Types of Cloud Testing (Functional and Non-functional) – Shrija

Slide 1:

* Cloud Testing refers to the verification and validation of applications, environments and infrastructure that is available on demand.
* Cloud Testing is defined as testing as a Service (TaaS).
* TaaS is considered as a new business and service model, in which a provider undertakes software testing activities of a given application in a cloud infrastructure for customers.
* Cloud testing is gaining popularity due to reduce costs, speed and better quality of the applications.

For example, mobile and web applications are tested in multiple operating systems, multiple browser platforms and versions and different types of hardware to understand its performance in real-time.

Slide 2: Function Testing:

Functional Testing is a process of quality assurance. It is performed for both remote and local applications. Functional testing involves carrying various tasks and comparing the result of same tasks with the expected output.

1. **System Testing**: System testing is a testing performed on a fully integrated system to evaluate the system's compliance with its specified requirements. System testing tests the behavior, design and the expectations of the customer
2. **Integration Testing**: Integration testing is the technique in which each software module is tested as a group. It is mainly responsible for connecting source and target system, extracting data from source system, mediating semantics and syntax of data and publishing the data to target system.
3. **User Acceptance**: In this testing, business requirements are used to prove that the Cloud solution that is delivered meets certain needs. This testing is done on both off-premise and on premise.

Slide 3: Non-Function Testing:

This testing is done for ensuring that a web application meets the specified performance requirements. It is also known a performance testing technique.

1. **Cloud Availability Testing**: This ensures that cloud services must be available always. There should be no downtime which could adversely affect the business of client.
2. **Cloud Security Testing:** It has become one of the important parts of testing as security issues as increasing gradually in business. Security mechanisms are tested in three dimensions: Accuracy, Effectiveness and Performance
3. **Cloud Scalability and Performance Testing:** Cloud Scalability is that area of concern where proper amount of testing is needed. Performance testing is the testing which measures response times and issues related to specific actions.
4. **Cloud Load and Stress Testing:** Load testing is used for creating heavy user traffic and measuring its response. Stress Testing helps to determine ability of application to maintain a certain level of effectiveness
5. **Latency Testing:** This testing involves measuring the latency (delay) between the action and the response for any application after deploying it on cloud.

Slide 4: **Ability Testing**

Ability testing is done to ensure that user receives appropriate services from cloud environment on demand.

1. **Compatibility and Interoperability Testing:** It is a testing performed on the application to evaluate the application's compatibility with the computing environment. A compatibility test includes: 1. Hardware configurations 2. Different Platforms 3. Computer Peripherals 4. Network Environment
2. **Disaster Recovery Testing:** Disasters are generallyunpredictable. Disaster recovery time must be low after some failure occurs with minimum or no data loss
3. **Multi-Tenancy Testing:** It refers to a principle where a single instance of the software runs on a server, serving multiple client organizations. It refers to multiple organization and clients using an on demand offering.