

Agile using Scrum



Agile Scrum Methodology



About the Author



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Icons Used



Questions



Tools



Hands-on Exercise



Coding Standards



Questions?



Reference



Try it Out



Informative
Slide



Mandatory
Slide



Welcome Break



Objectives:

- What is Agile
- What is Scrum
- Agile Scrum Methodology in Software Testing,
- Agile Testing
- Agile Scrum Process,
- Scrum Team with Scrum Master

Agile in Software Development:

- ❑ Agile is one of the world's most widely used and recognized software development framework.
- ❑ Agile is a set of principles that encourage flexibility, adaptability, communication and a working software over plans and processes

Agile in Software Development:

- ❑ Agile software development allows the team to work together more efficiently and effectively in developing complex projects.
- ❑ It consists of practices that exercise iterative and incremental techniques which are easily adopted and display great results.

What is Agile?



“Agile is a software development approach where a self-sufficient and cross-functional team works on making continuous deliveries through iterations and evolves throughout the process by gathering feedback from the end users.”

Agile Methodologies



SCRUM

Crystal

XP

FDD

Kanban

ASD

Lean

DSDM

TDD

Advantages of Agile Methodology

- The customers continuously get a look and feel of the project progress at the end of each iteration/sprint.
- Each sprint provides the customer with a working software which meets their expectations as per the definition of done provided by them.
- The development teams are quite responsive to the changing requirements and can accommodate changes even in the advanced stages of development.
- There is a constant two-way communication which keeps the customers involved, thus all stakeholders – business and technical – have a clear visibility on the project's progress.
- The design of the product is efficient and fulfills the business requirements.

Agile using Scrum



- Scrum can easily be considered to be the most popular agile framework.
- The term ‘scrum’ is much considered synonymously to ‘agile’ by most practitioners. But that is a misconception.
- Scrum is just one of the frameworks by which you can implement agile..

Scrum



- The word scrum comes from the sports rugby. Where the players huddle together in an interlocked position pushing against the opponents. Each player has a defined role in their position and can play both offensive and defensive as per the demand of the situation.
- Similarly, the scrum in IT believes in empowered self-managed development teams with three specific and clearly defined roles.
 - I. Product Owner (PO)
 - II. Scrum Master (SM)
 - III. The development team consisting of the programmers and testers.
- They work together in iterative time boxed durations called sprints.

3-3-5 Framework



- A scrum project has 3 roles, 3 artifacts, and 5 events.

Roles	Artifacts	Events
<ul style="list-style-type: none">• PO• Scrum master• Development team	<ul style="list-style-type: none">• Product backlog• Sprint backlog• Product increment	<ul style="list-style-type: none">• Sprint• Sprint planning• Sprint review• Sprint retrospective• Daily scrum

Scrum Team



- Scrum team is a team comprising of 7 with + or – two members.
- These members are a mixture of competencies and comprise of developers, testers, database people, support people etc. along with the product owner and a scrum master.

Sprint



- Sprint is a predefined interval or 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.

Product Owner



- The product owner is the key stakeholder or the lead user of the application to be developed.
- The product owner is the person who represents the customer side.
- He/she has the final authority and should always be available for the team.
- He/she should be reachable when anyone has any doubts that need clarification.
- It is important for the product owner to understand and not to assign any new requirement in the middle of the sprint or when the sprint has already started.

Scrum Master



- Scrum Master is the facilitator of the scrum team.
- He/she makes sure that the scrum team is productive and progressive.
- In case of any impediments, scrum master follows up and resolves them for the team. SCRUM Master is the mediator between the PO and the team.

Business Analyst (BA)



- This person is responsible for getting the requirement finalized and drafted in the requirement docs (based on which the user stories are created).

- If there are any ambiguities in the User Stories / Acceptance criteria, he/she is the one who is approached by the technical (SCRUM) team and he then takes it up to the PO or else if possible resolves on his own.

- In large scale projects there may be more than 1 BA but in small-scale projects, the SCRUM Master may be acting as the BA as well.

User Story & Epic



- User stories are the requirements or feature which has to be implemented.

- Epics are equivocal user stories or we can say that these are the user stories which are not defined and are kept for future sprints.

Product Backlog



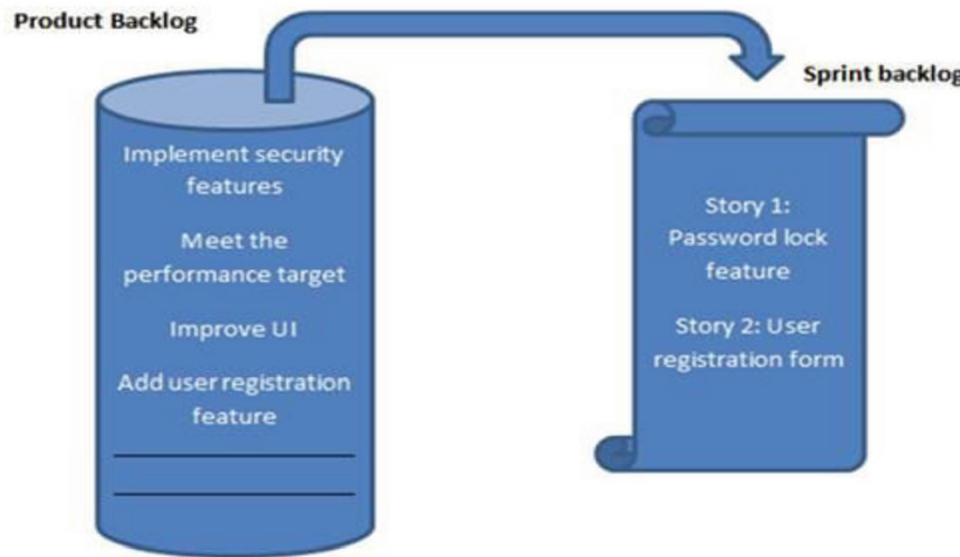
- The product backlog is a kind of bucket or source where all the user stories are kept. This is maintained by the Product Owner. Product backlog can be imagined as a wish list of the product owner who prioritizes it as per the business needs.

- During the planning meeting .one user story is taken from the product backlog, then the team does the brainstorming, understands it and refines it and collectively decides which user stories to take, with the intervention of the product owner.

Sprint Backlog



- Based on the priority, user stories are taken from the Product Backlog as one at a time.
- The Scrum team brainstorms on it determines the feasibility and decides on the stories to work on a particular sprint.
- The collective list of all the user stories which the scrum team works on a particular sprint is known as Sprint backlog.



Story Points



- Story points are a quantitative indication of the complexity of a user story. Based on the story point, estimation and efforts for a story are determined.
- Each and every user story is assigned to a story point based on the Fibonacci series (1, 2, 3, 5, 8, 13&21). Higher is the number, the complex is the story.
- If you give 1 / 2 / 3 story point it means that the story is small and of low complexity.
- If you give points as 5 / 8, it is a medium complex and
- 13 and 21 are highly complex.

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Burn down chart



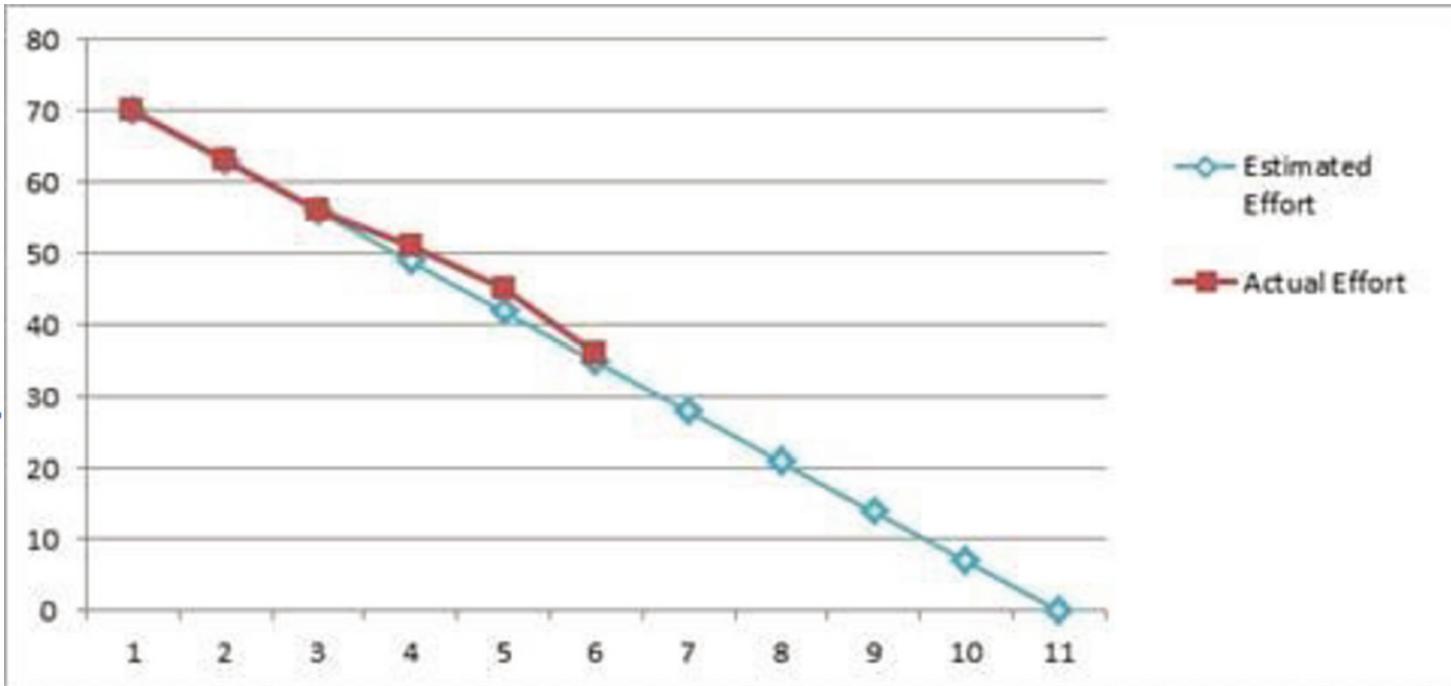
- Burn down chart is a graph which shows the estimated v/s actual effort of the scrum tasks.
- It is a tracking mechanism by which for a particular sprint the day to day tasks are tracked to check whether the stories are progressing towards the completion of the committed story points or not.

Burn down chart



	A	B	C	D	E	F	G	H	I	J	K	L	M
4	Story	Task	Start	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7	Day 8	Day 9	Day 10
5	User Story 1	Task 1	8	7	6	5	4	3					
6	User Story 1	Task 2	6	4	4	3	3	2					
7	User Story 1	Task 3	3	3	3	3	2	1					
8	User Story 2	Task 4	7	5	3	2	3	3					
9	User Story 2	Task 5	5	5	4	3	4	4					
10	User Story 2	Task 6	4	4	4	5	3	3					
11	User Story 3	Task 7	9	9	7	8	6	5					
12	User Story 3	Task 8	6	6	6	6	5	4					
13	User Story 4	Task 9	7	5	4	5	3	3					
14	User Story 4	Task 10	8	8	8	7	8	4					
15	User Story 4	Task 11	7	7	7	4	4	4					
16	Estimated effort		70	63	56	49	42	35	28	21	14	7	0
17	Actual Effort Left		70	63	56	51	45	36	0	0	0	0	0

Burn down chart



Velocity



The total number of story point which a scrum team archives in a sprint, is called Velocity.

The Scrum team is judged or referenced by its velocity. Having said that, it should be kept in mind that the objective here is NOT achieving the maximum story points, but to have a quality deliverable, respecting the scrum team's comfort level.

Velocity



For a particular sprint: the total number of user stories are 8 having story points as shown below.

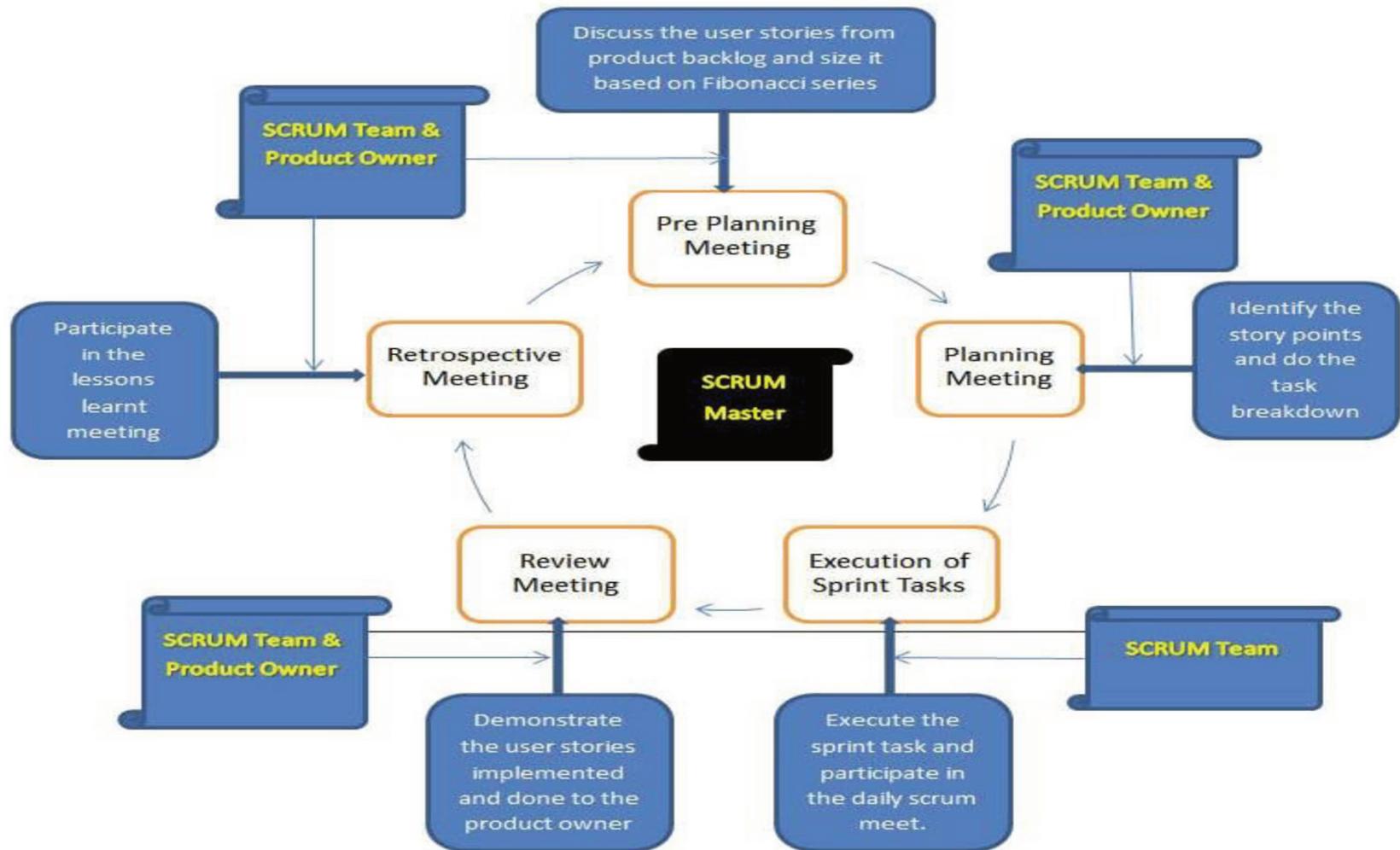
S.No	User Story	Story Points
1	Story 1	3
2	Story 2	5
3	Story 3	2
4	Story 4	3
5	Story 5	8
6	Story 6	5
7	Story 7	1
8	Story 8	3

So here the velocity will be the sum of the story points = 30

Activities Done in SCRUM Methodology

- Planning Meeting
- Execution of Sprint Tasks
- Daily Standup
- Review Meeting
- Retrospective Meeting
- .

Scrum Process



End of the Session

- You have completed this Session

