EE 382V Software Evolution Project Progress Report 4

Generating Coverage for Regression Testing

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For phase 4 of our project, we finished the implementation of the algorithm for the regression coverage update. The regression testing coverage tool can generate an updated coverage report after some valid update of the source code has been made. Moreover, we conducted several tests on our tool to test the correctness.

Our implementation will run impacted test suites one by one and generate coverage information for each of them, and store them in the form of HashMap<SuilteName, TestSuiteCoverageState>. We will also store this HashMap as a file "statemap.data"(let's call it the old data) after each invocation of our program. In a new invocation, we will read the file to get the old data, and combine it with the new coverage information, and update it.

After several modifications, the result is the same as the report generated by jacoco. It reports the uncovered lines in each file correctly.

For the next step, we will optimize the format of the coverage report. Our current idea is to generate files with the corresponding source code and "covered" or "uncovered" mark for each line.