**Agile:**

Methodology to build software incrementally in short iterations of 1 to 4 weeks (instead of single pass 6 to 18 months where risks are predicted upfront) so that development is aligned to changing business needs.

**Team Members:**

|  |  |  |
| --- | --- | --- |
| **Scrum master** | **Product Owner** | **Cross Functional Team** |
| Team Lead for an Agile team | Drives the team  from business perspective | Self- Sufficient 5-9 member team with average experience of 6 – 10 years |
| Track Progress | Define and Prioritize requirements , Determine release date and contents , Represent customer voice | 3 – 4 Dev, 1 Tester, 1 Tech Lead, 1 Product Owner, 1 Scrum Master |
| Daily Standups/Planned Meetings/Demo/Review/  Retrospective meetings | Active role in iteration planning and release planning , accept user stories  that meet definition of done and  defined acceptance criteria | Product Owner and Scrum Master – Team Interface, Others are Tech Interface |

**Work Planning:**

**Point**: Defines how much a team can commit. A point refers to 8 hours. Each story is estimated in points.

**Capacity**: How much each member can commit. Capacity refers to hours.

|  |  |  |
| --- | --- | --- |
| **Story** | **Task** | **Requirement** |
| * Defines functionality( What to do ) * Implemented by tasks , Each story is a collection of tasks * Validated using acceptance tests | * Implementation( How to do) * Estimated in hours(2 to 12 typically) | * User Story * Acceptance Criteria * Tasks for implementation |

**User Story**: Requirement defining what is required by user as functionality. During release planning, a rough estimate is given to a story in points. During iteration planning, a story is broken down into tasks.

**Done Story:**

* All tasks (development, testing) are complete and related code have been checked in.
* All unit and acceptance tests are passed.
* Help text and Documentation is complete.
* No open defects and Product owner has accepted the story.

**Iteration**: Often referred to as a **sprint**, it is a collection of stories/defects to be worked upon and accepted within the release of a product. Defined in iteration planning meeting and completed with an iteration demo and review meeting.

**Completed Iteration**:

* All stories/defects have been completed or moved to next iteration.
* Performance is tested.

**Release**: Major milestone representing internal/external delivery of working and tested version of a product. A release is complete when stress testing and performance tuning of a system is complete, security validations have been completed and DR plan is tested.

**Acceptance Criteria:**

Defines functionality, behavior and performance required by a feature to be accepted by product owner.

**Daily Standup**:

* Daily 15 minutes status meeting among all team members to track progress.
* 3 questions for team members – what I did yesterday + what I will do today + blockers
* Stakeholders and Customers can attend as observers but are not supposed to participate

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Event** | **Purpose** | **Participants** | **Prerequisites** | **Output** |
| Release Planning | Create plan to deliver an increment to the product every 2 or 3 months | * Scrum Master * Product Owner * Agile Team * Stake Holders | * Ranked Product Catalogue managed by Product Owner * Team Capability(Velocity and Challenges) * Business Objective * Planning Data –  1. Previous release planning results 2. Feedback from stakeholders 3. Action plans/Velocity from previous releases 4. Org and Personal calendars | * Release Plan * Items to monitor |
| Iteration Planning | Complete set of top ranked product backlog items. Commitment is time boxed based on iteration length and team velocity. | * Scrum Master * Product Owner * Agile Team | * Items in product backlog are sized and story point assigned * Product owner has ranked the items * Items have acceptance criteria stated |  |

**Release planning process**:

* Review and update definition of done
* Stories and items to be considered
* Determine story size
* Map stories to iterations
* Concerns or issues

**Iteration planning process:**

* Determine how many stories can fit an iteration
* Break stories into tasks and assign them.
* Each task is estimated in hours

**Velocity Calculation**:

If last 3 iterations took 10, 12 and 14 story points, velocity can be considered as 12 story points (average) for next iteration. Stories can be pulled in or pushed out to next iteration depending on circumstances.

**Task Capacity of Team:**

Number of working hours in a day x Available days x Number of Resources

For a 5 member full time team in a 2 week iteration with zero leaves, 8 x 10 x 5 = 400 hours

**Product Backlog:**

* List of items to be done ranked with descriptions.
* Helps plan product roadmap and prioritize features.
* Highest ranked features are picked up during release planning, and converted into stories so that teams can start working on them.