**Software Testing Assingment – 2**

**Module – 2 (Manual Testing):**

**(1)What is Exploratory Testing?**

* Exploratory testing is a concurrent process where test design, test execution and logging happen simultaneously.

**(2) What is Tractability Matrix?**

* Tractability matrix is to protect against changes you should be able to trace back from the system component to the original requirement that caused its presence.

**(3) What is Boundary Value Analysis?**

* Boundary value analysis is a methodology for designing test cases that concentrates software testing effort on cases near the limit of valid range.

**(4) What is Equivalence Partitioning Testing?**

* Equivalence partitioning testing is to treat group of input as equivalent and to select one representative input to test them all.

**(5) What is Integration Testing?**

* Integration testing is a level of the software testing process where individual components are combined and tested as a group.

**(6) What determines the level of risk?**

* Integration testing is a level of the software testing process where individual components are combined and tested as a group.

**(7) What is Alpha testing?**

* Alpha testing is always performed by developer at the software development site.
* It is also performed by Independent Testing Team.
* It is always performed in Virtual Environment.
* It is always performed within the Organization.
* Alpha testing comes under both the black box testing and white box testing.
* Alpha testing is definitely performed and carried out at the developing organizations location with involvement of developers.
* It is conducted for the software application and project.
* It is not open to the market and public.

**(8) What is beta testing?**

* Alpha testing is always performed by customer at their own site.
* It is not performed by Independent Testing Team.
* It is always performed in Real-Life Environment.
* It is always performed outside the Organization.
* Beta testing comes under only black box testing.
* Beta testing always performed at the time where software product and project are marketed.
* It is conducted for software product.
* It is open to the market and public.

**(9) What is Component Testing?**

* Component testing is the testing of individual software components.

**(10) What is Functional System Testing?**

* Functional system testing is a requirement that specifies a function that a system component must perform.

**(11) What is Non-Functional Testing?**

* Non-functional testing is testing the attributes of a component

that do not relate to functionality.

**(12) What is GUI Testing?**

* Graphical user interface is a process of software testing system GUI of system under test the GUI testing involves checking the screens with the controls like menu, buttons, checkbox, textbox, all type bar tool bar, menu bar etc….

**(13) What is Adhoc Testing?**

* Adhoc testing is an informal testing type with aim to break the system.

**(14) What is Load Testing?**

* Load testing is type of performance testing which determines system performance under real life load condition.

**(15) What is Stress Testing?**

* Stress testing is used to test the stability and reliability of the system. this test mainly determines the system on its robustness and error handling under extremely heavy load condition.

**(16) What is white box testing and list the type of white box testing?**

* White box testing is testing based on analysis of the internal structure of the component or system.
* The type of white box testing:

1. Statement Coverage.
2. Decision Coverage.
3. Condition Coverage.

**(17) What is Black box testing? What are the different black box testing techniques?**

* Black box testing is testing either functional or non-functional without reference to the internal structure of the component or system.
* **Black box testing techniques:**

1. Equivalence Partitioning.
2. Boundary Value Analysis.
3. Decision Table.
4. State Transaction Testing.

**(18) Mention what are the categories of defects?**

* **1) Functionality defect**

**2) Critical Functionality defect**

**3) Database defect**

**4) Security defect**

**5) User interface defect**

**(19) Mention what big bang testing is?**

* In this testing all components are integrated simultaneously, after which everything is tested as a whole. It means all components are integrated together and tested.

**(20)What is the purpose of exit criteria?**

* Exit criteria defines the items that must be completed before testing can be concluded.

**(21)When should “Regression Testing” be performed?**

* Regression testing means testing your software application when it under goes code change to ensure that the new code has not affected other part of the software.

**(22)What is 7 key principles? Explain in detail?**

* **Testing Principles:**

1. Testing shows presence of Defect.
2. Exhaustive Testing is Impossible.
3. Early Testing.
4. Defect Clustering.
5. The Pesticide Paradox.
6. Testing is Context Dependent.
7. Absence of Errors Fallacy.

* **Explain 7 key Principles in detail:**

1. **Testing shows presence of defect.**

* Software testing reduces the presence of defect.
* Testing cannot prove that there are no defects present.

1. **Exhaustive Testing is Impossible.**

* Software can never test at every test case.
* Testing including all combination of input and precondition is not possible.

1. **Early Testing.**

* Testing activities should start as early as possible in development life cycle.
* The defect detected early in the SDLC phases will very less expensive.
* Software testing will start at initial phase for better performance.

1. **Defect clustering.**

* Defect are not evenly spread in the system they are clustered.
* In a project, a small number of module can contain group of defect.

1. **Pesticide Paradox.**

* Repeating the same test cases again and again will not find new defect.
* It is necessary to review the test cases and add or update test case to find new bugs.

1. **Testing is Context Dependent.**

* Testing is basically context dependent.
* Different types of software need to perform different types of testing.
* Ex. E-commerce site is tested differently from android application.

1. **Absence of Error Fallacy.**

* If the software build is 99% bug free but it does not fulfill the customer requirement then it is unusable.
* It does not make it good software.
* After defects have been fixed but it may still unusable because not fulfill user needs and expectations.

**(23) Difference between QA v/s QC v/s Tester:**

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| --- | --- | --- |
| QA | QC | Tester |
| (1) QA is stand for quality assurance.  (2) QA is process oriented activities.  (3) QA is a subset of the software testing life cycle (STLC).  (4) QA is preventive activities.  (5) QA is performed by QA managers.  (6) who design processes | (1) QC is stand for quality control.  (2) QC is product oriented activities.  (3) QC is a subset of the quality assurance (QA).  (4) QA is corrective process.  (5) QC is performed by  QC teams or testers.  (6) Its focusing on the product. | (1) Tester  (2) Tester is product oriented activities.  (3) Tester is the subset of the quality control (QC).  (4) Tester is preventive process.  (5) performed by tester.  (6) Tester are responsible for test execution and defect reporting. |

1. **Difference between Verification and Validation**

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| Verification | Validation |
| (1) Verification has a level of development level.  (2) Verification is same as static testing.  (3) Verification is before the coding verification.  (4) Activities:- Review  (5) Are we building the product right?  (6) There are four phases:    1. Business requirement analysis  2. System requirement  3. Technical specification  4. Program specification | (1) Validation has a level of testing level.  (2) Validation is same as dynamic testing.  (3) Validation is after the coding validation.  (4) Activities:- Testing  (5) Are we building the right product?  (6) There are four phases:    1. Unit testing  2. Integration testing  3. System testing  4. Acceptance testing | |

1. **Explain types of performance testing.**

* There are many types of performance testing

1. **Load Testing:**

* Load testing is type of performance testing which determines the systems performance under real-life load condition.

1. **Stress Testing:**

* Stress testing is used to test the usability and reliability of the system. This test mainly determines the system on its robustness and error handling under extremely heavy load condition.

1. Endurance Testing:

* Endurance testing is a type of non-functional testing where your system is subjected to a significant load over an extended period.

1. Spike Testing:

* Spike testing is a type of performance testing in which an application receives a sudden and extreme increase or decrease in load.

1. Volume Testing:

* Volume testing is a type of non-functional testing that refers to testing the data load capabilities of a product.

1. Scalability Testing:

- Scalability Testing is a type of load testing that measures the application's ability to scale up or down as a reaction to an increase in the number of users

1. What are Error, Defect, Bug and Failure?

* A mistake in coding is called Error.
* Error found by tester is called Defect.
* Defect found by developer team is called Bug.
* The build does not meet the requirement it is called Failure.

1. Difference between Priority and Severity.

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| Severity | Priority |
| (1) How badly the defect affects to the system.  (2) It is related to the quality standard.  (3) Its value is objective.  (4) It is driven by functionality.  (5) It is based on technical aspect of the product.  (6) It is associated with functionality.  (7) Its value does not change from time to time | (1) How quickly the defects need to be fixed.  (2) It is related to scheduling to resolve the problem.  (3) Its value is subjective.  (4) It is driven by business value.  (5) It is based on customer requirement.  (6) It is associated with scheduling.  (7) Its value change from time to time |

1. What is Bug Life Cycle?

* The time span between first time defect if found and the time that it is closed successfully, rejected, deferred or postponed is called as Bug Life Cycle.

1. Explain the difference between Functional testing and Non

Functional testing.

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| Functional testing | Non-Functional testing. |
| (1) Testing based on analysis of specification of the functionality of a component.  (2) Functional testing is executed first.  (3) Functional testing is used to the manual testing or automation tools.  (4) It describes what the product does.  (5) Easy to do manual testing.  (6) Types of Functional Testing  -Black box Testing  -White box Testing  -Sanity Testing  -Smoke Testing | (1) Testing the attributes of the component that do not relate to the functionality.  (2) Non-Functional testing should be performed after Functional testing.  (3) Non-Functional testing will be effective using tools.  (4) It describes how good the product work.  (5) Tough to do manual testing.    (6) Types of Non-Functional Testing  -Performance Testing  -usability Testing  -GUI Testing  -load Testing |

1. What is difference between Test Scenarios, Testcases and Test Script.

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| SR. NO | Test Scenarios | Test Cases | Test Script |
| 1 | Test Scenario is any functionality that can be tested. | Test case is a set of actions executed to verify particular features or functionality. | Test script is a set of instructions to test an app automatically. |
| 2 | Helps test the end-to-end functionality in an Agile way | Helps in exhaustive testing of an app. | Helps to test specific things repeatedly. |
| 3 | Is more focused on what to test | Is focused on what to test and how to test. | Is focused on the expected result. |
| 4 | Includes an end-to-end functionality to be tested. | Includes test steps, data, expected results for testing. | Includes different commands to develop a script. |
| 5 | Allows quickly assessing the testing scope. | Allows detecting errors and defects. | Allows carrying out an automatic execution of test cases. |

1. **Explain what Test plan is? What is the information that should be covered?**

* A document that describing the scope, approach, resources and schedule of intended test activities.
* Test plan determining the scope and risks and identifying the objectives of testing.
* Test plan also covered level of detailed structure and templates for test documentation.

1. **What is Priority?**

* Priority is absolute and customer focused and priority is how badly the defect affects the software.

1. **What is Severity?**

* Severity is relative and business focused and severity is how quickly the defect needs to be fixed.

1. **Bug categories are…**

* There are five Bug categories:

1. Data Quality / Database Defects

2. Critical functionality defects

3. Functionality defects

4. Security defects

5. User Interface defects

1. **Advantage of Bugzila.**

* **Free and Open-Source** – No licensing cost, making it a budget-friendly choice for organizations.
* **Easy to Use** – Simple web-based interface that allows testers and developers to report and manage bugs efficiently.
* **Customizable Workflow** – Users can define their own workflow, statuses, and rules according to project needs.
* **Email Notifications** – Sends automatic updates to team members when a bug is created, updated, or resolved.
* **Multi-Language Support** – Available in various languages, making it suitable for global teams.

1. **What are the different Methodologies in Agile Development Model?**

* There are two Methodologies in Agile Development Model
  + Scrum
  + Kanban

1. **Explain the difference between Authorization and Authentication in Web testing. What are the common problems faced in web testing?**

* "Authentication" refers to the process of verifying a user's identity, like checking if they are who they claim to be by using login credentials. While "Authorization" determines what actions or resources a verified user is allowed to access within the system.
* Common problems encountered in web testing include: cross-browser compatibility issues, performance concerns, security vulnerabilities, user experience (UX) challenges, testing across different devices, data privacy issues, load testing, and ensuring proper functionality across various browser versions and operating systems.

1. **When to use Usability Testing?**

* Where do I click next?
* Which page needs to be navigated?
* Which Icon or Jargon represents what?
* Error messages are not consistent or effectively displayed Session time not sufficient.

1. **What is the procedure for GUI Testing?**

* Graphical User interface (GUI) testing involves a series of steps to ensure that a user interface is functional, usable, and visually consistent. The steps include:
* **Planning**: Define the scope of testing and identify key areas of the UI
* **Preparation**: Set up the testing environment with the necessary tools and resources
* **Test case development**: Create detailed test cases that cover different aspects of the UI
* **Test execution**: Perform the tests by interacting with the UI as a user would
* **Issue reporting**: Document any issues or inconsistencies encountered
* **Fix review**: Review and validate fixes to ensure that issues have been resolved
* **Continuous testing**: Continue to test and improve the UI