

BLG 475E: Software Quality and Testing

Fall 2017

Homework #1

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1. Six Tests Companies Generally Use

Continuous testing

Regression tests

Integration tests

Functional test on both user interface (UI) and on API's

Security testing

Performance and Scalability test

2. Continuous Testing

Continuous testing is conducting tests automatically as soon as a change submitted to development pipeline. This type of tests usually gets triggered automatically when submitting or compiling the code. All the tests required must be finished very quickly to not block incoming tests. Therefore, continuous tests must be run in a short time and only required tests must be used in continuous testing.

3. Integration Testing

Integration testing is conducting tests on different code package's integration. If a developer doesn't have any info about source code of the integrated product or how that product works, it is most likely to an error to happen (Hollier, 2016). Therefore, those tests must be conducted with extreme care. Depending on the size and number of packages integrated this type of tests might take a lot of time.

4. Shift Left

Shift left testing is conducting required tests earlier in development process. Tests are done on the code before release or update, therefore a broken or faulty code is easier to find and the build of the main program is protected from errors. A testing environment that quick and responsive can be built if shift left and continuous testing methods are combined. And this environment would decrease number of errors significantly.

5. Submissions and Tests

Not all tests run for each submission. Continuous tests run immediately after submission, and if shift-left testing is applied, some tests run even before submitting. Integration tests run when a build fully completed with tests and required modules. In some cases, completing build takes months, and in some cases, it takes a day.

6. Test Flakiness

Test flakiness is the term used for tests that give false negative results. Flaky tests can be misleading and they are usually gives results that depends on infrastructure or inputs, variables that have nothing to do with code. However, there is simply not enough engineering time to fix them, therefore those tests must be tracked and run several times in order to get a decent result.

References

Marianne H. (2016). Continuous Testing: An IBM point of view. Retrived From: <https://www.ibm.com/developerworks/library/d-continuous-testing-shift-left-trs/index.html?ca=drs->