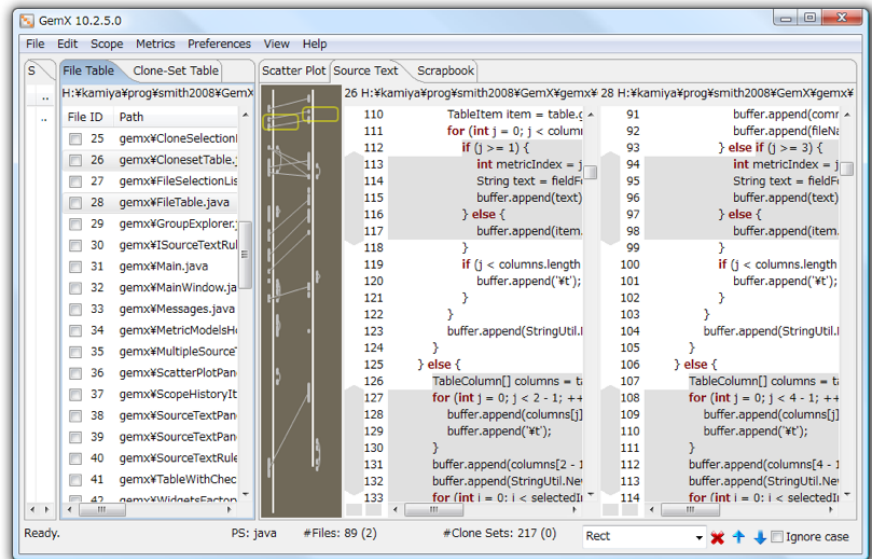
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Digital Humanities

Mapping outwards from software to systems
Software Engineering Analysis translates to

- musicology
- archaeology



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PERSONAL-TOUCH

Repositories

<http://crest.dcs.kcl.ac.uk/>

Repositories



The screenshot shows the homepage of the Mutation Testing Repository. At the top is a dark navigation bar with the following menu items: HOME, REPOSITORY, THEORY, TECHNIQUES, and ANALYSIS. The main content area has a light blue background with a large red title "Mutation Testing Repository" and the subtitle "Publications on Mutation Testing". To the right of the title is a bar chart showing the number of publications per year from 1977 to 1995, with a trend line and the equation $y = 1.926 * 1.6887^x$. Below the chart is a section titled "Repository News" with a sub-heading "Welcome to Mutaiton Testing repository" (note the typo) and a paragraph of text: "Mutation Testing is a fault-based software testing technique that has been widely studied for decades. The literature on mutation testing has contributed a set of approaches, tools and".

HOME REPOSITORY THEORY TECHNIQUES ANALYSIS

Mutation Testing Repository

Publications on Mutation Testing



Year	Number of Publications
77	1
78	2
79	4
80	3
81	5
82	2
83	3
84	2
85	2
86	2
87	2
88	9
89	7
90	7
91	12
92	8
93	15
94	19
95	10

Repository News

Welcome to Mutaiton Testing repository

Mutation Testing is a fault-based software testing technique that has been widely studied for decades. The literature on mutation testing has contributed a set of approaches, tools and

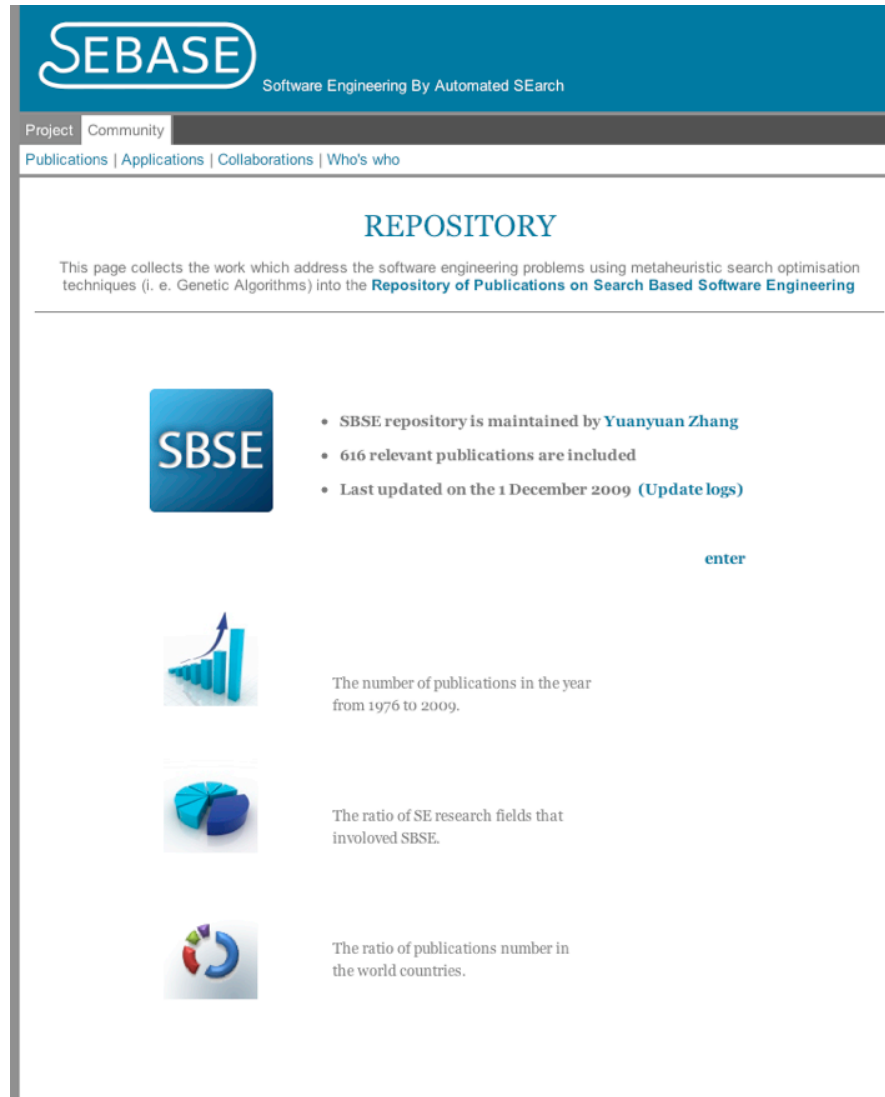
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Repositories

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Repositories



The screenshot shows the SEBASE website interface. At the top, the SEBASE logo is displayed with the tagline "Software Engineering By Automated SEArch". Below the logo, there are navigation tabs for "Project" and "Community", with "Community" selected. A secondary navigation bar includes links for "Publications", "Applications", "Collaborations", and "Who's who". The main content area is titled "REPOSITORY" and contains a descriptive paragraph. Below this, there is a blue square icon with "SBSE" text, followed by a bulleted list of facts. To the right of the list is an "enter" button. Further down, there are three icons: a bar chart with an upward arrow, a pie chart, and a circular flow diagram, each accompanied by a short text description.


SEBASE Software Engineering By Automated SEArch

Project Community

Publications | Applications | Collaborations | Who's who


REPOSITORY

This page collects the work which address the software engineering problems using metaheuristic search optimisation techniques (i. e. Genetic Algorithms) into the **Repository of Publications on Search Based Software Engineering**




- SBSE repository is maintained by **Yuanyuan Zhang**
- 616 relevant publications are included
- Last updated on the 1 December 2009 ([Update logs](#))


[enter](#)



The number of publications in the year from 1976 to 2009.



The ratio of SE research fields that involved SBSE.



The ratio of publications number in the world countries.

<http://crest.dcs.kcl.ac.uk/>

CREST Open Workshops

Regular Workshops

Every last Wednesday of the month

Talks and Lots of discussion

Recording of talks NOT discussion

4th CREST Open Workshop

Operational Research for Software Engineering Methods

Friday, 26 February ... Today.

<http://crest.dcs.kcl.ac.uk/cow/>

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CREST Open Workshops

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4th CREST Open Workshop

Operational Research for Software Engineering Methods

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CREST Open Workshops

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Recording of talks NOT discussion

Forthcoming events:-

5th COW: March 31st: Information Theory and SBSE

6th COW: April 28th: Program Analysis (with IBM)

7th COW: May 26th: Music and Software: the missing link

8th COW: June 30th: Information flow analysis & security

9th COW: July 28th: Maybe moving to UCL then...

<http://crest.dcs.kcl.ac.uk/cow/>

<http://crest.dcs.kcl.ac.uk/>

3rd CREST Open Workshop

Thanks

- Jian Ren for organisation
- EPSRC for funding

Logistics

- fire alarms
- toilets

Introductions ...

Edmund Burke, Nottingham



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Edmund Burke, Nottingham



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