Combined Static and Dynamic Automated Test Generation

Motivation

• Manually writing tests is tedious and time-consuming
• Automatically generating tests is challenging:
  • Legal tests for constrained interfaces
  • Behaviorally-diverse tests for achieving good coverage

Methods

• Learning from example
• Fussing along a specific legal path

Released as an open-source tool: [http://code.google.com/p/tpalus](http://code.google.com/p/tpalus)

Results

• Improves regression test suite coverage by 27% - 37% than previous approaches
• Finds 22 previously-unknown bugs in Google’s Buzz, AdWords, and Orkut products