# Basic Scrum Outline

Scrum is a framework that allows for a structured product development effort. It will allow a team to better deliver a product the client wants, and ensures the product is always in some sort of usable state at the end of each iteration (sprint). It will help to prevent feature creep. With a well-maintained and groomed product backlog, it will speed development efforts and eliminate extra work and meetings. The events prescribed by Scrum establish for the team a regular meeting cadence, and self-correct issues that may arise. It is widely used in the software industry and is proven to make teams function better.

This document will attempt to summarize the key elements in Scrum. There is a lot more that’s not covered here; however, this is a great place to start for the purposes of senior project. The Official Scrum Guide is here: <https://www.scrumguides.org/docs/scrumguide/v2017/2017-Scrum-Guide-US.pdf>

## Roles

#### Product Owner

This person is responsible for the product backlog. They are the one who communicates with clients, and develops requirements. All changes to scope or requirements must go through this person. This ensures the entire team is working towards a common goal. Furthermore, it ensures that scope creep or undocumented changes to requirements do not occur.

Activities include:

* Communicating with the client to understand what it is they want the product to do
* Crafting backlog items to achieve what the client wants, with clear and concise descriptions and acceptance criteria
* Maintaining ordering of the product backlog (most important items are on top)
* Clarifying requirements for everyone on the team

#### Scrum Master

This individual can be thought of a Scrum moderator in a sense. They promote Scrum and help everyone to uphold its practices, rules, values, and understand how this is valuable towards delivering a quality product.

They help the team be successful by:

* Assisting the product owner with managing the backlog;
* Ensuring everyone understands the need for clear and concise backlog items;
* Helping the development team with blockers;
* Helping those outside the Scrum team understand how they can interact with those on the Scrum team in helpful ways;
* Facilitating Scrum events (like sprint planning, daily scrum, etc);

#### Development Team

This is a team consisting of several members who work on transforming work items into a functioning product through code. Note that in our case, both the Product Owner and Scrum Master will also be a member of the development team! (Since it’s just 4 of us)

## Events

Commonly referred to as “Events” or “Ceremonies”. Typically facilitated by the Scrum Master.

#### The Sprint

These are the (in our case, two-week) increments during which we do work. Each sprint has a goal the team works towards. They can be thought of as small projects that, when complete, will produce a planned amount of working functionality to add to the product.

#### Grooming

This event is where the development team works with the Product Owner to determine what each backlog item will require from a development standpoint. It’s an opportunity for development to get requirements clarification. Tasks will be created and nested under each backlog item with implementation details. This should occur before planning a sprint.

Tasking backlog items helps the developers brainstorm and understand what is needed to develop each item. It helps everyone understand how much work is involved in completing each backlog item. The amount of work is usually assigned a number (often referred to as “effort” or “story” points. Small numbers mean less work required; large numbers equate to more work.

#### Sprint Planning

This event is when team works together to come up with a plan for functionality to be delivered for the next sprint. The product owner will discuss what the objective of the sprint should be and what backlog items this goal would include.

The development team will chose as many Product Backlog items as they believe can be done within that sprint, and move them into the Sprint Backlog. Items are chosen from the top of the backlog in order to respect the Product Owner’s priorities on completion of work. Over time, the team’s average velocity will help determine how many story points can be completed in a sprint.

Finally, the team will craft a sprint goal to help understand what will be done during the sprint, and what to expect when it’s complete.

#### Daily Scrum

This is a (typically) daily meeting, not usually longer than 15 minutes. It’s purpose is for the development team members to address the following:

* What did I do yesterday to work towards meeting the Sprint Goal?
* What will I do today to work towards meeting the Sprint Goal?
* Do you have any blockers? (Anything preventing you from making progress in the sprint)

Daily Scrum is typically facilitated by the Scrum Master. He or She can assist with the elimination of any blockers. They also ensure that anything not relating to those three questions is saved until the end of Daily Scrum.

#### Sprint Review

This event is held at the end of a sprint. It’s an opportunity for the team to review with stakeholders what was accomplished during the sprint. During this time, examine any changes that may have taken place to the product backlog.

#### Sprint Retrospective

This is a self-review of the Scrum team that occurs after a Sprint Review, but before the next Sprint Planning. Its goals include:

* Identifying points to improve on next sprint (what went well, what didn’t);
* Creating a plan to implement the improvements

Typically, the team will come up with a list of action items and blockers. The Scrum Master can help clear blockers.

## Scrum Artifacts

* **Backlog Item:** An item that describes functionality and what is needed for it to be considered “done”. Feature requirements of the product are composed of backlog items. Often they are in the form of User Stories.
* **Product Backlog:** Ordered list of all backlog items needed to complete the product. High priority items should be at the top. Completeness and ordering is managed by the Product Owner.
* **Sprint Backlog:** List of items selected from the product backlog that comprise a Sprint. Combined, they will yield the next increment of “done” in the product and fulfill the Sprint Goal.

## Terms

* **Velocity:** Amount of numeric points that can be completed by the team during a sprint

## The Scrum Workflow

Before the team can start work, the Product Owner will need to have added some stories to the product backlog. They should be ordered according to priority, where high priority items are at the top.

The first order of business would be to hold a grooming session. The development team meets to discuss the technical tasks required to implement items in the product backlog. These tasks should be added as children under respective backlog items. Note that not all items need to be groomed; it’s good practice to have at least two sprints worth of groomed items in the product backlog.

After an initial grooming is complete, the first Sprint Planning occurs, during which the team builds out their sprint. Without an initial velocity, we’ll just try to do our best at selecting a reasonable amount of work which we believe can be completed in the timeframe of the sprint. Once Sprint Planning is complete, the sprint will officially start.

During the course of the sprint, daily scrum meetings will occur to help the development team sync up. Also, work items may need to be clarified. The Product Owner is the go-to person for such inquiries. In the event that all planned work items are completed before the end of the sprint, it may be decided that more items can be brought into the sprint from the product backlog.

At the end of the sprint, a Sprint Review will occur. Based on this, changes may be necessary to backlog items. Then, the Sprint Retrospective (retro) will occur. We, as a team, will then have the opportunity to analyze the ending sprint. This is where we’d introduce changes to process. Once the retro is completed, we’d complete another grooming session, sprint planning, and so on.