**SOFTWARE TESTING ASSIGNMENT**

**MODULE 2 (Manual Testing)**

**Q. What is Exploratory Testing?**

**Ans**. Exploratory testing is an approach to software testing that is often described as simultaneous learning, test design, and execution. It focuses on discovery and relies on the guidance of the individual tester to uncover defects that are not easily covered in the scope of other tests.

**Q. What is traceability matrix?**

**Ans.** A traceability matrix is a document that details the technical requirements for given test scenario and its current state. It helps the testing team to understand the level of testing that is done for a given a given product.

**Q. 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 Boundary value analysis is a method which refines equivalence partitioning.

**Q. What is Equivalence partitioning testing?**

**Ans**. Equivalence partitioning is a black-box testing technique that allows testers to group input data into sets or classes, making it possible to reduce the number of test cases while still achieving comprehensive coverage. This technique is particularly useful when dealing with a large range of input values.

**Q. What is Integration testing?**

**Ans.** Integration testing is a testing performed to expose defects in the interfaces and in the interactions between integrated components or systems.

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

**Q. What determines the level of risk?**

**Ans.** A factor that could result in future negative consequences, usually expressed as impact and likelihood.

**Q. What is Alpha testing?**

**Ans.** **Alpha testing** is a type of software testing performed to identify bugs before releasing the product to real users or to the public. It is the last testing stage before the software is released into the real world.

**Q. What is beta testing?**

**Ans.** Beta testing is the process of testing a software product or service in a real-world environment before its official release. It is an essential step in the software development lifecycle as it helps identify bugs and errors that may have been missed during the development process.

**Q. What is component testing?**

**Ans.** Unit testing is a level of the software testing process where individual units/components of a software/system are tested. The purpose is to validate that each unit of the software performs as designed.

**Q. What is functional system testing?**

**Ans.** Functional testing is a testing based on an analysis of the functional specifications of a component or system.

**Q. What is Non-Functional Testing?**

**Ans.** Non-Functional testing is a testing the attributes of a component or system that do not relate to functionality, e.g. reliability, efficiency, usability, interoperability, maintainability and portability.

**Q. What is GUI Testing?**

**Ans.** Graphical User Interface (GUI) 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.

**Q. What is Ad hoc testing?**

**Ans**. Ad hoc testing is an informal testing type with an aim to break the system.

The Error guessing is a technique where the experienced and good testers are encouraged to think of situations in which the software may not be able to cope.

**Q. What is load testing?**

**Ans.** Load testing is a kind of performance testing which determines a system’s performance under real-life load conditions. This testing helps determine how the application behaves when multiple users access it simultaneously.

**Q. What is stress testing?**

**Ans.** Stress testing is defined as a type of software testing that verifies the stability and reliability of the system.

This test particularly determines the system on its robustness and error handling under extremely heavy load conditions.

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

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

**Ans.** White box testing is atesting based on an analysis of the internal structure of the component or system.

Types of white box testing:

* Unit testing
* Static and Dynamic analysis
* Statement, path, branch coverage
* Security testing
* Loop testing

**Q. What is black box testing? What are the different black box testing techniques?**

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

There are four black-box techniques:

* Equivalence partitioning
* Boundary value analysis
* Decision tables
* State transition testing

**Q. Mention what are the categories of defects?**

**Ans.** Types of Defects:

* Database defect
* Critical functionality defect
* Functionality defect
* Security defect
* User interface defect

**Q. Mention what big bang testing is?**

**Ans.** In Big Bang integration testing all components or modules is integrated simultaneously, after which everything is tested as a whole.

Big Bang testing has the advantage that everything is finished before integration testing starts.

**Q. What is the purpose of exit criteria?**

**Ans.** Purpose of exit criteria is to define when we STOP testing either at the:

* End of all testing – i.e. product Go Live
* End of phase of testing (e.g. hand over from System Test to UAT)

**Q. When should "Regression Testing" be performed?**

**Ans.** Regression testing can be performed on a new build when there is a significant change in the original functionality. It ensures that the code still works even when the changes are occurring. Regression means Re-test those parts of the application, which are unchanged.

**Q. What is 7 key principles? Explain in detail.**

**Ans.**7 key principles are:

* **Testing shows presence of Defects:**

Testing can show that defects are present, but cannot prove that there are no defects.

Testing reduces the probability of undiscovered defects remaining in the software but, even if no defects are found, it is not a proof of correctness.

* **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 risks and priorities to focus testing efforts.

* **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.

Testing activities should start as early as possible in the development life cycle.

* **Defect Clustering:**

Defects are not evenly spread in a system they are ‘clustered’.

In other words, most defects found during testing are usually confined to a small number of modules. Similarly, most operational failures of a system are usually confined to a small number of modules.

* **The Pesticide Paradox:**

If the same tests are repeated overland over again eventually the same set of test cases will no longer find any new defects.

To overcome this “pesticide 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 more defects.

* **Testing is Context Dependent:**

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

For example; Safety-critical software is tested differently from an E-commerce site.

* **Absence of Errors Fallacy:**

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

**Q. Difference between QA v/s QC v/s Testing.**

**Ans.**

|  |  |  |
| --- | --- | --- |
| **QA** | **QC** | **Testing** |
| Activities which ensure the implementation of processes, procedures and standards in context to verification of developed software and intended requirements. | Activities which ensure the verification of developed software with respect to documented requirements. | Activities which ensure the identification of bugs/error/defects in the Software. |
| Focuses on processes 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 and process. | Focuses on actual testing. |
| Process oriented activities. | Product oriented activities. | Product oriented activities. |
| Preventive activities. | It is a corrective process. | It is a preventive process. |
| It is a subset of Software Test Life Cycle (STLC). | QC can be considered as the subset of Quality Assurance. | Testing is the subset of Quality Control. |

**Q. Difference between Smoke and Sanity.**

**Ans.**

|  |  |
| --- | --- |
| **Smoke Testing** | **Sanity Testing** |
| Smoke Testing is performed to ascertain that the critical functionalities of the program is working fine | Sanity Testing is done to check the new functionality / bugs have been fixed. |
| This testing is performed by the developers or testers. | Sanity testing is usually performed by testers. |
| Smoke testing is usually documented or scripted. | Sanity testing is usually not documented and is unscripted. |
| Smoke testing is a subset of Regression testing | Sanity testing is a subset of Acceptance testing |
| Smoke testing exercises the entire system from end to end. | Sanity testing exercises only the particular component of the entire system. |
| Smoke testing is like General Health check up. | Sanity Testing is like specialized health check up. |

**Q. Difference between verification and Validation.**

**Ans.**

|  |  |
| --- | --- |
| **Verification** | **Validation** |
| It includes checking documents, design, codes and programs. | It includes testing and validating the actual product. |
| Verification is the static testing. | Validation is the dynamic testing. |
| It does not include the execution of the code. | It includes the execution of the code. |
| It checks whether the software conforms to specifications or not. | It checks whether the software meets the requirements and expectations of a customer or not. |
| It comes before validation. | It comes after verification. |
| Verification is for prevention of errors. | Validation is for detection of errors. |

**Q. Explain types of Performance testing.**

**Ans.** Types of performance testing are:

**Load testing:** It is a kind of performance testing which determines a system’s performance under real-life load conditions. This testing helps determine how the application behaves when multiple users access it simultaneously.

**Stress testing:** It is defined as a type of software testing that verifies the stability and reliability of the system.

This test particularly determines the system on its robustness and error handling under extremely heavy load conditions.

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

**Q. What is Error, Defect, Bug and failure?**

**Ans.** A mistake in coding is called error, error found by tester is called defect, defect accepted by development team then it is called bug, build does not meet the requirements then it is failure.

**Q. Difference between Priority and Severity.**

**Ans.**

|  |  |
| --- | --- |
| **Priority** | **Severity** |
| It’s driven by functionality. | It’s driven by business value. |
| It means the seriousness of the defect in the product functionality. | It means how soon as bug should be fixed. |
| How bad the defect is. | How soon we need to fix. |
| It is the extent to which the defect can affect the software. | It is define the order in which we should resolve a defect. |

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

**Ans.** 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 ‘Bug Life Cycle’.

**Q. Explain the difference between Functional testing and Non functional testing.**

**Ans.**

|  |  |
| --- | --- |
| **Functional testing** | **Non functional testing** |
| Functional testing is performed using functional specification provided by the client and verifies the system against the functional requirements. | Non-Functional testing checks the performance, reliability, scalability and other non-functional aspects of the software system. |
| Functional testing is executed first. | Non functional testing should be performed after functional testing. |
| Manual testing or automation tools can be used for functional testing | Using tools will be effective for this testing. |
| Business requirements are the inputs to functional testing. | Performance parameters like speed, scalability are inputs to non-functional testing. |
| Functional testing describes what the product does. | Nonfunctional testing describes how good the product works. |
| Easy to do manual testing. | Tough to do manual testing. |

**Q. To create HLR & Test Case of**

**1)(Instagram , Facebook) only first page**

**Ans.** Assignment2🡪Instamobile tst🡪sheet1:HLR,sheet2🡪Testcase

**2) Facebook Login Page :** [**https://www.facebook.com/**](https://www.facebook.com/)

**Ans.** Assignment2🡪Facebook tst🡪sheet1:HLR,sheet2🡪Testcase

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

**Ans.**

|  |  |
| --- | --- |
| **STLC** | **SDLC** |
| It is a testing life cycle. | It is development life cycle. |
| Limited only to testing the phase | Covers the entire life cycle of the software. |
| Stand for software testing life cycle | Stand for software development life cycle. |
| STLC fewer people are involved | SDLC a more people involved in all process |

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

**Ans.**

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| --- | --- | --- |
| **Test scenario** | **Test Case** | **Test script** |
| It is any functionality that can be tested | It is a set of sequential instruction that detail how to execute a core business function | It is involve the set of steps ,condition and inputs which can be used while performing  The testing tasks. |
| Is more focused on what to test. | Is focused on what to test and how to test | Is focused on the expected result |
| Helps test the end to end functionality is an agile way | Help in exhaustive testing of an app | Helps to test specific things repeatedly |
| Takes less time and fewer resources to create | Takes too much time and require more resources | Requires less time for testing. |

**Q. Explain what Test Plan is? What is the information that should be covered?**

**Ans.** A document describing the scope, approach, resources and schedule of intended test activities.

The test pan covered how to test will be performed.This include defining test objectives, test approach, test tools, test environment, test schedules and composition.

**Q. What is priority?**

**Ans.** Priority is Relative and Business-Focused. Priority defines the order in which we should resolve a defect.

**Q. What is severity?**

**Ans.** Severity is absolute and Customer-Focused. It is the extent to which the defect can affect the software.

It defines the impact that a given defect has on the system.

**Q. Bug categories are…**

**Ans.** Categories are….

* Functional bugs
* Logical bugs
* Workflow bugs
* Unit level bugs
* Security bugs

**Q. Advantage of Bugzila.**

**Ans.**

* It improves the quality of the product.
* It enhances the communication between the developing team and the testing team.
* It has the capability to adapt to multiple situations.

**Q. Difference between priority and severity.**

**Ans.**

|  |  |
| --- | --- |
| **Priority** | **Severity** |
| Defined by the impact on business. | Defined by the impact of a specific problem on any application’s functionality. |
| Category decided by developers or product owners. | Category decided by testers. |
| Deals with the timeframe or order to fix the defects. | Deals with the technical aspects of the application. |
| The priority value is subjective and may change after comparing with other defects. | The value does not change with time, it’s fixed. |

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

**Ans.**

* Scrum
* Extreme programming (XP)
* Adaptive software development
* Kanban
* FDD
* DSDM
* Behavior driven development(BDD)

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

**Ans.**

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| --- | --- |
| **Authentication** | **Authorization** |
| It verifies who the user is. | It determines what resources a user can access. |
| It is the first step of a good identity and access management process. | It always takes place after authentication. |
| Data generally moves through ID tokens. | Data generally moves through access tokens. |
| User can change their authentication  Credentials. | Users can’t change their access level. |

One of the common challenges of web testing is ensure that your web app works well across different browsers, devices and operating systems.

**Q. When to used Usability Testing?**

**Ans.** Once you've got an idea, conduct usability testing before putting any design resources to work. Identify specific areas where testing and validation can enhance your concept. After you get the results from your initial test, share them with your team. Then, continue testing users as you build a prototype.

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

**Ans.**

**MANUAL BASED TESTING:**

Under this approach, graphical screens are checked manually by testers in conformance with the requirements stated in business requirements document.

**RECORD AND REPLAY:**

GUI testing can be done using automation tools. This is done in 2 parts. During Record, test steps are captured into the automation tool. During playback, the recorded test steps are executed on the Application under Test. Example of such tools - QTP.

**MODEL BASED TESTING:**

A model is a graphical description of system’s behavior. It helps us to understand and predict the system behavior. Models help in a generation of efficient test cases using the system requirements.

**Q. To create HLR & TestCase of Web Based (WhatsApp web, Instagram)**

**1. WhatsApp Web:** [**https://web.whatsapp.com/**\](https://web.whatsapp.com/\)

**Ans.** Assignment2🡪Whatsapp Web tst🡪sheet1:HLR,sheet2🡪Testcase

**2. Instagram Web**

**Ans.** Assignment2🡪Instagram tst🡪sheet1:HLR,sheet2🡪Testcase

**Q. To create HLR and TestCase on this Link. https://artoftesting.com/**

**Ans.** Assignment2🡪Artoftesting tst🡪sheet1:HLR,sheet2🡪Testcase

**Q. Write a scenario of only Whatsapp chat messages.**

**Ans.** Assignment2🡪App test scenarioes🡪sheet name: Whatsapp.

**Q. Write a Scenario of Pen.**

**Ans.** Assignment2🡪Test scenarioes🡪sheet name: Pen.

**Q. Write a Scenario of Pen Stand.**

**Ans.** Assignment2🡪Test scenarioes🡪sheet name: Pen stand.

**Q. Write a Scenario of Door.**

**Ans.** Assignment2🡪Test scenarioes🡪sheet name: Door.

**Q. Write a Scenario of ATM.**

**Ans.** Assignment2🡪Test scenarioes🡪sheet name: ATM.

**Q. Write a scenario of Microwave Owen.**

**Ans.** Assignment2🡪Test scenarioes🡪sheet name: Microwave Owen.

**Q. Write a scenario of Coffee vending Machine.**

**Ans.** Assignment2🡪Test scenarioes🡪sheet name: Coffee vending Machine.

**Q. Write a scenario of chair.**

**Ans.** Assignment2🡪Test scenarioes🡪sheet name: Chair.

**Q.** **To Create Scenario (Positive & Negative).**

**1. G mail**

**Ans.** Assignment2🡪App test scenarioes🡪sheet name: G mail.

**2. Flipcart**

**Ans.** Assignment2🡪App test scenarioes🡪sheet name: Flipcart.

**Q.** **Write a Scenario of Wrist Watch.**

**Ans.** Assignment2🡪Test scenarioes🡪sheet name: Wrist Watch.

**Q. Write a Scenario of Lift (Elevator).**

**Ans.** Assignment2🡪Test scenarioes🡪sheet name: Lift.

**Q. Write a Scenario of whatsapp Group (generate group).**

**Ans.** Assignment2🡪App test scenarioes🡪sheet name: whatsapp group.

**Q. Write a Scenario of Whatsapp payment.**

**Ans.** Assignment2🡪App test scenarioes🡪sheet name: Whatsapp payment.