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**Manual Testing**

-> Using Manual Testing we will note down the errors list and check the whether the client requirements are satisfied or not in the project Test Case Template.

**SDLC (Software Development Life Cycle)**

a) Requirement Phase: In this phase we are gather the all information from the client.

b) Planning Phase: We are Planning total project software’s and team details.

c) Design Phase: We are design the Project

d) Coding Phase: Develop the project with code

e) Testing Phase: We are testing project with testing tools.

f) Maintenance: We deliver and maintenance project.

**Software Development Models**

-> Water Fall Model

-> Iterative Model

-> Spiral Model

-> V Model

-> Big Bang Model

-> Agile Model

-> RAD Model

**-> Water Fall Model**

-> The Waterfall Model was first Process Model to be introduced.

-> This is linear-sequential life cycle model

-> A waterfall model, each phase must be completed before the next phase can begin and there is no overlapping in the phases

a) Requirement Gathering and analysis.

b) System Design.

c) Implementation.

d) Testing.

e) Deployment.

f) Maintenance.

**-> Iterative Model**

-> Iterative process starts with a simple implementation of a small set of the software requirements and iteratively enhances the evolving versions until the complete system is implemented and ready to be deployed

-> Requirements

-> Build 1...n

a) Design.

b) Development.

c) Testing.

-> Deployment.

-> Maintenance.

**-> Spiral Model**

-> The spiral model combines the idea of iterative development with the systematic, controlled aspects of the waterfall model.

-> Spiral model is a combination of iterative development process model and sequential linear development model i.e. waterfall model with very high emphasis on risk analysis.

a) Identification.

b) Design.

c) Construct or Build.

d) Evaluation and Risk Analysis.

**-> V-Model**

-> The V - model is SDLC model where execution of processes happens in a sequential manner in V-shape. It is also known as Verification and Validation model.

-> V - Model is an extension of the waterfall model and is based on association of a testing phase for each corresponding development stage. This means that for every single phase in the development cycle there is a directly associated testing phase.

**-> Big Bang Model**

-> Big Bang Model is SDLC model where there is no formal development followed and very little planning is required. Even the customer is not sure about what exactly he wants and the requirements are implemented on the fly without much analysis.

-> Usually this model is followed for small projects where the development teams are very small.

**-> Agile Model**

-> Agile SDLC model is a combination of iterative and incremental process models with focus on process adaptability and customer satisfaction by rapid delivery of working software product.

-> Agile Methods break the product into small incremental builds. These builds are provided in iterations. -> Each iteration typically lasts from about one to three weeks. Every iteration involves cross functional teams working simultaneously on various areas like planning, requirements analysis, design, coding, unit testing, and acceptance testing.

-> At the end of the iteration a working product is displayed to the customer and important stakeholders.

Here is a graphical illustration of the Agile Model:

-> Planning

-> Req. Analysis

-> Designing

-> Building

-> Testing

**-> RAD Model**

-> The RAD (Rapid Application Development) model is based on prototyping and iterative development with no specific planning involved. The process of writing the software itself involves the planning required for developing the product.

-> Rapid Application development focuses on gathering customer requirements through workshops or focus groups, early testing of the prototypes by the customer using iterative concept, reuse of the existing prototypes (components), continuous integration and rapid delivery.

**-> Testing Methodologies**

-> We have three types of testing methodologies

a) Black Box Testing: It is used by Independent Testers

b) White Box Testing: It is used for Developers

c) Grey Box Testing : It is Used by Testers

**-> Levels of Testing**

1) Unit Level Testing

-> It is used Developers so we using white box testing methodologies

2) Module Level Testing

-> It is used independent testing so we are using block box testing.

3) Integration Level Testing

-> All Modules we combined and once again testing that is known Integration level Testing.

a) Top - Down

b) Bottom - Up

c) Hybrid

d) Big Bang

4) System Level Testing

-> In This one we are check project working properly or not.

5) Acceptance Testing.

-> It is check the customer.

**-> Software Testing Life Cycle:**

1) Testing Planning

2) Test Development

3) Test Execution

4) Result Analysis

5) Bug Tracking

6) Error Reporting

-> Each every process we are maintain the documents.