

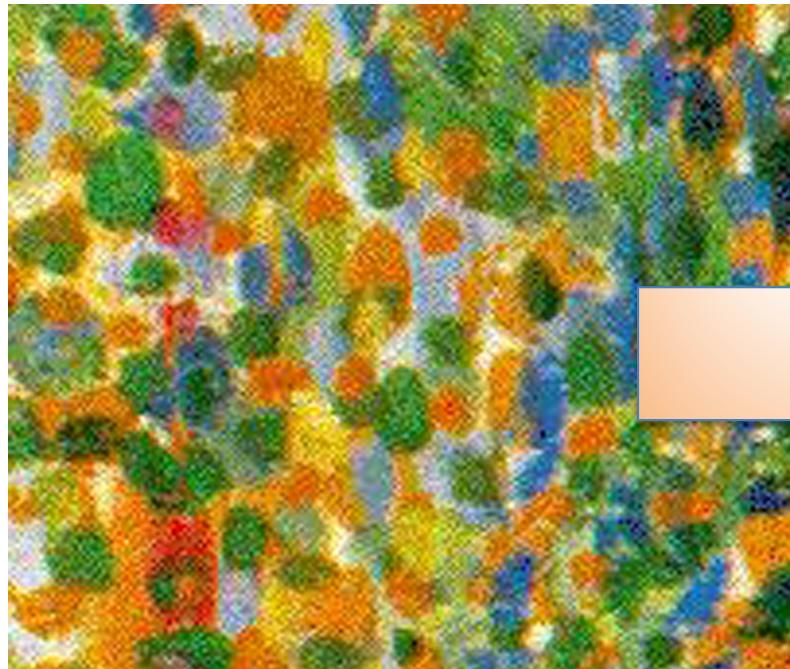


AUBURN
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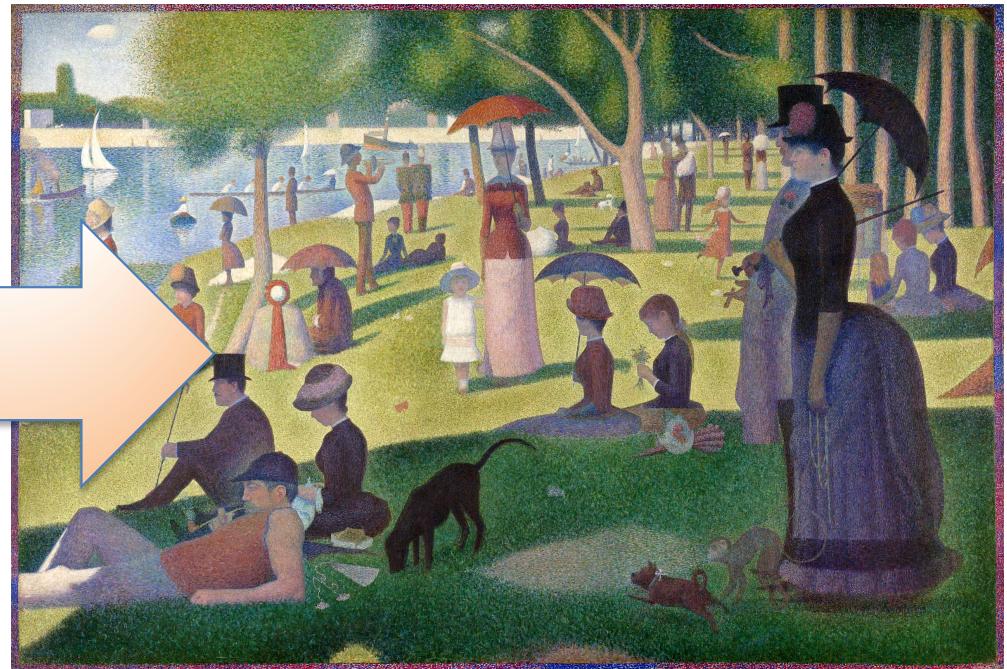
ENGR 1110

Module 6 Lecture

Keeping perspective

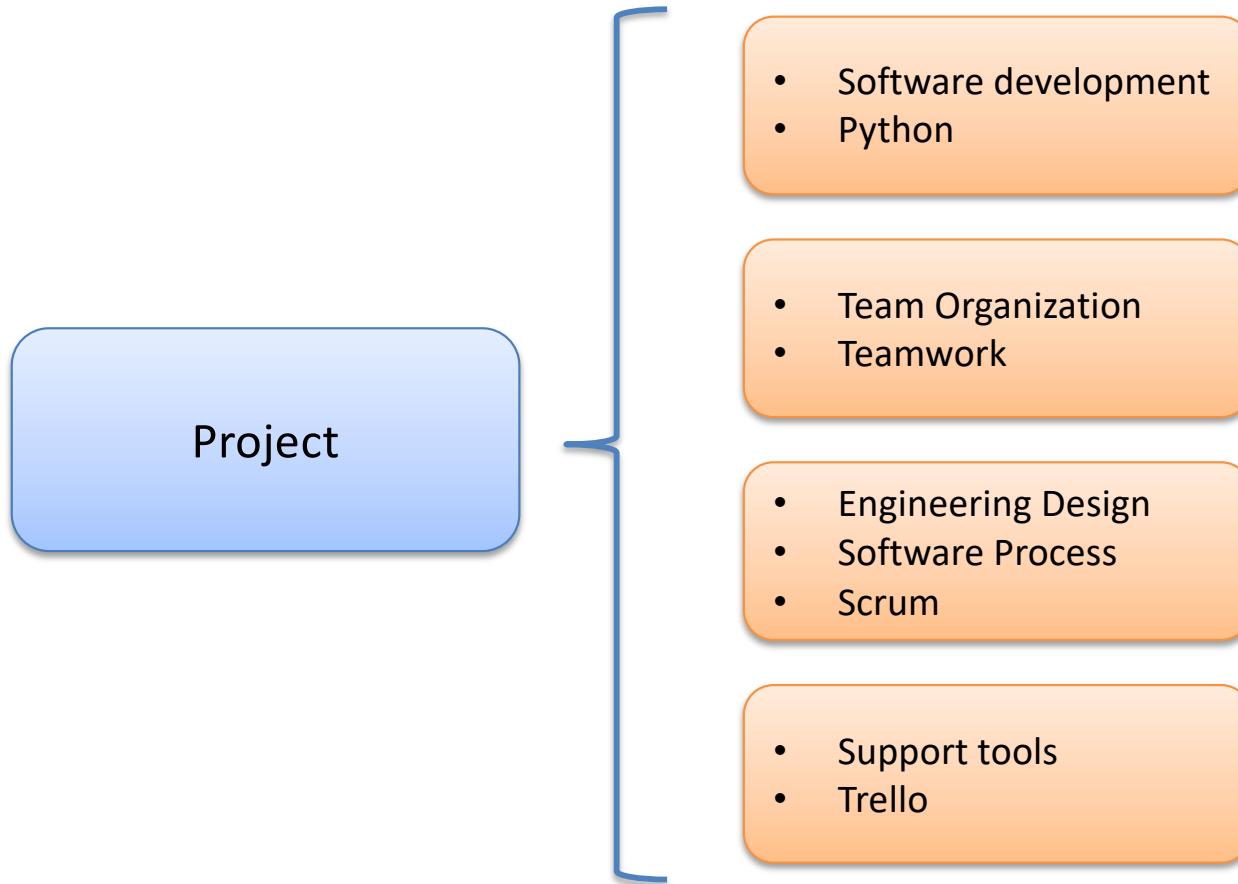


<https://www.principlegallery.com/technique-tuesday-pointillism-take-two/>



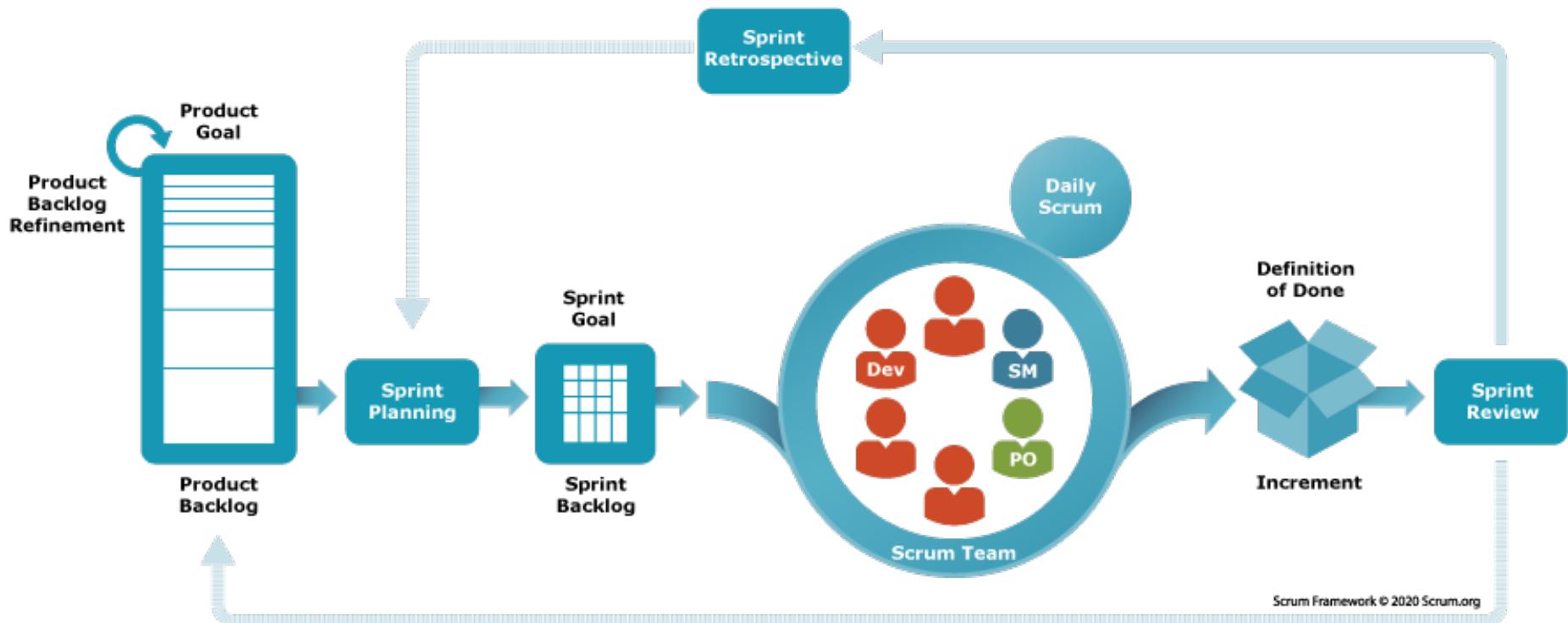
Georges Seurat, *A Sunday Afternoon on the Island of La Grande Jatte*, 1884-86,
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Team Project



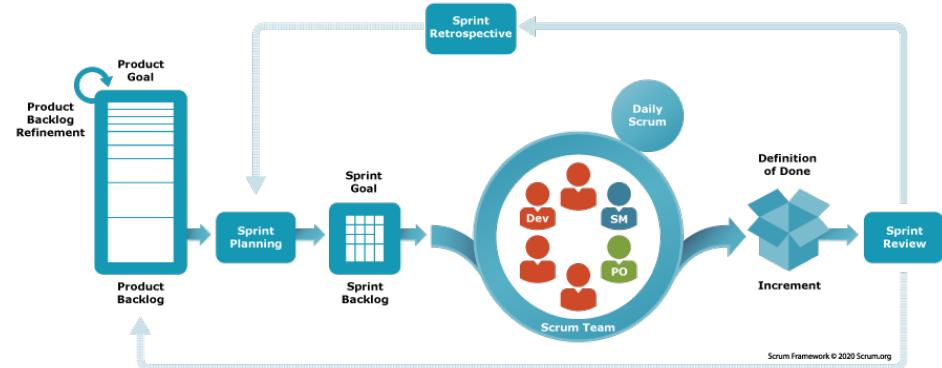
The Scrum Framework

Scrum



Scrum

“Think of **Scrum** as a way to get work done as a team in small pieces at a time, with continuous experimentation and feedback loops along the way to learn and improve as you go. Scrum helps people and teams **deliver value** incrementally in a collaborative way. As an **agile framework**, Scrum provides just enough structure for people and teams to integrate into how they work, while adding the right practices to optimize for their specific needs.”

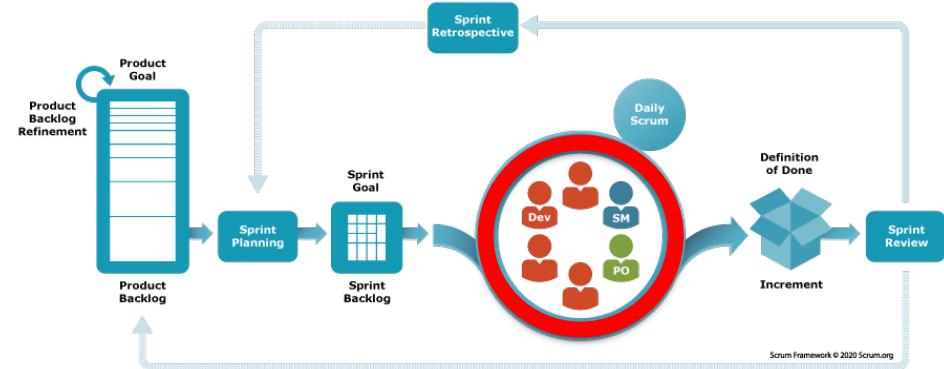


“Scrum requires an environment where:

- **Increments** of valuable work are delivered in short cycles of one month or less, which are called **Sprints**. Ongoing feedback occurs during the Sprint, allowing for **inspection** and **adaptation** of the process and what will be delivered.
- The Scrum Team has a **Scrum Master**, a **Product Owner** and **Developers**, who are accountable for turning the selection of the work into an Increment of value during a Sprint.
- The Scrum Team and other members of their organization, business, users or customer-base known as **stakeholders**, inspect the results of the Sprint and adjust for the next one.”

Scrum

“The fundamental unit of Scrum is a small team of people, a **Scrum Team**. The Scrum Team consists of one Scrum Master, one Product Owner, and Developers. Within a Scrum Team, there are no sub-teams or hierarchies. It is a cohesive unit of professionals focused on one objective at a time, the Product Goal.”



“Scrum Teams are **cross-functional**, meaning the members have all the skills necessary to create value each Sprint. They are also **self-managing**, meaning they internally decide who does what, when, and how.”

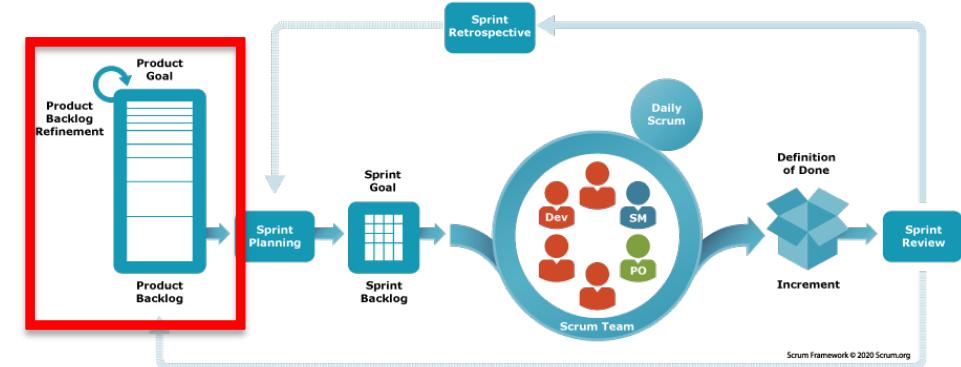
“The Scrum Team is responsible for all product-related activities from stakeholder collaboration, verification, maintenance, operation, experimentation, research and development, and anything else that might be required.”

Scrum

“The **Product vision** describes the purpose of a Product, the intention with which the Product is being created, and what it aims to achieve for customers and users. The Product vision describes a future state of the Product and what problems it tries to resolve or what ambitions it tries to fulfill.”

“A good vision is about resolving a problem or achieving an [idea]. Don’t make the vision (too) technical, focus it on value.”

An example vision template:



For (target customer)

Who (statement of need or opportunity)

The (product name) **is a** (product category)

That (key benefit, reason to buy)

Unlike (primary competitive alternative)

Our product (statement of primary differentiation)

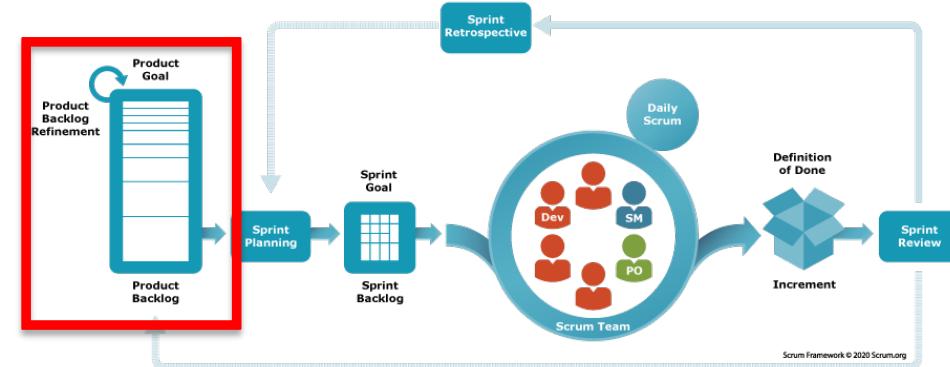
Scrum

“The **Product Goal** describes a future state of the product which can serve as a target for the Scrum Team to plan against. The Product Goal is the long-term objective for the Scrum Team. The Product Backlog Items define what will fulfill the Product Goal as the Scrum Team learns more about how to achieve the goal while working each Sprint. The Product Goal is therefore a simple directional statement that provides context and purpose (of the work) for the Scrum Team and its stakeholders.”

“When formulating a Product Goal, it should be:

- Aligned with and makes progress toward the Product Vision
- Clear and concise
- Outcome-driven to reflect a customer want or need
- Measurable
- Transparent with a shared understanding across the Scrum Team and stakeholders.”

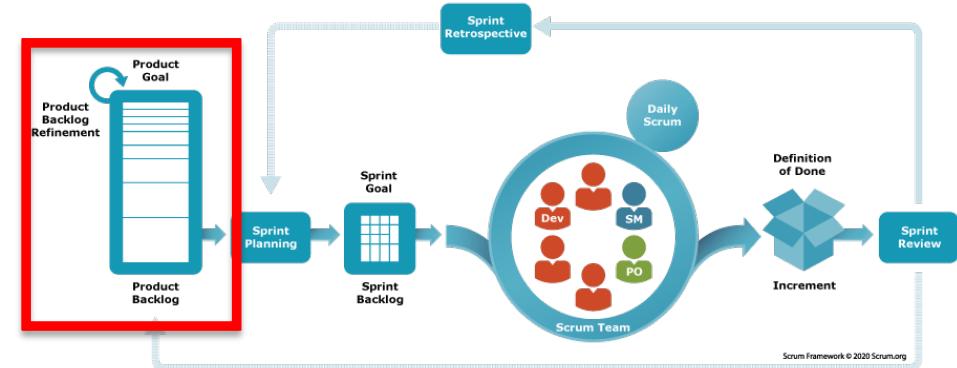
There can be multiple product goals that, taken together, describe the overall goal of the project.



Scrum

“The **Product Backlog** is an emergent, ordered list of what is needed to improve the product. It is the single source of work undertaken by the Scrum Team.”

“Product Backlog refinement is the act of breaking down and further defining Product Backlog items into smaller more precise items. Refinement can occur at any time during a Sprint, in a more formal meeting or meetings, on an ongoing basis or as needed. Refinement is not mandatory, however it is a good practice to consider in order to increase transparency and make work items more precise.”



Think of the Product Backlog as an ordered list of features that, when implemented, will achieve product goals and ultimately the product vision.

There are different means of expressing items in the Product Backlog (like User Stories), but most any informal statements of **features**, **functions**, or **requirements** that work for your team will be fine for the class project.

Scrum

Example: (adapted from source below)

Product Vision:

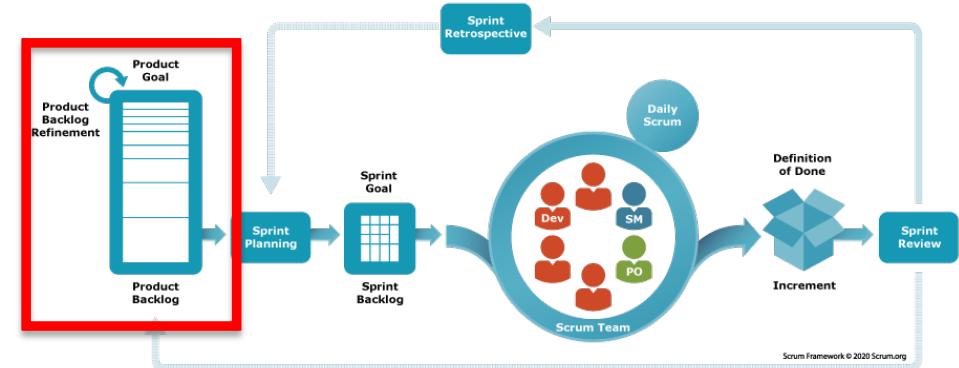
Be the leading online bakery in the state.

Product Goals:

Goal 1: Launch a website that allows sales to customers inside Auburn.

Goal 2: Expand production/delivery to allow sales across Alabama.

Goal 3: Expand online presence via the Apple and Google Play app stores.



Product Backlog:

1. Create a basic website structure.
2. Build capacity to list and purchase products using a credit card.
3. Many more here...
4. Launch website and fulfill the first orders.
5. Many more here...

Scrum

Example: (adapted from source below)

Product Vision:

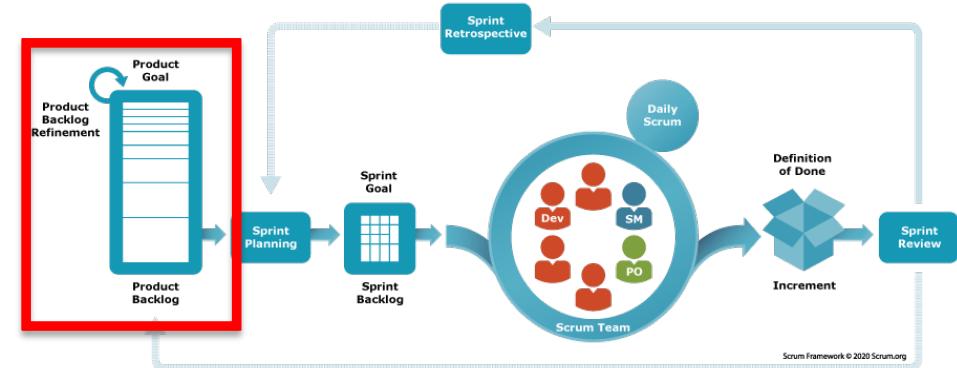
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Scrum

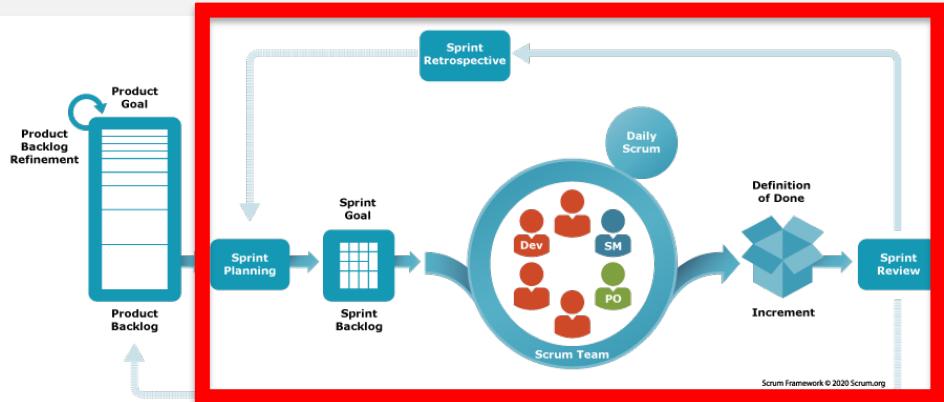
“Sprints are the heartbeat of Scrum, where ideas are turned into value. The **Sprint** is the Scrum event that encompasses all of the other Scrum events.”

“All the work necessary to achieve the Product Goal, including **Sprint Planning**, **Daily Scrums**, **Sprint Review**, and **Sprint Retrospective**, happen within Sprints.”

“They are fixed length periods of work that last one month or less to create consistency and ensure short iterations for feedback in order to inspect and adapt both how work is done and what is being worked on.”

A Sprint:

- Is time-boxed.
- Has a definite, measurable goal.
- Makes incremental progress toward the Product Goal.



Scrum

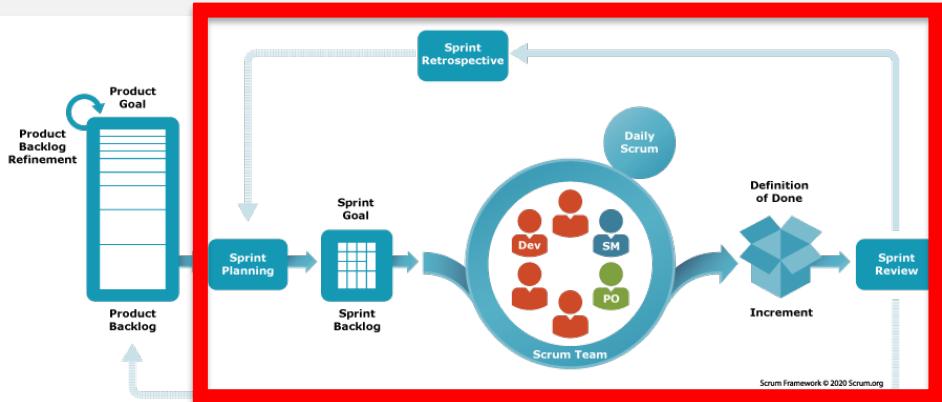
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“They are fixed length periods of work that last one month or less to create consistency and ensure short iterations for feedback in order to inspect and adapt both how work is done and what is being worked on.”

“Sprints enable predictability by ensuring that the Scrum Team inspects and adapts toward the Product Goal and Sprint Goal each Sprint.”

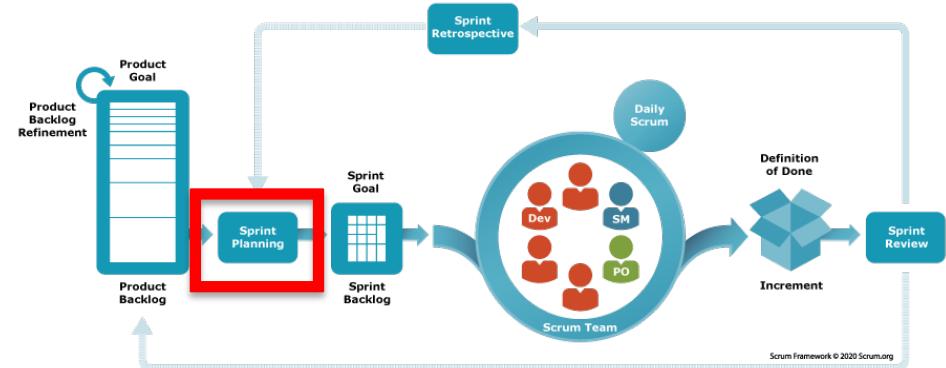
Sprint Goal - The Sprint Goal is the single objective for the Sprint. Although the Sprint Goal is a commitment by the Developers, it provides flexibility in terms of the exact work needed to achieve it. The Sprint Goal also creates coherence and focus, encouraging the Scrum Team to work together rather than on separate initiatives.



Scrum

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Sprint Planning

“Sprint Planning initiates the Sprint by laying out the work to be performed for the Sprint. This resulting plan is created by the collaborative work of the entire Scrum Team.”

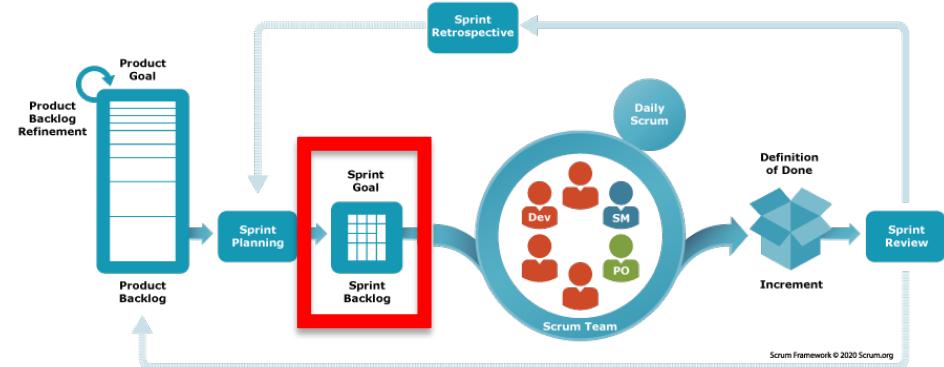
Sprint Planning addresses:

1. Why is this Sprint valuable?
2. What can be Done this Sprint?
3. How will the chosen work get done?

Scrum

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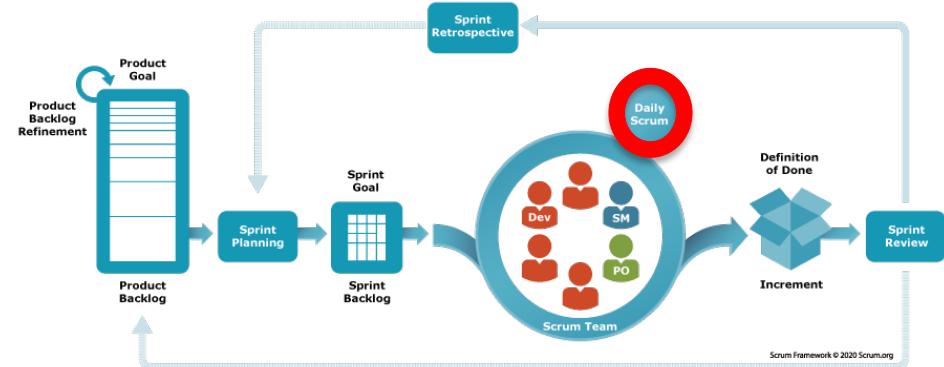
Sprint Backlog and Sprint Goal

“The **Sprint Backlog** is composed of the **Sprint Goal** (why), the set of Product Backlog items selected for the Sprint (what), as well as an actionable plan for delivering the Increment (how).”

Scrum

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Daily Scrum (Stand-Up Meeting)

“The Daily Scrum is a 15-minute event for the Developers of the Scrum Team. The purpose is to inspect progress toward the Sprint Goal and adapt the Sprint Backlog as necessary, adjusting the upcoming planned work.”

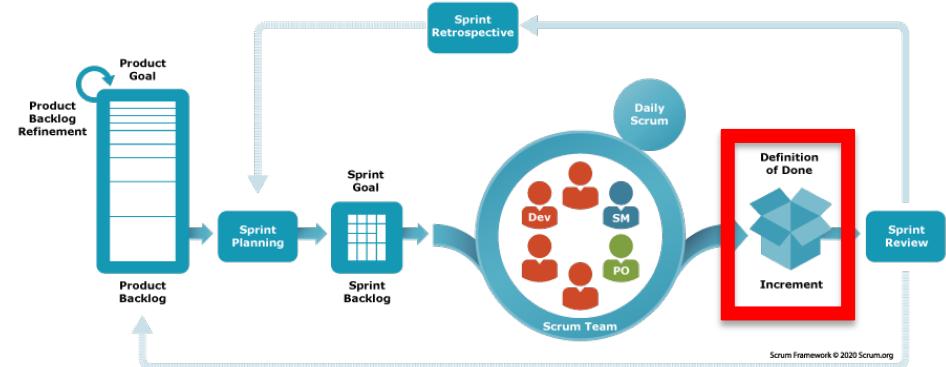
Each Developer addresses three things:

1. What they have done since the last stand-up.
2. What they plan to do before the next stand-up.
3. What, if anything, is impeding their work.

Scrum

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Increment

“An **Increment** is a concrete steppingstone toward the Product Goal. Each Increment is additive to all prior Increments and thoroughly verified, ensuring that all Increments work together. In order to provide value, the Increment must be usable.”

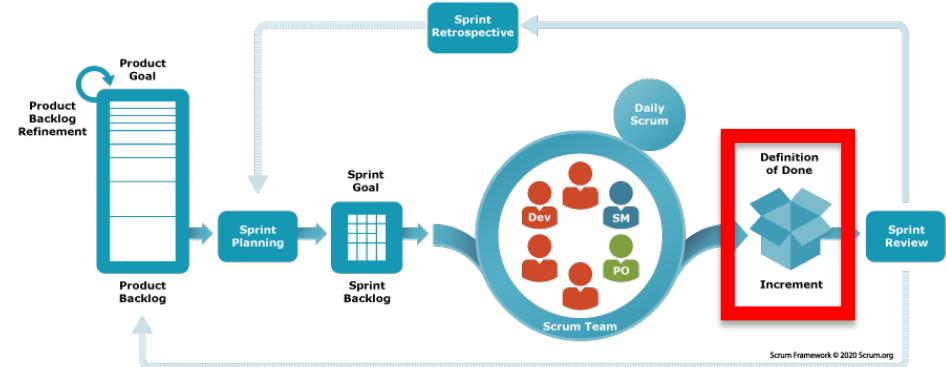
A product increment is:

- Everything already built,
- Plus anything new that was just finished in the current Sprint,
- All integrated, tested, and ready to be deployed.

Scrum

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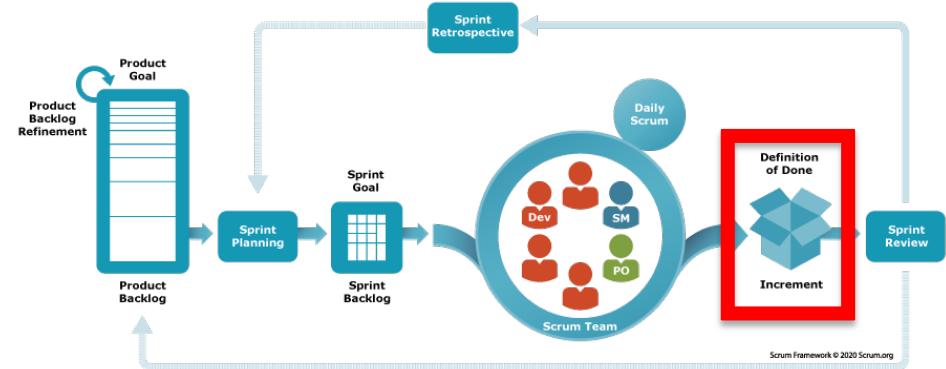
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Done

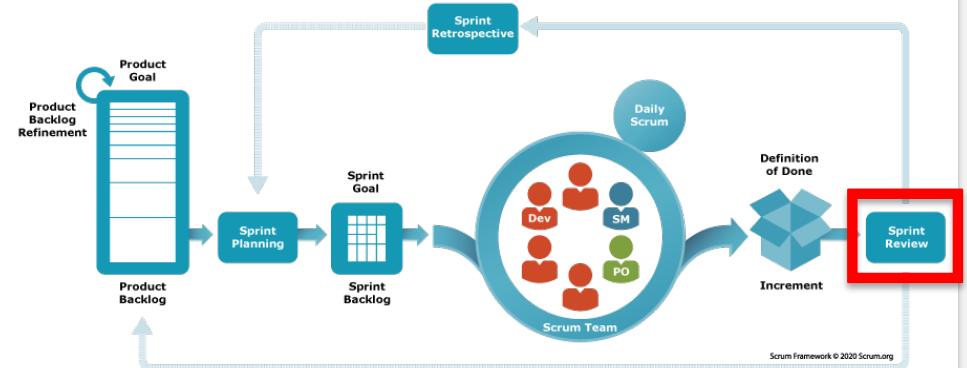
“The Definition of **Done** is a formal description of the state of the Increment when it meets the quality measures required for the product. Once the Definition of Done is met, the Increment is Done and can be delivered.”

“Think of Done as all of the ingredients it takes for an Increment of product to be complete.”

Scrum

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Sprint Review

“The **Sprint Review** is a working meeting where the Scrum Team presents their completed work to their stakeholders and asks for feedback and guidance. Together, the Scrum Team and stakeholders discuss the progress made toward the Product Goal, any emerging changes, and collaborate on what to do next.”

Think of the Sprint Review as a demo. Your team demonstrates to itself and (optionally) the TAs everything that has been accomplished so far. This is a demo of a working, but incomplete, product.

Scrum in ENGR 1110

Scrum in ENGR 1110

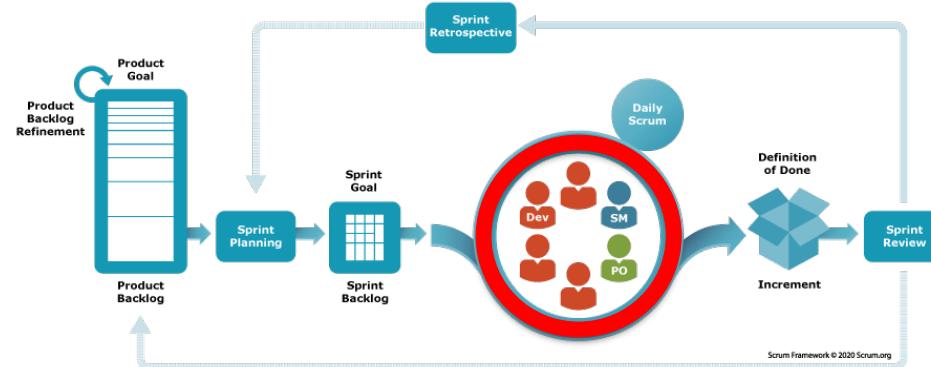
Scrum Team

- All members are Developers.
- One member is designated as Product Owner.
- One member is designated as Scrum Master.

The **Product Owner** guides the team toward developing the right product by creating a compelling vision for the product, conveying that vision through the Product Backlog, and prioritizing the features to each Sprint Backlog. *This role can be fixed or rotating.*

The **Scrum Master** is team's coach and helps ensure the team is functioning correctly. This is not a team leader or project manager, and this person does not provide day-to-day direction or assign tasks to individuals. The Scrum Master helps keep the team focused and helps identify and remove impediments to progress. *This role can be fixed or rotating.*

Each member of the team is a **Developer** and contributes in whatever ways they best can to complete the work of each Sprint. Developers are not assigned work by others. Instead, each Developer selects and commits to performing tasks and implementing certain features and functionality on each Sprint. *This role cannot be rotating. Each team member must be an active developer throughout the project.*



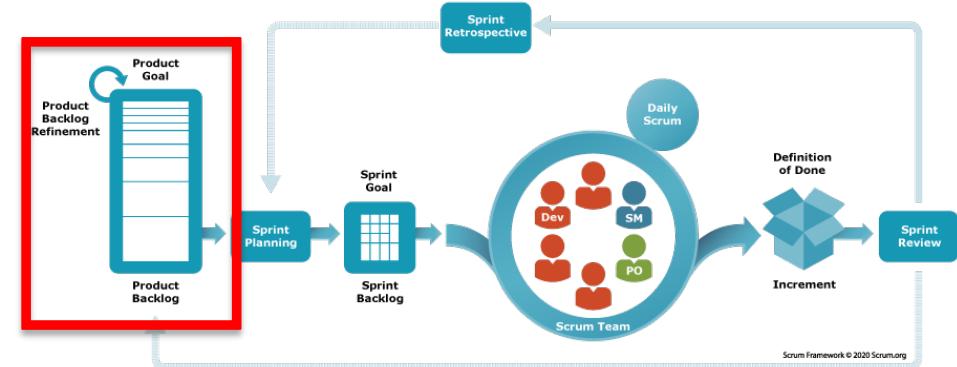
Scrum in ENGR 1110

Project Planning

Project planning will be done collaboratively by the team and will culminate in a Project Concept.

The **Project Concept** is a document that contains:

1. The name and brief bio-sketch of each team member, along with the member's role(s) – Developer, Product Owner, Scrum Master.
2. The Product Vision.
3. The Product Goal(s).
4. An initial Product Backlog.
5. A link to the public Trello board that will be used to manage and document the teams' project work.



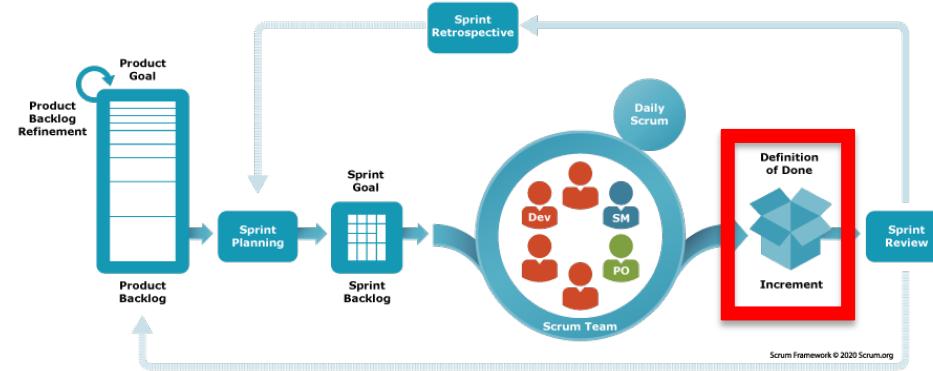
**Project Concept:
100 points, Due March 17**

Scrum in ENGR 1110

Increment

Each team will produce and release two increments:

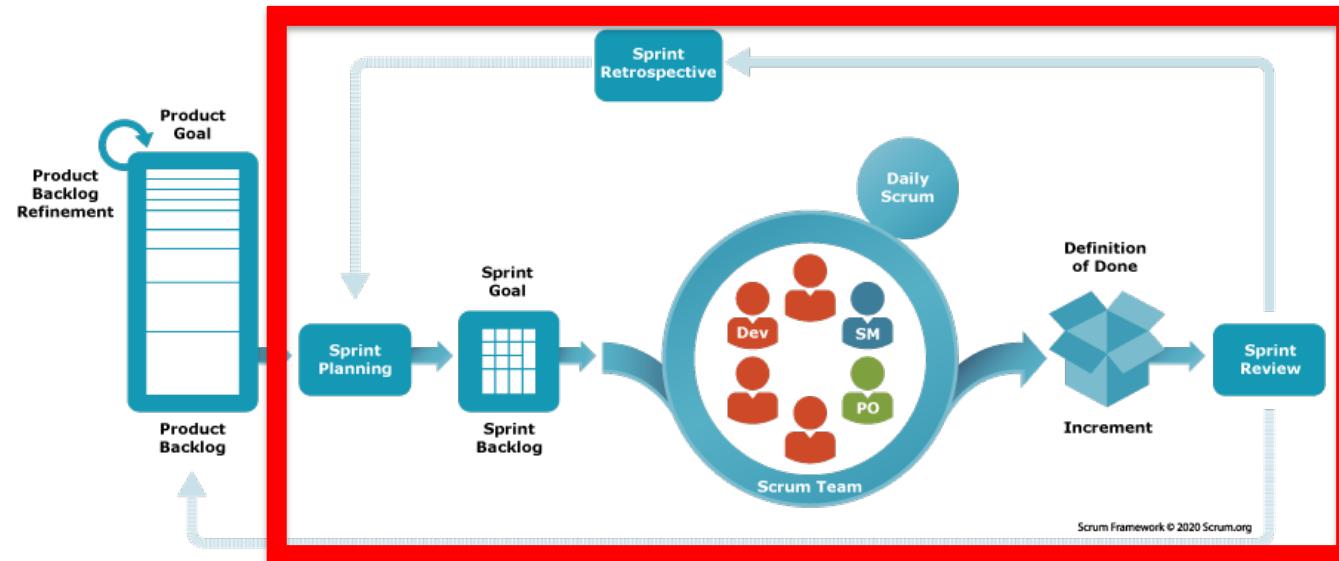
- **Alpha release** – A **pre-release** version of the software that demonstrates some but not all of the planned or required feature set.
- **Beta release** – a **feature complete** version of the software that implements all the required functionality but may have bugs, performance issues, or other sources of instability.



Alpha:
100 points, Due April 7

Beta:
100 points, Due April 21

Scrum in ENGR 1110



Sprints

All project development work will be done in 4 one-week sprints.

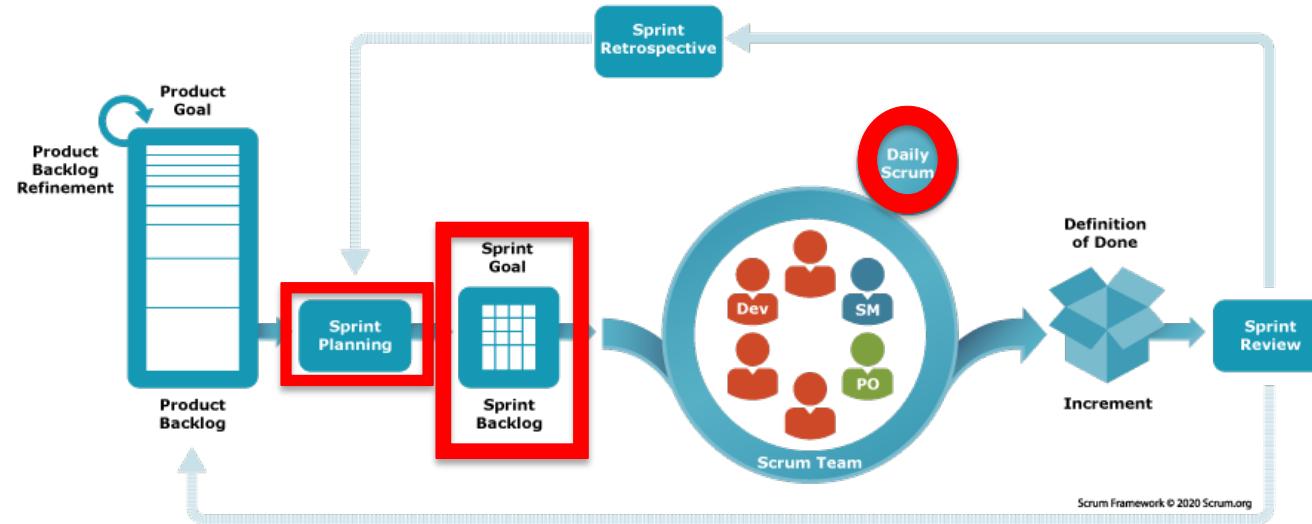
Sprint 1: Monday March 25 – Sunday March 31

Sprint 2: Monday April 1 – Sunday April 7

Sprint 3: Monday April 8 – Sunday April 14

Sprint 4: Monday April 15 – Sunday April 21

Scrum in ENGR 1110



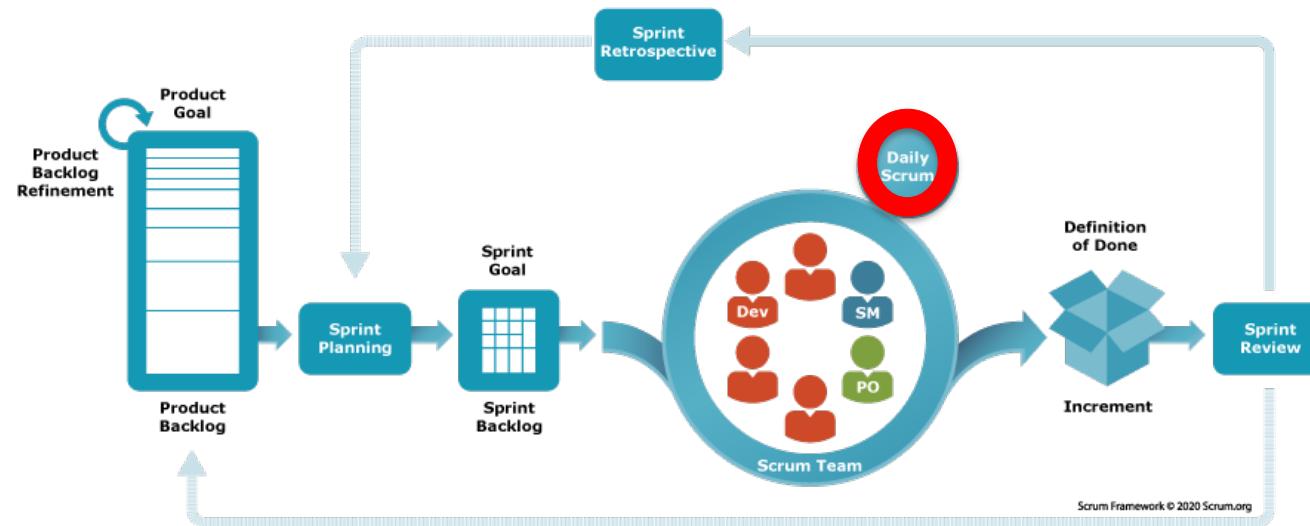
An individual sprint

Each sprint is organized in the same way with the same scheduled activities.

Monday lab meeting:

- First 15 minutes: Sprint Planning. Establish the Sprint Goal, create the Sprint Backlog
- Middle 25 minutes: Updating Trello board, individual Developer work
- Last 10 minutes: Daily Scrum

Scrum in ENGR 1110



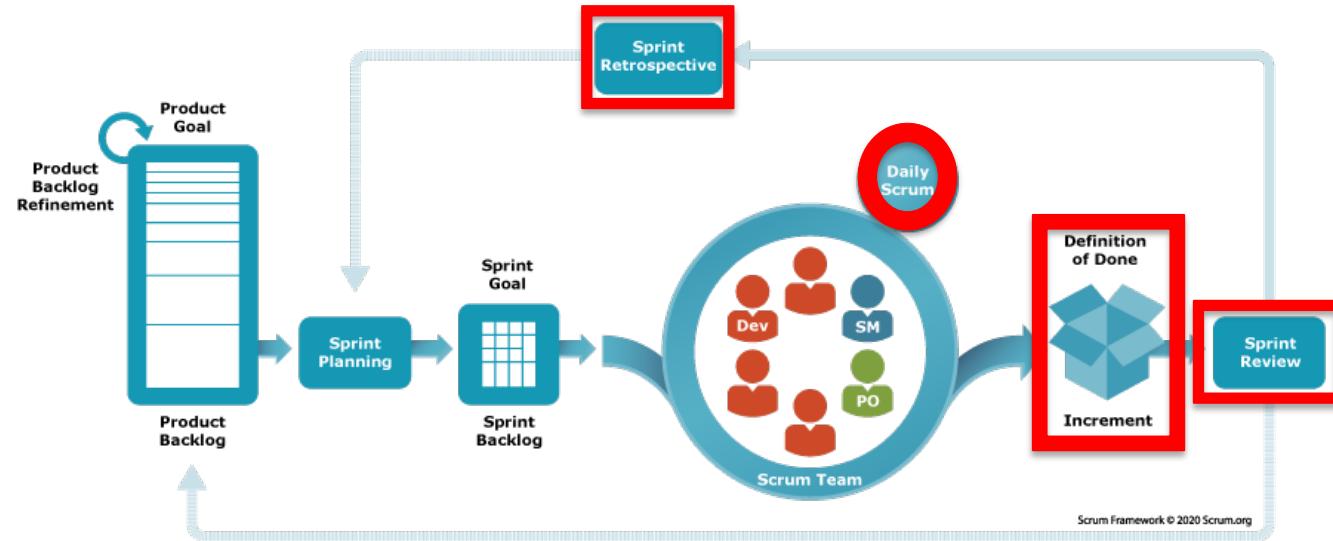
An individual sprint

Each sprint is organized in the same way with the same scheduled activities.

Wednesday lab meeting:

- First 10 minutes: Daily Scrum
- Last 40 minutes: Updating Trello board, individual Developer work

Scrum in ENGR 1110



An individual sprint

Each sprint is organized in the same way with the same scheduled activities.

Friday lab meeting:

- First 10 minutes: Daily Scrum
- Middle 20 minutes: Finish development work for sprint
- Last 20 minutes: Demo increment, Sprint Review, Sprint retrospective

Python – Strings; Process – Using Trello to Manage Work



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ENGR 1110:
Introduction to
Software Engineering

Multiple instructors
SPRING 2024

Chapter 8. Strings

8) Strings

- 8.1 String slicing
- 8.2 Advanced string formatting
- 8.3 String methods
- 8.4 String split and join
- 8.5 LAB: Checker for integer string Lab
- 8.6 LAB: Name format Lab
- 8.7 LAB: Count characters Lab
- 8.8 LAB: Mad Lib - loops Lab
- 8.9 LAB: Remove all non-alpha characters** Lab



- Do the labs in zyBooks as normal.
- Use Trello to guide, plan, and **document** your work.
- **Submit a link to your Trello board as your turn-in.**