Automatic Analyses for Testing Aspect-Oriented Programs

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Date and Time: September 27, 2010 - 11:00am-12:00pm
Location: SEC 3437

Abstract:

Aspect-oriented programming is a new paradigm that separates the different concerns to improve the modularity. This paradigm introduces new validation challenges. To offer effective solutions to these problems, 38 open source projects have been analyzed to study the use of aspects. To address observed problems, automatic analyzes have been proposed. The objective of the first analyses is to statically determine which test cases are impacted by the aspects and should be modified to take the changes into account. The second analyses aims at testing the pointcut descriptors separately from the advices, to have better and more precise oracles. Tools have been developed to support and validate this analyzes.

Biography:

Romain Delamare is a postdoctoral research fellow in the software-engineering group of the University of Alabama. He has received a PhD. in computer science from the Université de Rennes 1 (France) in December 2009. His interests are software testing, model-driven engineering, object and aspect-oriented software development.