**Module–2(Manual Testing)**

1. What is Exploratory Testing?

Ans. Exploratory testing is a software testing approach where testers actively explore the application to discover issues without relying on pre-defined test cases.

1. What is traceability matrix?

Ans. To protect against changes you should be able to **trace back from every system component** to the original requirement that caused its presence. It is called traceability matrix.

1. What is Boundary value testing?

Ans. Boundary value analysis is a methodology for designing test cases that concentrates software testing effort on cases near the limits of valid ranges. It is called boundary value testing.

1. What is Equivalence partitioning testing?

Ans. Equivalence partitioning is aim is to treat groups of inputs as equivalent and to select one representative input to test them all.

1. What is Integration testing?

Ans. Integration testing is level of testing process where individual units are combine and tested as a group. It is called integration testing.

1. What determines the level of risk?

Ans.

**Probability (Likelihood):**  
How likely is it that a particular event or threat will occur? Higher probability means higher risk, all else being equal.

**Impact (Severity):**  
What are the potential consequences if the event does happen? This includes financial loss, safety issues, reputation damage, legal trouble, etc.

**Vulnerability:**  
How exposed or unprotected is the system, person, or organization? More vulnerability = more risk.

**Exposure:**  
How often is the person or system in contact with the potential threat? The more exposure, the greater the chance of something going wrong.

**Control Measures (or Mitigations):**  
What safeguards are in place? If strong controls exist, risk is reduced even if likelihood and impact are high.

**Environment or Context:**  
Political, economic, technological, and social conditions can all affect risk levels.

1. What is Alpha testing?

Ans. Alpha Testing is definitely performed and carried out at the developing organisations location with the involvement of developers.

1. What is beta testing?

Ans. Beta Testing is performed and carried out by users or you can say people at their own locations and site using customer data.

1. What is component testing?

Ans. Component testing is level of testing process where individual units are tested.

1. What is functional system testing?

Ans. A requirement that specifies a function that a system or system component must perform . It is called functional system testing.

1. What is Non-Functional Testing?

Ans. Testing the attributes of a system that do not relate to functionality it is called non functional testing.

1. What is GUI Testing?

Ans. Graphical User Interface testing is the process of testing the system’s GUI of the System under Test. GUI testing involves checking the screens with the controls like menus, buttons, icons, and all types of bars tool bar, menu bar, dialog boxes and windows etc.

1. What is Adhoc testing?

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

1. What is load testing?

Ans. Load testing is a kind of performance testing which determines a system’s performance under real-life load conditions.

1. What is stress Testing?

Ans. System is stressed beyond its specifications to check how and when it fails. Performed under heavy load like putting large number beyond storage capacity, complex database queries, continuous input to system or database load.

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

Ans. White box testing is testing based on an analysis of the internal structure of the system.

* **Type of white box testing :**

1. What is black box testing? What are the different black box testing techniques?

Ans. Black box testing is either functional or non functional, without any reference of the internal system.

* **Black box testing techniques :**
* Equivalence partitioning
* Boundary value analysis
* Decision tables
* State transition testing

1. Mention what are the categories of defects?

Ans.

* **Data Quality/Database Defects**
* **Functionality Defects**
* **Critical Functionality Defects**
* **Security Defects**
* **User Interface Defects:**

1. Mention what bigbang testing is ?

Ans. Bigbang testing is all components are integrated simultaneously.

after which everything is tested as a whole.

* Big Bang testing has the advantage that everything is finished before integration testing starts.
* The major disadvantage is that in general it is time consuming and difficult to trace the cause of failures because of this late integration.

1. What is the purpose of exit criteria?

Ans. Successful Testing of Integrated Application.

Executed Test Cases are documented

All High prioritized bugs fixed and closed

Technical documents to be submitted followed by release Notes.

1. When should "Regression Testing" be performed?

Ans.

* when the system is stable and the system or the environment changes
* when testing bug-fix releases as part of the maintenance phase
* It should be applied at all Test Levels
* It should be considered complete when agreed completion criteria for regression testing have been met
* Regression test suites evolve over time and given that they are run frequently are ideal candidates for automation

1. What is 7 key principles? Explain in detail?

Ans.

1. Difference between QA v/s QC v/s Tester.

Ans.

|  |  |  |
| --- | --- | --- |
| QA | QC | Tester |
| QA is sub set of software testing life cycle | QC is sub set of QA | Tester is sub set of QC |
| QA is preventive activity | QC is corrective process | Tester is preventive process |
| Process oriented activities. | Product oriented activities. | Product oriented activities. |
| Activities which ensure the implementation of processes. | Activities which ensure the verification of developed software | Activities which ensure the identification of bugs,error,defects in the Software. |

1. Difference between Smoke and Sanity?

Ans.

|  |  |
| --- | --- |
| Smoke Testing | Sanity Testing |
| Smoke testing is performed after build software as certain as the critical functionality of the program working fine. | Sanity testing is performed to ascertain that the bugs have been fixed and no further issues are introduced due to these changes. |
| Smoke testing usually documented and unscripted. | Sanity testing is usually not documented and scripted. |
| This is performed by the tester or developer. | This is performed by the only tester. |
| Smoke testing is a subset of Regression testing. | Sanity testing is a subset of Acceptance testing. |

1. Difference between verification and Validation.

Ans.

|  |  |
| --- | --- |
| Verification | Validation |
| Verification model is performed by developer | Validation model is performed by tester |
| Verification type:  Business requirement  System requirement  Technical specification  Program specification  coding | Validation type:  Unit testing  Integration testing  System testing  Acceptance testing |

1. Explain types of Performance testing.

Ans.

* Type of performance testion:

**Load testing**

**Stress testing**

**Endurance testing**

**Spike testing**

**Volume testing**

**Scalability testing**

* **Load testing**  :

**“**Load testing is a kind of perfrmance testing which determines a system’s performance under real-life load conditions.”

Its a performance testing to check system behavior under load. Testing an application under heavy loads, such as testing of a web site under a range of loads to determine at what point the system’s response time degrades or fails.

* **Stress testing :**

**“**System is stressed beyond its specifications to check how and when it fails. Performed under heavy load like putting large number beyond storage capacity, complex database queries, continuous input to system or database load.”

It even tests beyond the normal operating point and evaluates how the system works under those extreme conditions.

Stress Testing is done to make sure that the system would not crash under crunch situations.

tress testing is also known as endurance testing.

1. What is Error, Defect, Bug and failure?

Ans. Error : mistake in coding it is called error.

Defect : error found by tester it is called defect.

Bug : defect accepted by development team then it is called bug.

Failure: does not met the specific requirement it is called failure.

1. Difference between Priority and Severity .

Ans.

|  |  |
| --- | --- |
| Priority | Severity |
| Priority is Relative and Business-Focused | Severity is absolute and Customer-Focused. |
| For Example:  If the company name is misspelled in the home page of the website | For Example :  If an application or web page crashes |
| Type:  Critical  Major  Moderate  Minore  Cosmetic | Type:  Low  Midium  High  Critical |

1. What is Bug Life Cycle?

Ans. “computer bug is an error, flaw, mistake, failure, or fault in a computer program that prevents it from working correctly or produces an incorrect result. Bugs arise from mistakes and errors, made by people, in either a program’s source code or its design.”

1. Explain the difference between Functional testing and NonFunctional testing.

Ans.

|  |  |
| --- | --- |
| Functional Testing | Non Functional Testing |
| Functional testing is analysis based on specification of the functionality of the system. | Testing the attributes of a component or system that do not relate to functionality |
| Type:  Unite testing  Smoke testing  Sanity testing  White box testing  Black box testing | Type:  Performance Testing  Load Testing  Volume Testing  Stress Testing  Security Testing  Installation Testing |
| Manual testing is easy | Manual testing is hard |
| Functional testing is executed first | Non functional testing should be performed after functional testing |

1. What is the difference between the STLC (Software Testing Life Cycle) and SDLC (Software Development Life Cycle)?

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| --- | --- |
| STLC | SDLC |
| A systematic approach to testing software, ensuring its quality and reliability. | SDLC is a structure imposed on the development of a software product that defines the process for planning, implementation, testing, documentation, deployment, and ongoing maintenance and support. |
| Phases:  Business analysis  Test panning  Test case development  Test environment setup  Test execution  Test cycle closer | Phases:  Requirement collection  Analysis  Design  Implementation  Testing  Maintenance |

1. What is the difference between test scenarios, test cases, and test script?

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| --- | --- | --- |
| Test Scenarios | Test Cases | Test Script |
| Test Scenario is any functionality that can be tested. | Test cases is involves set of steps, condition, and inputs to performing test task. | Test script is set of instruction and this instruction how to execute core business function. |
| Is more focussed on what to test. | Is focussed on what to test and how to test. | Is focussed on the expected result. |
| The scenarios are derived from use cases. | Test cases are derived (or written) from test scenario. | The Test Script can be manual or automated |

1. What is priority?

Ans.

“Priority is Relative and Business-Focused. 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.

1. What is severity?

Ans.

Severity is absolute and Customer-Focused. It is the extent to which the defect can affect the software. In other words it defines the impact that a given defect has on the system.

1. Advantage of Bugzila.

Ans.

* Bugzilla provides a system for tracking and managing bugs, allowing teams to keep track of issues and ensure they are resolved efficiently.
* Bugzilla allows for customization of workflows, fields, and settings to suit specific team needs.
* Bugzilla offers advanced search capabilities, enabling users to find specific bugs and details easily.
* Bugzilla offers comprehensive reporting tools to generate reports, charts, and graphs related to bug statistics and project progress.

1. Difference between priority and severity.

Ans.

|  |  |
| --- | --- |
| Priority | Severity |
| Priority is Relative and Business-Focused. | Severity is absolute and Customer-Focused. |
| Priority defines the order in which we should resolve a defect. Should we fix it now, or can it wait. | It is the extent to which the defect can affect the software. |
| Example:  A bug that blocks essential functionality. | Example:  A bug that causes the application to crash. |

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

Ans.

Scrum:

A popular framework that uses short time-boxed iterations called sprints to deliver working software increments. Scrum emphasizes collaboration, iterative development, and continuous improvement.

Kanban:

A visual workflow management system that focuses on limiting work in progress (WIP) and visualizing the flow of work through different stages. Kanban is adaptable and can be implemented in various project contexts.

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

Ans.

|  |  |
| --- | --- |
| Authorization | Authentication |
| Verifying a user’s identity before giving them permission to access a system, account, or file. | Verifying a user’s access level toa system account or file |
| To confirm the user’s identify and prevent unauthorized access. | To ensure users can only access resources they are allowed to. |
| Compares user credentials with stored data. | Grants or denies access on roles or permissions. |

* Common problems in web testing include ensuring cross-browser and cross-device compatibility, handling dynamic content, managing performance and load, and addressing security vulnerabilities.