

COMPATIBILITY TESTING

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ABSTRACT-Software testing is a process of checking the software product whether it works properly without any error occurrence. Basically software testing is done to reach the customer requirement, without testing the product is not given to the customer. Software testing plays a vital role to reach the customer satisfaction.

To get the knowledge about software testing, we need to go depth into it by knowing the types of software testing which involves the testing tools and scripts to run. Software testing is basically classified into two types that is functional testing and non-functional testing. Tester can perform these two types of testing to check whether the software or a product is functioning in a proper manner without any bugs that can cause the crash to the software. The main goal of the functional testing is to check the flaws of a product which is identified by the programmer and the bugs are looked throughout the development of a software process by the tester. Functional testing is done just to get the trust from the customer and the gives the complete information about the quality of a product.

The main goal of non-functional testing is to check the quality of the product or software. Non-functional testing is done completely to reach the customer expectation. Non-functional testing is defined as testing process of a non-functional requirement of the software. It involves the compatibility testing, security testing, volume testing, performance testing, scalability testing, usability testing.

Compatibility testing is the most important type of the non-functional testing where it tests the compatibility of software and it ensures that the software works in the entire configured environment. In compatibility testing there are many types those are operating system, hardware, version, mobile, software, devices, network etc.

INTRODUCTION

Software testing is a process to evaluate the functionality of a software application and to find out that all the customer requirements are met in order to run the software defect freely. The primary purpose of testing is to detect the software failures, so that it makes easy to find the defect in the process and correct it in early stage. The main agenda of software testing is to find out the quality of the software. Doing software testing will improve the rate and quality of the product. In the software testing the testers usually performs the

two types of testing that is functional testing and non-functional testing.

Functional testing is nothing but testing the slice of a software quality and ensuring the customer requirements. Functional testing is also a black box testing where you need not to know any coding knowledge to test the software. Functional testing does not involve any internal structure and implementation of software. It just checks the part of the software where user will not know the functionality of the software.

Non functionality testing is a another type of the software testing which test the non-functionality aspect of the software like compatibility, performance, scalability, efficiency, and so on. Non-functional testing is just contrast to the functional testing, non-functional testing just checks the entire software whether it's working properly with the customer satisfaction. Non-functional testing is also a white box testing where all the internal functions are checked and user will be having knowledge about the internal functions. To do non-functional testing tester must know the basic coding knowledge.

In non-functional testing compatibility testing is most important testing where in this the tester will test the compatibility of the software. The important aim of the compatibility checking out is to check the software compatibility which must be adoptable to the entire configured environment. Testers will just ensure that software which is build by the developer must work properly in the configured software environment without occurring any errors and issues in the software.

In compatibility testing the software is tested depending on the features like network, hardware platform, software platform, operating system. Compatibility testing is performed by the testers in early stage of quality testing, in software testing life cycle the compatibility testing is the most important phase of testing because compatibility testing ensures that the developed software is working properly in the entire configured environment without any hassle or any problem. The customer can use the software easily and they can use the software in any software environment

CLASIFICATION OF COMPATIBILITY TESTING:

- **Hardware :**

Test environment are classified according to hardware, let me explain this hardware compatibility testing by taking the explain of amazon web site. Customer won't use the same hardware to reach this web site, some people will use DELL, some people will use HP, and some people will use different hardware with different RAM.

So keeping this in mind developer must build the web site in such a way that it must work in all the hardware environment and for that tester must do compatibility testing.

- **Operating system :**

Once the developer develops the web site or the software the tester must check the web site is working fine with all operating system. The end-users won't use only the windows operating system some people may use different operating system like Linux, Mac, Ubuntu.

So the job of the tester is to check the software or the website which was built by the developer must work fine in all the operating system.

- **Browsers/Mobile/Networks :**

By taking the same example of amazon web site when developer builds the amazon website the website must work in all the browsers because tester will test the website in one browser but every user won't use same browser some people will use chrome, some people will use fire fox, opera. Like same way it has to work in different mobiles like android and IOS.

When it comes to network related compatibility testing, the website must work in all the networks because some people will be using mobile data and some people will be using broad band connection so that the website should not get crash in different networks.

There are two types of compatibility testing:

- **Backward compatibility testing:**

It is a kind of testing which validates whether the newly advanced software program or

updated software works well with the older version of the environment. In order to provide an explanation for briefly backward compatibility trying out exams whether the new edition of the software works well with file format created by means of an older model of the software program; it also works Microsoft world must work fine in windows 10 also.

- **Forward compatibility testing :**

It is just wise versa of backward compatibility testing, in forward compatibility testing the software is tested with advance versions of the software. Tester will test the Microsoft world 2019 with updated version of the windows 11. The software must work fine in updated versions.

➤ **When should perform compatibility testing:**

When build get stable enough to test then we should perform compatibility testing.

➤ **How to perform compatibility testing :**

Test the application in same browsers but in different versions.

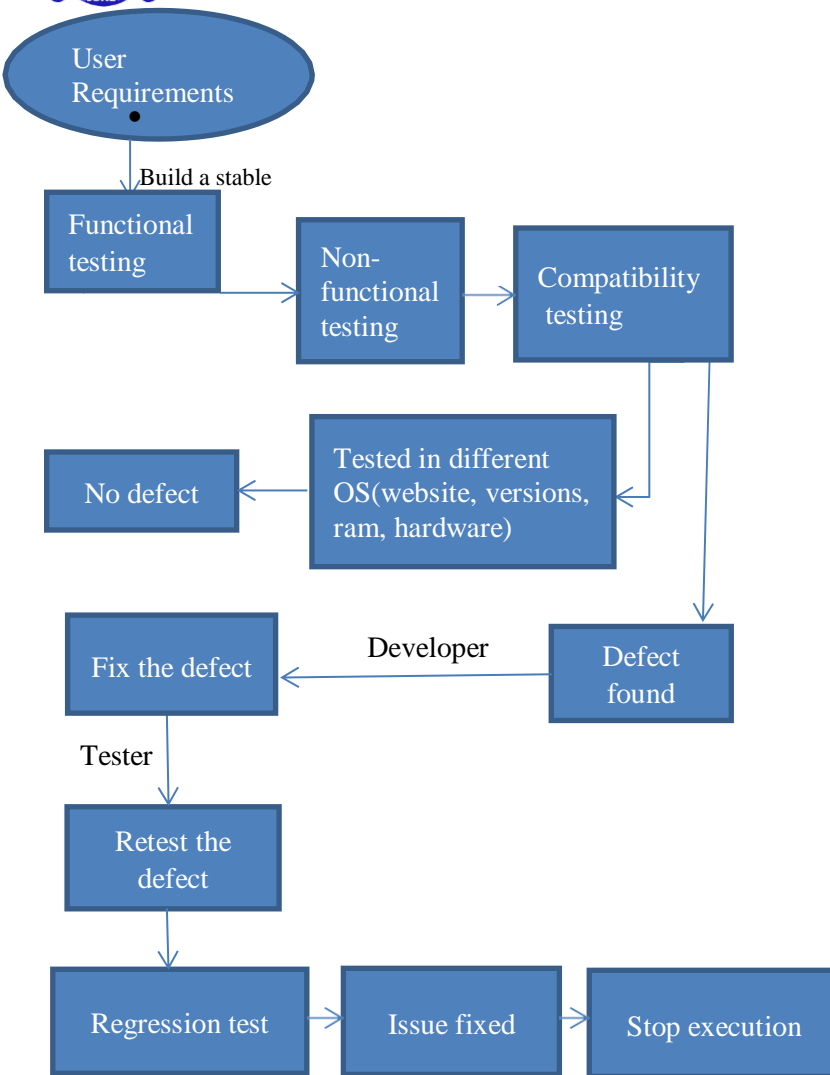
Test the application in different browsers but in different versions.

➤ **Major compatibility testing issues :**

- Changes in UI
- Change in font size
- Alignment related issues
- Scroll bar related issues
- Change in CSS fashion and colour
- Broken tables or frames
- Content or label overlapping

➤ **Tools used in compatibility testing:**

- Browser stock
- Sauce lab
- Testing bot
- Lamda test
- Cross browser testing
- Experi test
- Functionalize



CONCLUSION

➤ Why should we perform compatibility testing :

Compatibility testing is to check the application working is same way for all platforms. Usually developer team and testing team test the application in the single platform. But once the application is released in the production, customer may test our product in different platform and they find bugs in the application which is not worthy in terms of quality so to avoid this compatibility testing must be carried out.