**Assignment – Module 2**

1. **What is Exploratory Testing?**

* Exploratory Testing is a Concurrent Process where Test Design, Execution and logging

Happen simultaneously**.**

1. **What is Traceability Matrix?**

* To Protect Against Changes you Should be Able to trace back from every system component to the Original Requirement that Caused its Pressure

1. **What is Boundary Value Testing?**

* Boundary Value Analysis is a Methodology for designing test Cases that Concentrates Software testing effort on Cases near the limits of valid of Valid Ranges

1. **What is Equivalence Partitioning Testing?**

* Aim is to treat groups of inputs as equivalent and to select one representative Inputs to test them all.

1. **What is Integration Testing?**

* Integration Testing is Level of Software Testing Process Where Individual Units are Combined and tested as a Group.

1. **What determines the level of Risk?**

* Determining the level of risk usually involves trying to asses not only the likelihood of an identified risk from actually occurring, but also the potential magnitude the consequences this risk could have on an organization and its Stakeholder should it occur.

1. **What is Alpha Testing?**

* Alpha testing is type of testing performed to identify bugs before releasing the product to real user or public.
* It is always performed by developers at the software development site.
* Sometimes it is also performed by independent testing team
* It is conducted for the software application and project
* It is always performed in virtual environment

1. **What is Beta Testing?**

* Beta testing is the process of testing a software product or service in a real world environment before its official release
* It is always performed by customers at their own site
* It is usually conducted for software product
* It is performed in real time environment

1. **What is Component Testing?**

* A Minimal Software Item that can be tested in Isolation.

1. **What is Functional System Testing?**

* Testing based on an Analysis of specification of functionality of a Component or System
* Functional Testing is Executed First
* It Describes what the Product Does

1. **What is Non Functional Testing?**

* Testing the Attributes of Componentor System that do not Relate with Functionality
* Non- functional Testing should be Performed After Functional Testing
* It describes how good the Product works.

1. **What is GUI Testing?**

* Graphical User Interface Testing is the Process of testing the system’s GUI testing of the system under test.
* GUI Testing involves checking the screen with the controls like menus, buttons, icons, and all types of bars- tool bar, menu bar, dialog boxes and windows etc.

1. **What is Ad hoc Testing?**

* Ad hoc Testing is an Informal Testing type with an Aim to break the System.
* Main aim of this testing is to find defects by random Checking.

1. **What is Load Testing?**

* Load testing is a Kind of performance testing which determines a systems performance under real life load conditions.
* This testing helps determine how the applications behave when multiple users access it simultaneously.

1. **What is Stress Testing?**

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

1. **What is white box testing and list the types of white box testing?**

* Testing based on an Analysis of the Internal Structure of the component or system
* White box Testing Technique is also known ‘Structure based Testing ‘, ‘glass-box’, and ‘Open box’.
* Types of White box testing :

Statement Coverage

Decision / Branch Coverage

Condition Coverage

1. **What is Black box testing and list the types of Black box testing?**

* The Technique of testing without having any knowledge of the interior workings of the Application is Black box Testing
* Black box testing technique is also known as ‘Specification based testing’ and

‘Input /Output driven Testing’

* Types of Black box testing :

Equivalence Partitioning

Boundary Value Analysis

Decision Table

State Transition Testing

1. **Mention What are the Categories of Defect?**

* There are three Types of Defects:

1. Data Quality/ Database Defects : Deals with improper handling of data in the database
2. Critical Functionality Defects : The Occurrence of these bugs Hampers the crucial Functionality of the Application
3. Functionality Defects : These defects affects the Functionality of the Application
4. **Mention What Big bang Testing is?**

* In big bang integration testing all Components and Modules are Integrated Simultaneously, after which everything is tested as whole.
* Big bang testing has the advantage that everything is finished before integration testing starts.
* Here all Component are integrated together at once, and then tested.

1. **What is the Purpose of Exit Criteria?**

* Purpose of Exit criteria is to define when we stop Either at the :

End of all Testing – i.e. Product go live

End of phase of testing(e.g. handover from system test to UAT)

1. **When Should ‘Regression Testing’ be Performed?**

* Regression Testing : Testing of a previously tested program following modification to ensure that defects have not been introduced or uncovered areas of the software, as a result of the changes made.. It is performed when the Software or its environment is changed.
* You also need to ensure that the Modification have not caused unintended side effects elsewhere and that the modified system still meets its Requirement.

1. **What is 7 key Principles? Explain in detail?**
2. **Testing shows the Presence of Defects:**

* Testing can show that defects are present, but cannot prove that there are no defects.
* We test to find faults.

1. **Exhaustive Testing is Impossible:**

* Testing everything including all Combinations of inputs and preconditions is not possible.
* So, instead of doing the exhaustive testing we can use risk and priorities to focus testing efforts.

1. **Early Testing :**

* Testing activities should start as early as possible in the software or system development life cycle, and should be focused on defined objectives.

1. **Defect Clustering:**

* A small number of modules contain most of the defects discovered during pre-release testing , or are responsible for the most of operational Failures.
* Defects are not evenly spread in a system they are ‘Clustered’

1. **Pesticides Paradox :**

* If the same test are repeated overland over again eventually the same set of test cases will no longer find any new defects.
* To overcome this “Pesticides Paradox”, the test cases need to be Regularly reviewed and revised, and new and different tests need to be written to exercise different parts of the software or system to Potentially find the more defects.

1. **Testing is Context Dependent:**

* Testing is basically context dependent.
* Testing is done differently in different contexts.
* Different kinds of sites are tested differently.

1. **Absence of errors Fallacy:**

* It the system built is unusable and does not fulfill the user’s needs and expectations the finding and fixing defects does not help.

1. **Difference between QA v/s QC v/s Testing?**

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| --- | --- | --- | --- |
| **No.** | **QA** | **QC** | **Testing** |
| 1 | Focuses on Process and Procedures rather than Conducting actual Testing on the system | Focuses on actual testing by executing software with intend to identify bug/defect through implementation of Procedures or Process | Focuses on actual testing |
| 2 | Process Oriented Activities | Product Oriented Activities | Product Oriented Activities |
| 3 | Preventive Activities | It is a Corrective process | It is a Preventive Activities |
| 4 | It is a Subset of Software Test Life Cycle | QC can be considered as subset of Quality Assurance | Testing is the subset of Quality Control |

1. **Difference between Smoke and Sanity?**

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| **No.** | **Smoke** | **Sanity** |
| 1 | Smoke testing is performed to ascertain that the critical functionalities of program is working fine | Sanity Testing is done to check the new Functionality / bugs have been fixed |
| 2 | This testing is performed by the developers and Testers | This testing is performed by Testers |
| 3 | Smoke Testing is usually Documented and Scripted | Sanity Testing is usually Undocumented and Unscripted |
| 4 | Smoke Testing is a Subset of Regression testing | Sanity Testing is a subset of Acceptance testing |
| 5 | Smoke testing exercises the Entire system from end to end | Sanity testing exercises only the Particular Component of entire system |

1. **Difference between validation and verification?**

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| **No.** | **Verification** | **Validation** |
| 1 | The Process of Evaluating work products of a development phase to determine whether they meet the | The Process of Evaluating software during or at the end of the development process to determine whether it satisfies Specified Business requirements |
| 2 | Verification Process starts before Coding | Validation Process starts after Coding |
| 3 | Before Coding there is a development Levels | After Coding there is a Testing Levels |
| 4 | It includes activities like Review, Walkthroughs, Inspection | It includes activities like Testing |

1. **Explain types of Performance Testing?**
2. **Load Testing/Volume testing/ Scalability Testing:**

* It’s a Performance testing to check system behavior under load.
* Load testing give confidence in the system and its reliability and performance.
* Load testing helps identify the bottlenecks in the system under heavy user stress scenarios before they happen in a productive environment.
* Load testing gives excellent protection against poor performance.

1. **Stress Testing/Endurance Testing/Spike Testing:**

* Stress testing is used to test the stability and Reliability of the system.
* It even tests beyond the normal operating point and evaluate how the system works under those extreme conditions.
* Stress testing is done to make sure that the system would not crash under crunch situation.
* The goal of stress testing is to analyze the behavior of the system after failure.

1. **What is Error, defect, bug and Failure?**

* **Error:** A mistake in Coding is called Error.
* **Defect:** Error found by Tester is called Defect
* **Bug:** Defect Accepted by Development team is called bug.
* **Failure:** Build does not meet the requirements than it is a Failure.

1. **Difference between Priority and Severity.**

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| **No.** | **Priority** | **Severity** |
| 1 | Priority is Relative | Severity is Absolute |
| 2 | Priority is Business Focused | Severity is Customer Focused |
| 3 | Priority Status is set by the Tester | Severity status is set by the developer and tester |
| 4 | Priority is not open for Market | Severity is open to Market |

1. **What is Bug Life Cycle?**

* **Bug/ defect life cycle :** A computer bug is an error , flaw, mistake, failure, or fault in a computer program that prevents it from working correctly or products an incorrect results. **Bugs arise from mistakes or errors, made by people , in either a program “source code or its design”**
* The duration or time span between the first time defects is found and the time that it is closed successfully rejected, postponed or deferred is called as ‘defect/bug life cycle’.

1. **Explain difference between functional testing and nonfunctional testing?**

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| --- | --- | --- |
| **No.** | **Functionality Testing** | **Non- functionality Testing** |
| 1 | Testing based on an analysis of specification of functionality of component or system | Testing the attributes of Componentor system that do not relate to functionality |
| 2 | Functionality testing is executed first | Non Functionality testing should be performed after functionality testing |
| 3 | Functional testing describes what the product | Non Functional testing describes how good the product works |
| 4 | Easy to do manual testing | Tough to do manual testing |

1. **What is the difference between STLC and SDLC?**

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| **No.** | **Software Development Life Cycle** | **Software Testing Life Cycle** |
| 1 | SDLC is Mainly related to software Development | STLC is Mainly related to software testing |
| 2 | In SDLC, development team make the plans and designs based on the requirements | In STLC testing team (test lead or test architect)makes the plans and designs |
| 3 | Goal of SDLC is to complete successful development of software | Goal of STLC is to complete successful testing of software |
| 4 | It helps in developing good quality software | It helps in making the software defects free |

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

* A document describes the Scope, approach, resources and schedule.

1. **What is Priority?**

* Priority defines the order in which we should resolve a defect. Should we fix it now, or can it wait?
* This priority status is set by the tester to the developer mentioning the time frame to fix the defect
* The priority status is set based on Customer requirements.

1. **What is Severity?**

* Severity is the Extent to which the defect can affect the Software.
* It defines the impact that a given defect has on the system

1. **Bug Categories are….**

* Security
* Database
* Functionality (Critical, General)
* UI
* Bug Severity
* Bug Priority

1. **Advantage of Bugzila?**

* Open sources, free bug tracking tool
* Automatic duplicate bug detection
* Search option with advanced Features
* File/Modify bugs by email
* Move bugs between installs
* Time Tracking
* Integrated email Capabilities
* Detailed Permissions System
* Powerful query tool
* Ideal for Small Projects.

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

* Individual Interaction, Over Processes and tools
* Working Software, Over Comprehensive Documentation
* Customer Collaboration, Over contract negotiation
* Responding to Change, Over following a plan

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

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| **No.** | **Authentication** | **Authorization** |
| 1 | In the Authentication process, the identity of users are checked for providing the access to the system | While in Authorization process, the persons or users authorities are checked for accessing the resources |
| 2 | It is done before the Authorization Process | This process id done after the authentication |
| 3 | It needs usually the users login details | It needs the users privilege or security levels |
| 4 | In the authentication process users or persons are Verified | In this process users or persons are Validated |

1. **When to used usability Testing?**

* Once you have got an idea, conduct usability testing before putting any design resources to work.
* Conducting usability tests before any design are made helps us identify the most important user pain point.

1. **What is procedure of GUI testing?**

* Graphical User Interface (GUI) is the process of testing the systems GUI of the system under test.
* GUI testing involves checking the screen with the controls like menus, buttons, icons, and all type of bars- toolbar, menu bar, dialog boxes and windows etc.