Software Testing versus Software Inspection

Software testing is the process of evaluating the product that whether it's working properly as per specifications/requirements. It is related to finding bugs in UI, functionality and as per end-user perspective of the product

Software inspection is testing plus code review to ensure that it is correct, optimized and maintainable. It is mainly related to finding bugs in program's code as per both requirements and test cases.

Let me explain the same with a generic example to have better clarity between both of these terms

Suppose you have a motor bike and you want to perform both testing and inspection on your bike. You need to check below cases during testing and inspection

Testing:
1. Turn on the bike
2. Take a drive and test its core features like gears, brake, clutch, speedometer reading, etc

Inspection:
Here below checks will be performed

1. Physical components of bike like plug,choke,etc.
2. Checking the internal components like liquid/fluid.
3. Connecting with third party component and checking the compatibility.

It is clear from above example that testing is related to UI and functionality while inspection is related to testing internal components of the product.

Software Inspection:

It is carried out to improve the processes and find the defects. Team schedules a meeting to discuss about the inspection process. In this meeting, team members are chosen to carry out the following 02 important roles:

1. **Moderator** : He takes in-charge of the meeting and leads the inspection process.

2. **Inspector** : He approves/disapproves the product after doing a thorough study and identifying bugs in it.

Steps in Inspection process:

1. **Planning**: Planning is the first step of everything. So moderator plans the inspection activities so that they are carried out smoothly.

2. **Overview Meeting**: It is carried out to spread knowledge regarding product's background.

3. **Inspection Meeting**: In this meeting, product documentation is read by Reader and Inspector makes efforts to find the defects.

4. **Rectification**: Required product changes are made based on bugs found out in inspection meeting.

5. **Follow-up Review**: Author reviews the changes made in product after rectification.

Types of Inspection:

1. **Code Review:** It is the process of inspecting a code block. Verification of code is done to check if it is according to the product functionality or performance improvements can be done.

2. **Peer Review:** It is a process where a number of people having domain specific knowledge and skills review the product. It helps in comprehensive checklist and reports of the product.

Advantages of Inspection:

1. **New point of view:** New defects can be found by those members who are new to software inspection.

2. **Sharing knowledge:** It is a great way to share knowledge regarding software design, functionality and finding bug methods in it.

3. **Finding defects early:** Finding defects early is a great boon if it is successful. Software inspection increases the probability of finding early defects with the help of various viewpoints.

Software Testing:

Any software built requires thorough testing to be successful in the market. If the built software does not meet the end user perspectives/SRS then it will not generate business and hence will not be effective. Testers working in software testing companyneed to ensure that software is tested properly by considering all the requirements, use-cases, positive,negative and corner cases

Process in Software Testing:
1. QA deploys the testing build provided by the Dev Team.
2. QA tests the features, finds bugs and report the same in bug tracking system(say Jira).

Testing Types:
Testing can broadly be divided into two categories:

1. **Manual Testing**: It is the core testing performed by testers to explore the product without using any automation tool.

2. **Automation Testing**: Here, test cases are automated using automation tool(like Selenium) and then run through script to save time.

Other Testing Types:

Various types of testing are done in software app testing company to successfully test the product. Some important ones are given below:

1. **Feature Testing** : Testing of new features of the product.

2. **Regression Testing**: Testing of existing functionality to validate that it is not broken after introduction of new feature.

3. **Exploratory Testing**: Testing done to find bugs by exploring the product.

4. **Load Testing**: Testing how much load(say number of users) the application can handle.

Advantages of Software Testing:

Efficient software testing increases the following:

1. Market value of product
2. Product's credibility
3. Confidence
4. Efficiency

Hope the information will help to clarify the differences between both software testing and inspection

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