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Assignment No. 2

Q.1 Differentiate betn Alpha testing and Beta Testing.

→

Alpha Testing	Beta Testing
(1) It is done by internal testers of the organization	(1) It is done by real users.
(2) It is an internal test, performed within the organization	(2) It is an external test, carried out in the user's environment
(3) It uses both black box and white box testing technique	(3) It only uses the black-box testing technique.
(4) Identifies possible errors	(4) checks the quality of product.
(5) Developers start fixing bugs as soon as they are identified	(5) Errors are found by users and feedback is necessary.
(6) long execution cycles	(6) It only takes a few weeks
(7) It is performed before Beta Testing	(7) It is the final test before launching the product on market.
(8) Functionality and usability are tested	usability, functionality, security and reliability are tested with the same depth.

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Q.2 Write a short note on Integration testing.

→ (1) Integration testing is the process of testing the interface betn two software units or modules.

(2) It focuses on determining the correctness of the interface.

(3) The purpose of integration testing is to expose faults in the interaction betn integrated units.

(4) Once all the modules have been unit tested, integration testing is performed.

(5) There are four types of integration testing approaches. Those approaches are the following

a) Big Bang Integration Testing :→

It is the simplest integration testing approach, where all the modules are combined and the functionality is verified after the completion of individual module testing.

b) Bottom up integration Testing :→

In this, each module at lower levels is tested with higher modules until all modules are tested. This integration testing uses test drivers to drive and pass appropriate data to the lower level modules.

c) Top-down integration Testing :→

This technique is used in order to simulate the behaviour of the lower-level modules that are not yet integrated. Testing takes place from top to bottom.

d) mixed integration Testing :→

It is also called sandwiched integration testing. It follows a combination of topdown and bottom up testing approaches.

Q.3 What are metrics, measures and indicators?

→ (1) Metrics :→

Metrics represent the different methods we employ to understand change over time across a number of dimension. It is often used as a catch all term to describe the method used to measure something, the resulting values obtained from measuring, as well as calculated or combined set of measures.

(2) Measures →

A measure is a number or a quantity that records a directly observable value or performance. All measures are composed of a value and a unit of measure. The number provides magnitude for the measure, while the unit gives number meaning. Ex. 1,234,567 pageviews

(3) Indicators :→

An indicator is a qualitative factor or variable that provides a simple and reliable mean to express achievement, the attainment of a goal, or the results stemming from a specific change.

Ex. 1M weekly active user.

Q.4 Explain function point metric in detail.

→ (1) Function point metrics provide a standardized method for measuring the various function of a software application.

(2) It measures the functionality from the user's point of view, that is, on the basis of what the user request and receives in return.

(3) Function point analysis is a standard method for

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measuring software development from the users point of view.

(4) The function point measure originally conceived by Albrecht received increased popularity with the inception of the international function point users group in 1986.

(5) Function point is the most widespread functional type metrics suitable for quantifying a software application.

(6) It is based on five users identifiable logical "function" which are divided into two data function types and three transactional functional types.

Q.5 Explain different types of software risks.

→ (1) Schedule Risk :→

Project schedules get slipped when project tasks and schedule released risks are not addressed properly. Schedule risk mainly affect a project and finally on the company's economy and may lead to project failure.

(2) Budget Risk :→

Budget risk includes the following:

- wrong budget estimation.
- cost overruns
- project scope expansion

(3) Operational Risks :→

Risk of loss due to improper process implementation, failed system or some external event risks.

causes:

- Failure to address priority conflicts
- Insufficient resources

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- No resource planning
- No communication within the team
- No proper subject training

(ii) Technical risks :→

Technical risks generally lead to failure of functionality and performance.

Causes :

- Continuously changing requirement
- The product is complex to implement
- Difficult project module integration.

(iii) Programmatic Risks :→

These are external risks beyond the operational limits. These are all uncertain risk that are outside the control of the program.

External events can be :

- Running out of funds.
- Market development
- Government rule changes.

Q.6 Write short note on software Reengineering.

→ (1) Software reengineering is a process of s/w development which is done to improve the maintainability of s/w system.

(2) It is the examination and alteration of a system to reconstitute it in a new form.

(3) This process encompasses a combination of sub-processes like reverse engineering, forward engineering & etc...

(1) Objectives :

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- To describe a cost effective option for system evolution.
- To describe the activities involves in the sftw maintenance process.

(5) Steps involved in Reengineering :→

a) Inventory Analysis
b) Document Reconstruction
c) Reverse Engineering
d) Code Reconstruction
e) Data Reconstruction
f) Forward Engineering

(6) Re-engineering cost factors :-

- The quality of the sftw to be re-engineered.
- The tool support available for re-engineering.
- The extent of the required data conversion
- The availability of expert staff for re-engineering.