Testing Fundamentals

Testing is a process to assure quality of the application during which

We find defects.

Testing is process because we strategize, plan, define, implement and report.

Test Strategy

Test Plan

Test Cases

Implement test scripts/Execute

Report

Verification is ensuring that we are building product right.

Validation is ensuring that product is built correctly or right product.

Verification is making sure everything w.r.to given requirement is fine

Verification is done in intial stages by developer and also tester

Validation is thinking from end user perspective eg: performance, different ways of entering data, security……

Validation is done by tester.

Test a printer-

Print is coming correctly – verified

How much power it is consuming, how much ink it is using - validate

Exhaustive Testing is not possible.

Testing life cycle:

RequirementsReview->TestPlanning->TestDesigning->EnvironmentSetup->Execution->Reports

Dev sit uat prod

Dev qa1 qa2 prod

Dev qa stage prod

Defects can be found at any stage- reviewing requirements, actually executing the test cases.

Levels in software testing:

UnitTesting: Testing individual units of code by writing another piece of test code. This is called whitebox testing because you know internal details about code.

Generally done by developer.

Public class LoginAPI{

Public Boolean userLogin(String uname, String pwd){

If(uname.isVaild()&&uname.isValid()){

Return true;

}

Return false;

}

}

Public class LoginAPITest{

Public void testUSerLogin(){

LoginAPI.userLogin(“valisuse”,”valpwd”);

LoginAPI.userLogin(“valisuse”,””);

LoginAPI.userLogin(“”,”valpwd”);

LoginAPI.userLogin(“invalisuse”,”invalpwd”);

}

}

To develop unit test cases we have unit testing fws which are language specific. Java- junit, TestNG, dot net- NUnit…….

Done by developer in his own machine.

Eg: dev.talentscreen.io

IntegrationTesting : loginUI,signupUI, loginAPI(busineslogic), SignupApi(businesslogic), combine these and test login page all together.

Try to combine individual units and test the interaction between the individual units is working fine.

Integeration testing is done by both developers and testers..developers does in his own machine but tester does is test/qa environment.

Eg: qa1.talentscreen.io

Eg: cart functionalty - add to cart, diplay of items in cart

SystemTesting : It’s a testing process where complete, integrated system is tested.

Like test end to end w.rto UI till DB.

It is done by tester in test env.

Eg: qa2.talentscreen.io

sit.talentscreen.io

UserAcceptanceTesting:

This testing is done generally by PO or team who represent end user.

Check with end user perspective that everything is proper as per requirements..

Eg: stage.talentscreen.io or uat.talentscreen.io

Unit testing is not automation..It is code written by developer to make sure his/her code is working fine.

Integeration Testing,SystemTesting,useracceptance testing done by tester manually or automated…depends on projects..

But most of projects now are automated.

Types of testing:

SmokeTesting

FunctionalTesting

UsabilityTesting

SecurityTesting

PerformanceTesting

RegressionTesting

ComplianceTesting