Software Testing #6

Sanity Testing
Vs
Smoke Testing

Sanity Testing Vs Smoke Testing

• Smoke and Sanity testing are the most misunderstood topics in Software Testing.

Smoke Testing

• Smoke testing is defined as a type of software testing that determines whether the deployed build is stable or not.
• This serves as confirmation whether the QA team can proceed with further testing.
• It is also called as "Build verification Testing" or "Confidence Testing."
• The smoke tests qualify the build for further formal testing.

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When do we do smoke testing?

- Smoke Testing is done whenever the new functionalities of software are developed and integrated with existing build that is already deployed
- It ensures that all critical functionalities are working correctly or not.
- The QA team test the application against the critical functionalities.
- If these tests are passed, QA team continues with Functional Testing.

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Advantages of Smoke testing

- Easy to perform testing
- Defects will be identified in early stages.
- Improves the quality of the system
- Reduces the risk
- Progress is easier to access.
- Saves test effort and time
- Easy to detect critical errors and correction of errors.
- It runs quickly
- Minimizes integration risks

Sanity Testing

- Sanity testing is a kind of Software Testing performed after receiving a software build, with minor changes in code, or functionality, to ascertain that the bugs have been fixed and no further issues are introduced due to these changes.
- is done to check the new functionality/bugs have been fixed
- If sanity test fails, the build is rejected to save the time and costs involved in a more rigorous testing.

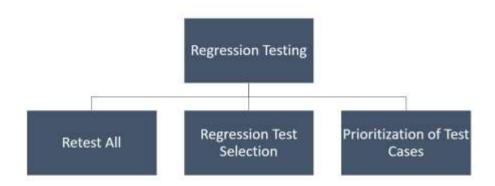| Smoke Testing	Sanity Testing
Smoke Testing is performed to ascertain that the critical functionalities of the program is working fine	Sanity Testing is done to check the new functionality/bugs have been fixed
The objective of this testing is to verify the "stability" of the system in order to proceed with more rigorous testing	The objective of the testing is to verify the "rationality" of the system in order to proceed with more rigorous testing
This testing is performed by the developers or testers	Sanity testing is usually performed by testers
Smoke testing is usually documented or scripted	Sanity testing is usually not documented and is unscripted
Smoke testing exercises the entire system from end to end	Sanity testing exercises only the particular component of the entire system
Smoke testing is like General Health Check Up	Sanity Testing is like specialized health check up

Regression Testing

- Regression means - a return to a former or less developed state
- Software testing to confirm that a recent program or code change has not adversely affected existing features.
- This testing is done to make sure that new code changes should not have side effects on the existing functionalities.
- It ensures that the old code still works once the new code changes are done.

Need of Regression Testing?

- Change in requirements and code is modified according to the requirement
- New feature is added to the software
- Defect fixing
- Performance issue fix

How to do Regression Testing?

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                    │ Regression Testing  │
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│  Retest All  │ │ Regression Test│ │Prioritization of Test│
│              │ │   Selection   │ │      Cases        │
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Retest All

- This is one of the methods for Regression Testing in which all the tests in the existing test bucket or suite should be re-executed.
- This is very expensive as it requires huge time and resources.

Regression Test Selection

- Instead of re-executing the entire test suite, it is better to select part of the test suite to be run
- Test cases selected can be categorized as
    - Reusable test cases: These include test cases that can be repetitively used in succeeding regression cycles. This can be automated so that a set of test cases can be easily executed on a new build.
    - Obsolete test cases: These are bug specific and cannot be used in succeeding cycles. The smart way to use them is when respective bugs occur.

Prioritization of Test Cases

- Prioritize the test cases depending on business impact, critical & frequently used functionalities.
- Selection of test cases based on priority will greatly reduce the regression test suite.

How to select Test Cases for regression?

- Test cases which have frequent defects
- Functionalities which are more visible to the users
- Test cases which verify core features of the product
- Test cases of Functionalities which has undergone more and recent changes
- All Integration Test Cases
- All Complex Test Cases
- Boundary value test cases
- A sample of Successful test cases
- A sample of Failure test cases

Re-Testing v/s Regression Testing

Regression Testing	Re-testing
Regression Testing is carried out to confirm whether a recent program or code change has not adversely affected existing features	Re-testing is carried out to confirm the test cases that failed in the final execution are passing after the defects are fixed
The purpose of Regression Testing is that new code changes should not have any side effects to existing functionalities	Re-testing is done on the basis of the Defect fixes
Defect verification is not the part of Regression Testing	Defect verification is the part of re-testing
Based on the project and availability of resources, Regression Testing can be carried out parallel with Re-testing	Priority of re-testing is higher than regression testing, so it is carried out before regression testing

Non Functional Testing

- Non-functional testing is defined as a type of Software testing to check non-functional aspects (performance, usability, reliability, etc.) of a software application.
- Non-functional testing is equally important as functional testing and affects client satisfaction.

Thank You