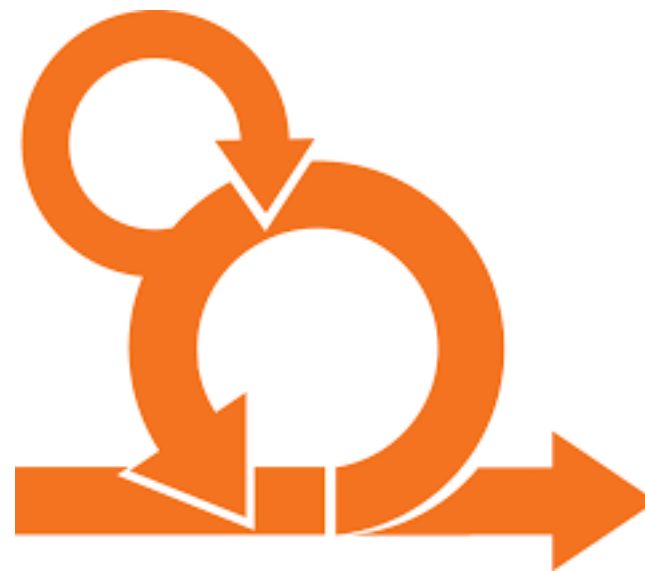




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SCRUM



by Eloi Puertas

based on Oriol Pujol Software Engineering slides.

SCRUM

Scrum is an agile methodology where products are built in a series of fixed-length iterations. There are four pillars that bring structure to this framework: sprint planning, stand ups (also called daily meetings), sprints, and retrospectives.

Features:

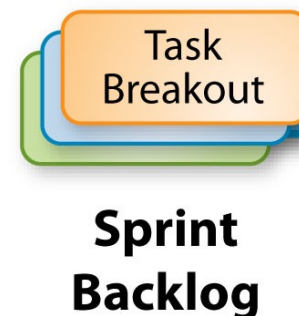
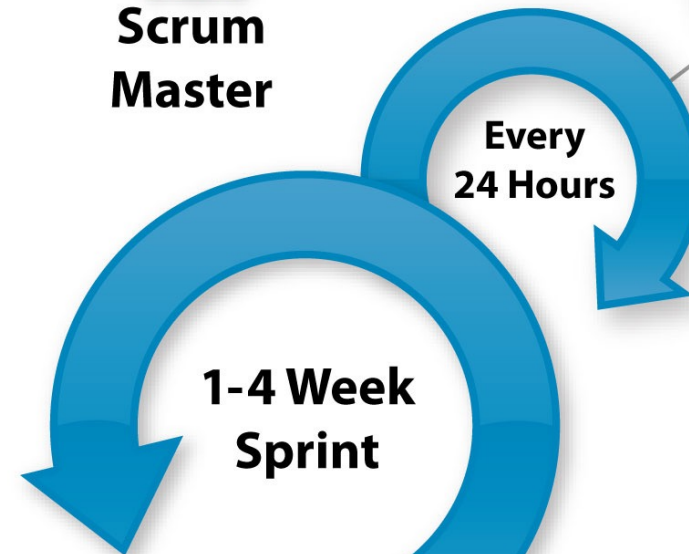
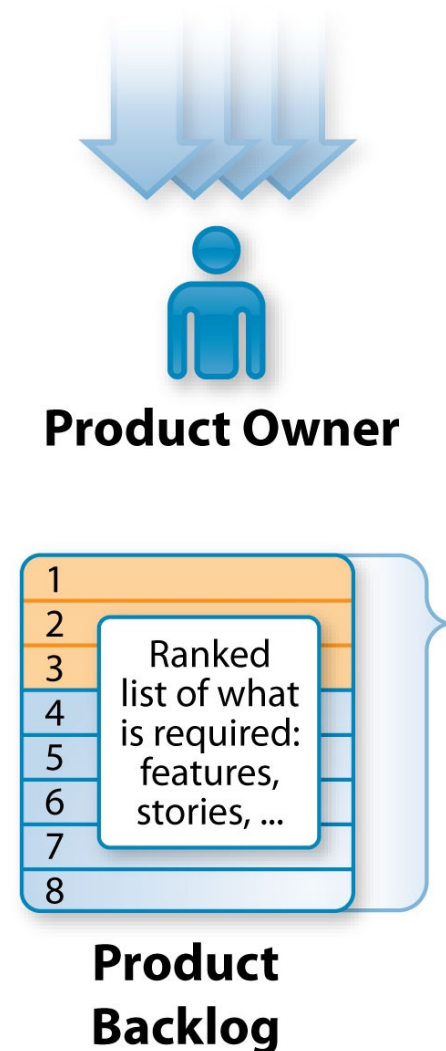
- **Scrum is used as an Agile practice that delivers software to end users faster, better, and cooler**
- **Scrum supports a creative approach to development**
- **Works for any kind of complexity and innovation**
- **It scales linearly to large numbers of developers**

A major theme in Scrum is “***inspect and adapt***”. Since development inevitably involves learning, innovation, and surprises, **Scrum** emphasizes taking a short step of development, inspecting both the resulting product and the efficacy of current practices, and then adoption of the product goals and process practices. Repeat forever.

SCRUM

The Agile: Scrum Framework at a glance

Inputs from Executives,
Team, Stakeholders,
Customers, Users



Sprint end date and team deliverable do not change



Sprints

- Sprints are **short** (max. 1 month), and take place one after the other without pause.
- The Sprints are **time-boxed** – they end on a specific date, no extensions.
- Each Sprint is focused on customer requirements from a prioritized list.
- The team commits to **complete the items** by the end of the Sprint.
- During the Sprint, the chosen **items do not change**.
- **Every day the team gathers** briefly to inspect its progress, and adjust the next steps.
- **At the end of the Sprint, the team reviews** the Sprint with stakeholders, and demonstrates what it has built.
- People obtain **feedback** that can be incorporated in the next Sprint.

Scrum Roles



PRODUCT OWNER (stakeholder)

Goal: maximize return on investment (ROI) by identifying product features

Means: Translating goals into a prioritized list

How: Decides which items should be at the top of the list for the next Sprint, and continually re-prioritizing and refining the list.

Observations: In Scrum there is one and only one person who serves as Product Owner, and he or she is responsible for the value of the work.

Scrum Roles



THE TEAM

Features:

- “cross-functional” – it includes all the expertise necessary (analysis, design, coding, testing, documentation) to deliver the potentially shippable product each Sprint
- “self-organizing” (self-managing), with a very high degree of autonomy and accountability.

How: The Team decides what to commit to, and how best to accomplish that commitment;

Observations: Team size is seven plus or minus two people.

Scrum Roles



THE SCRUMMASTER

Goal: Help the Team and Product Owner be successful.

Means: Facilitate the process, supporting the Team as it organizes and manages itself. ScrumMaster may be called upon to push back on the Product Owner.

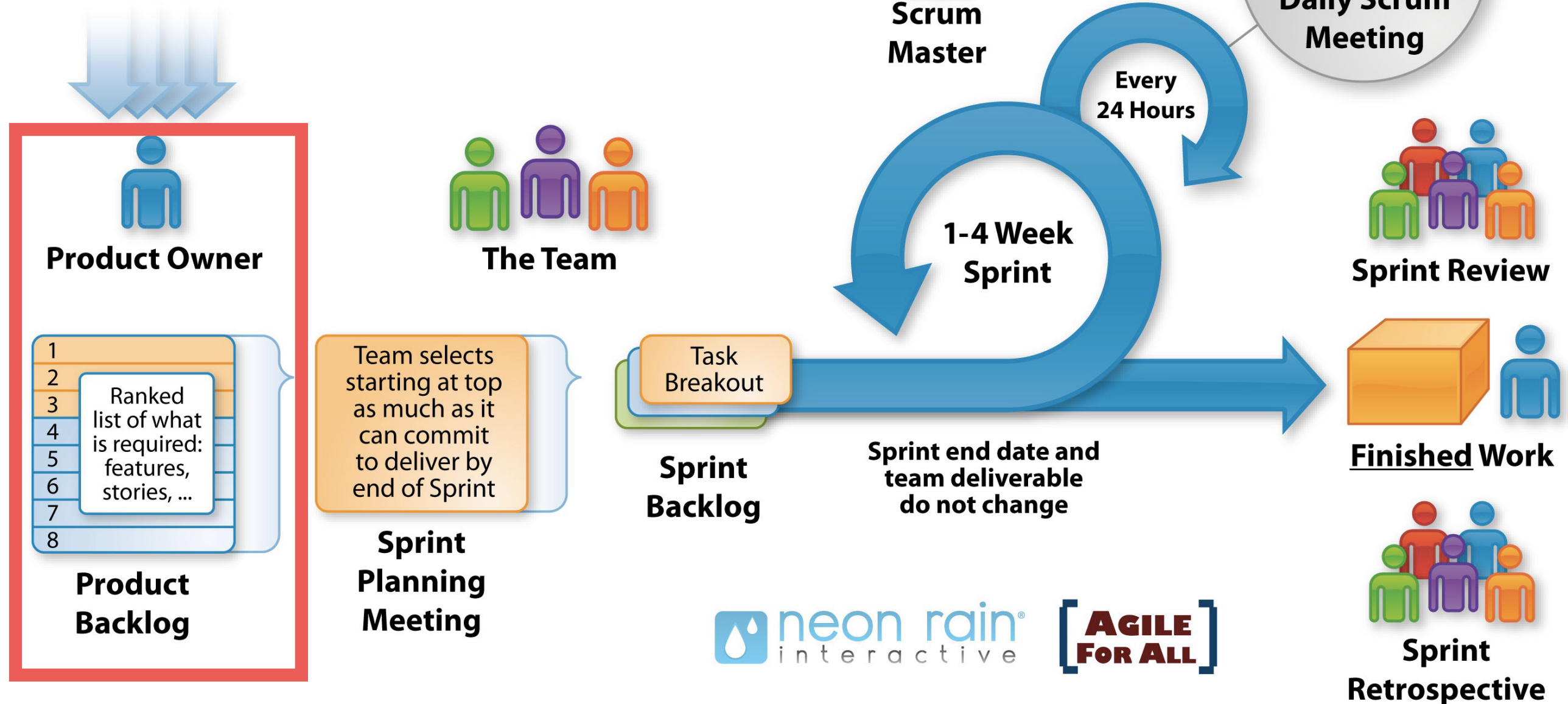
Observations:

- ScrumMaster is not the manager of the Team or a project manager - ScrumMaster does not tell people what, how to do or assign tasks.
- The ScrumMaster and the Product Owner cannot be the same individual.

Step 1: Product Backlog

The Agile: Scrum Framework at a glance

Inputs from Executives,
Team, Stakeholders,
Customers, Users



Product **Backlog**

FIRST STEP: THE PRODUCT VISION by the **PRODUCT OWNER**

This evolves into a refined and prioritized list of features called the Product Backlog.

Features:

- It exists (and evolves) over the lifetime of the product;
- It is the product road map.
- at any point, the **Product Backlog** is the single, definitive view of “everything that could be done by the Team ever, in order of priority”.
- only a single Product Backlog exists

Product **Backlog**


The Product Backlog includes:

- Customer features (“enable all users to place book in shopping cart”),
- Engineering improvement goals (“rework the transaction processing module to make it scalable”),
- Exploratory or research work (“investigate solutions for speeding up credit card validation”),
- Known defects (“diagnose and fix the order processing script errors”),

The subset of the Product Backlog that is intended for the *current release* is known as the *Release Backlog*, and in general, this portion is the primary focus of the Product Owner.

Product Backlog

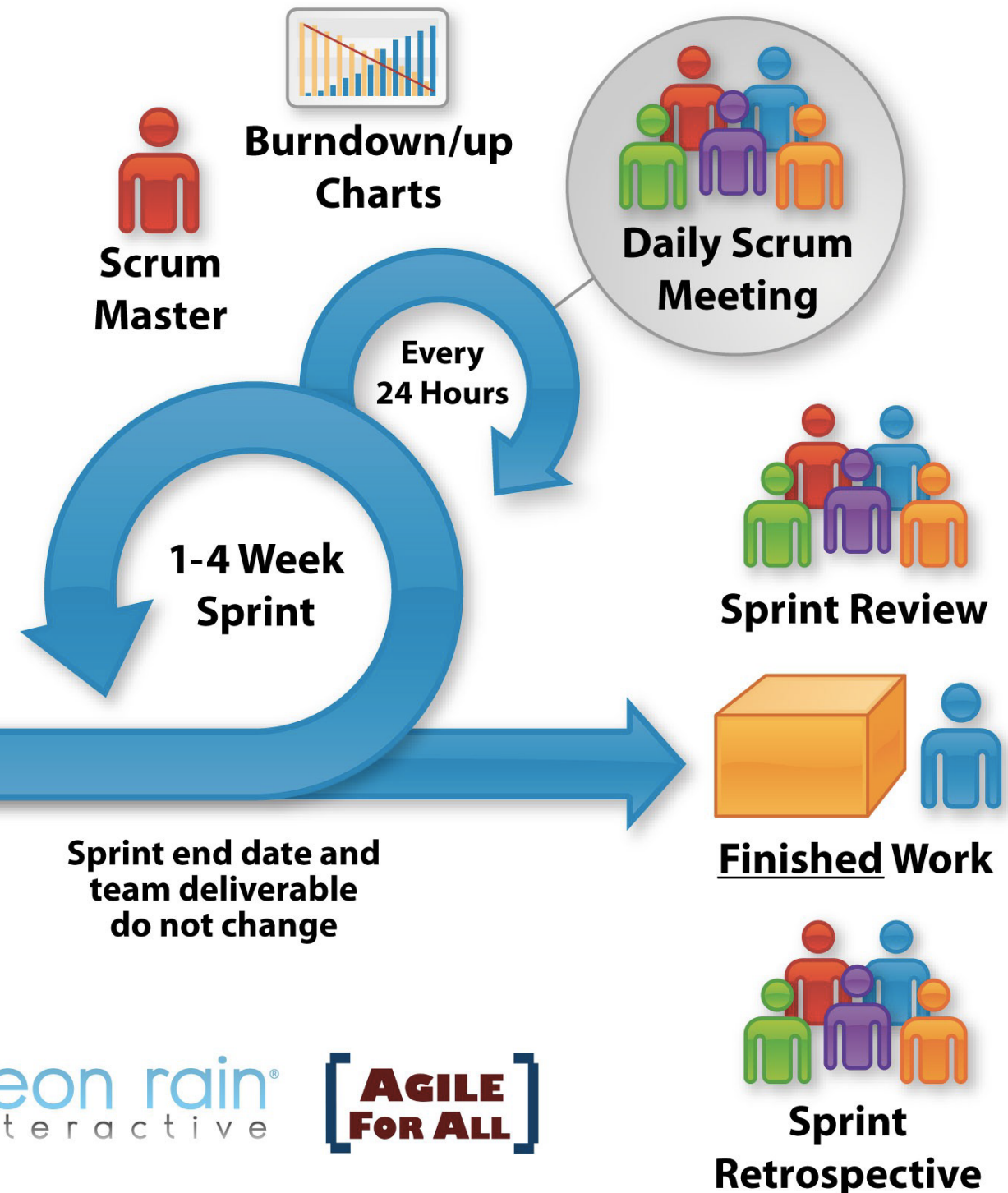
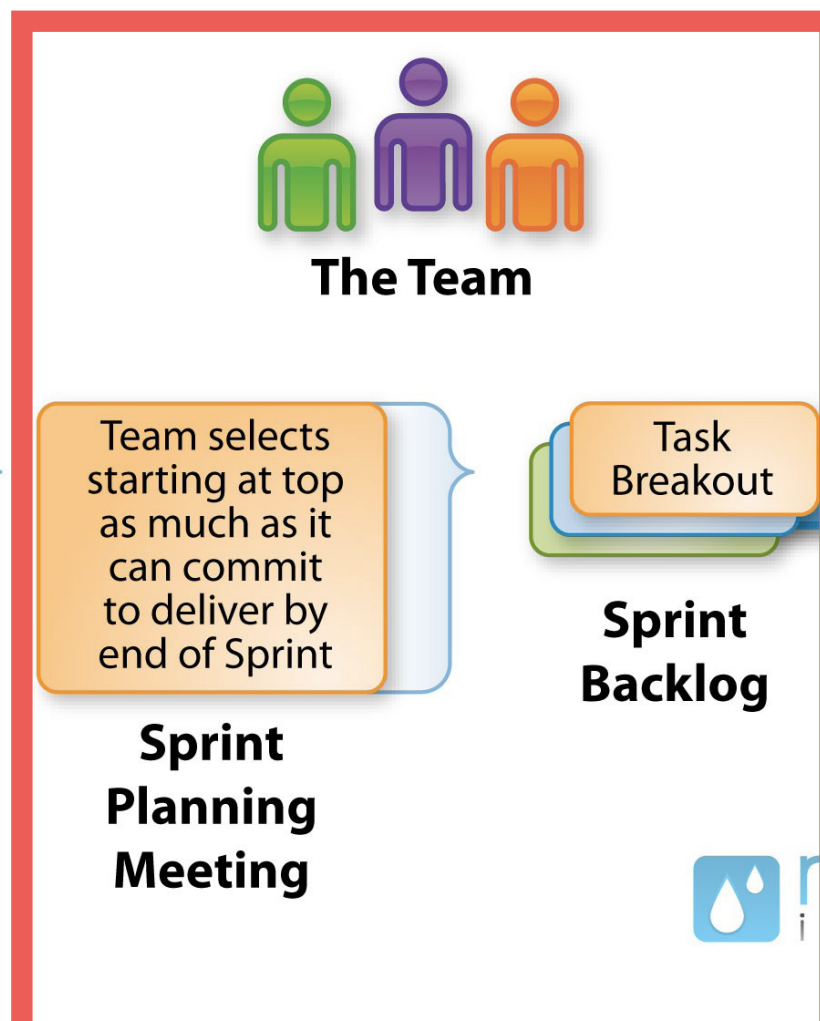
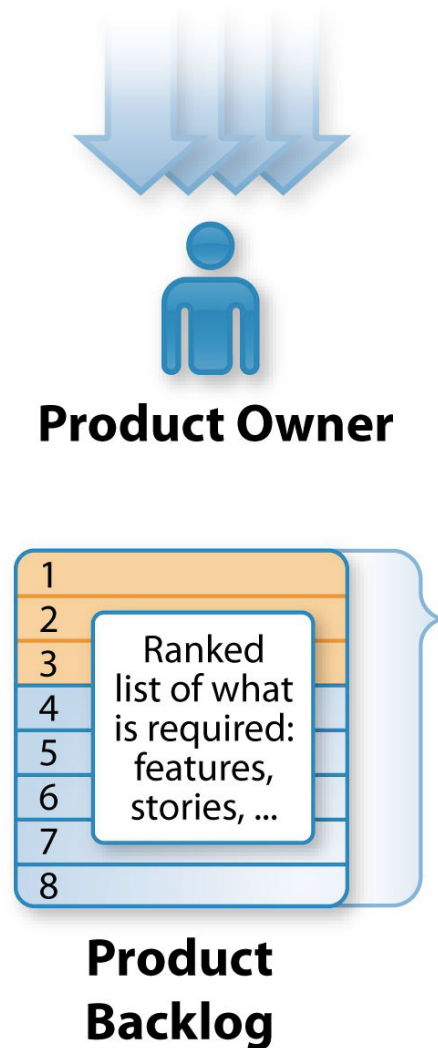
Item	Details (Wiki URL)	Priority	Estimate of value	Initial Estimate of effort			
As a buyer I want to place orders (see UI on the Wiki)		1	7	5			
As a buyer I want to delete an item from the order		2	6	2			
Improve transactions performance		3	6	13			
Update servers to Apache 2.323		4	5	13			
Create and save wish list		5	3	40			

Remaining effort
New estimates

Step 2: Sprint **Planning**

The Agile: Scrum Framework at a glance

Inputs from Executives,
Team, Stakeholders,
Customers, Users



Sprint **Planning**

SPRINT PLANNING (PART 1)

Actors: Product Owner, Team and Scrum Master

Actions:

1. Review high-priority items that the Owner is interested in implementing.
2. Discuss goals and review the “***Definition of DONE***” (usually means coded to standards, reviewed and implemented with unit-test driven development and tested with 100 percent test automation, and documented)

Sprint **Planning**

SPRINT PLANNING (PART 2)

Actors: Team

Actions:

1. The Team **selects** the items from the Product Backlog they commit to complete by the end of the Sprint, starting at the top of the Product Backlog.
2. Detailed task planning for how to implement the items that the Team decides to take on.
3. The Team **decides how much work** it will commit to complete, rather than having it assigned

Sprint Planning

SPRINT PLANNING (PART 2)

1. Determine capacity:

- Sprint length: 2 weeks
- Workdays during sprint: 8 days

Team member	Available days (*)	Available hours per day(*)	Total Available hours
Isabel	8	4	32
Hind	6	6	36
Alex	10	3	30
Mustafa	4	8	32

* It does not include meetings, coffee time, holidays, etc.

Sprint Backlog

SPRINT PLANNING (PART 2)

2. The Team figures out how many Product Backlog items they can complete in that time. This often starts with a design discussion at a whiteboard. Once the overall design is understood, the Team decomposes the Product Backlog items into work. The Team starts with the first item on the Product Backlog and working together, breaks it down into individual tasks, which are recorded in a document called the **Sprint Backlog**

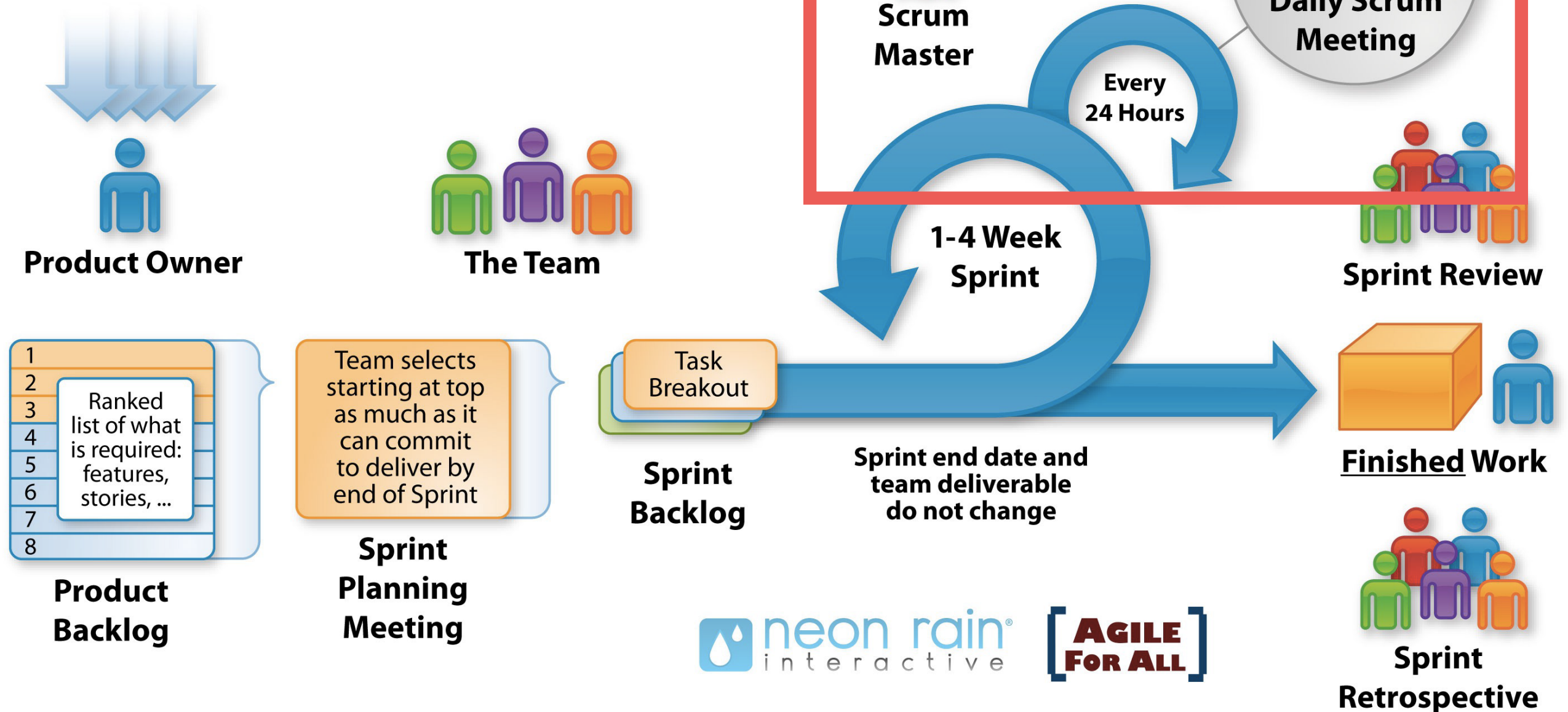
Item	Sprint tasks	Volunteer	Initial Estimate of effort (hours)				
As a buyer I want to place orders (see UI on the Wiki)	Create web page (UI)		8				
	Create web page (logic)		13				
	Modify database		5				
Improve transactions	Improve DCP code		5				
	Complete code for pRank		3				

Follow-up: It is usual to use post-its with name like “Not Yet Started”, “In progress”, “Completed”

During the **Sprint**

The Agile: Scrum Framework at a glance

Inputs from Executives,
Team, Stakeholders,
Customers, Users



Daily Scrum

FEATURES:

- 5-15 minutes, everyday at an appointed time.
- Everyone attends, no exceptions.
- Standing meeting (no sitting)
Each member reports ***three things (only three) to the other members:***
 1. What has been done since the last meeting.
 2. What they plan to do for next meeting.
 3. Any impediment or block in the way.

Observations:

Since there is no Team leader this is not a reporting but a synchronization step. No discussion or other information is done in daily scrum. If something is to be solved people can arrange a meeting afterwards. The rest of the team is not mandatory to attend this meeting. This second meeting can be necessary when people adapt to the news from the daily scrum.

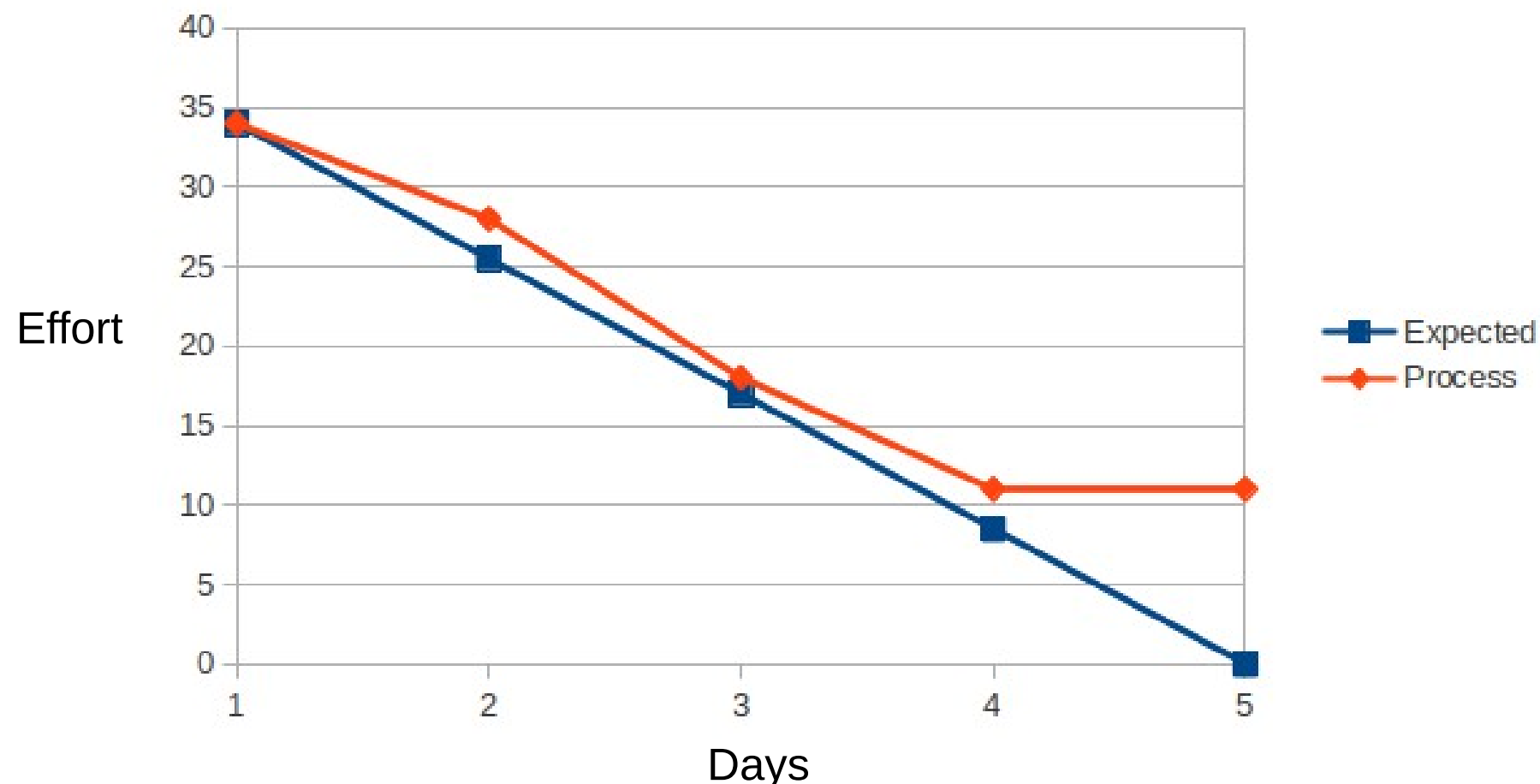
Updating Sprint Backlog

Every day update the sprint backlog with the estimated amount of **time remaining**

Item	Sprint tasks	Volunteer	Initial Estimate of effort (hours)	Day 1	Day 2	Day 3	
As a buyer I want to place orders (see UI on the Wiki)	Create web page (UI)		8	4	3	0	0
	Create web page (logic)		13	13	8	5	0
	Modify database		5	5	5	2	0
Improve transactions	Improve DCP code		5	3	8	8	8
	Complete code for pRank		3	3	3	3	3

Burndown chart

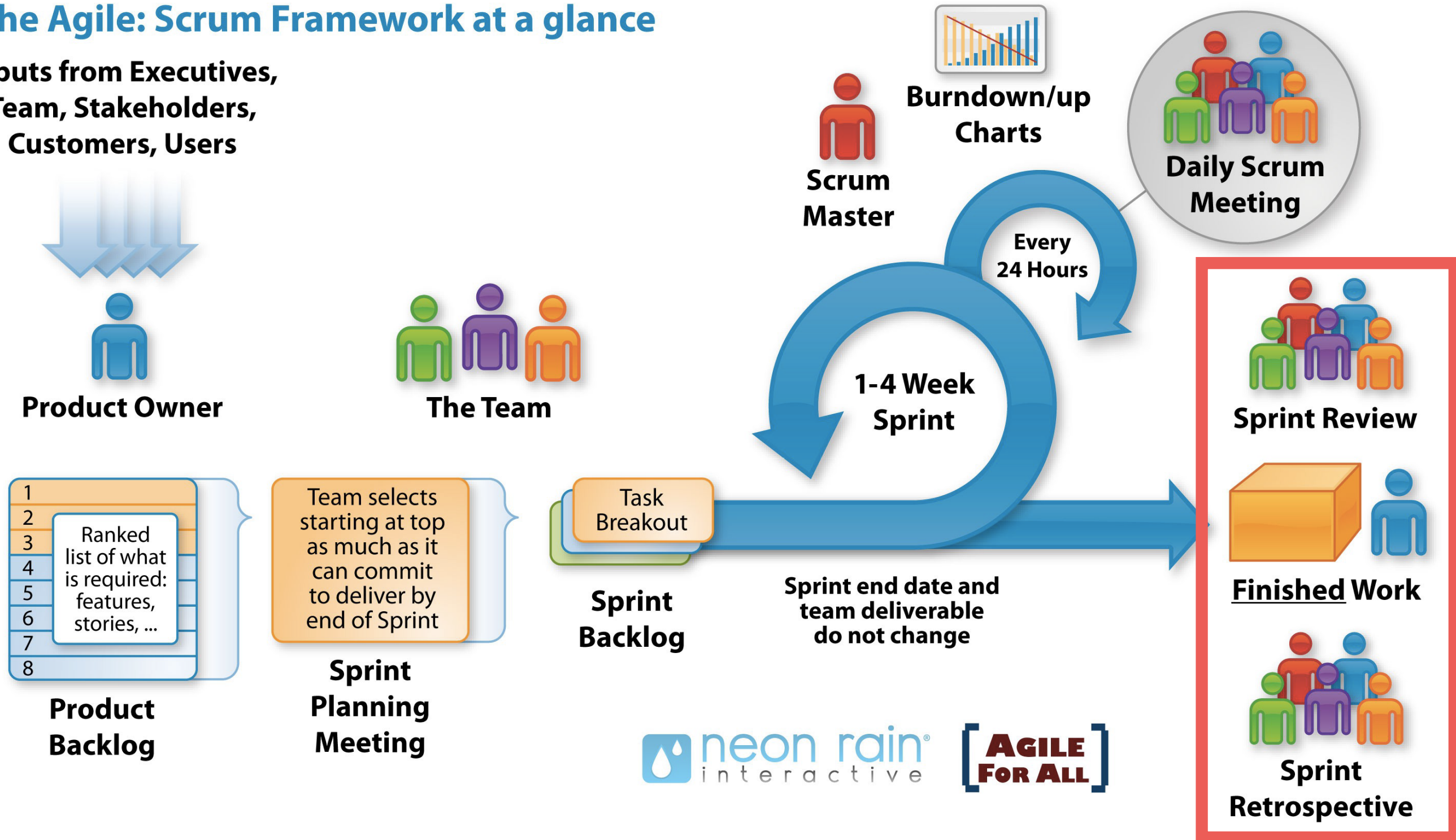
If effort is added for each day and plotted in a graph, we have the **Sprint Burndown Chart**. Ideally this is a downward sloping graph for the “zero effort remaining.” It does not show how much time the team spent on the project but how much remains in the future. The chart is made with **pen and paper**.



Ending the **Sprint**

The Agile: Scrum Framework at a glance

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Ending the Spring

RULE: THE DURATION IS NEVER EXTENDED.

This means that the first sprints the team fails to accomplish the commitments. Then it over-compensates by selecting much less number of items (there it can ask to the Product Owner for more Product Backlog items).

ENDING THE SPRINT: Sprint Review

Players: Product owner, ScrumMaster and team.

Goal: Similar to a “demo” but the idea is to inspect and adapt. Conversation between Product Owner and Team. ScrumMaster ensures that everyone knows the “*Definition of Done.*”

Observations: Items *not properly done* go back to the Product Backlog.

Ending the Spring

ENDING THE SPRINT: Sprint Retrospective

Players: ScrumMaster and Team.

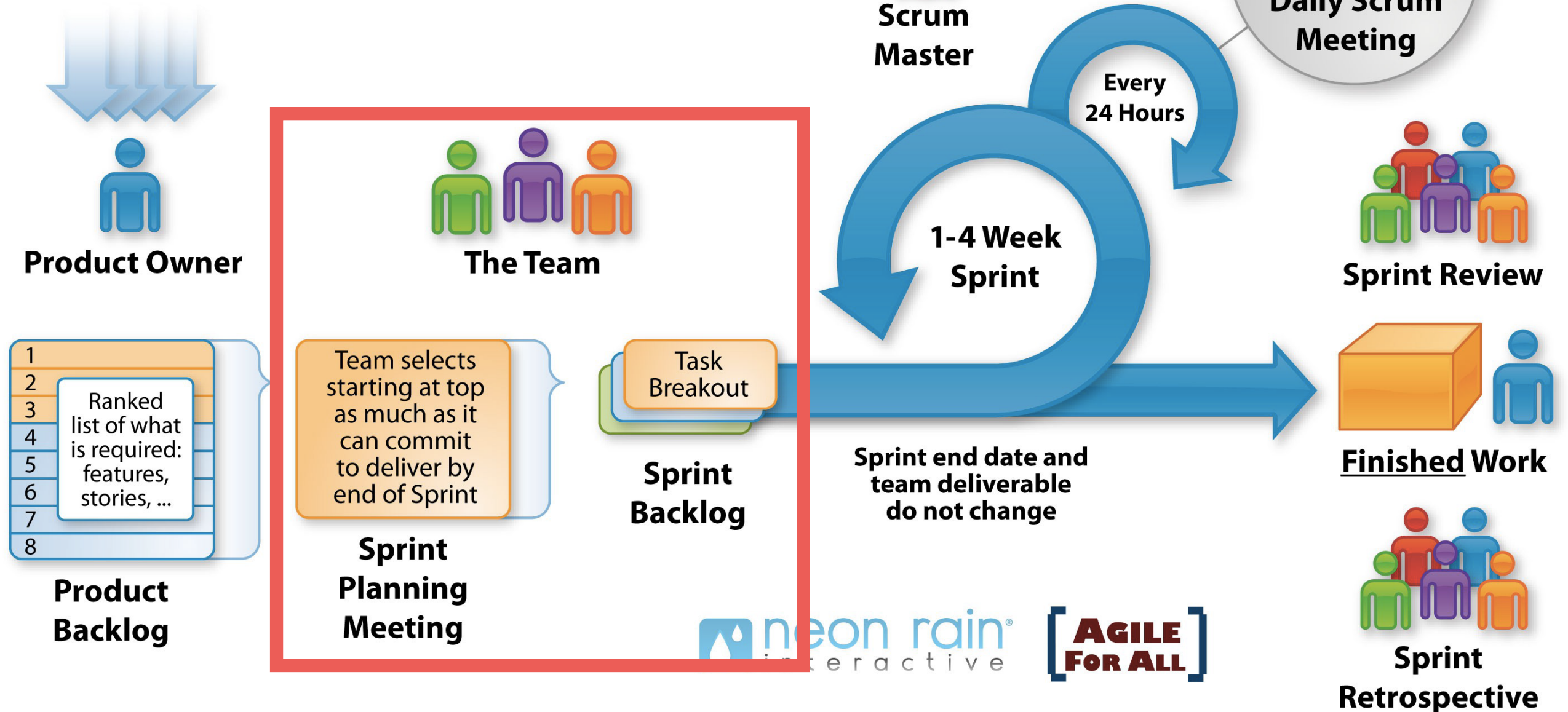
Goal: Inspect and adapt the process.

Observations: Documents what it is working well and what could work better. Agree on causes and propose changes.

The new Sprint

The Agile: Scrum Framework at a glance

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The **new** sprint

The aggregation of the whole effort for the **Release Backlog** allows us to create a **Release Burndown Chart**.

“Everything is completely finished every Sprint.” This means, code, test, documentation, ...