Scrum in English

Contents

Scrum as in Scrum Guide

Scum Pillars

Transparency

Transparency in any process brings in trust and a collaborative environment. The transparency among teams and stakeholders – customers, users, sponsors, and delivery management ensures shared understanding and expectations across the board.

To maintain the transparency a common language of communication should be utilized irrespective of the role played by every stakeholder. This includes the work to be performed as well as delivered.

Inspection

In the Scrum framework, incremental and iterative delivery of work requires inspection at the place of work and at the time of doing the work. This way of inspection helps doers to learn on the spot which enables enhanced quality.

Due to the incremental and iterative approach of Scrum, inspection becomes part of numerous but small feedback cycles. This approach reduces the overall risk by mitigating a small piece at a time every time.

Adaptation

Almost continuous inspection coupled with a n incremental and iterative approach, any variance is promptly made visible. This approach helps Scrum team to incorporate the improvement almost immediately – minimizing future variations. A very quick cycle of Inspect and adapt.

Scrum Values

The Scrum pillars of transparency, inspection, and adaptation come to life when Scrum team ingrains Scrum values - commitment, courage, focus, openness, and respect in their working. Scrum framework insists on embracing all of these five Scrum values while utilizing Scrum events, roles, and artifacts.

Commitment

Scrum framework insists on the personal commitment by team members to achieve team agreed goals. This encourages engagement of each person in the realization of goals and prevents under or over commitment. No one forces the team to commit something for which it is not confident.

Courage

To make a commitment and live with it requires courage. It also results in the skirt of undue pressure by management to commit something for which team is not confident enough. To cushion the team from external pressure, roles defined in Scrum plays a big role.

Focus

In Scrum, the team focuses on the commitment made towards Sprint Goal. As a general practice, keep the all team members 100% dedicated to the team.

Openness

In Scrum, stakeholders and team agree to be open to share progress as well as expectations. It is expected that information will be shared across the board.

Respect

To be committed, courageous, focused, and open with respectful to each other is very important for the success of a Scrum team. Team members and stakeholders are expected to listen and appreciate the different point of view in the light of the overall goal of organization and team.

Scrum Team

Scrum Teams are self-organizing and cross-functional. These two are very important aspects of a successful Scrum team.

Self-organization

Self-organization is one of the fundamental tenets of Agile. The Agile Manifesto includes the principle, “The best architectures, requirements, and designs emerge from self-organizing teams.” Self-organization is not absolute but within the bounds of a context. In The Biology of Business, John Henry Clippinger writes about self-organizing teams:

Self-organization does not mean that workers instead of managers engineer an organization design. It does not mean letting people do whatever they want to do. It means that management commits to guiding the evolution of behaviors that emerge from the interaction of independent agents instead of specifying in advance what effective behavior is.

In a team there are four functions:

- Designing and constructing a team and arranging for needed organizational support for the goal of the team.
- Setting the directions for the team to achieve organizational goals in general and team goals in particular.
- Goal achievement by executing the work.

- Monitoring and managing the work process to keep the variance within tolerance limits and updating the goals due to the dynamic environment.

These four core functions depending upon who is responsible – management or team, J Richard Hackman developed an authority matrix to depict teams' self-organization.

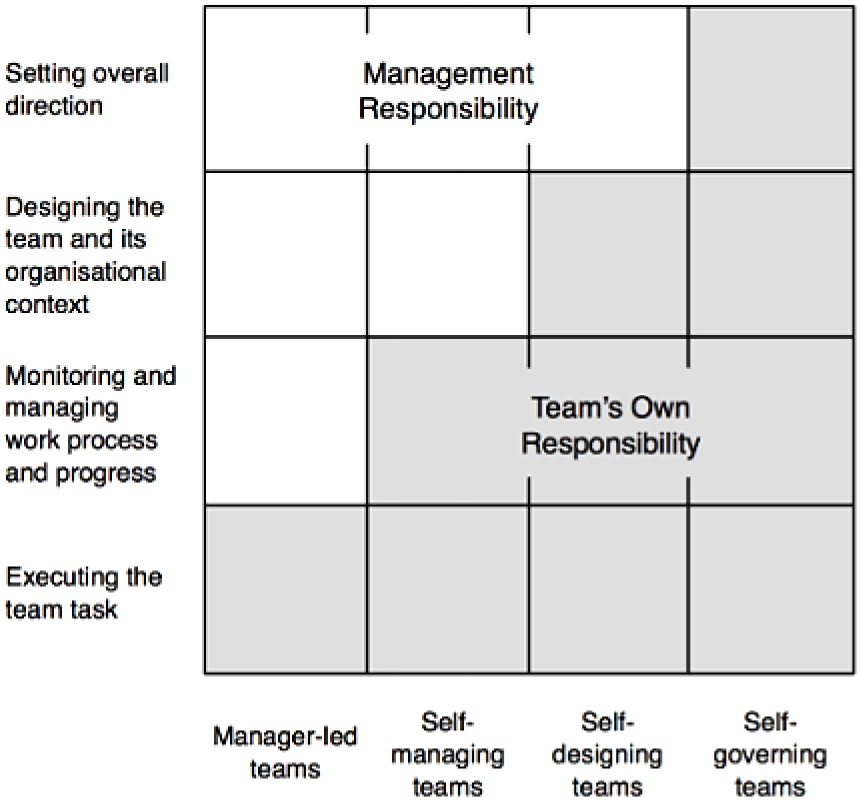
Setting overall direction
Designing the team and its organisational context
Monitoring and managing work process and progress
Executing the team task
Management Responsibility
Team's Own Responsibility
Manager-led teams
Self-managing teams
Self-designing teams
Self-governing teams

Figure: Authority Matrix

- In Manager-led teams, members execute the work while managers monitor and manage work processes, design the context, and set the direction. Functional silos in organizations are typical examples of this type of teams.
- In Self-managing teams, members execute the tasks and manage progress. A typical Scrum team utilizes this approach.
- In Self-designing teams, members execute the tasks, manage progress, and design & develop the team within the organizational setup. In matured Agile organizations, we find Scrum teams at this level of self-organization.
- In Self-governing teams, members execute tasks, manage progress, design & develop the team, and set up the overall direction. Most of the Lean Startup teams depict the highest level of self-organization.

Self-organization is not a binary term but a continuum in which a team swings with time and context. A self-organized team developing an application may exhibit entirely different behavior in the context of the operation.

In "The Science of Self-Organization and Adaptivity", Francis Heylighen mentions that all self-organizing teams have similar characteristics irrespective their location on the self-organization continuum

- Distributed control or absence of centralized control
- Continuous adaptation to a dynamic environment
- Emergent structure from local interaction
- Feedback
- Resilience due to the system's ability to repair and adjust

Becoming a self-organizing team is a long arduous path and if continuous efforts are not put in slippage is imminent. Self-organization is not a goal but a journey, a team need to continuously adapt as per dynamic environment. To add another layer of complexity, not only as a team but individual members also need to self-organize to keep pace with dynamic environment.

Self-organizing teams are based on a contradictory but very effective balance of similarities and diversity which brings in cross function aspect.

Cross functional

A cross-functional team has the end to end capacity and capability to deliver the business value - requirement elicitation till production deployment (delivery to end user)

A cross-functional team should be an interdisciplinary team – A team which analyzes, synthesizes and harmonizes links between disciplines into a coordinated and coherent whole to realize the outcome. It should not be multidisciplinary (draws on knowledge from different disciplines but each member stays within his boundaries) but with the T-shaped skill set members. Simply speaking team members must be able to wear multiple hats as and when required.

The interactions within a cross-functional team are based on simultaneous cooperation and competition (co-opertition) which results in:

- Continuous learning
- Different perspectives spur innovation
- Old ideas are challenged
- Groupthink is avoided

Something which brings in huge benefits is not easy. Any successful cross-functional team should watch for:

- Communication breakdown: Diversity within the team may result in communication breakdown which may have cascading effects in terms of low morale and diminishing effectiveness of the team. To maintain communication channel active and to have healthy dialogue team must actively look for common interest points beyond work.

- Social Loafing: Lack of individual accountability my creep in the team which may affect overall morale and delivery of team. To avoid social loafing team should be doing retrospective regularly and leaders must provide coaching on a continuous basis.
- Tribalism: Due to diversity among team members, tribal tendencies my rear their heads which may result in ghettoization within the team or ostracization of one or few members. To avoid this situation transparency and positive criticism play a vital role.
- Misaligned goals and objectives: Individuals', teams', and organizational goals & objectives may misalign which certainly result in sub-optimum delivery by team. To keep goals & objectives aligned, consensus building and shared commitment play a big role.

Team model in Scrum is designed to optimize flexibility, creativity, and productivity. A Scrum team consists of only three roles each focus on the specific set of responsibilities.

- Product Owner
- Scrum Master
- Development Team

Each role in Scrum is a full-time job and it is expected that person performing only one role at a time in a team.

Scrum Team roles deliver products iteratively and incrementally embedded by small and many feedback cycles. Iterative delivery also ensures that product is always in a releasable state.

Product Owner

Product Owner is responsible for maximizing the value of product resulting from the work of the Development Team. A Scrum team has only one Product Owner although a Product Owner may represent multiple interests in the ongoing development of the product.

The Product Owner has a number of responsibilities:

- Managing the Product Backlog
- Stakeholder Management
- Working with the Scrum Team

Either a Product owner can perform the above work or Development Team but Product owner is accountable.

Managing the Product Backlog

By a continuous refinement of the Product Backlog, Product Owner continuously keeps adjusting value delivered in dynamic environmental conditions. The Product Owner is responsible for the management of Product Backlog which includes:

- Communicative representation of Product Backlog Items
- Ordering and Ranking of Product Backlog Items to optimize business value delivery
- Optimize the value of the work performed by Development Team

- Ensuring that Product Backlog is visible, transparent, and understood by the Scrum Team and stakeholders
- Ensuring that the Development Team has an understanding of Product Backlog Items to deliver value in the current Sprint

Managing Stakeholders

The Product Owner should in communication with current & potential customers, users, product management, sponsors, and other stakeholders to continuously refine Product Roadmap in sync with the Product Vision. The Product Owner represents the interests of stakeholders in the product. Product Owner should be the only one to give the work to the team no one other.

Working with the Scrum Team

Each member of the Scrum Team must understand the why and what part of prioritized Product Backlog. It is a responsibility of the Product Owner to ensure that the Scrum Team is on the same page.

The Product Owner is essentially always available to the Development Team to answer queries so it can maximize the value delivery. The Product Owner does not interfere in how the work to be performed by the Development Team but specifies what to be developed and why.

The Product Owner accepts the work completed by the Development Team as soon as it satisfies Acceptance Criteria. The Development Team does not wait till the end of current Sprint to offer the work to Product owner for acceptance and Product Owner accepts the work offered as completed if it meets the Acceptance Criteria, does not wait till completion of the Sprint. This practice provides important time to Development team to rectify its work if any deficiency discovered.

A successful Product Owner has the following characteristic:

Available and Engaged: The Product Owner must be available and engaged with the Development Team. The Product Owner should be able to answer or arrange experts to queries raised by the Development Team with respect to What and Why. Delay in answering these queries results in diminished effectiveness and efficiency of the Development Team, so the value delivery. A successful Product Owner works daily as an integral part of the Scrum Team.

Empowered: The Product Owner must be empowered to take independent decisions and respected. Certainly, a Product Owner is accountable for the choices made. If the organization does not respect Product Owner's decisions, soon the Development Team will start bypassing him/her for clarifications and value organizational hierarchy more.

Decisive: Product Owner must answer queries raised by Development Team promptly and with authority. Delay in response slows down the work and bred lack of trust. The Product Owner maintains a fine balance among customers, sponsors, Development team, and other stakeholders in his decisions.

Domain and Product Knowledge: The Product must have a good understanding of current & potential customers, industry trends, domain knowledge, product vision, and roadmap. The Product Owner should also have some intuitive capability to maximize the value to be delivered on the continuous basis.

Communication and Diplomacy Skills: The Product Owner needs to communicate with current & potential customers, sponsors, development team, and other stakeholders almost continuously which requires high emotional intelligence, communication skills, and managing competing priorities in a collaborative spirit.

Appreciation for Technical Aspects: The Product Owner understands the business aspect and may not be expert in technical aspects. A Product Owner may not be technically proficient but must understand the technical aspects and appreciate the technical suggestions and recommendations of Development teams. This understanding and appreciation are clearly visible in the content and ordering of Product Backlog Items.

Development Team

Development Team is cross-functional and self-organizing professionals responsible for value delivery during each sprint. The value is delivered as a potentially shippable increment.

Development Team is a unit; there are no subunits or sub-teams within it. Scrum does not recognize any title within a Development Team and this team is empowered to decide how to convert the commitment made in Sprint Planning into potentially shippable increment. Individual members of the Development team may have the specific skill set but the responsibility to deliver potentially shippable increment is collective and everyone is responsible.

Cross-functional and self-organizing aspects of Development Team help to get a commitment from the team and synergetic effectiveness and efficiency.

To remain high performing, the Development Team is long-lived and individual team members acquire T-shaped skill set.

The “Done” potentially shippable increment delivery is the sole responsibility of Development Team though Product Owner and Scrum Master play a crucial role during Sprint.

Development Team size should be optimized to remain nimble as well as large enough to the delivery of value on a continuous basis. The size of the Development Team should be enough to encounter skill constraint as well as keeping the number of communication channels enough for human cognitive abilities. With the empirical evidences spread over multiple years across multiple cultures and type of work, Scrum recommends Development Team size between 3 to 9. In this count role of Product Owner and Scrum Master is not included.

Scrum Master

The Scrum Master is Servant Leader for the Scrum Team. The Scrum Master serves not only the Product Owner and Development Team also wider organization helps to understand the Scrum.

The Scrum Master role is responsible for promoting and supporting Scrum and facilitates its evolution.

Scrum Master services to the Product Owner

The Scrum Master serves the Product Owner in a variety of ways including:

- Ensures that vision, goal, scope, and product domain are understood by the Scrum Team;
- Facilitate the effective Product Backlog management including but not limited to the ordering of Product Backlog Items to maximize value delivery by the Development Team, right-sizing of Product Backlog Items, and understanding of Product Backlog Items by The Development Team;
- Facilitating Scrum events;
- Understanding and practicing “Agility”; and
- Understanding product planning in a dynamic and empirical environment..

Scrum Master services to the Development Team

The Scrum Master serves the Development Team in a variety of ways including:

- Coaching and training the Development team in Scrum;
- Coaching and training the Development Team in self-organization and cross-functional aspects;
- Helping as well as facilitating the tackling of impediments to the Development Team;
- Facilitating Scrum events;
- Understanding product planning in a dynamic and empirical environment; and
- Coaching the Development Team in organizational facets which have not fully embraced and/or understood Scrum; and
- Understanding and practicing “Agility”.

Scrum Master services to the organization

The Scrum Master serves the organization in a variety of ways including:

- Coaching and training the organization in Scrum;
- Leading and planning Scrum adoption by the organization;
- Collaborate and coordinate with other Scrum Masters to enhance the effectiveness of Scrum in the organization;
- Causing and acting as a catalyst in the changes that increase the effectiveness and productivity of the Scrum Team;
- Helps others to modulate the interaction with the Scrum Team to continuously enhance its effectiveness and productive; and
- Understanding and practicing “Agility”.

Scrum promotes “We” in Scrum Team like an autonomous collective. This approach helps to develop a bond within a Scrum Team and laid out the path for its evolution toward increasing self-organization and cross-functional.

All three roles of Scrum Team evolve and mature with time. This journey of evolution is beautifully depicted in series three of articles by Ron Eringa at Scrum.org..

Scrum Events

Scrum identifies five events and each event is time-boxed.

- Sprint
- Sprint Planning
- Daily Scrum
- Sprint Review
- Sprint Retrospective

Sprint acts as a container in which remaining events lives and keep on repeating on a daily basis or per sprint as defined. The cadence of events is ensured in Scrum so that what can be repeated in a dynamic environment should be repeated. This recurrent rhythmical sequence helps a Scrum Teams to develop a psychological comfort. These events are designed on empirical evidences to inspect and adapt with a set of small and many feedback loops. These events are designed to enable inspect and transparency.

Sprint

A Sprint is a container event in which all other Scrum events reside. Sprint is time box up to 4 weeks (one month). Most of the time, the Scrum Team settles for two weeks Sprint. A Sprint starts immediately after the completion of the previous Sprint. The duration of Sprint is consistent to develop cadence.

At the end of a Sprint, Development Team delivers a shippable Increment which was committed during Sprint Planning, at starting of a Sprint. A Sprint starts with Sprint Planning and concludes with Sprint Retrospective.

During a Sprint:

- Development Team works on the items in the Sprint Backlog to deliver a potentially shippable increment;
- No changes are made to endanger the Sprint Goal
- Though Development Team works on the commitments made in Sprint Planning meeting, the scope may vary within the limits agreed upon among members of the Scrum Team to accommodate dynamic environment;
- Quality goals are not compromised to manage committed scope of the current Sprint.

Sprint is limited to one month to keep the feedback cycle small and to contain risks and potential loss due to the failure of a Sprint. Also, longer Sprints negate the benefits of a smaller feedback cycle – inspect and adapt.

Product Owner has authority to cancel the current Sprint, although he/she may do it under the influence of stakeholders, Development Team, and/or Scrum Master. The cancellation of a Sprint should be an extraordinary event.

> *Having flue, every year is not extraordinary but having the heart attack once or twice in a lifetime is an extraordinary event. For potentially recurring events, like seasonal flu, we take seasonal vaccine but to avoid a heart attack, change in lifestyle is required – a continuous conscious effort.*

A Sprint is canceled if Sprint Goal becomes obsolete and/or unviable under changed environmental context. When a Sprint is canceled, any completed and “Done” are reviewed. If work is potentially releasable, then it is accepted by Product Owner.

A Sprint cancellation is reviewed in depth and learning from this is incorporated in the working of the Scrum Team as well as beyond it. Recurring Sprint cancellation indicates a systemic issue.

Sprint Planning

Sprint planning is the start of a Sprint. In this meeting work to be performed in Sprint is planned.

This meeting is facilitated by Scrum Master and attended by Development Team, Product Owner, subject matter experts as invited by the Product Owner and/or Development Team, and anyone who is interested in the Sprint or intended increment at the end of Sprint.

Sprint Planning is time-boxed to a maximum of eight hours for a month-long Sprint. For shorter Sprint, Sprint Planning is proportionately shorter.

The objectives of Sprint Planning are:

1. Defining Sprint Goal by Product Owner;
2. Agreement on increment to be delivered at the end of the Sprint;
3. Getting commitment by the Development Team on the work to be performed in the Sprint; and
4. Decomposing the work to be performed during Sprint into smaller tasks (at least for few days of the work).

The Scrum Master ensures that Sprint Planning meeting conducted, attended by all concerned, and time boxed keeping the objectives in sight. Sprint Planning meeting is conducted in a collaborative environment to get everyone onboard.

Sprint Planning meeting has two parts. Part one, the focus is on the Sprint Goal and getting the commitment from the Development Team on the work to be executed to achieve an increment. In Part two, the focus is on decomposing the committed work into tasks (at least for a couple of days).

Part 1: What can be done in this Sprint

In starting of Sprint Planning meeting Product Owner shares Sprint Goal and elicits buy-in from the Scrum Team. Once Sprint Goal is established, Product Owner offers Product Backlog Items one by one to the Development to get its commitment for the Sprint. Development Team may ask for more information and/or clarification from Product Owner and/or other attendees. Development Team once understands a Product Backlog Item, estimates it and put it into Sprint Backlog. This process of Product Backlog Item offering to Development Team and adding it to Sprint Backlog gets repeated till capacity of Development Team is reached as decided by Development Team. At this juncture, Part 1 of Sprint Planning meeting concludes.

The inputs for this part are:

- Product Backlog;
- Projected capacity of the Development Team;
- Latest product increment; and
- Performance of the Development Team.

The outputs of this part are:

- Sprint Goal; and
- Sprint Backlog populated with provisionally committed work.

Part 2: How will the chosen work get done?

In this part, Development Team plans the how part of the work chosen in part one. Development Team describes how the Sprint Goal will be achieved. To do so, Development decomposes the work chosen into smaller tasks (at least for upcoming few days) and populates them into the Sprint Backlog. In this process, the Development Team may ask for more information and/or clarification from Product Owner and other attendees. Work chosen in part one may be re-estimated and provisional commitment made may get updated. The tasks decomposed are often required the effort of one person day or lower.

The inputs of this part are:

- Sprint Goal; and
- Sprint Backlog populated with provisionally committed work in part one.

The outputs of this part are:

- Sprint Goal;
- Sprint Backlog; and
- Plan of action to achieve Increment.

By the end of Sprint Planning, the Development Team should be able to explain Product Owner and Scrum Master, how it intends to realize Sprint Goal and proposed Increment.

Sprint Goal

Sprint Goal is an objective proposed by the Product Owner, at the starting of Sprint Planning meeting. It is negotiated by Development team with Product owner in light of Product Backlog Items agreed upon to achieve intended Increment.

Sprint Goal can also be thought of as coherent function made up of Product Backlog Items to be worked on in the current Sprint. This coherence encompasses business functionality as well as technological choices.

Sprint Goal is a collaborative effort of the whole of Scrum Team.

Daily Scrum

Daily Scrum is a 15-minute time-boxed event to be conducted daily. Another popular name for this event is Daily Standup or simply Standup. As the name suggests Daily Scrum is conducted every day, preferably at the starting of the day. In this meeting, Development team plans for the next 24 hours. Daily Scrum is conducted daily at the same place at the same time to archive cadence and reduce complexity.

The purpose of this meeting is to plan for the next 24 hours, share the information within the team. To achieve the purpose each member of the Scrum Team answers three questions:

- What did I do yesterday that helped the Development Team meet the Sprint Goal?
- What will I do today to help the Development Team meet the Sprint Goal?

- Do I see any impediment that prevents me or the Development Team from meeting the Sprint Goal?

In this meeting, each member of the Development Team is expected to present and the Scrum Master and the Product Owner are most welcome. If Someone out of the team wishes to attend, it is OK but that person should be an observer, not the participant. Also, this meeting is not a status meeting but inspect and adapt opportunity to realize Sprint goal in an iterative and incremental way.

To keep the meeting focused and time-boxed, generally, everyone in this meeting remains to stand up (not sit down). If required few or all may assemble in one or more meetings, later on, to discuss the issues identified in the Daily Scrum. Scrum Master ensures that this meeting is conducted daily but it is the Development Team meeting.

The third question (Do I see any impediment …) is essentially a call for help. If fellow Scrum Team member does not offer the help in the response of the question, Scrum Master jumps in and ensures that impediment mentioned is taken care off immediately after this meeting.

Generally, to conduct Daily Scrum, Scrum Team standup around a table facing the Scrum Board which is depicting Sprint Backlog and Work in Progress. There are two popular formats for Daily Scrum:

- One of the Product Backlog Item is picked up and concerned Scrum Team member shares the answer to the questions. Then team jumps to next Product backlog Item till all are covered.
- Each member of the Development Team, answer the three questions for concerned Product Backlog Items. After the first person, the next person repeats the step. This process continues until every one answer the questions.

None of the formats is better than other; it is just a choice of a team.

Sprint Review

Sprint Review is one of the last meetings conducted at the end of the Sprint. In this meeting increment created and working of the Scrum Team during Sprint in collaboration with stakeholders are inspected.

This is not a status meeting but information share and inspect opportunity which may result in Product Backlog update and reprioritization of Product Backlog Items to optimize value delivery.

This is also a time-boxed (4 hrs. for a month-long Sprint) meeting. Scrum Master facilitates and ensures that this meeting is conducted regularly.

Sprint Review meeting includes following elements:

- The Product Owner invites the Scrum Team and stakeholders;
- The Product Owner enumerates “Done” and “not Done” Product Backlog Items with the commitments made in the Sprint Planning meeting;
- The Development Team speaks about Sprint – What went well, what are the problems & issues faced, and how those problems & issues tackled;
- The Development Team demonstrates the work that it has “Done” and answers queries about the Increment;
- The Product Owner discusses the Product Backlog as it of now. He also projects likely target and projected dates based on the progress (if required);

- Every one collaborates on what to do next to optimize value delivery. This is a valuable input to subsequent Sprint Planning; and
- Review of the timeline, budget, potential capabilities, and marketplace for the next anticipated releases of functionality or capability of the product.

Sprint Retrospective

Sprint Retrospective or simply Retro marks the end of the current Sprint. This is a private meeting of Scrum Team. Scrum Master ensures that this meeting is conducted and it is also time bound - 3-hrs. for a month-long Sprint.

In this meeting, the Scrum Team inspects itself and creates a plan to improve self which needs to be executed in the upcoming Sprint.

The elements of Retro are:

- Inspection of the concluding Sprint with regard to people, process, and tools;
- Identify what went well, what needs to be improved, and what needs to be stopped; and
- Create a plan for realizing the improvements identified.

By the end of this meeting, the Scrum Team should have an improvement plan for the upcoming Sprint.

Scrum Artifacts

Scrum artifacts provide transparency for all and opportunities for inspect and adapt to maximize the value. Scrum framework identifies three artifacts:

- Product Backlog
- Sprint Backlog
- Increment

Product Backlog

In simplistic terms, Product Backlog is a list of requirement. Each item in this list is called Product Backlog Item. Product Backlog is owned by Product Owner and accountable for its content and health – ordering of Product Backlog Items, availability, and understanding to the Development Team.

Product Backlog continuously evolves due to feedback from its customers, users, and sponsors; it is an evolving list – a living artifact. Product Backlog is dynamic in nature and it exists till the product exists. Change in business and technical environments results in evolving Product Backlog. Product Backlog can be updated by Product Owner or at his discretion can be updated by anyone at any time.

Product Backlog has Product Backlog Items pertaining to the product's functional, non-functional new requirements, enhancements, defects, and everything else which constitutes a change in the product. Each Product Backlog Item as attributes for description, acceptance criteria (test description), value, estimated size, and order in the Product Backlog. A Scrum Team also identifies "Definition of Done" which in conjunction with Acceptance Criteria for each Product Backlog Item describes the completeness when it is "Done".

For a Scrum Team, only one Product Backlog exists. If multiple Scrum Teams are working on a product, only one Product Backlog should be maintained.

To keep Product Backlog healthy, Product Backlog must be refined. In Product Backlog refinement, Product Owner and Development Team collaborate to make Product Backlog Items sufficiently small sized, understood by all, assign business value, and order them to maximize the value realization. As a thumb rule, Product Backlog should have refined Product Backlog Items to feed Development Team for two upcoming Sprints. Refinement should not consume more than 10% of the Development Team's time. The Scrum Team decides when and how to refine.

Refinement makes Product Backlog Items clearer and detailed, so Development Team can start working on them if required. In a healthy Product Backlog, refined Product Backlog Items are kept at the top, so ordering can be visible to all. Product Backlog Items which are sufficiently detailed and understood by Development Team, meet "Definition of Ready". These Items are ready for pick up in the Sprint Planning meeting for upcoming Sprint.

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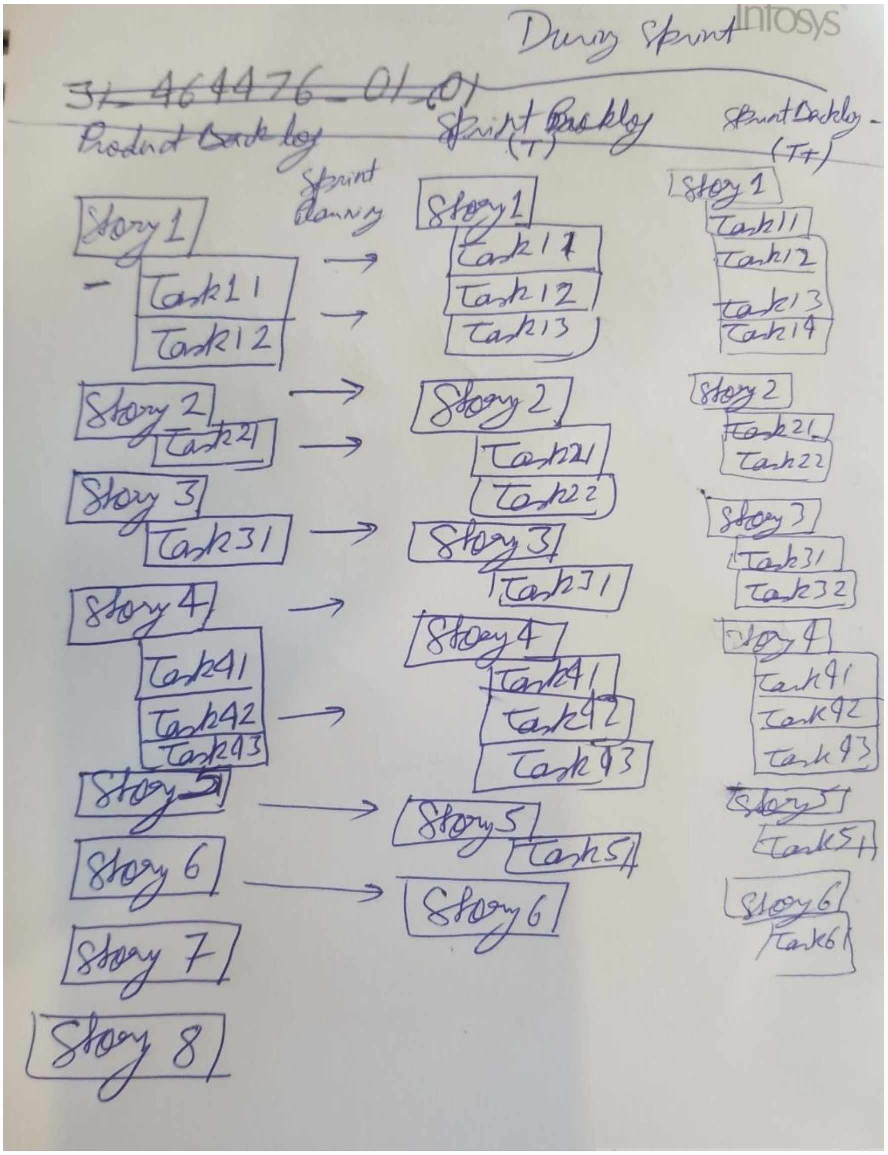
The Development Team is responsible for estimating the Product Backlog Items, though Product Owner can influence the Development Team by providing information and negotiating the trade-offs. The final decision on the estimation of Product backlog Items is of Development Team. Estimation of Product Backlog Items can be made in multiple stages. Preliminary estimations are made during refinement but the final one is made in the Sprint Planning.

Sprint Backlog

Sprint Backlog is one of the outputs of Scrum Planning meeting - a set of Product Backlog Items selected for the current Sprint, a plan for delivering the product increment to realize the Sprint Goal, and at least one process improvement item identified in one of the previous Retrospective. Sprint Backlog is a forecast by the Development Team about incremental functionality in the next "Done" Increment and work needed to deliver that functionality.

In Daily Scrum, the team shares its working on items in the Sprint Backlog to create transparency. Sprint Backlog evolves throughout the Sprint without compromising Sprint Goal. DevTeam owns the Sprint Backlog, it keeps on updating to reflect the work done and remaining on daily basis. If some work deemed not necessary, it is removed from the Sprint Backlog.

DevTeam creates tasks for each story. These tasks can be created pre, during, or post-Sprint Planning meeting. Mature teams do most of the task creation work prior to Sprint Planning.



Sprint Backlog is monitored to understand work done and remaining at any point of time in the Sprint. Burn up, Burn down, and Continuous Flow Diagram are very popular tools for this purpose. By tracking the remaining work throughout the Sprint, the Development Team can manage its progress.

Increment

The Increment is the sum of the Product Backlog Items "Done" at the end of the Sprint. The Increment delivered at the current Sprint to be added to the sum total of previous Increments realized. The Increment must satisfy Definition of Done and it is a step toward product vision. Increment must be in usable condition irrespective of whether Product Owner decides to release or not.

Definition of Done

"Done" is a list of prerequisites which a work item (story) must comply before presented to the Product Owner for acceptance. The Product Owner tests the submitted work item using Acceptance Criteria. If work item passes the tests then it becomes part of Increment. Some people also call this work item "Done Done".

The list of prerequisites is also called termed as "Definition of Done". The Definition of Done should be understood by the Scrum Team and stakeholders. Definition of Done is a living artifact. Definition of Done plays a big role in selecting the PBIs in the Sprint Planning.

In general, Definition of Done is standardized by the organization and tailored at the Scrum Team level – as a collaborative effort of the Development Team and the Product Owner.

As the team matures and automates the repetitive tasks, Definition of Done becomes more stringent – enhancing the quality of Increment.