Automated Conformance Testing of Attribute-Based Access Control and Obligation Policies

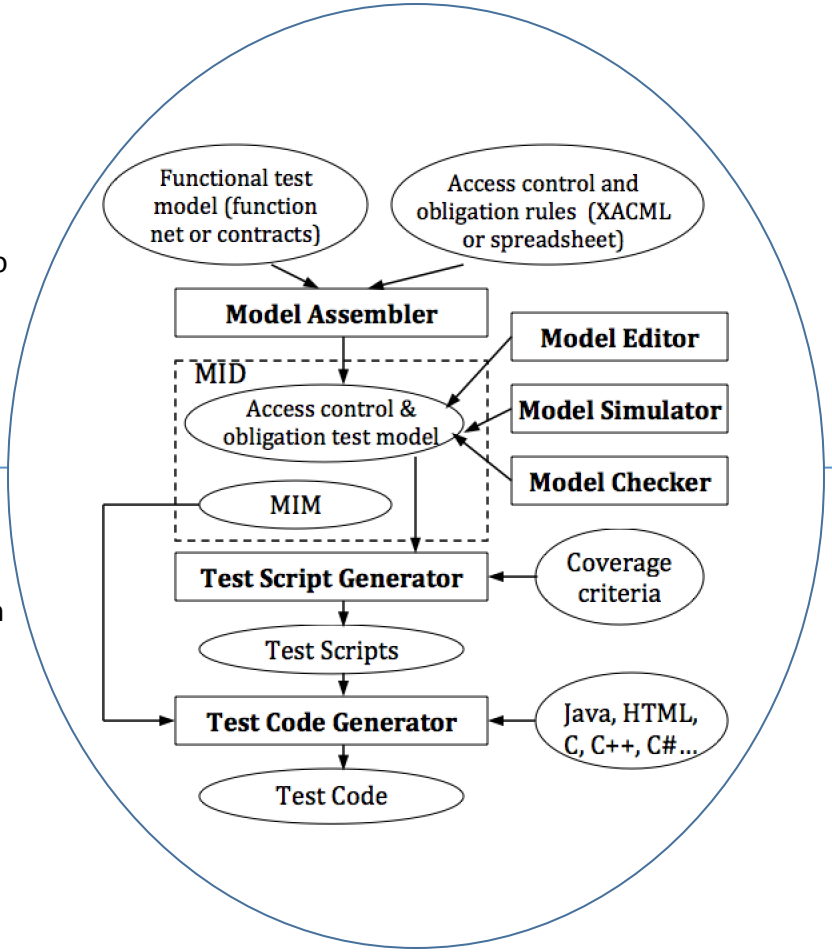
BOISE STATE UNIVERSITY

Challenge:

Because a flawed access control implementation may result in policy violations, it is important to reveal potential discrepancy between the policy specification and the actual system implementation.

Solution:

Develop a model-based approach to automated generation of executable tests for attribute-based access control and obligation policies.



Scientific Impact:

First model-based tool for conformance testing of attribute-based access control and obligation policies. It supports automated model construction, automated generation of tests to achieve desired coverage, and automated generation of executable test code.

Broader Impact:

(a) Transition advanced testing techniques for access control and obligation policies to practice (b) involve students, especially undergraduate students, in research. (c) Raise security awareness at high schools by providing research experiences to high school teachers.

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