

# Introduction

## Lesson Introduction

### Lesson Overview



- Why Frameworks?
- Scrum
- Kanban
- XP

### Learning Objectives

By the End of the Lesson You Will Be Able To...

- Identify the advantages of using a framework
- Identify the specific and shared characteristics of Scrum, Kanban and XP frameworks
- Determine which frameworks are appropriate for a given project.
- Identify the core team roles assign team members to each role
- Implement best practices for each framework, including ceremonies and artifacts

### What We Will Cover In This Lesson

Nice to see you again. This lesson will focus on Agile Frameworks, with the topic being covered as follows:

- Introduction to Agile Frameworks in general and what the advantages are of using a framework.

- The Scrum Framework and its unique characteristics as a valuable Framework.
- The more lightweight Kanban Framework and its unique advantage in managing flow and WIP
- The XP Framework and its advantages, with an appreciation for its more stringent best practices.

#### By the End of the Lesson You Will Be Able To...

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- Why Frameworks?
- Scrum
- Kanban
- XP

#### What We Will Cover In This Lesson

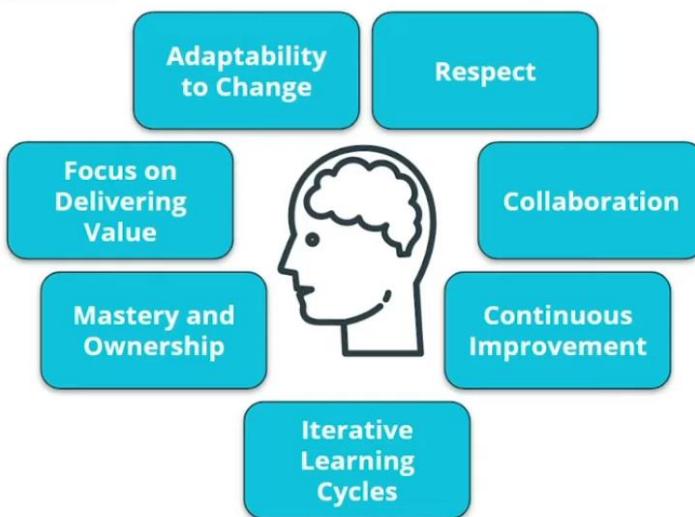
## Why Agile Frameworks?

### Why Do Agile Frameworks Matter?

## Why Agile Frameworks?



## The Agile Mindset



*The set of attitudes supporting an Agile working environment*

## Doing Agile

- Adopting practices
- No commitment to principles and values

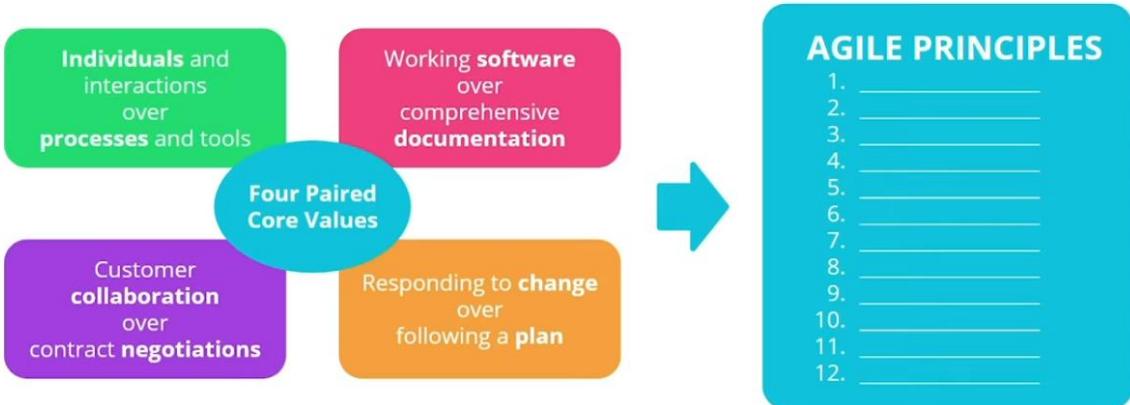


## Being Agile

- Agile Mindset
- Agile Manifesto
- Agile Principles

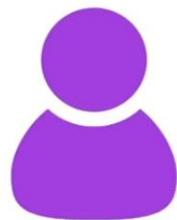


## Four Paired Core Values Drive 12 Agile Principles



Adapted from: [www.agilemanifesto.org](http://www.agilemanifesto.org)

## Clarity and Respect for Core Roles



**Product Owner**

- Voice of the Customer
- Product Champion



**Facilitator**

- Servant Leader
- Ensures the team runs smoothly



**Agile Team**

- Determines how the work gets done

## Practice-Oriented

- Makes the abstract more practical
- Particular guidelines are provided
- Can execute on Agile's promise of adaptability with value



## **Agile Frameworks Are A Vehicle for Practically Utilizing Agile**

Agile's principles related to simplicity, adaptability, and the ability to embrace change attract attention. For Agile to practically be utilized effectively, an Agile Framework, or a combination of frameworks, is usually adopted.

### **Similarities Between Agile Frameworks:**

- Adhere to the Agile Mindset as being fundamental to the success of any Agile journey
- Emphasize that being Agile is critical to successfully doing Agile
- The Agile Manifesto's 4 paired core values and its associated 12 guiding principles set the foundation for all Agile Frameworks
- Provide guidance on how to bring the Agile Manifesto's core values and principles to life

#### Quiz Question

TRUE or FALSE:

Agile Frameworks promote a **highly iterative process** for Product Development.

True



False

**Submit**



**Thanks for completing that!**

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Correct! All Agile Frameworks promote a highly iterative development process for Product Development. This allows for more flexibility. It is less costly to change scope and requirements.

**Continue**

## Reflect



Why should organizations adopt an Agile Framework as a starting point when going through Agile Transformation?

### Your reflection

Because an Agile Framework provides a set of good practices that were being tested by years of experience in the past, because the Agile Frameworks help to put into practice the core values and the principles of Agile, and because the adoption leads to quick adoption and implementation.



### Things to think about

While each Agile Framework has certain unique characteristics, they all adhere to iterative development and continuous feedback when creating a value-driven product. Agile Frameworks recommend creating and delivering solutions in small increments.

## Additional Resources

- [\*\*The Best Framework to Use for a Successful Agile Transformation\*\*](#) (opens in a new tab): In this blog post, Al Shalloway walks through the value of Agile Frameworks.

## How Experts Approach Agile Frameworks

### Thinking About Agile Frameworks

## How Experts Approach Agile Frameworks

## Thinking About Agile Frameworks

- Frameworks bring good intentions to fruition
- Tried and tested Framework brings comfort to the process



## Focus on the Right Individuals and Interactions

**Individuals** and interactions over **processes** and tools



Skilled Team members have the most significant impact on success

## Focus on the Right Individuals and Interactions

- Recruit and retain the right skilled resources
- Cultivate a collaborative and value-driven environment
- Team-oriented mindset



## Don't Force Agile Unnecessarily



- Do not impose Agile on a Team that is already performing
- High performing Teams may already be Agile
- Additional practices can be gradually introduced

## Refined Users Stories are Important

- PO must ensure User Stories are refined
- PO's job is not to identify technical solutions
- Excessive PO intrusion kills fire for innovation



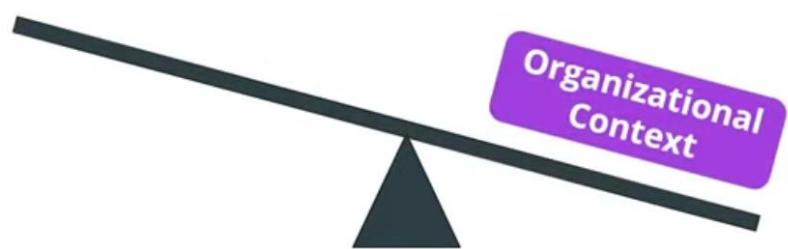
## Respect the Backlog



- Backlog's priorities must be respected
- Agile Team must not over-commit
- Tracking and Collaboration tools like JIRA, ADO and Rally should be kept up to date

## Framework “Balanced” with Organizational Context

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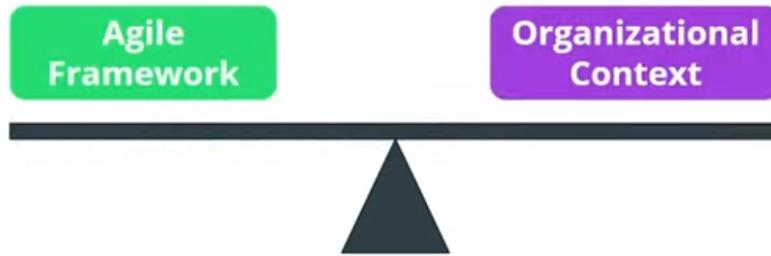


## Framework “Balanced” with Organizational Context

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## Framework “Balanced” with Organizational Context



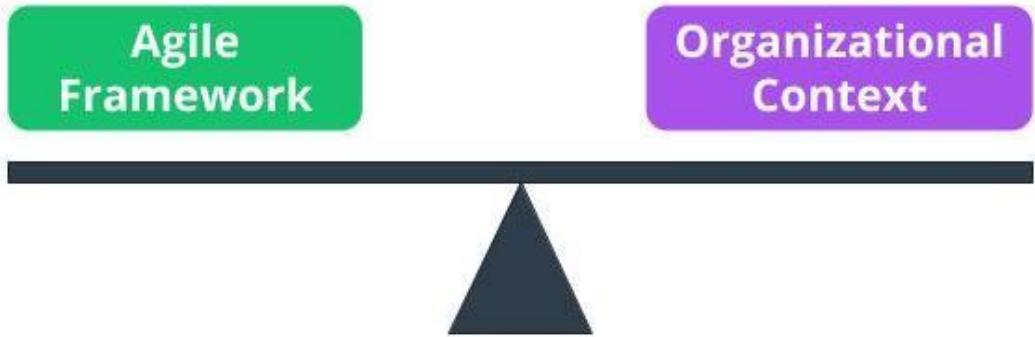
### Agile Frameworks are Enablers that Bring to Fruition the Value of Agile

This includes:

- Focusing more on the individuals and interactions; ultimate determining factor for the success of a product are the resources on the Agile product delivery team.
- Do not force Agile unnecessarily; Teams that are already performing well can be gradually introduced to additional Agile practices based on a specific Agile Framework.
- Refined user stories are important; Agilists work with Product Owners to ensure the user stories have been sufficiently refined for the Agile Team to proceed.
- Respect the backlog; Agilists focus on ensuring the Agile Team does not over-commit to what can be accomplished in each iteration, especially during the first few iterations.

### Implementing a Specific Agile Framework is a Fine Balancing Act

- Must adapt based on each organization's unique culture and context.
- Experts have to regularly remind both leaders and the Agile Team to remember that there is no one way to execute Agile practices in an organization.
- Agile principles and practices are by their very nature to be adapted as needed.



Framework “Balanced” with Organizational Context

#### Quiz Question

TRUE or FALSE

Agile is designed in a way so all parties can provide feedback as the software is developed in an efficient and effective manner.

- TRUE (checkmark)  
 FALSE

**Submit**



X

Thanks for completing that!

Yes! The key to success is rigorous validation of requirements and verification (including testing) of each version of the software against those requirements within each cycle of the model.

**Continue**

## Reflect



Explain the precautions associated with tailoring Agile Frameworks to an organization's own circumstances.

### Your reflection

It's very important to keep a balance between the organizational context and the adoption of the framework, because there is not only one way to implement Agile. Sometimes it could even be necessary to overlap different best practices belonging to different frameworks, depending on the characteristics of the team, the characteristics of the project and the characteristics of the organization.



### Things to think about

Process tailoring refers to adapting the implementation of a specific Agile Framework to better fit an organization's environment. As a general recommendation, teams that are new to Agile should use their methodology out of the box for a few iterations before attempting to customize it. By discarding or changing a practice before its value is recognized, an organization risks losing the benefit the practice was originally designed to deliver.



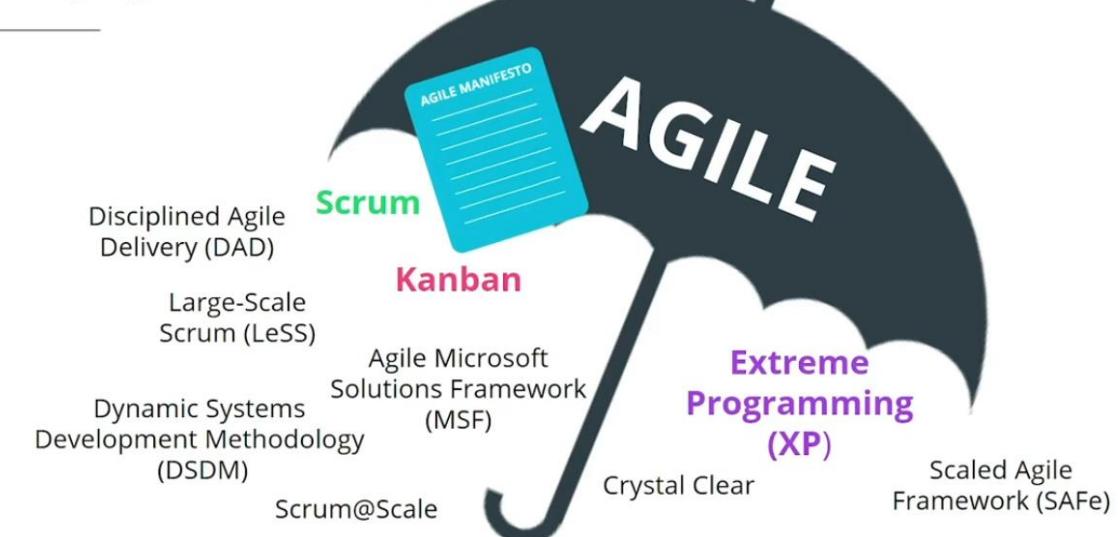
## Additional Resources

- [Advanced Topics in Agile Planning](#): In this presentation, Mike Cohn walks through Advanced Agile Planning.

# Agile Frameworks

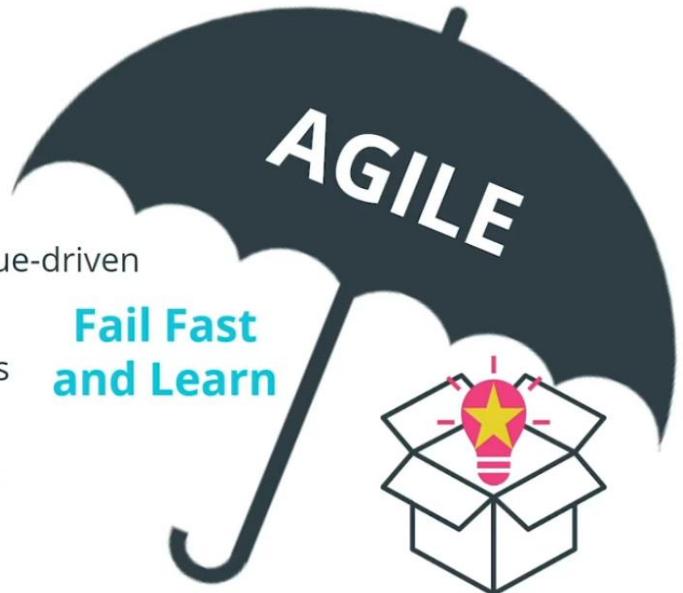
## What Are Agile Frameworks?

### Why Agile Is an Umbrella



## Why Agile is an Umbrella

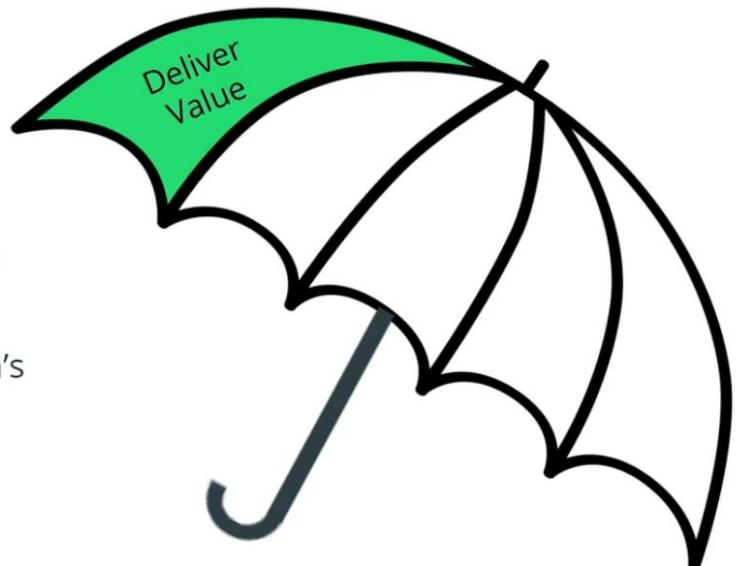
- Features need to be adjusted along the way
- Agile Team focused on value-driven functionality with quality
- Fail Fast and Learn reduces waste
- Growth Mindset promotes directed trial and error



## The Agile Umbrella

### Deliver Value

- Business Value remains focus
- Aligns with organization's vision



## The Agile Umbrella

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### Continual Improvement

- Ongoing effort
- Improve Product Features and Processes
- Incremental improvements



## The Agile Umbrella

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### Flexibility

- Foundation for all Agile Frameworks
- Flexibility in processes and adaptive planning
- Adaptable to changes



## The Agile Umbrella

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### Trust and Respect

- Motivates the team
- Builds commitment
- Foundation for all frameworks



## The Agile Umbrella

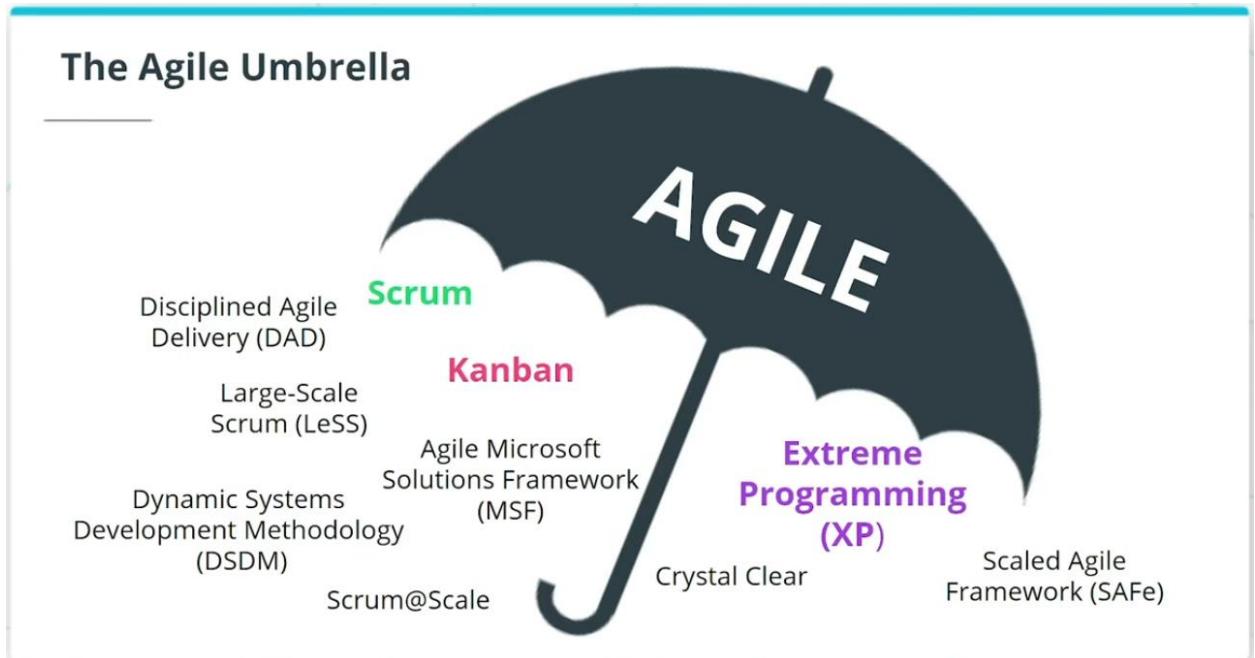
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### Cultivate Mastery

- Time is put aside for learning and growth
- Continual improvement is built-in alongside built-in quality



## The Agile Umbrella



### Agile is an Umbrella Term for a Variety of Frameworks that Align with The Agile Manifesto

Every Agile team's goal is to deliver value-driven functionality with built-in quality and to do it quickly. This is where **Fail Fast and Learn** is priceless. Agile teams who wish to deliver both amazing product features that delight customers, as well as do it fast, must learn to quickly change course when it is realized that a product feature is heading down the wrong path.

### The Agile Umbrella

The Agile Umbrella has some key characteristics:

- **Deliver Value**: An absolutely key driver behind anything Agile is to deliver value.
- **Continual Improvement**: Agile promotes incremental improvement to minimize resistance from all who are involved.
- **Flexibility**: Flexibility is one of the foundations of any Agile Framework.
- **Trust and Respect**: Agile Frameworks promote trust and respect because such trust and respect motivate Agile teams.
- **Cultivate Mastery**: This built-in structure for Agile team members to hone their skills further motivates the Agile team.



## The Agile Umbrella

### New Terms

- **Agile Umbrella:** A term that refers to the various Agile Frameworks that follow the Agile Manifesto's values and principles

### Additional Resources

- [\*\*Five Powerful Enterprise Agile Frameworks\*\*\(opens in a new tab\)](#): In this blog, Prabhu Arumugham walks through five Enterprise Agile frameworks that act as process 'blueprints' providing a set of Agile practices, organizational structure, roles, and other recommendations.

## Quizzes: Agile Frameworks

### Thinking About Agile Frameworks

### Quiz Question

Which of the following Agile Manifesto principles reflects the Agile focus on team empowerment in all Agile Frameworks?

- Working software is the primary measure of progress
- Welcome changing requirements, even late in development
- Simplicity - the art of maximizing the amount of work not done - is essential
- Build projects around motivated individuals



**Submit**



Thanks for completing that!

Correct! Give them the environment and support they need, and trust them to get the job done.

**Continue**

### Thinking Like An Agilist



Why is Agile an Umbrella?

#### Your reflection

Because is a term that covers many Agile Frameworks that follow the Agile Manifesto's values and principles.



#### Things to think about

Agile has come to be an umbrella term for a variety of Frameworks that align with The Agile Manifesto. The Agile Manifesto drives the Agile Mindset's shared principles that are universal and encouraged across all the Frameworks.

All the Agile Frameworks reside under the Agile umbrella.

## Exercise: Agile Frameworks

### The Benefits of Agile Frameworks for SocialKare.gov

How would SocialKare.gov benefit from using an Agile Framework? Review the [\*\*SocialKare.gov Case Study\*\*\(opens in a new tab\)](#) and identify at least three benefits of using an Agile Framework at SocialKare.gov. Explain how those benefits will help SocialKare.gov be more effective in reaching its goals.





### The Benefits of Using Agile Frameworks

Review the SocialKare.gov case study. List at least 3 specific benefits of using an Agile Framework and explain how those benefits will help SocialKare.gov achieve its goals.

- Review the [SocialKare.gov Case Study](#)
- Find the **Agile Frameworks worksheet** in the [Agile Foundations Course Workbook](#)
- In the worksheet, list at least three specific benefits of using an Agile Framework
- Explain how those benefits will help SocialKare.gov achieve its goals



X

Thanks for completing that!

Fantastic! What benefits did you identify? You can see my solution in the next video.

[Continue](#)

## Solution: Agile Frameworks

### My Solution

#### Agile Frameworks Exercise¶

- List at least 3 specific benefits of using an Agile Framework
- Explain how those benefits will help SocialKare.gov achieve its goals



## Agile Frameworks Exercise Solution

Benefit from Using an Agile Framework	How The Benefit will Help SocialKare.gov
Based on real-life experiences	SocialKare.gov would gain from a proven Framework
There's a higher level of predictability	SocialKare.gov will benefit from defined Ceremonies and Agile Team Roles
Organizations benefit from higher quality delivery	SocialKare.gov will deliver solutions in a timely manner
Frameworks can be customized	Best done once SocialKare.gov has tried out a Framework in its original form

### Identify Three Benefits of Using an Agile Framework

SocialKare.gov will benefit from:

- Years of experience that a proven Agile Framework has been built upon and further refined over time at many organizations globally.
- By using a proven framework, there's a higher level of predictability for SocialKare.gov.
- SocialKare.gov will benefit from higher quality product delivery.
- An Agile Framework allows for customizing and adapting the Framework to better align with the organization.

### Thinking Like an Agilist



Can you think of any organizations or projects that would have benefited from using an Agile Framework? How would the Agile Framework help?

### Your reflection

Yes of course, for example the development of some new products created nowadays with the use of Generative Artificial Intelligence. I think that the companies need to find the right balance between the products they are releasing, and the perception of the consumers of those products, and I think that the use of a good Agile Framework could really help, because from the point of view of the customers, some of these products can be perceived as a lack of effort from the company to deliver some valuable products. Personally I don't like so much the new content created by Udacity in some platforms such as linkedin, because currently the most of the articles are filled with AI generated images that use the same kind of representation of individuals, and that are becoming a common place in the industry. I think, these products can lower the perception that people have about an excellent educational company like Udacity.



### Things to think about

Once you understand the power of Agile Frameworks, you'll start seeing a lot of places where they can be applied.

## Thinking Like an Agilist



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### Things to think about

Once you understand the power of Agile Frameworks, you'll start seeing a lot of places where they can be applied.

# Scrum

## What Is Scrum?

### The Scrum Framework

- Most common Agile Framework
- Team creatively manages work
- Focus is on rapid delivery of features in response to market demand



## The Scrum Framework



- Work is delivered in **Sprints**
- Quality is built in
- Team is self-directed and self-organized

## The Scrum Framework

- Provide updates daily
- Deliver in short Sprints
- Opportunities for improvement identified through Retrospectives

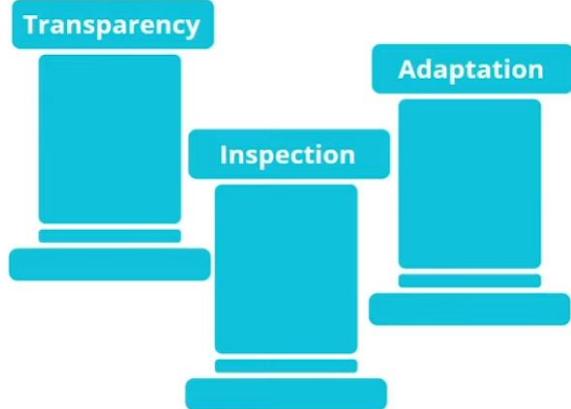


## The Scrum Framework

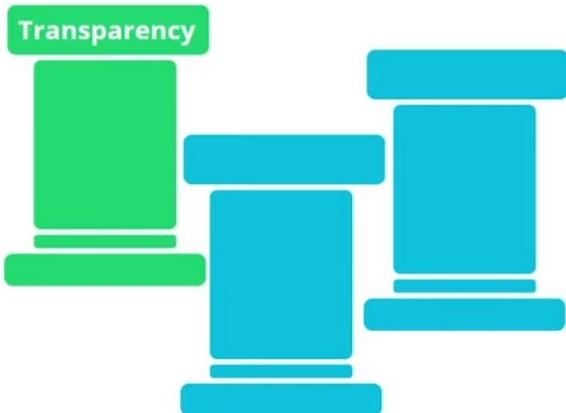


- Specific Roles
- Ceremonies
- Artifacts

## Scrum Pillars and Values



## Scrum Pillars



### Transparency

- Explicitly give visibility
- Define common standards
- Have a consistent understanding
- Builds trust and openness

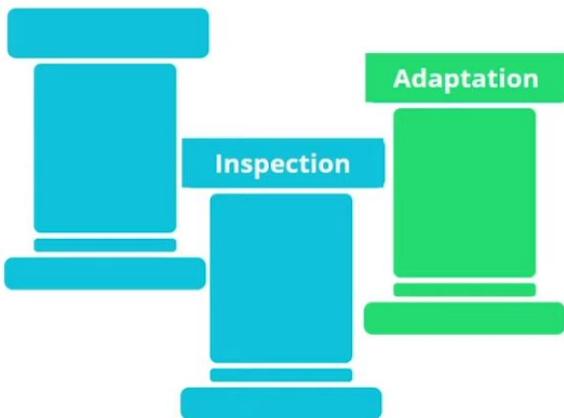
## Scrum Pillars



### Inspection

- Business users review Agile Team's progress
- Should do it at least once per Sprint
- Identifies unwanted variances from Sprint Goals

## Scrum Pillars



### Adaptation

- Adjust based on opportunities for improvement
- Include process improvements
- Proactively deal with such adjustments

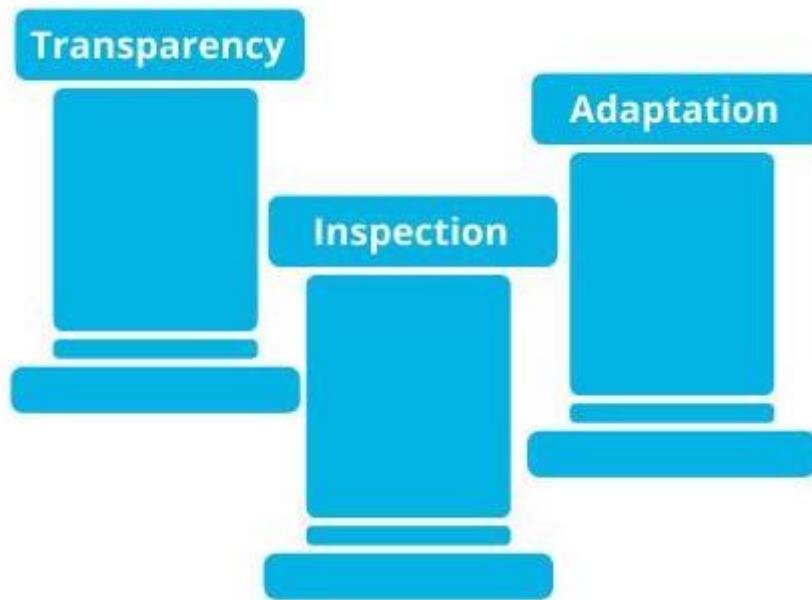
## Scrum Framework

Scrum is by far the most common Agile Framework.

- The features are delivered in iterations known as Sprints.
- The Team conducts Daily Stand-Ups in which they provide updates to each other.
- Retrospectives are conducted to identify opportunities for improvement at the end of each Sprint.
- Specific roles, as well as certain Ceremonies, are recommended in the Scrum Framework.

## Scrum Pillars

- **Transparency** - Transparency builds trust and openness both within the Agile Team, as well as with those stakeholders outside the Agile Team.
- **Inspection** - Inspection involves the business users reviewing the Agile Team's progress towards the defined goals.
- **Adaptation** - Agile Teams adjust and adapt based on opportunities for improvement that are identified either by the Agile Team themselves or through feedback from others outside the team.



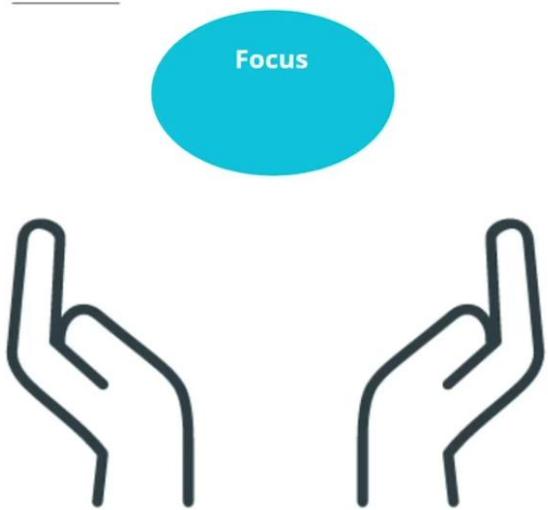
Scrum Pillars: Transparency, Inspection and Adaptation

## Scrum Values

## Scrum Values



## Scrum Values

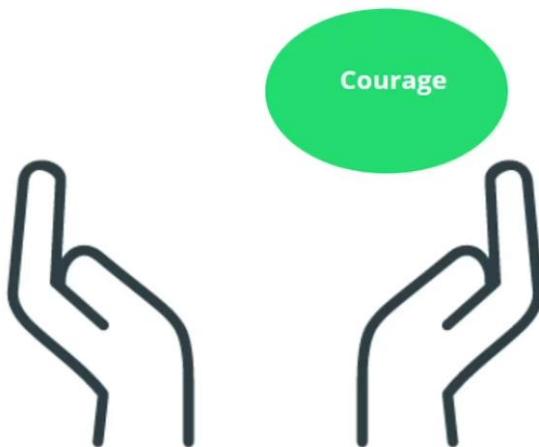


### Focus

- Collaborative effort in Scrum
- Requires everyone to focus on the work to be completed

## Scrum Values

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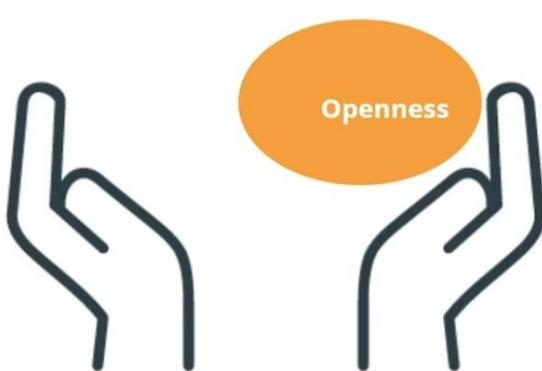


### Courage

- Have the courage to do what is right
- Dig deep into challenging problems

## Scrum Values

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### Openness

- Key to Agile Team performance
- Agile Team, as well as Stakeholders, must agree to openness
- Ensures everyone will be comfortable to openly discuss work

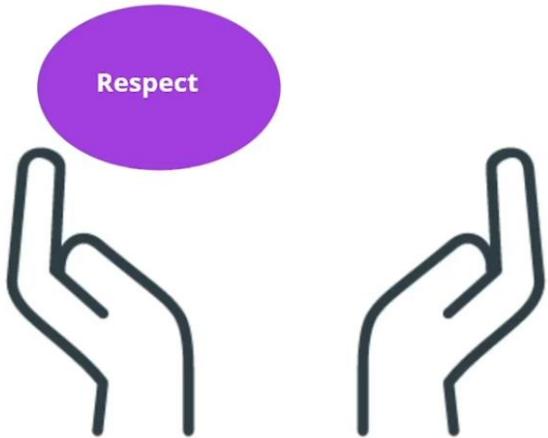
## Scrum Values



### Commitment

- Commitments build trust
- Scrum encourages reasonable and good faith approach to Sprint goals
- Every Team member personally commits

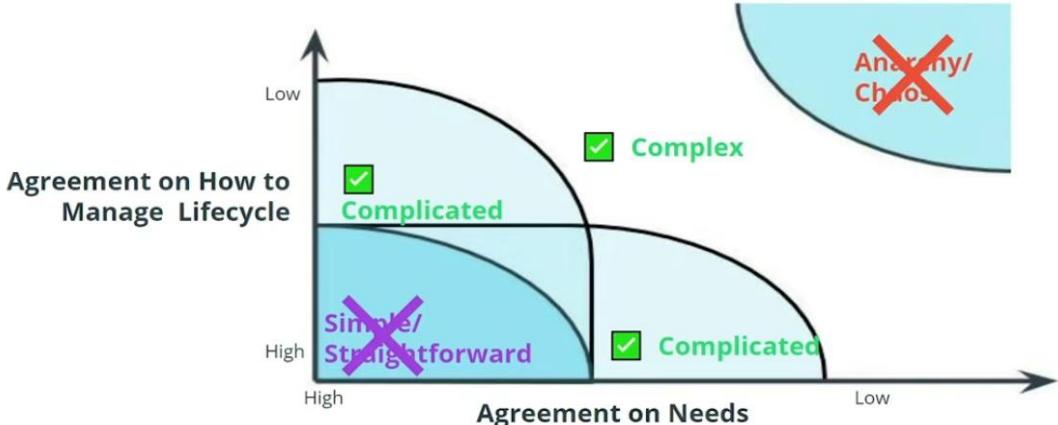
## Scrum Values



### Respect

- Foundational element for a high achieving Agile Team
- Elevates Agile Team's participation by including them in ceremonies and planning
- Increases Agile Team's motivation

## Stacey Diagram



Adapted from: Stacey RD. *Strategic management and organisational dynamics: the challenge of complexity*. 3rd ed. Harlow: Prentice Hall, 2002

## 5 Scrum Values

- **Focus** - Everyone in the Team focuses on the work to be completed in order to deliver the Sprint goals.
- **Courage** - Members of the Team need to have the courage to do what is right to ensure the Sprint goals are met.
- **Openness** - The Team and its stakeholders agree to a culture of openness.
- **Commitment** - Commitments build trust within the Agile Team members, as well as with the business users and leaders.
- **Respect** - Respect is a key in Scrum for a high-achieving Agile Team.

## When Scrum Does Not Make Sense

As shown in the Stacey diagram, an Agile Framework like Scrum works best with complex and complicated projects and products. There may not be much value in utilizing Agile principles

- when there is a near certainty in both the requirements and process upfront.
- when there is chaos. Scrum cannot bring value to an environment where there is no vision or clear roadmap.
- when the project is simple and predictable and the need for iterative learning and adapting is of no value.



### Scrum Values

#### New Terms

- **Scrum:** Scrum is one of the most popular Agile frameworks for developing complex products, with an emphasis on value delivery
- **Scrum Pillars:** Transparency, Inspection, Adaptation
- **Scrum Values:** Focus, Courage, Openness, Commitment, Respect
- **Sprint:** A Sprint in Scrum is a repeatable fixed time-box iteration during which a minimum shippable product is delivered

#### Additional Resources

- [Scrum Guide\(opens in a new tab\)](#): The Scrum Guide provides complete details on the Scrum Framework.
- Kenneth Rubin. ***Essential Scrum: A Practical Guide to the Most Popular Agile Process: A Practical Guide To The Most Popular Agile Process***. Pearson, 2013.  
This book is a comprehensive guide to the Scrum framework.

## Scrum Ceremonies and Roles

Scrum Ceremonies, Project Vision, Daily Stand Up, and Sprint Planning

## Scrum Ceremonies

- Focused meetings
- Specific purpose



Ceremony/Event

## Scrum Ceremonies



### Scrum Ceremony: Project Vision

#### Purpose

Business Leaders identify the business need

#### Agenda

- Discuss Project Goals
- Identify Sponsor
- Share Success Criteria
- Identify Assumptions, Constraints and Risks

#### Timing

- Once per project
- Timeboxed to one hour

#### Expected Outcome

- Craft a desired future state statement
- Clarify business value
- Lay out a high level path to accomplish objectives

## Scrum Ceremony: Daily Stand Up

### Purpose

Synchronize activities and create a short term plan for the next 24 hours.

### Agenda

- What did I do since the last time we met?
- What do I plan to accomplish today?
- What impediments am I encountering?

### Timing

- Timeboxed to 15 minutes
- Held every day at the same time
- Preferably in the morning and in the same location

### Expected Outcome

- Cultivates transparency
- Conversation remains focused
- No Problem Solving!

## Scrum Ceremony: Sprint Planning

### Purpose

Agile Team self-organizes and plans out the work to be performed in the Sprint.

### Agenda

- What are we committing to deliver?
- How will we complete the required work?
- What are the estimates?

### Timing

- Timeboxed to 8 hours or less
- More than one session
- Scrum Master ensures timebox is not exceeded

### Expected Outcome

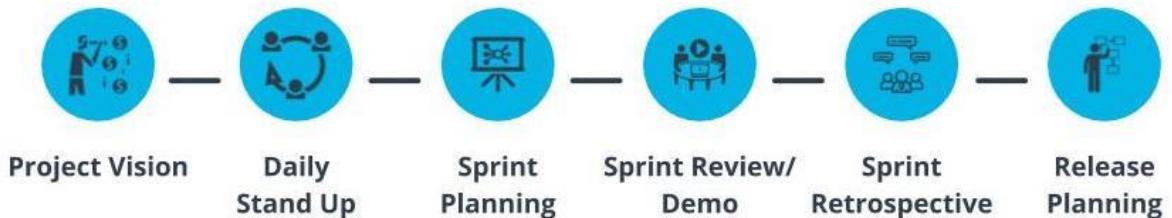
- PO prioritizes backlog items in the backlog
- Agile Team decides how to carry out the work

## Scrum Ceremonies

Scrum Ceremonies are focused meetings with a specific purpose. The recommended Scrum Ceremonies are:

- Project Vision
- Daily Stand Up
- Sprint Planning
- Sprint Review/Demo
- Sprint Retrospective
- Release Planning

We will discuss each of these Ceremonies.



## Scrum Ceremonies

### **Project Vision, Daily Stand Up, and Sprint Planning**

#### **Project Vision**

- Project Vision Ceremony is where the business leaders identify the business need the project's product deliverable is intended to achieve.
- Agenda - Discuss the project goals, identify the sponsor, and outline the project vision, success criteria, assumptions, constraints, and risks.
- Project Vision occurs **once per project** and is scheduled before the project launch.
- Scrum recommends this ceremony be time-boxed to 1 hour.
- Outcome - Business leaders create a desired future state statement.

#### **Daily Stand Up or Scrum**

- The Daily Stand Up is used to synchronize activities and create a short-term plan for the next 24 hours.
- It is time-boxed to 15 minutes and is **held every day**, throughout the whole scrum ceremonies, ideally at the same time daily.
- Three questions are addressed by each Team member briefly:
  - a. What did I do since the last time we met?
  - b. What do I plan to accomplish today?
  - c. What impediments am I encountering?
- This is a very valuable Ceremony in which all Team members get an opportunity to report issues they are facing; cultivates transparency across the product development journey.

## Sprint Planning

- The Team self-organizes and plans out the work to be performed in the Sprint.
- The work is prioritized by the Product Owner.
- Time-boxed to not more than eight hours for a one-month Sprint.
- Agile Team works with the PO and Scrum Master to address the following three questions:
  - a. What are we committing to deliver in the upcoming Sprint?
  - b. How will we complete the work required to achieve this commitment?
  - c. What are the respective estimates for each user story and associated tasks?
- The Agile Team takes the prioritized backlog items and collaborates on how to carry out the work.

*Notes: the Daily Stand Up or Scrum is held daily, including the time between Sprint Planning and Sprint Review.*

## Sprint Review/Demo, Retrospective, and Release Planning

### Scrum Ceremony: Sprint Review/Demo

#### Purpose

Generate feedback and nurture collaboration

#### Agenda

- Demonstrate the Sprint's work
- Discuss accomplishments
- Identify remaining items in the backlog
- 

#### Timing

- Once at the end of each Sprint
- Timeboxed to 4 hours for a 1 month Sprint
- 2 hours for a 2 week Sprint

#### Expected Outcome

- PO determines if deliverables are acceptable based on Acceptance Criteria and definition of Done

- Marketplace changes are considered
- PO and Team make adjustments

## Scrum Ceremony: Sprint Retrospective

### Purpose

Agile Team self-inspects and identifies opportunities for improvement

### Agenda

- Create a plan for improvement
- Discuss what went well and what to continue doing

### Timing

- After Sprint Review
- Timeboxed to 3 hours - but may be shorter

### Expected Outcome

- PO's feedback from Sprint Review is considered
- Improvements to process, tools and people are discussed

## Scrum Ceremony: Release Planning

### Purpose

Agile Team develops a Release Plan

### Agenda

- Discuss critical dates and milestones
- Coordinate with other teams
- Balance business value vs. quality

### Timing

- Only when there is a release
- Timeboxed to 20 minutes

### Expected Outcome

- Release date for delivery of feature to the customer base
- Based on input from the business units or users

## Sprint Review/Demo, Retrospective, and Release Planning

### Sprint Review/Demo

- The purpose is to generate feedback and nurture collaboration.
- The Team demonstrates the Sprint's incremental work to the PO and other business representatives.
- The Team and PO transparently discuss accomplishments, as well as opportunities for improvement.
- The PO determines if the Sprint deliverables are acceptable based on the Acceptance Criteria and Definition of Done.
- Occurs once at the end of each Sprint with a time-box of 4 hours for a one-month Sprint.

## **Sprint Retrospective**

- The Team self-inspects its performance during the Sprint and identifies practical opportunities for improvement for subsequent Sprints.
- Retrospectives are held after the Sprint Review; time-boxed to 3 hours for a one-month Sprint.
- The Team also discusses what went well, as well as what to continue to do that is working very well for the Agile Team in terms of delivering value.

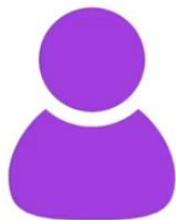
## **Release Planning**

- The Team develops a Release Plan that defines when a collection of functionality will be delivered to the customer base.
- The agenda is to discuss critical dates and milestones, coordinate with dependent departments and systems, and balance business value vs quality.
- Only occurs when there is a Release; time-boxed to 20 minutes.

## **Scrum Roles and Artifacts**

# **Scrum Roles and Artifacts**

## Core Roles in The Scrum Framework



Product Owner

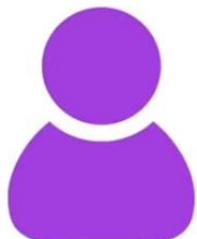


Scrum Master



Agile Team

### Product Owner



PO

- Maximize value delivery
- Prioritize and manage the Product Backlog

### Agile Team

- T-Shaped Skills
- Self-organized
- Accomplish the work to complete each iteration



Agile Team

## Scrum Master



Scrum Master

- Keeps Agile Team moving towards business objectives
- Removes blockages
- Facilitates Ceremonies

## Scrum Master



Scrum Master

- Servant Leader to Agile Team and PO
- Supports PO with keeping the Product Backlog refined
- Coach in the adoption of Scrum practices

## Scrum Artifacts



- Transparently communicate progress and value being delivered
- Allows for constructive feedback
- Easily understood to ensure everyone is on the same page

## Scrum Artifacts



Product  
Increment



Product  
Backlog



Sprint  
Backlog

### Scrum Artifact: Product Increment



Product  
Increment

- Clarifies what is included in a Sprint
- PO and Agile Team agree on Definition of Done
- PO outlines the Acceptance Criteria

### Scrum Artifact: Product Backlog

- Prioritized list of work to be delivered
- PO prioritizes the Product Backlog
- Backlog items are dynamic and evolving



Product  
Backlog

## Scrum Artifact: Sprint Backlog



- Prioritized items for the Sprint
- A portion of the Product Backlog Items are included
- Agile Team is provided a Sprint Goal

## Scrum Artifact: Burndown Chart



- Communicates if Agile Team is on target
- Alerts Agile team about bottlenecks and problems
- Shows Agile Team's success

## Scrum Artifact: Burnup Chart

- Shows how much work has been completed
- Clearly illustrates the amount of work for a product or Sprint



## Scrum Artifact: Velocity Chart



- Displays the amount of value delivered in each Sprint
- Enables PO to predict future Sprint capacity

### Scrum Roles

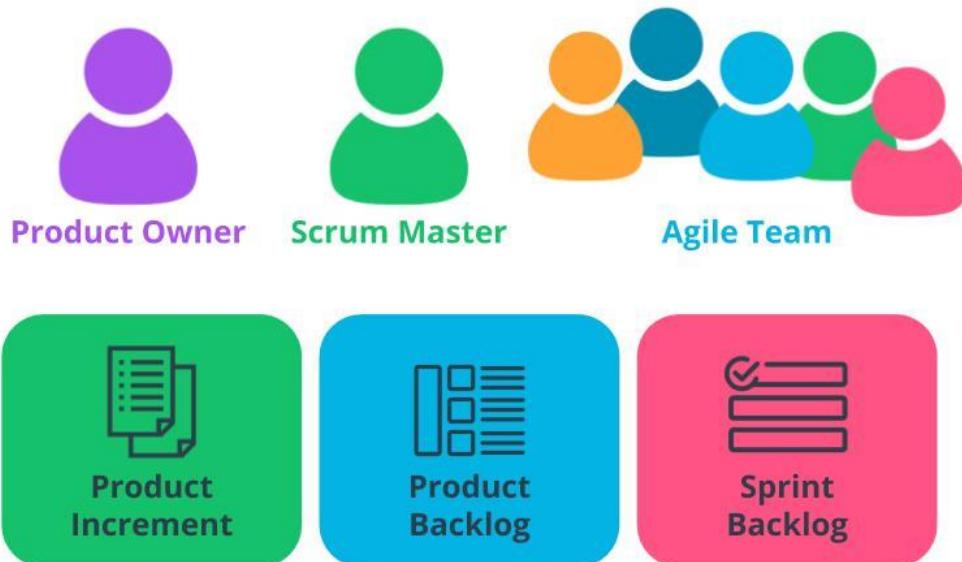
Similar to other Agile Frameworks, there are 3 core roles in the Scrum Framework.

- Product Owner, who is the voice of the customer.
- Scrum Master, who is the key facilitator.
- Agile Team, also known as the Scrum Team sometimes.

### Scrum Artifacts

- **Product Increment** clarifies what is being delivered in each increment at the end of each Sprint.
- The **Product Backlog** is the prioritized list of work to be delivered by the Team. The Backlog items are dynamic and evolving based on emergent needs of the business and customer demand.
- The **Sprint Backlog** contains the prioritized items that the PO has designated for the Sprint.

There are other useful information radiators that are commonly used by Agile teams to track and share progress. These information radiators include Burndown Charts, Burnup Charts, and Velocity Charts.



## Scrum Role and Artifacts

### New Terms

- **Burndown Chart:** A visual representation of work left to do versus time in an iteration
- **Burnup Chart:** A visual representation of work completed versus time in an iteration
- **Ceremonies:** Meetings that are leveraged to ultimately ensure that everyone associated with the project is in-sync
- **Daily Stand Up:** A ceremony to create a short term plan for the next 24 hours
- **Definition of Done:** The agreed-upon deliverables that must be completed before a user story can be completed
- **Product Backlog:** A prioritized list of Features that an Agile team needs to work on to achieve a specific outcome
- **Product Increment:** The collection of backlog items to be completed during an iteration
- **Project Vision Ceremony:** A ceremony where the business leaders identify the business need the project's product deliverable is intended to achieve; the agenda is to discuss the project goals
- **Release Planning Ceremony:** A ceremony where the Agile Team develops a Release Plan that defines when a collection of functionality will be delivered to the customer base

- **Sprint Backlog:** The prioritized items that the PO has designated for the Sprint
- **Sprint Planning Ceremony:** A ceremony is where the Agile Team self-organizes and plans out the work that has been prioritized by the Product Owner
- **Sprint Review/Demo:** A ceremony where the Agile Team demonstrates the Sprint's incremental work to the Product Owner, as well as possibly other business representatives
- **Velocity Chart:** A chart that shows what the team has delivered in each iteration

## Additional Resources

- [\*\*Formula for Building a Successful Scrum Experience\*\*\(opens in a new tab\)](#): This blog post discusses a few pointers to practically help your Scrum team excel and deliver additional value.
- [\*\*Vodafone New Zealand's Agile Transformation Case Study\*\*\(opens in a new tab\)](#): Edwin Dando walks through Vodafone New Zealand's successful implementation of the Scrum Framework.
- [\*\*Scrum's Nature: It Is a Tool; It Is Not About Love or Hate\*\*\(opens in a new tab\)](#): Stefan Wolpers discusses how the Scrum Framework is a tool and must be used properly to reap the anticipated value.

## Quizzes: Scrum

### Thinking About Scrum

#### Quiz Question

In Scrum, the Definition of Done is created with the input of everyone EXCEPT the:

- Development Team
- Product Owner
- Scrum Master
- Process Owner



**Submit**

X



Thanks for completing that!

Yes, correct! The whole team, including the Development Team, Product Owner, and Scrum Master, is responsible for creating the shared Definition of Done. Process Owner is not a formal role in Scrum.

Continue

### Quiz Question

What are the three pillars of Scrum?

Transparency

✓

Collaboration

Inspection

✓

Adaptation

✓

Submit

X



Thanks for completing that!

Yes, indeed. Transparency, Inspection, and Adaptation are the three pillars of Scrum.

Continue

# Exercise: Setting Up Scrum

## Set Up the Scrum Framework At SocialKare.gov

Your leaders at SocialKare.gov have advised you that they wish to proceed with using the Scrum Framework.

Review the [SocialKare.gov Case Study\(opens in a new tab\)](#). Explain how you will set up the Scrum Framework for this project team. Include the following:

- Core roles to be filled
- Ceremonies to be conducted
- Schedule and duration of the ceremonies, as well as their purpose and agenda



### Set Up the Scrum Framework

Review the SocialKare.gov case study. Set up Scrum for the SocialKare.gov team by recommending the core roles to fill and the ceremonies to be conducted. Include the schedule, duration, purpose and agenda for each recommended ceremony.

- Review the [SocialKare.gov Case Study](#)
- Find the [Set Up the Scrum Framework worksheet](#) in the [Agile Foundations Course Workbook](#)
- In the worksheet, identify the core roles to fill on the SocialKare.gov Scrum team and list the responsibilities of each role
- Recommend the necessary Scrum Ceremonies for the SocialKare.gov team, and list the purpose, agenda, schedule, and frequency for each ceremony



X

Thanks for completing that!

Excellent! The SocialKare.gov should now be ready for Scrum! You can see my plan on the next page.

[Continue](#)

# Solution: Setting Up Scrum

## My Solution

### Exercise: Set Up the Scrum Framework

- Core roles to fill
- Ceremonies to conduct
- Schedules, duration and agendas of ceremonies



### Core Roles in The Scrum Framework



Product Owner



Scrum Master



Agile Team

## Three Core Roles in Scrum Exercise



Role	Responsibilities
Scrum Master	<ul style="list-style-type: none"><li>• Provides Scrum Framework coaching and guidance</li><li>• Facilitating the Agile Team's work</li><li>• Protecting from problems</li><li>• Servant Leader</li></ul>

## Three Core Roles in Scrum Exercise



Role	Responsibilities
Product Owner	<ul style="list-style-type: none"><li>• Voice of the Customer (VOC)</li><li>• Prioritize Backlog</li><li>• Share Business Decisions</li><li>• Provide Information</li></ul>

## Three Core Roles in Scrum Exercise



Role	Responsibilities		
Agile Team Member	<ul style="list-style-type: none"><li>• Creation and delivery of solutions:</li></ul> Modeling                      Business Analysis Programming                 Release Activities Testing                        Others Front-end design		

## Scrum Ceremonies



Scrum Ceremony	Purpose	Agenda	Schedule and Frequency
Retrospective	Scrum Team inspects itself and creates a plan for improvements	Discuss what went well during the Sprint, as well as opportunities for improvement	Occurrence: once per Sprint  Time-boxed to 3 hours per Sprint
Project Vision	Articulate the business need that is intended to be achieved	Discuss Goals, Sponsor, Vision, Success Criteria, Assumptions & Risks	Occurrence: once per project  Time-boxed to 1 hour

## Scrum Ceremonies



Scrum Ceremony	Purpose	Agenda	Schedule and Frequency
Release Planning	Develop a Plan that defines when sets of functionality or products will be delivered to the customer	Discuss critical dates and milestones, coordinate with dependent systems and balance business value versus quality	Occurrence: once per Release after initial creation  Time-boxed to 20 minutes
Sprint Planning	Plan work to be performed in the Sprint	Create Sprint Backlog  Task planning  Task level estimation	Occurrence: a few times per Sprint  Time-boxed to 8 hours per Sprint

## Scrum Ceremonies



Scrum Ceremony	Purpose	Agenda	Schedule and Frequency
Daily Stand Up	Synchronize activities and create a plan for next 24 hours	Each team member answers 3 questions:  What did I do since the last time we met?  What do I plan to accomplish today?  What impediments am I encountering?	Held daily (preferably in the morning)  Time-boxed to 15 minutes

## Scrum Ceremonies



Scrum Ceremony	Purpose	Agenda	Schedule and Frequency
Sprint Review and Demo	Demonstrate product and discuss marketplace changes and backlog	Team presents completed Sprint deliverables to Product Owner, based on Acceptance Criteria and Definition of Done	Occurrence: once per Sprint Time-boxed to 4 hours per Sprint

## Set up the Scrum Framework

You were asked to cover the Core roles, as well as Ceremonies and their details.

### Core Roles in Scrum

- Scrum Master: Servant Leader to the PO and Team.
- Product Owner: PO represents the SocialKare.gov stakeholders and is known as The Voice of the Customer (VOC).
- Agile Team Member: Responsible for the creation and delivery of product solutions.

### Scrum Ceremonies

- Retrospective: An opportunity for the Team to inspect itself and create a plan for improvements; time-boxed to 3 hours once per Sprint.
- Project Vision: Business leaders articulate the business need that is intended to be achieved; time-boxed to 1 hour and occurs once per project.
- Release Planning: A Release Plan is defined as to when various sets of usable functionality or products will be delivered to the customer; time-boxed to 20 minutes per Release.

- Sprint Planning: Work to be performed in the Sprint is planned; can occur a few times per Sprint; time-boxed to a total of 8 hours per Sprint.
- Daily Stand-Ups: The team synchronizes activities and creates a plan for the next 24 hours; Each team member answers 3 questions: What did I do since the last time we met? What do I plan to accomplish today? What impediments am I encountering?; held daily (preferably in the morning); time-boxed to 15 minutes.
- Sprint Review and Demo: Along with Demo, the Team discusses marketplace changes and backlog with PO; the Team presents completed Sprint deliverables to Product Owner; time-boxed to 4 hours once per Sprint.

### Thinking Like an Agilist



Was it easier or harder than you expected to set up the Scrum Team? What was the most challenging part?

### Your reflection

It was very easy for me to set up the Scrum Team, based on the information provided in the course about the Scrum Framework.



### Things to think about

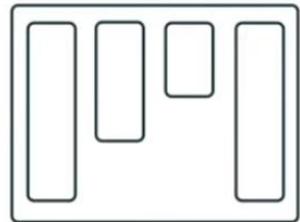
Doing Agile the right way requires significant upfront planning. But that planning pays off with a team that is self-managing and highly motivated.

## Kanban

### What is Kanban?

## The Kanban Framework

- Originated from lean product development
- Lean focuses on seven fundamental principles



## Lean Principles



*Set the foundation for Kanban*

## Lean Principles



### Eliminate Waste

- Does not add value to customer
- Does not improve quality
- Unnecessarily increases time or effort

## Lean Principles



### Build Quality In

- Good practices to prevent defects

## Lean Principles



### Create Knowledge

- Training and peer-to-peer knowledge transfer
- 'Do a little, show a little, learn a little'

## Lean Principles



### Defer Commitment

- Wait until the 'last responsible moment'
- Allows Agile Team to have time for innovation

## Lean Principles



### Deliver Fast

- Create product incrementally
- Build only what is needed
- Release product earlier to get feedback

## Lean Principles



### Respect People

- Feel trusted and valuable
- Solve problems for themselves
- Authority to effect outcomes

## Lean Principles



### Optimize the Whole

- Decrease barriers
- Decrease hand-offs
- Decrease Work in Process (WIP)

## Lean Principles



## Kanban

- Refers to a 'signboard'
- Kanban Board is instrumental



## Five Principles of Kanban



### Visualize the Flow

- Important for
  - Organizing
  - Tracking
  - Optimizing



## Five Principles of Kanban

Visualize the Flow



Limit Work in Progress



### Limit Work in Progress (WIP)

- Respect the Team's ideal work capacity
- Limiting WIP helps:
  - Smooth flow
  - Reduce Lead times
  - Improve Quality
  - Delivery more frequently



## Five Principles of Kanban

Visualize the Flow



Limit Work in Progress



Manage Flow



### Manage Flow

- Issues are identified as soon as possible
- Helps to minimize lead times
- Improves delivery predictability



## Five Principles of Kanban

Visualize the Flow



Limit Work in Progress



Manage Flow



Make Policies Explicit



### Make Policies Explicit

- Explicit understanding of the process has benefits
- Discussions around issues take place in an objective manner



## Five Principles of Kanban

Visualize the Flow



Limit Work in Progress



Manage Flow



Make Policies Explicit



Improve Collaboratively



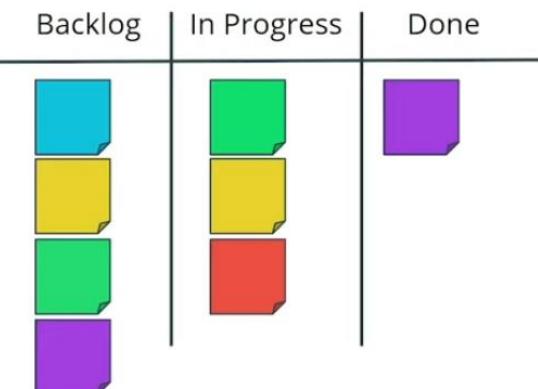
### Improve Collaboratively

- Agile Team must own processes
- Work collaboratively to improve the processes being utilized



## Kanban Board

- Plays a valuable role
- Articulates work items in various stages of product development



### Kanban Framework

Kanban has its origins in lean product development, an approach to product development inspired by lean manufacturing principles and practices at Toyota.

### Kanban Framework

Kanban has its origins in lean product development, an approach to product development inspired by lean manufacturing principles and practices at Toyota.

### Lean Principles

Lean product development focuses on 7 fundamental principles:

- **Eliminate Waste** - Anything that does not add value to the customer.
- **Build in Quality** - Lean focuses on good practices to ensure integrity and prevent defects.
- **Create Knowledge** - Lean encourages both training and peer-to-peer knowledge transfer.
- **Defer Commitment** - Lean recommends the Agile Team wait until the "last responsible moment" to make a decision, which allows for additional time to innovate.
- **Deliver Fast** - Lean encourages the Agile Team to create and deliver the product incrementally.
- **Respect People** - The Team must feel trusted and valuable to think and solve problems for themselves.
- **Optimize the Whole** - Lean encourages decreasing barriers to increase efficiencies by decreasing the amount of hand-offs and reducing WIP.

Lean Principles set the foundation for Kanban.



Lean Principles

## Five Principles of Kanban

Kanban is a lightweight Agile Framework with 5 principles:

- **Visualize the Flow** - The Team visualizes the workflow, which helps in organizing, tracking, and optimizing the work.
- **Limit Work in Progress** - Limiting WIP helps to smooth the flow of work, reduce lead times, improve quality and delivery more frequently.
- **Manage Flow** - By Monitoring and measuring the flow of work, issues are identified as soon as possible, which improves delivery predictability.
- **Make Policies Explicit** - Establishing policies provides the Agile Team with explicit understanding of the processes for discussions around issues.
- **Improve Collaboratively** - The Agile Team must own the team's work related processes and work collaboratively to improve the processes being utilized.

**Visualize the Flow**



**Limit Work in Progress**



**Manage Flow**



**Make Policies Explicit**

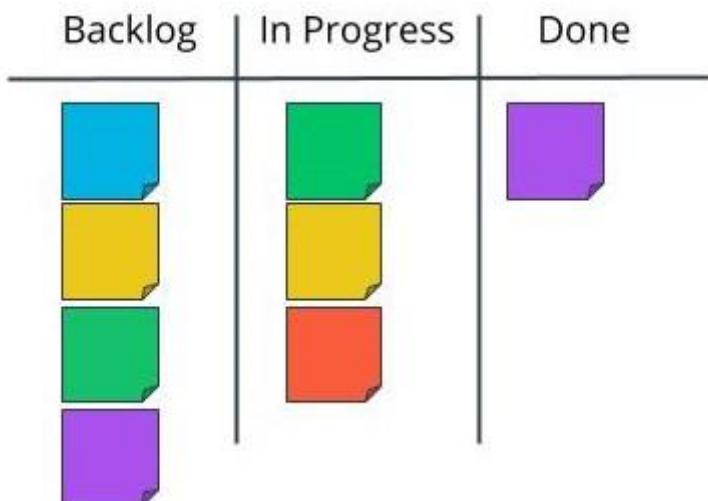


**Improve Collaboratively**



#### Five Principles of Kanban

A Kanban Board plays a valuable role as an information radiator since it shows the work items in their various stages of the product development journey.



Kanban Board

**Kanban Ceremonies, Core Roles and Artifacts**

## Kanban Ceremonies

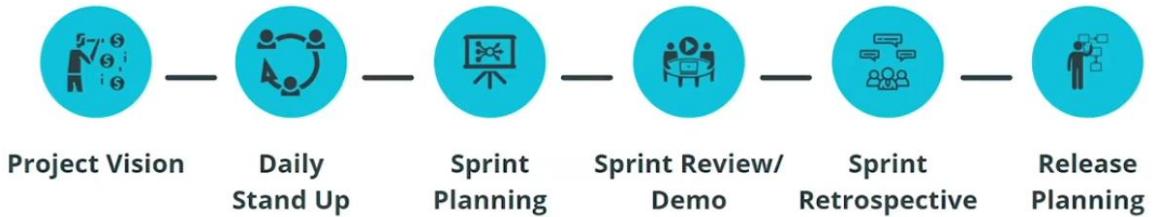
- Focused meetings
- Specific purpose



Ceremony/Event

## Kanban vs. Scrum Ceremonies

### Scrum Ceremonies



## Kanban vs. Scrum Ceremonies

### Scrum Ceremonies



## Kanban vs. Scrum Ceremonies

### Kanban Ceremonies



### Kanban Ceremony: Project Vision

#### Purpose

Business Leaders identify the business need

#### Agenda

- Discuss Project Goals
- Identify Sponsor
- Share Success Criteria
- Identify Assumptions, Constraints and Risks

#### Timing

- Once per project
- Timeboxed to one hour

#### Expected Outcome

- Craft a desired future state statement
- Clarify business value
- Lay out a high level path to accomplish objectives

## Kanban Ceremony: Daily Stand Up

### Purpose

Synchronize activities and create a short term plan for the next 24 hours.

### Agenda

- What did I do since the last time we met?
- What do I plan to accomplish today?
- What impediments am I encountering?

### Timing

- Timeboxed to 15 minutes
- Held every day at the same time
- Preferably in the morning and in the same location

### Expected Outcome

- Cultivates transparency
- Conversation remains focused
- No Problem Solving!

## Kanban Ceremony: Review/Demo

### Purpose

Generate feedback and nurture collaboration

### Agenda

- Demonstrate the Iteration's work
- Discuss accomplishments
- Identify remaining items in the backlog
- 

### Timing

- Once at the end of each Iteration
- Timeboxed to 4 hours for a 1 month Iteration
- 2 hours for a 2 week Iteration

### Expected Outcome

- PO determines if deliverables are acceptable based on Acceptance Criteria and definition of Done
- Marketplace changes are considered
- PO and Team make adjustments

## Kanban Ceremony: Release Planning

### Purpose

Agile Team develops a Release Plan

### Agenda

- Discuss critical dates and milestones
- Coordinate with other teams
- Balance business value vs. quality

### Timing

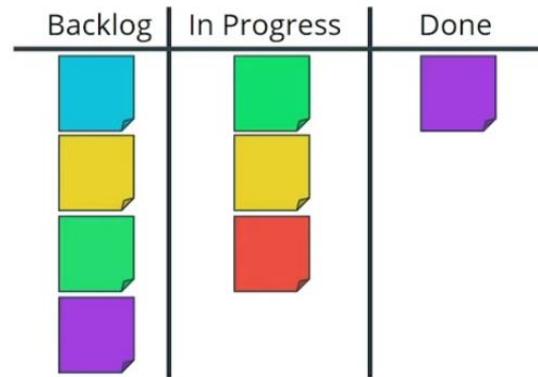
- Only when there is a release
- Timeboxed to 20 minutes

### Expected Outcome

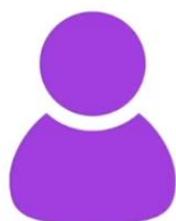
- Release date for delivery of feature to the customer base
- Based on input from the business

## Where Does Kanban Make Sense?

- Projects that involve a large quantity of small activities
- Suitable for ad-hoc work as well



## Core Roles in The Kanban Framework



**Product Owner**



**Facilitator**



**Agile Team**

## Kanban Artifacts



Kanban Board



Cumulative Flow Diagram

### Kanban Artifact: Kanban Board



Kanban Board

- Plays a valuable role
- Articulates work items in various stages of product development

### Kanban Artifact: Cumulative Flow Diagram

- Problem areas are easily detected
- Changes can be made so work can continue efficiently
- Shows the total amount of WIP



Cumulative Flow Diagram

## Kanban Ceremonies

You will recall the 6 Scrum Ceremonies. In Kanban:

- The Ceremonies are simplified.
- There is no Sprint Planning Ceremony.
- And there is no Sprint Retrospective.

- Sprint Review/Demo is just called Review Demo.

So, the 4 Kanban ceremonies align with 4 of the Scrum ceremonies.



### Kanban Ceremonies

#### Where Does Kanban Make Sense?

- Since it focuses on the Agile Team's workflow and throughput, Kanban is seen as a better Agile Framework option solution for projects where the work is likely to involve a large quantity of relatively small activities.
- Kanban is also suitable for work that may arise on an ad-hoc basis.

#### Kanban Roles and Artifacts

##### Core Roles in Kanban

- **Product Owner** - Seen as the voice of the customer.
- **Facilitator** - Team's Servant Leader.
- **Agile Team** - These are the resources that collaborate and work on the product deliverables.

#### Kanban Artifacts

- **Kanban Board** - A Kanban Board plays a valuable role since it articulates the work items in their various stages of the product development journey.
- **Cumulative Flow Diagram** - A Cumulative Flow Diagram shows the total amount of WIP and how quickly projects are being completed.



## Kanban Roles and Artifacts

### New Terms

- **Cumulative Flow Diagram:** A diagram that shows the total amount of WIP and how quickly projects are being completed
- **Flow:** How work items in a process move through the various stages of development
- **Kanban Board:** A visual representation of the Agile team's work at various stages with a separate column for each stage
- **Kanban:** A lightweight Agile Framework that has its roots in Lean Principles
- **Lean Development:** A process to eliminate Muda by leveraging innovative solutions to reduce cycle time and cost

### Additional Resources

- [Agile Alliance: Kanban](#): Additional details on the Kanban Framework.
- [Kanban at Blizzard Sport](#): Blizzard Sports' case study shows the value of Kanban and its lightweight yet effective approach to delivering value.

# Quizzes: Kanban

## Thinking About Kanban

### Quiz Question

For each item below, if the item is an advantage to limiting work in progress (WIP) add an Advantage tag, otherwise add a disadvantage tag.

 These are the correct matches.

Items	Tags
It reduces the potential need to rework a large collection of flawed, partially completed items	
It maximizes resource utilization to make processes work more efficiently.	
It helps optimize throughput to make processes work more efficiently.	
It brings bottlenecks in the production process to the surface so they can be identified and resolved.	

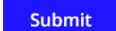
### Quiz Question

The Kanban Framework has its roots in Lean Principles

False

True



 Submit

X



Thanks for completing that!

When Lean principles are followed, Kanban ensures that customer satisfaction and quality increase, while time to market is reduced.

Continue

## XP

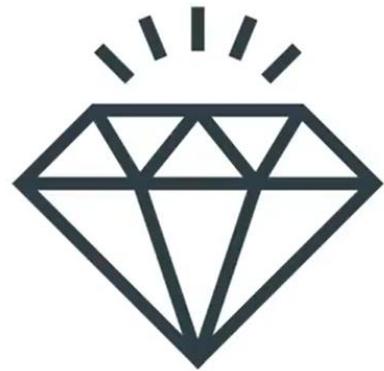
### XP Values

#### The XP Framework

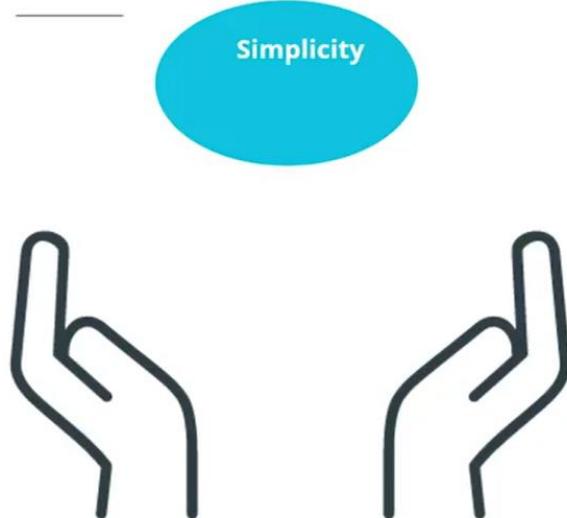
- Extreme Programming (XP) has its roots in Software Development
- Focuses on best practices in software development



## XP Values



## XP Values

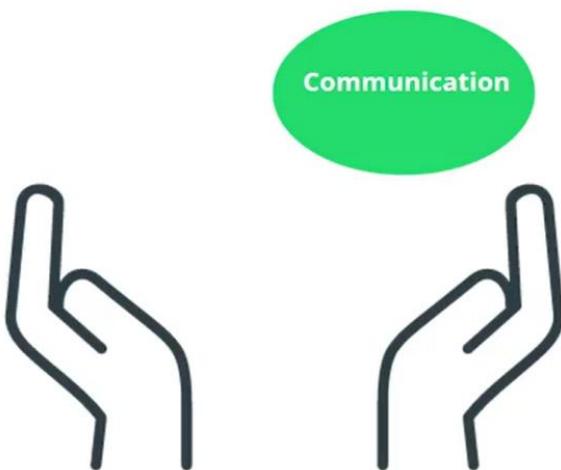


### Simplicity

- Reduce unnecessary complexity
- Minimize extra features
- Maximize value for the investment

## XP Values

---



### Communication

- Have transparency of the deliverables
- Daily Stand Ups are pivotal

## XP Values

---



### Feedback

- Taken seriously in each iteration
- An opportunity to demonstrate working results
- Failing fast allows team to make changes proactively

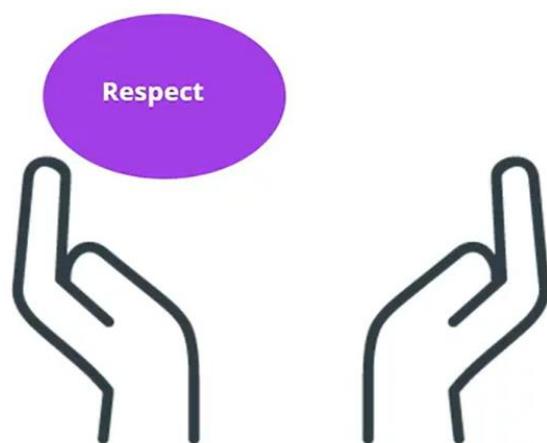
## XP Values



### Courage

- Allows a team to bravely tell the truth
- Paired programming requires courage to share code
- Adapt to shared coding standards

## XP Values



### Respect

- Foundational element for a high achieving Agile Team
- Each team member is accountable for successful product delivery
- Practiced in paired programming

## XP PRACTICES

## XP Values



Set the tone for  
XP's 13 Practices

## XP Practices



### XP Practice: Whole Team



Whole Team

- Encourages co-location, or use of collaboration tools for remote teams
- XP encourages role blending with T-shaped skills
- Allows for efficient flow of information

## XP Practice: Planning Games

- XP has two main planning ceremonies
  - Release Planning
  - Iteration Planning



Planning Games

## XP Practice: Small Releases



Small Releases

- Encouraged in XP at both the iteration and release level
- Built in quality is ensured by leveraging best practices

## XP Practice: Customer Tests

- PO works with customer to describe test criteria
- The team then ideally builds automated tests to confirm that acceptance criteria are met



Customer Tests

## XP Practice: Collective Code Ownership



Collective Code  
Ownership

- No single person owns a piece of work
- This strengthens the product
- Quality is enhanced
- Reduces risk of loss of knowledge



Code  
Standards

## XP Practice: Code Standards

- Everyone codes to a consistent standard
- The code should be as if it is written under a uniform standard

## XP Practice: Sustainable Pace



Sustainable Pace

- Highest level of productivity maintained at a sustainable pace
- Overtime is counterproductive
- Optimal delivery of long term value requires a sustainable rate

## XP Practice: Metaphor

- Adhere to a set of easy to remember standards for naming convention
- Facilitates communication
- Ensures everyone understands the terms clearly



Metaphor

## XP Practice: Continuous Integration



Continuous  
Integration

- Software builds regularly integrated
- Verify that it compiles and works as a collective code base
- Integration keeps all team members on the same page

## XP Practice: Test-Driven Development

- Team writes tests before coding
- Each small release is tested prior to being released
- Allows for a cleaner application in the long run



Test-Driven  
Development

## XP Practice: Refactoring



Refactoring

- Improve the design of existing code without affecting functionality
- Keeps design cleaner to maintain
- Makes it easier to develop new functionality

## XP Practice: Simple Design



Simple Design

- Optimal design is simplest one
- Recommended design runs all tests and delivers business value
- XP proposes doing what is needed to meet current requirements

## XP Practice: Pair Programming



Pair Programming

- Team members should work on product deliverables in pairs
- Produces higher quality code and costs less
- Knowledge is shared across team

## XP Practices



## XP IS MORE STRINGENT THAN OTHER AGILE FRAMEWORKS

### XP Is More Stringent Than Other Agile Frameworks

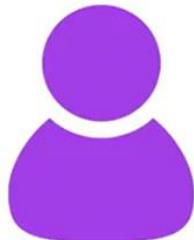
- None of the practices are optional
- Practices are very specific about *how* the work gets done
- Strongly oriented to software development



## Core Roles in The XP Framework



## Customer



Customer

- Maximize value delivery
- Prioritize and manage the Product Backlog

## Programmers



Programmers

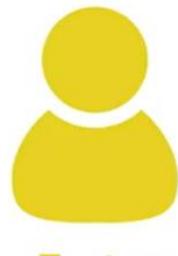
## Coach



Coach

- Plays a pivotal role in team's success
- Helps team learn and follow XP practices

## Testers

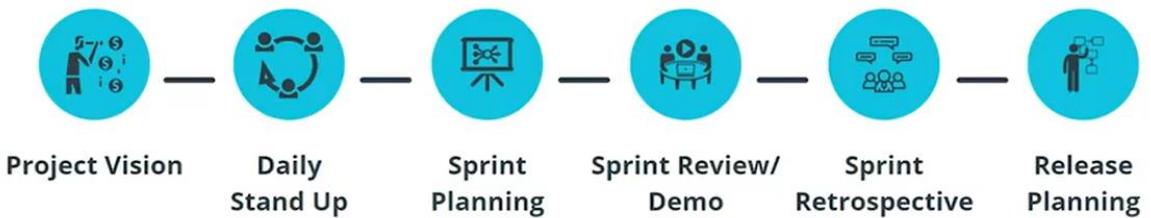


Testers

- Assist customers in creating acceptance criteria
- Execute test cases
- Share outcomes with programmers

## XP vs. Scrum Ceremonies

Scrum Ceremonies



## XP vs. Scrum Ceremonies

XP Ceremonies



## XP Ceremony: Project Vision

### Purpose

Business Leaders identify the business need

### Agenda

- Discuss Project Goals
- Identify Sponsor
- Share Success Criteria
- Identify Assumptions, Constraints and Risks

### Timing

- Once per project
- Timeboxed to one hour

### Expected Outcome

- Craft a desired future state statement
- Clarify business value
- Lay out a high level path to accomplish objectives

## XP Ceremony: Daily Stand Up

### Purpose

Synchronize activities and create a short term plan for the next 24 hours.

### Agenda

- What did I do since the last time we met?
- What do I plan to accomplish today?
- What impediments am I encountering?

### Timing

- Timeboxed to 15 minutes
- Held every day at the same time
- Preferably in the morning and in the same location

### Expected Outcome

- Cultivates transparency
- Conversation remains focused
- No Problem Solving!

## XP Ceremony: Iteration Planning

### Purpose

Programmers self-organize and plan out the work to be performed in the Iteration

### Agenda

- What are we committing to deliver?
- How will we complete the required work?
- What are the estimates?

### Timing

- Timeboxed to 8 hours or less
- More than one session
- Coach ensures timebox is not exceeded

### Expected Outcome

- PO prioritizes backlog items in the backlog
- Programmers decide how to carry out the work

## XP Ceremony: Iteration Review/Demo

### Purpose

Generate feedback and nurture collaboration

### Agenda

- Demonstrate the Iteration's work
- Discuss accomplishments
- Identify remaining items in the backlog
- 

### Timing

- Once at the end of each Iteration
- Timeboxed to 4 hours for a 1 month Iteration
- 2 hours for a 2 week Iteration

### Expected Outcome

- PO determines if deliverables are acceptable based on Acceptance Criteria and definition of Done
- Marketplace changes are considered
- PO and Team make adjustments

## XP Ceremony: Iteration Retrospective

### Purpose

Programmers self-inspect and identify opportunities for improvement

### Agenda

- Create a plan for improvement
- Discuss what went well and what to continue doing

### Timing

- After Iteration Review
- Timeboxed to 3 hours - but may be shorter

### Expected Outcome

- PO's feedback from Sprint Review is considered
- Improvements to process, tools and people are discussed

## XP Ceremony: Release Planning

### Purpose

Programmers develop a Release Plan

### Agenda

- Discuss critical dates and milestones
- Coordinate with other teams
- Balance business value vs. quality

### Timing

- Only when there is a release
- Timeboxed to 20 minutes

### Expected Outcome

- Release date for delivery of feature to the customer base
- Based on input from the business units or users

## XP Artifacts

- Product Increment
- Product Backlog
- Iteration Backlog
- Burndown Chart
- Burnup Chart
- Velocity Chart
- Cumulative Flow Diagram

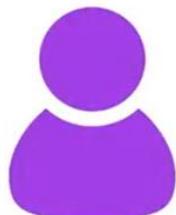


## KANBAN VS. XP

### Exercise: Differences Between Kanban and XP

- Identify key differences, including:
  - Roles
  - Ceremonies
  - Practices

## Core Roles in The Kanban Framework



Product Owner



Facilitator



Agile Team

## Three Core Roles in Kanban

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Role	Responsibilities
Facilitator	Provides Kanban Framework coaching and guidance Facilitating the Agile Team's work Protecting from problems Servant Leader

## Three Core Roles in Kanban

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Role	Responsibilities
Product Owner	Voice of the Customer (VOC) Prioritize Backlog Share Business Decisions & Provide Information

## Three Core Roles in Kanban Exercise

Role	Responsibilities		
Agile Team Member	Responsible for Creation and Delivery of solutions		
	Modeling	Business Analysis	
	Programming	Release Activities	
	Testing	Others	
	Front-end design		

## Core Roles in The XP Framework



## Four Core Roles in XP

Role	Responsibilities
Programmer	<ul style="list-style-type: none"><li>• Pair programming, test-driven development and continuous integration</li><li>• Designer, Senior Programmer, Architect</li><li>• Assist with testing when time permits</li></ul>

## Four Core Roles in XP

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Role	Responsibilities
Tester	<ul style="list-style-type: none"><li>• Assist customer in creating acceptance criteria</li><li>• Execute test cases</li><li>• Communicate outcomes</li></ul>

## Four Core Roles in XP

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Role	Responsibilities
Coach	<ul style="list-style-type: none"><li>• Servant Leader</li><li>• Coaches team on XP practices</li><li>• Facilitator</li></ul>

## Four Core Roles in XP

Role	Responsibilities
Customer	<ul style="list-style-type: none"><li>• Works with business representatives to maximize value</li><li>• Responsible for prioritizing backlog</li></ul>

## XP Ceremonies



Scrum Ceremony	Purpose	Agenda	Schedule and Frequency
Retrospective	XP Team inspects itself and creates a plan for improvements	Discuss what went well during the Iteration, as well as opportunities for improvement	Occurrence: once per Sprint Time-boxed to 3 hours per Iteration
Iteration Planning	Plan work to be performed in the Iteration	Create Iteration Backlog  Task planning  Task level estimation	Occurrence: a few times per Iteration Time-boxed to 8 hours per Iteration

## XP is More Stringent

- XP has 13 detailed practices
- Kanban just focuses on flow and WIP



### CHALLENGES WITH XP

XP



### Challenge #1



*It is software centric*

- Different from other Agile Frameworks
- Other Agile Frameworks feel like a leaner version of project management
- XP requires a comfort level with stringent software centric processes

## Challenge #2

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- Coaches are familiar with software development
- Have the right personality to facilitate
- Such a combination is rare and expensive

*XP Coaches are tough to recruit*

## Challenge #3

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*XP is complex*

- XP can feel anti-Agile
- Takes patience to develop and maintain a successful XP team
- More practices than many other Agile Frameworks

## RECOMMEND A FRAMEWORK

## Exercise: Recommend an Agile Framework

- Characteristics
- Justification



### Final Exercise

Characteristic	Justification
Need for time-boxed Iterations/Sprints	This is a complex project and time-boxed Sprints will allow for regular demos and proactive feedback from the business to ensure the project is heading in the right direction.

### Final Exercise

Characteristic	Justification
Need for Retrospectives	Sprint Retrospectives will ensure the Agile team is working towards guided continual improvement to help such a complex project successfully deliver the anticipated business value.

## Final Exercise

Characteristic	Justification
Need for self-directed and self-organized teams	The Scrum Framework insists on the Agile team being given autonomy to work on the prioritized and assigned Features and Functionality.

## Why Not Kanban or XP?



Kanban is too simplistic



XP is too heavy

## LESSON RECAP

### Lesson Recap

- Why Frameworks?
- Scrum
- Kanban
- XP



Agile  
Frameworks

# Acronyms & Terms

- **Agile Umbrella:** A term that refers to the various Agile Frameworks that follow the Agile Manifesto's values and principles
- **Scrum:** Scrum is one of the most popular Agile frameworks for developing complex products, with an emphasis on value delivery
- **Scrum Pillars:** Transparency, Inspection, Adaptation
- **Scrum Values:** Focus, Courage, Openness, Commitment, Respect
- **Sprint:** A Sprint in Scrum is a repeatable fixed time-box iteration during which a minimum shippable product is delivered
- **Burndown Chart:** A visual representation of work left to do versus time in an iteration
- **Burnup Chart:** A visual representation of work completed versus time in an iteration
- **Ceremonies:** Meetings that are leveraged to ultimately ensure that everyone associated with the project is in-sync
- **Daily Stand Up:** A ceremony to create a short term plan for the next 24 hours
- **Definition of Done:** The agreed-upon deliverables that must be completed before a user story can be completed
- **Product Backlog:** A prioritized list of Features that an Agile team needs to work on to achieve a specific outcome
- **Product Increment:** The collection of backlog items to be completed during an iteration
- **Project Vision Ceremony:** A ceremony is where the business leaders identify the business need the project's product deliverable is intended to achieve; the agenda is to discuss the project goals
- **Release Planning Ceremony:** A ceremony where the Agile Team develops a Release Plan that defines when a collection of functionality will be delivered to the customer base
- **Sprint Backlog:** The prioritized items that the PO has designated for the Sprint
- **Sprint Planning Ceremony:** A ceremony is where the Agile Team self-organizes and plans out the work that has been prioritized by the Product Owner
- **Sprint Review/Demo:** A ceremony where the Agile Team demonstrates the Sprint's incremental work to the Product Owner, as well as possibly other business representatives
- **Velocity Chart:** A chart that shows what the team has delivered in each iteration
- **Cumulative Flow Diagram:** A diagram that shows the total amount of WIP and how quickly projects are being completed
- **Flow:** How work items in a process move through the various stages of development
- **Kanban Board:** A visual representation of the Agile team's work at various stages with a separate column for each stage
- **Kanban:** A lightweight Agile Framework that has its roots in Lean Principles
- **Lean Development:** A process to eliminate Muda by leveraging innovative solutions to reduce cycle time and cost
- **Continuous Integration:** A process that combines all of the coding components of a software build to verify that it compiles and works as a collective codebase
- **Iteration Backlog:** A list of clearly defined user stories, which the Agile team has committed to delivering in the iteration
- **Metaphor:** A set of easy-to-remember standard naming conventions used in XP to facilitate communication
- **Planning Games:** Another name for planning in XP, including release planning and iteration planning
- **Test-Driven Development:** A process where each small release is thoroughly tested prior to being released to production

- **XP (Extreme Programming):** An Agile Framework with a strong focus on technical excellence and best practices in software development
  - **XP Practices:** The core practices in XP, which are Whole Team, Planning Games, Small Releases, Customer Tests, Continuous Integration, Metaphor, Sustainable Pace, Code Standards, Collective Code Ownership, Test-Driven Development, Refactoring, Simple Design, and Pair Programming
- 

## Quizzes

[Refer to me](#)

### Quiz Question

TRUE or FALSE:

Agile Frameworks promote a highly iterative process for Product Development.

True



False

Correct! All Agile Frameworks promote a highly iterative development process for Product Development. This allows for more flexibility. It is less costly to change scope and requirements.

---

[Refer to me](#)

### Quiz Question

TRUE or FALSE

Agile is designed in a way so all parties can provide feedback as the software is developed in an efficient and effective manner.

TRUE



FALSE

Yes! The key to success is rigorous validation of requirements and verification (including testing) of each version of the software against those requirements within each cycle of the model.

---

[Refer to me](#)

### Quiz Question

Which of the following Agile Manifesto principles reflects the Agile focus on team empowerment in all Agile Frameworks?

Working software is the primary measure of progress

Welcome changing requirements, even late in development

Simplicity - the art of maximizing the amount of work not done - is essential

Build projects around motivated individuals



Correct! Give them the environment and support they need, and trust them to get the job done

---

[Refer to me](#)

### Quiz Question

What are the three pillars of Scrum?

Transparency



Collaboration



Inspection



Adaptation



Yes, indeed. Transparency, Inspection, and Adaptation are the three pillars of Scrum.

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[Refer to me](#)

### Quiz Question

In Scrum, the Definition of Done is created with the input of everyone EXCEPT the:

- Development Team
- Product Owner
- Scrum Master
- Process Owner



Yes, correct! The whole team, including the Development Team, Product Owner, and Scrum Master, is responsible for creating the shared Definition of Done. Process Owner is not a formal role in Scrum.

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[Refer to me](#)

### Quiz Question

For each item below, if the item is an advantage to limiting work in progress (WIP) add an Advantage tag, otherwise add a disadvantage tag.

These are the correct matches.

Items	Tags
It reduces the potential need to rework a large collection of flawed, partially completed items	
It maximizes resource utilization to make processes work more efficiently.	
It helps optimize throughput to make processes work more efficiently.	
It brings bottlenecks in the production process to the surface so they can be identified and resolved.	

Correct! Limiting WIP focuses on optimizing throughput, not resources, and the result may be that the team decreases resource optimization to get more throughput.

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[Refer to me](#)

### Quiz Question

The Kanban Framework has its roots in Lean Principles

- False
- True



When Lean principles are followed, Kanban ensures that customer satisfaction and quality increase, while time to market is reduced.

Refer to me

### Quiz Question

The core values of XP include

- Courage, commitment and input
- Simplicity, control and respect
- Feedback, simplicity and communication ✓
- Solutions, feedback and control

Yes, the correct core values of XP are feedback, simplicity and communication.

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Refer to me

### Quiz Question

Which of the 13 XP Practices encourages co-location when possible?

- Whole Team ✓
- Pair Programming
- Collective Code Ownership

The whole team practice is the idea that the XP team is co-located when possible. If not, they leverage technology to build the environment of a single team. XP emphasizes the notion of generalizing specialists. So the roles are not reserved for people who specialize in one particular area. This practice also allows for more efficient communication and helps reduce the possibility that some resources will be idle or overstretched.

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Refer to me

### Quiz Question

What are some of the prevalent challenges with adopting XP?

[Select all that apply]

- It is software-centric ✓
- XP coaches are tough to recruit ✓
- XP is not an Agile Framework
- XP is lightweight

Organizations that are thinking of adopting XP in software-centric teams need experienced XP Coaches, a willing and highly skilled team of programmers and leaders who can handle the complexity of XP. When done right, XP delivers tremendous value.

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## COURSE RECAP

### Course Recap



- The Agile Mindset
- The Agile Manifesto
- Agile vs. Waterfall

- High Performing Teams
- Size, Structure and Skills
- Agile Governance

- Why Frameworks?
- Scrum
- Kanban
- XP

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