**Testing in Agile Model (Using Scrum method)**

Agile testing aligns with iterative *Development Methodology* in which requirements develop gradually from customers and testing teams. The development is aligned with customer requirements.

There are various agile testing methods as follows:

* Behavior Driven Development (BDD) :- Improves communication amongst project stakeholders so that all members correctly understand each feature before the development process starts. There is continuous example-based communication between developers, testers, and business analysts. The examples are called Scenarios which are written in a special format
* Acceptance Test Driven Development (ATDD) :- Focuses on involving team members with different perspectives such as the customer, developer, and tester.  The acceptance tests are a representation of the user’s point of view and it describes how the system will function. It also helps to verify that the system functions as it is supposed to.
* Exploratory Testing :-  In this testers identify the functionality of an application by exploring the application. The testers try to learn the application, and design & execute the test plans according to their findings.

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**Key Features of Scrum Methodology**

* **Sprints**
* **meetings, events, and milestones**
* **stories**

**3 Pillars of Scrum**

* **Roles**
  + **Product Owner Scrum Master Team**
* **Artifacts**
  + **Product Backlog Sprint Backlog Burn-Down Charts**
* **Ceremonies**
  + **Sprint Planning Sprint Review Sprint Retrospect Daily Scrum Meeting**

**Role of Tester in Scrum**

* **no active role**
* **Unit Testing done by developer**
* **Product Owner involved in testing**
* **Dedicated testing team on basis of project complexity**

**Testing Activities in Scrum**

**During**

* **Sprint Planning**
* **Sprint**
* **Sprint Retrospective**

**Sprint Planning**

**Tester**

* **should pick a user-story from the product backlog that should be tested.**
* **Perform Effort Estimation for testing selected user stories**
* **must know what sprint goals are.**
* **contribute to the prioritizing process**

**Sprint**

* **Support developers in unit testing**
* **Test user-story when completed.**
* **attends all daily standup meeting to speak up**
* **puts backlog items not completed to the next sprint**
* **responsible for developing automation scripts.**
* **Review CI automation results and send Reports to the stakeholders**
* **Executing non-functional testing for approved user stories**
* **Coordinate with customer and product owner to define acceptance criteria for Acceptance Tests**
* **At sprint end, might do acceptance testing(UAT) and confirms testing completeness for the current sprint**

**Sprint Retrospective**

* **figure out what went wrong and what went right**
* **identifies lessons learned and best practices**

**Test Reporting**

* **Burn down chart**
* **Velocity History Graph**
* **Additional metrics:Schedule burn, budget burn, theme percent complete, stories completed - stories remaining and so on.**