

# ULTIMATE PSM I™ CHEATSHEET

## The Professional Scrum Master™ Level 1 Cheatsheet

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### Notes:

Facilitation	Self-Managing Teams	Product Value
<p><b>Dealing with internal disagreement between Scrum Team members:</b></p> <ul style="list-style-type: none"> <li>Consult with the people individually.</li> <li>Involve the Scrum Team.</li> <li>Use open questions and active listening.</li> </ul> 	<p><b>Benefits of self-managed teams:</b></p> <ul style="list-style-type: none"> <li>Increased creativity.</li> <li>Increased self-accountability.</li> <li>Increased commitment.</li> </ul> 	<p>Every Sprint generates a releasable increment that has at least one piece of functionality.</p> 
<p><b>Dealing with situations where Product Backlog items are unclear at Sprint Planning:</b></p> <ul style="list-style-type: none"> <li>The Developers forecast the most likely items to meet the Sprint Goal.</li> <li>Discuss at the Sprint Retrospective on changes that reduce chances the issue recurring.</li> </ul> 	<p><b>Examples of self-managing:</b></p> <ul style="list-style-type: none"> <li>Scrum Team members have the combined skills needed to create an Increment.</li> <li>Scrum Teams choosing how to best accomplish its work.</li> <li>The Developers create their own Sprint Backlog.</li> <li>The Developers collaboratively select work during the Sprint.</li> <li>Scrum Team internally decides who does what, when, and how.</li> <li>The Developers determine the logistics of their Daily Scrums.</li> </ul> 	<p>Value is generated through adapting solutions for complex problems.</p> 
<p>The Scrum Master should begin facilitating productive and useful Sprint Retrospectives if the Developers decide that Sprint Retrospectives are unnecessary.</p> 	<p><b>Scrum promotes self-managing by:</b></p> <ul style="list-style-type: none"> <li>Having the Scrum Team decide what work to do.</li> <li>Being a lightweight framework.</li> <li>Removing titles from Scrum Team members.</li> </ul> 	<p>Customer satisfaction should be measured frequently.</p> 
<p><b>Done</b></p> <p><b>Done Increments:</b></p> <ul style="list-style-type: none"> <li>Are releasable to end users.</li> <li>Have met the Definition of Done</li> </ul> 	<p><b>Time-boxes help teams self-manage by:</b></p> <ul style="list-style-type: none"> <li>Having everyone focus on the same problem at the same time.</li> <li>Encouraging those closest to the problem to create the best solution.</li> </ul> 	<p><b>Scrum is founded on empirical process control.</b></p> <p>Empiricism is used to address complex problems. Each part of Scrum is a critical component that is based on empiricism.</p> 
<p><b>Items not done are</b></p> <ul style="list-style-type: none"> <li>Put back on the Product Backlog.</li> <li>Not included in the current increment.</li> </ul> 	<p><b>Management's role in Scrum:</b></p> <ul style="list-style-type: none"> <li>Support the Scrum Teams with insights, information, and resources.</li> <li>Support the Scrum Master in fostering empiricism and a self-managing environment.</li> </ul> 	<p><b>3 pillars of Empiricism:</b></p> <ul style="list-style-type: none"> <li>Transparency</li> <li>Inspection</li> <li>Adaptation</li> </ul> 
<p>The Scrum Team is responsible for the work in the Definition of Done by either working as a Developer and doing it or having someone outside the team do it.</p> 	<p><b>When moving from component teams to feature teams:</b></p> <ul style="list-style-type: none"> <li>It's good to get support from the organization.</li> <li>Productivity may suffer in the short term.</li> <li>Feature teams will have less overhead in communication.</li> </ul> 	<p>To start using Scrum, you only need a Product Owner with enough ideas, Developers to implement those ideas, and a Scrum Master to guide the process.</p> 
<p><b>Non-functional requirements:</b></p> <ul style="list-style-type: none"> <li>Can be made transparent by creating Product Backlog items for each item.</li> <li>Can be made transparent by adding them to the Definition of Done.</li> <li>Developers ensure they are met in every increment.</li> </ul> 	<p>The Developers collaborate with the Product Owner to determine what is acceptable if they don't understand a functional requirement</p>	<p><b>Technical Debt can impact transparency by creating false assumptions about the state of the system and making the system unstable resulting in future working being slowed down.</b></p> 
<p><b>Security concerns:</b></p> <ul style="list-style-type: none"> <li>Can be made transparent by creating Product Backlog items for each concern.</li> <li>Can be made transparent by adding them to the Definition of Done.</li> <li>Developers ensure they are met in every increment.</li> </ul> 	<p>If the Developers determine they cannot finish the complete Sprint Backlog, the Developers and the Product Owner review and adjust the work.</p> 	<p><b>Factors that may lead to angry stakeholders:</b></p> <ul style="list-style-type: none"> <li>Scrum Master hasn't ensured transparency with the project.</li> <li>The Product Owner hasn't kept the stakeholders aware of the progress.</li> <li>The stakeholders haven't been using the Sprint Reviews to inspect and evaluate the progress.</li> </ul> 
<p>Items are only considered done when it conforms to the Definition of Done and has no work remaining to be potentially releaseable.</p> 	<p><b>How to form new Scrum Teams:</b></p> <ul style="list-style-type: none"> <li>Existing teams propose how to organize into new teams.</li> <li>Bring all the people together and let them self-organize into new teams.</li> </ul> 	<p>If work is not completed by the end of the Sprint, the time-box remains and the Scrum Team continuously learns and adapts accordingly.</p> 

## Coaching & Mentoring

Product Owners are coached to understand that the best architecture and infrastructure emerge alongside functional development and that each Sprint should include some business functionality.



If a Developer informs the Scrum Master of a security issue, have the Developer share his concerns with the Scrum Team as soon as possible.



If the Developers realize that the workload being planned is more than they can handle:

- They can remove or change selected items.
- Ensure that the Product Owner is aware, start Sprinting, and monitor the progress.

If the Developers want to reduce the frequency of the Daily Scrum, the Scrum Master can coach them on why the event is important or he/she can learn why they want this and work with them to improve the event's outcome.



The Scrum Master coaches people who have concerns about progress that progress comes from inspecting an increment at the Sprint Review.



As a Scrum Master, you can help a new team with starting by:



- Ensuring the team understands the need for a Definition of Done.
- Have the team members introduce themselves and their professional background.
- Ask the Product Owner to discuss about the product and answer questions.

If the Developers don't have the tools and infrastructure to completely finish Product Backlog items, the Scrum Master can have the Scrum Team establish a Definition of Done that is actually possible given the situation or coach the Developers to improve their skills, tools and infrastructure over time and adjust the Definition of Done accordingly.

If the Product Owner is not collaborating with the Developers during the Sprint, the Scrum Master can coach the Product Owner on the value of Scrum and incremental delivery or have it as a discussion point at the Sprint Retrospective.

As a Scrum Master, you can help a Product Owner that has stakeholders who are unhappy with slow performance of the product by:

- Coaching him on how to express his concerns with the Scrum Team.
- Encouraging him to put performance work on the Product Backlog.



Productivity of the original Scrum Team will likely decrease in the short-term if new Scrum Teams are added to the same product.



## Stakeholders & Customers

If a Project Manager is concerned about progress and money spent:

- Share the Product Backlog.
- Share the current impediments.
- Share the forecast for the Sprint.



Most important stakeholder is the Product's users.



The Scrum Team can meet with Stakeholders at anytime during the Sprint.



If a Developer informs the Scrum Master of a security issue, have the Developer share his concerns with the Scrum Team as soon as possible.

## Scrum Values

### Scrum Values:

- A) Respect
- B) Courage
- C) Commitment
- D) Openness
- E) Focus



Not building items with low business value is a sign of Focus, Respect, and Courage.

### Examples of Commitment:

- Doing your best is to do your best.
- Helping other team members.



Scrum Values are affected by the lack of trust.

## Leadership Styles

### Leading a scaled Scrum effort:

- As a Scrum Master, you can help an organization that is new to scaling Scrum by ensuring the product has one Product Backlog and one Product Owner.
- As a Scrum Master, you can help a group divide into multiple Scrum Teams by asking the people to divide themselves into teams.
- As a Scrum Master, you can help a group divide into multiple Scrum Teams by having the people consider how to ensure all teams have the right about of expertise.
- Understanding the Product, Product history, the Product Goal, and the Scrum framework can help groups decide on how to divide into teams.



### As a Scrum Master, you support actions that:

- Improves the ability of Developers figuring out their own solutions.
- Improves the ability of the Scrum Teams to produce integrated increments.



Gradually transitioning from component teams to feature teams will create less disruption and allow the teams to discover how best to organize towards more effective feature teams.



## Forecasting & Release Planning

### Burndown charts:

- Is an estimate of the total work remaining for the Sprint.
- Indicates when work remaining will likely be completed if no changes occur.



The Product Owner should know the most about progress towards business objectives or releases.



The Product Owner releases when it makes the most since.



## Product Backlog Management

### To maximize Product Backlog transparency:

- It is ordered,
- Continuously updated with the most recent insights.
- Available to all stakeholders.



Adding Non-functional requirements to the Product Backlog increases transparency.



### The Product Backlog refinement occurs:

- In the 1-2 preceding Sprints.
- In the actual Sprint if not done in the preceding Sprints.



Infrastructure and Architecture are added to the Product Backlog and addressed in early Sprints alongside with functional development.



Security concerns can be made transparent by creating Product Backlog items for each concern.



Regardless of the number of teams working on a Product, there is only one Product Backlog and one Product Owner.



Minimizing dependencies is helpful when multiple Scrum Teams are working from the same Product Backlog.



## Events

### The Sprint:

- The purpose of every Sprint is to produce a releasable Increment that has at least one piece of functionality.
- A new increment must be available by the end of every Sprint
- It is best to have consistent Sprint lengths throughout development of the product.
- Multiple Scrum Teams working on the same Product can have different start dates.
- A new Sprint starts immediately after the conclusion of the previous Sprint.
- There is no Sprint 0.
- There is no Hardening Sprint.
- There is no Release Sprint.
- There is no phase in between consecutive Sprints.
- There is no reason to delay the start of a Sprint.



### The Sprint Planning:

- 8 hour timebox for a one-month Sprint
- Discuss what can be done and how to do it.
- Output is the Sprint Backlog and Sprint Goal.



### The Daily Scrum:

- Considered a feedback loop.
- 15 minute timebox.
- The outcome is a shared understanding of the most important work to do next to progress towards the Sprint Goal and new impediments for the Scrum Master to address.
- Should have a consistent location and time to reduce complexity.
- Must be attended by the Developers.
- Managed by the Developers and the Developers decide how it should be run.
- Scrum Master only needs to ensure that the Developers have the Daily Scrum and teaches them how to keep it within the 15 minute time-box.



### The Sprint Review:

- Considered a feedback loop.
- 4 hour timebox for a one month Sprint.
- Is an inspect and adapt opportunity for the Scrum Team and Stakeholders.
- The Scrum Team and Stakeholders inspect the product increment and collect feedback on next steps.



### The Sprint Retrospective:

- Considered a feedback loop.
- 3 hour timebox for a one month Sprint.
- Is held at the end of each Sprint.
- The Scrum Master can facilitate as requested or needed.
- All Scrum Team members participate as a team member.
- Is an opportunity for the Scrum Team to assess its performance and improve itself.
- Is to identify process improvements can be addressed as soon as possible or added to the Sprint Backlog of the next Sprint.
- Discuss methods of communication.
- Discuss team relations.
- Discuss the way the Scrum Team does Sprint Planning.
- Discuss skills needed to improve the Development Team's ability to deliver.
- Discuss its Definition of Done.
- Topics not appropriate: Upcoming Sprint Backlog and Product Backlog items\*



Events are timeboxed and can take no more than a maximum amount of time.

Events are over when a timebox expires.

## What to consider when establishing the Sprint timebox:

- The ability to go to market.
- The level of uncertainty of the technology being used.
- The risk of being disconnected from stakeholders.
- Being short enough to keep risk acceptable.
- Being short enough to synchronize with other business events.
- Being no more than one month in length.



### Cancelling Sprints:

- A Sprint can be cancelled if the Sprint Goal becomes obsolete.
- Only Product Owners can cancel a Sprint.

## Lowering the frequency of the Daily Scrum will result in:

- Impediments being raised slower.
- The Sprint Backlog becoming less accurate.
- Lost opportunities to inspect and adapt the Sprint Backlog.



## Accountabilities

### A Scrum Team consists of 3 accountabilities:

- Developers
- The Product Owner
- The Scrum Master



### The Scrum Team:

- Consists of Developers, one Scrum Master, and one Product Owner.
- Typically 10 or fewer people.
- Contains all the skills necessary for creating value each Sprint.
- Is cross-functional and optimized to work on all technical layers.
- Consists of cross-skilled individuals who are able to contribute to deliver an increment.
- Self-manages and decides how best to accomplish its work.
- Develops functionality from beginning to end throughout all technical layers.
- Membership can change as needed, while accounting the short term impact on productivity.
- Is responsible for resolving team member conflicts.
- Is responsible for removing people from the Scrum Team.



### The Scrum Master:

- Is responsible for Scrum being adopted and used properly.
- Keeps the Scrum Team working at its highest level by facilitating Scrum Team decisions and removing impediments.
- Facilitates interactions and decision making.
- Facilitates inspection and adaptation opportunities.
- Helps those outside the team with interactions with the Scrum Team.
- Teaches the Scrum Team how to keep events timeboxed.
- Monitors communication and facilitate direct collaboration with and within the Scrum Team.



### The Developers:

- Has the competencies and skills needed to turn the Product Backlog items into a releasable increment.
- Organizes the work required to meet the Sprint Goal.
- Determines the amount of work selected for a Sprint.
- Determines how work is performed during the Sprint.
- Determines when it is best to update the Sprint Backlog.
- Is accountable for tracking the remaining work toward the Sprint Goal.
- Is responsible for managing progress of work during a Sprint.
- Ensures the Product Backlog items conform to the Definition of Done.
- Is responsible for estimating the size of Product Backlog items.

### A Scrum Master that is overloaded with a list of impediments can:

- Alert management to the impediments and their impact.
- Prioritize the list and work on them in order.
- Consult with the Scrum Team.

### The value of having one Product Owner per product:

- It clear who is accountable for the ultimate value of the product.
- The Scrum Team knows who determines the ordering in the Product Backlog.
- It helps avoid barriers to communication and allows rapid decision making.



Scrum does not recognize tester roles, everyone on the Scrum Team is responsible for quality.

## Artifacts

### The Product Backlog:

- Is an inventory of items to be done for the Product.
- Grows, changes, and evolves as more is learned and reflects what is needed to be most valuable.
- One product has one Product Backlog and one Product Owner.
- Multiple Scrum Teams working on the same Product pull items from the same Product Backlog.
- Is managed by one Product Owner.
- Is ordered by whatever the Product Owner deems is most appropriate.
- Can be ordered based on priority, value, dependencies, and risk.
- The Product Owner has final say on the order.
- Ordering can be delegated to others, however, the Product Owner remains accountable.
- Top priority items are refined and understood by the Scrum Team such that a forecast can be made to achieve the Sprint Goal.
- The Developers are responsible for estimating the size of the Product Backlog items after clarifying requirements with the Product Owner.\*



### The Sprint Backlog:

- Is the Scrum Team's plan for the Sprint
- Is owned by the Developers as a whole.
- Is created during the Sprint Planning.
- Only needs to be defined enough by the Developers to create a forecast.
- Includes any work (Tests, Use Cases, Tasks, User Stories, etc) necessary to achieve the Sprint Goal.



### The Increment:

- Must adhere and conform to the Definition of Done.
- Must be delivered in a releasable state by the end of the Sprint.
- Is composed of additional features in a useable state that complement those delivered in previous Sprints.
- When multiple Scrum Teams are working on the same Product they must integrate their increments.
- The Product Owner is accountable for deciding when to release an increment.



### The Definition of Done:

- Defines what it takes for an increment to be releasable.
- Enhances the transparency of an increment
- Is created, owned, and managed by the Scrum Team.
- Becomes more stringent as Scrum Teams mature.
- Creates a shared understanding of when work is complete.
- Is the amount of work required to be done to a Product Backlog item that is selected at the Sprint Planning.
- Provides transparency into what has been done at the end of the Sprint.
- Creates transparency over the work inspected at the Sprint Review.
- Affects the Product's cost of ownership.
- Guides the Developers in forecasting a Sprint Backlog for the Sprint.
- When multiple Scrum Teams are working on the same product, they must have a Definition of Done that makes their combined work potentially releasable.



### The Sprint Goal:

- Is created during the Sprint Planning and is an output of the Sprint Planning.
- The Product Owner should come to the Sprint Planning with a business objective in mind and work with the Scrum Team to craft the Sprint Goal.
- Provides the Developers a target, a focus, a common goal, and overarching direction for the Sprint.

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