The Problem

- Gap between the state-of-the-art and the state-of-the-practice in conformance checking area
- Approaches from the state-of-the-art are difficult to use
- Design decisions are violated

Objectives

- Bridge the gap between state-of-the-art and the state-of-the-practice in conformance checking
- Build an automated and simple to use approach to check conformance
- Gap between the state-of-the-art and the state-of-the-practice in conformance checking area
- Approaches from the state-of-the-art are difficult to use
- Design decisions are violated

Design Test

- A test that checks whether an implementation complies with a given design rule expressed as an algorithm
- Automated test
- Written in the target programming language

Design Test Pseudocode

1. daoPackage = org.ourgrid.peer.dao
2. controllerPackage = org.ourgrid.peer.controller
3. callers = daoPackage.getCallees()
4. FOR each caller IN callers DO
5.   assert ( caller == daoPackage ) || ( caller == controllerPackage )
6. END FOR

Checking Conformance with DT

DesignWizard

- Extracts facts from java bytecode
- Models the facts in a graph, in which nodes are entities and edges are the relationships among them
- Exposes an API to provide access to the information extracted

Early Evaluation

- OurGrid (111,790 LOC)
- 10 violations (7 severe and 3 acceptable)
- All developers understood what the test checks
- Developers also appreciated how conformance checking accommodates into the testing process
- Violations caused design re-discussion

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Related Work

