Abstract

With the advent of Object Oriented programming, most of the software being built is using object oriented programming languages. The major challenge lies with testing the software and it is a known fact that testing consumes around 40% of the time in the total software development process. If more number of errors are uncovered in the unit testing phase itself then the probability of propagation of errors to other components or phases gets reduced drastically. Similarly object oriented software also needs to be tested thoroughly at unit level. Unit level testing in OO software refers to the individual classes or group of classes which need to be tested. In the current work an attempt has been made to come up with an automated testing tool for unit testing of object oriented classes developed in java. It offers a single click automation solution for unit testing of OO software by providing the flexibility for the tester to choose the methods of his choice to test.

References

- Robert V. Binder: Testing Object-Oriented Systems: Models, Patterns and Tools,
Addison-Wesley, 1999.
- Yoonsik Cheon and Gary T. Leavens: The JML and JUnit Way of Unit Testing and its Implementation, Technical Report 04-02, Computer Science Department, Iowa State University, at archives.cs.iastate.edu/documents/disk0/00/00/03/27/00000327-00/TR.pdf.
- Automatic Test Factoring for Java – David Saff, Shay Artzi, Jeff H. Perkins, Michael D. Ernst
- Selective Capture and Replay of Program Executions – Alessandro Orso and Bryan Kennedy
- Eclat: Automatic Generation and Classification of Test Inputs – Carlos Pacheco, Michael D. Ernst
- Orstra: Augmenting Automatically Generated Unit-Test Suites with Regression Oracle Checking
- Substra: A Framework for Automatic Generation of Integration Tests – Hai Yuan, Tao Xie
- Symstra: A Framework for Generating Object-Oriented Unit Tests Using Symbolic Execution – Tao Xie, Darko Marinov, Wolfram Schulte, David Notkin

Index Terms

Computer Science
Software Engineering

Keywords
unit testing automated testing testing tool class testing.