Reading Questions 1

CMU 17-654/17-754: Analysis of Software Artifacts
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Due: Tuesday, February 22, 2005 (10:30 am)

10 points total

Readings:

- Robert DeLine and Manuel Fähndrich. The Fugue Protocol Checker: Is Your Software Baroque?
- Michael D. Ernst, Jake Cockrell, William G. Griswold, and David Notkin. Dynamically Discovering Likely Program Invariants to Support Program Evolution

Note: When answering these weekly reading assignment questions be concise. It is expected that each question set can be answered adequately in a page of text or less. Rambling answers with irrelevant detail will not be received warmly. On the other hand, answers should contain enough detail to understand clearly what you are saying. Good English grammar and syntax is important, as always.

This reading assignment is modeled after those in David Garlan's Architectures course, for those of you who are familiar with that.

Questions:

- The Fugue system can check protocols similar to those that the Metal system checks, but it does so using quite different analysis techniques. Briefly describe at least two important differences between Fugue and Metal, as well as at least two advantages and two disadvantages of Fugue's design relative to Metal's.
- Unlike other practical systems that we have studied in this course, Daikon does not directly find and report errors. Explain at least one way in which the information computed by Daikon could help a software engineer (a) identify existing code errors and (b) avoid introducing new ones when evolving a software system.