Agile Methodology

AGILE is a methodology that promotes continuous iteration of development and testing throughout the SDLC of the project. Both development and testing activities are concurrent unlike the Waterfall model.

1) What is Agile Testing?

Agile testing is a practice that QA follows in a dynamic environment where the testing requirement keeps on changing according to customer needs. It is basically done in parallel with development activity where small piece of code is released frequently by development team for tester to test .

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2) What is difference between Burndown chart and Burn up chart?

Both charts are used to keep the track of progress of project

1) Burn up chart represents the amount of work completed in a project
2) Burn down chart represents the amount of work remaining in the project

Burn down and Burn up chart can be with respective to sprint .

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3) Define the roles in Scrum ?

Three main roles in scrum team

1) Product owner

Product owner who is responsible for managing product backlogs . Product owner
(In our case was our Co-founder) communicate with end users or customers to gather requirement
and communicates same with Scrum to build proper Product

2) Scrum Master

Scrum Master works with Scrum team , Scrum master ensures each sprint gets
complete on time and ensures proper work flow of scrum team.
(Testbed , Android Devices , IOS devices , Testing tools (Browserstack and Genymotion),Hardware
and Software requirements)

3) Scrum Team

Our scrum team consists of Developers , Testers , Product Manager , Product Owner ,
Support team.
Every person in the team should be self organised , self motivated , and responsible for high quality
of work.

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4) Difference between Product backlog and Sprint Backlog ?

Product backlog

Product backlog is maintained by product owner which consists of all features and requirement for the product (Product owner keeps adding new feature to product backlog list for future release).

Sprint backlog (User stories)

Spring backlog can be treated as subset of product backlog , its contains the feature (Epic and user stories) which needs to be released for that sprint . In sprint out of 100 product backlog , we will take 15 for the current sprint based on priority and convert them to user storey.
Sprint backlog and product backlog both are same thing .
Each user storey will have ..

1) What ? 2) Why ? 3) How?

Acceptance criteria ?

Conditions that a software product must satisfy to be accepted by a user, customer or other stakeholder

It must statement the functional and nonfunctional requirement for the feature.

Once the acceptance criteria is defined , development team starts development and testing team starts writing test cases.

Acceptance criteria is defined by product owner .

For each user storey we will be having storey point

Storey point will be like (2 Days for development and 1 Day for testing)

(Sanity testing , Regression testing , Bug verification)

Estimation will be given in terms of user storey point

Sprint planning will have Estimations

Exit criteria ?

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5) Explain velocity in agile ?

- ✧ Depending upon total points in storey to how many we completed we check velocity for same using user storey.
- ✧ Velocity is the metric that is calculated by addition of all efforts estimates associated with user stories completed in an iteration .It predicts how much work agile can complete in one sprint and how.
- ✧ Depending upon the velocity we will decide number of user storey needed to be taken for next sprint .

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6) Explain the difference between waterfall model of software development and agile testing?

- ✧ Agile testing is done in parallel with development whereas in waterfall model testing is done after the end of development .
- ✧ Agile testing is done on small features whereas testing in waterfall model is down on complete product.
- ✧ Agile is fast based technology where thing happens rapidly , if clients do not want their feature in certain way , it will be deployed and tested in

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7) What is pair programming and what are the advantages of pair programming ?

- ✧ Pair programming is a technique where one programmer writes a code and other one reviews the code . The role can be reversed . It is also called as peer to peer review.
- ✧ Advantages of peer review.
- ✧ It improves the code quality as the reviewer of code find mistakes in code
- ✧ It's easy way to share knowledge as both the work on same feature simultaneously

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What is refactoring of code?

Modification in the code with changing its functionality is called refactoring .

(Improving the look and feel and performance with latest technologies without changing the basic functionality is called refactoring of code)

We have shifted to angular from basic jquery / javascript to improve the performance .

Explain Incremental and Iterative model in Agile Methodologies of software development ?

Iterative

Software is developed and delivered to customer ,based on the feedback again developed with cycles , releases or sprint .(Release 1)

Say one software is developed in 5 sprints and delivered to customer ,based on some changes same software is again developed in sprints (Release 2)

Incremental

Software is developed in parts and increments , one small feature of software is developed and delivered to End customer.

How do you deal when requirements are frequently changing ?

- ✧ One we need to talk with product owner to exactly understand the requirement and update the test cases.
- ✧ Once the required are signed off and user stories are confirmed do not write test cases .
- ✧ Also understand the risk in changing the requirement .
- ✧ Except these one should able to write generic test plan and test cases
- ✧ And Do not go for automation until the requirement are finalized.

What is test stub ?

- ✧ A small code which mimics a specific component in the system and can replace it .
- ✧ Its output is same as the component it replaces
- ✧ We can call it a stub or we can call it mock.

What are the qualities of good Agile Tester?

- ✧ Agile tester should be able to understand the requirement quickly .
- ✧ Agile tester should know agile concepts and principal
- ✧ As the requirement keeps on changing he should know the risk involved with same
- ✧ Communication is must with agile tester and he needs to communicates more with Developers and Business Associates .
- ✧ Agile tester should able to prioritize the work based on the requirement .

What is difference between epic , user stories and task?

Epic :- A group of similar kind of user storey is called Epic

E.g (Payment gate way is Epic , which have related stories like Just pay payment integration , Wallet Integration , Payment)

Epic will have multiple user stories , user stories will have task

Task : Accomplish any Business requirement Development team create task .

User Stories : User Stories are the actual requirements are created by product owner.

What is the task board in Agile?

Task Board : Task board is the board which shows the progress of project

User stories : User stories is the actual requirement .

To do : The task which can be done

In progress : The task which can be Done

Verify : Task pending for verification or testing

Done : Completed task

What is test driven Development TDD ?

- ✧ In TDD development we add code before we write complete production code .
- ✧ We run the test cases and based on the results we refactor the code to run the test cases again

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How did QA add value to testing Team?

QA add value to by thinking about the various scenarios to test a story.

QA can give quick feedback whether the newly implemented functionality is working correct or not .

(Automation is the most important thing in agile)

What is scrumban?

What is zero sprint in Agile ?

What is spike ?

Name some Agile quality strategies?

What is importance of daily stand up meeting ?

What is tracer bullet?

How the velocity of Sprint is measured ?

Benefits of Agile Software Development?

- ✧ Agile methods grew out of the real-life project experiences of leading software professionals who had experienced the challenges and limitations of traditional waterfall development on project after project.
- ✧ The approach promoted by agile development is in direct response to the issue associated with traditional software development – both in terms of overall philosophy as well as specific processes.

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6) What is the Agile Manifesto?

The agile software development emphasizes on four core values:

- Individual and team interactions over processes and tools
- Working software over comprehensive documentation
- Customer collaboration over contract negotiation
- Responding to change over following a plan

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7) What are some of the key features of Agile Development?

Some of the key features of agile development are,

- Collective code ownership and freedom to change.
- Incremental approach (e.g. user stories are incrementally implemented). Automation (e.g. TDD -- Test Driven Development).
- Customer focused (for e.g. internal and external users and business analysts are your immediate customers).
- Design must be simple.
- Designing is an ongoing activity with constant re-factoring to achieve the rules of code simplicity like no duplication, verified by automated tests, separation of responsibilities, and minimum number of classes, methods, and lines.

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8) What is Scrum?

- ✧ Scrum is an innovative approach to getting work done in efficient way. It is iterative & incremental agile software development method. Scrum is basically worked on a self-organizing, cross-functional team.
- ✧ In the overall scrum team there is no team leader who assign the task to team rather whole scrum members work as a team & they decides the task on which they will work on. Also the problem will be resolve by team.

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9) What is Sprint?

- ✧ Sprint is a predefined interval or the time frame in which the work has to be completed and make it Ready for review or ready for production deployment. This time box usually lies between 2 weeks to 1 month.
- ✧ In our day to day life when we say that we follow 1 month Sprint cycle, it simply means that we work for one month on the tasks and make it ready for review by the end of that month.

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10) What is Extreme Programming (XP)?

- ✧ Extreme Programming technique is very helpful when there is constantly changing demands or requirements from the customers or when they are not sure about the functionality of the system. It advocates frequent "releases" of the product in short development cycles, which inherently improves the productivity of the system and also introduces a checkpoint where any customer requirements can be easily implemented.

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11) What is Test Driven Development?

- ✧ Test driven development or TDD is also known as test-driven design. In this method, developer first writes an automated test case which describes new function or improvement and then creates small codes to pass that test, and later refactors the new code to meet the acceptable standards.

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12) What is a Test Stub?

- ✧ A test stub is a bit of code that replaces an undeveloped or fully developed component within a system being tested. The test stub is built such that it mimics the actual component by generating specific known outputs. The stub can be used as a substitute for the actual (fully developed) component for testing purposes.

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13) What is Feature Driven Development (FDD)?

- ✧ This method is focused around "designing & building" features. Unlike other agile methods, FDD describes very specific and short phases of work that has to be accomplished separately per feature. It includes domain walk-through, design inspection, promote to build, code inspection and design.

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14) What is Lean Software Development?

- ✧ Lean software development method is based on the principle "Just in time production". It aims at Increasing speed of software development and decreasing cost.

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15) What are the Disadvantages of Agile Model?

• In case of some software deliverables, especially the large ones, it is difficult to assess the effort required at the beginning of the software development life cycle.

• There is lack of emphasis on necessary designing and documentation.

• The project can easily get taken off track if the customer representative is not clear what final outcome that they want.

• Only senior programmers are capable of taking the kind of decisions required during the development process. Hence it has no place for newbie programmers, unless combined with experienced resources. Kanban is basically used for maintenance project.