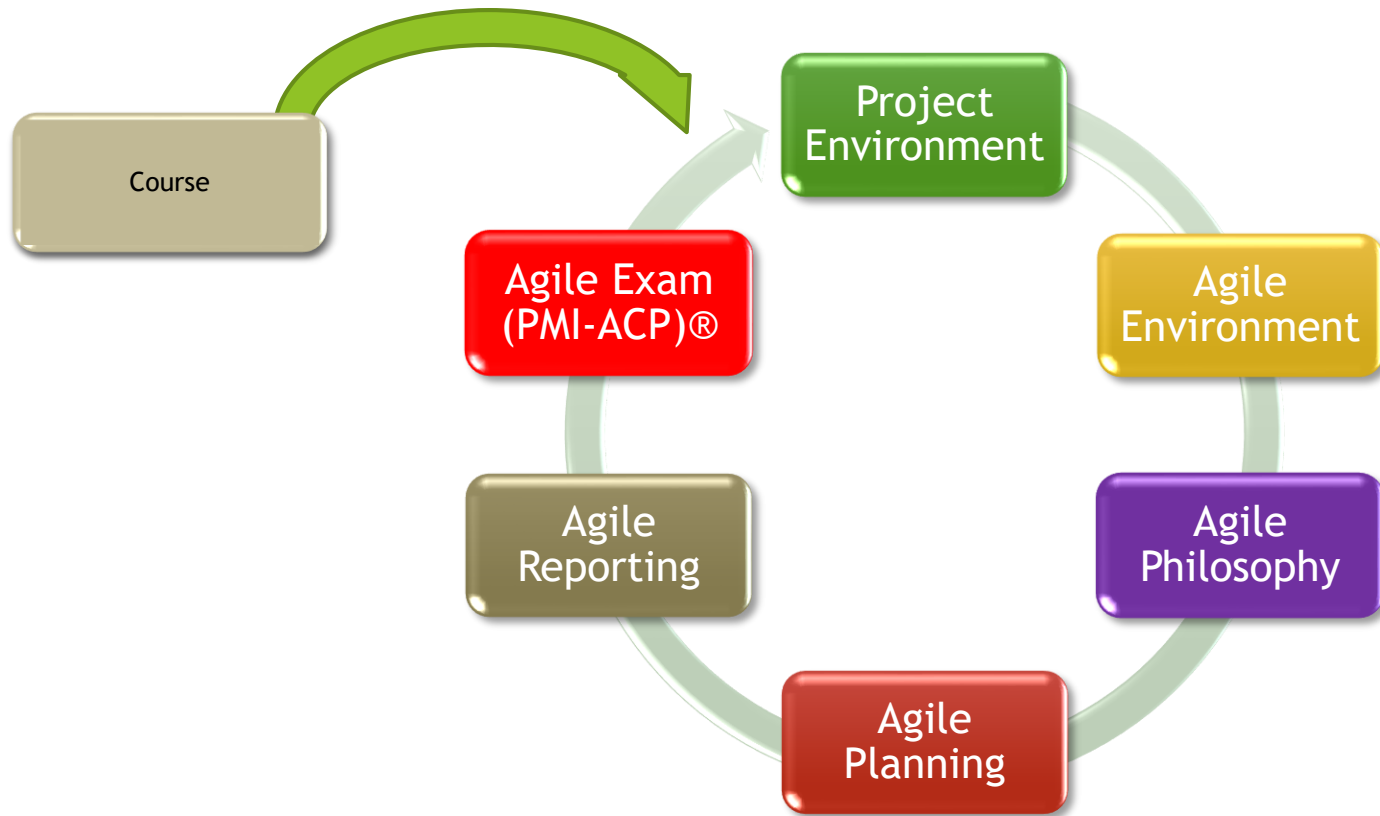


# PMI-ACP®

**Project Management Institute – Agile Certified Practitioner**

# Vets2PM PMI-ACP® Exam Prep Study Guide



# ▶ **Section 1**

## **Course Introduction**

# Classroom Logistics

- ▶ Ask questions – This class is designed for you and for your success
- ▶ We will break every hour or so
- ▶ Schedule
  - ▶ # Days: 6
  - ▶ Monday – Wednesday – Friday
  - ▶ 6 pm – 10 pm EST
- ▶ \*This class will focus mainly on exam content\*

# Introduce Yourself!



✓ YOUR NAME?

✓ EXPERIENCE WITH AGILE / BACKGROUND?

✓ 1 EXPECTATION FROM THIS CLASS



# Vets2PM Resources

- ▶ **Andy Crowe's The PMI-ACP® Exam: How To Pass On Your First Try, Iteration 3**
- ▶ **Vets2PM Student Handbook**
- ▶ **Vets2PM Online Student Portal**
- ▶ **Vets2PM LinkedIn / Alumni Group**

# Introduction

## What is the PMI-ACP?

### PMI Agile Certified Practitioner

- Scrum
- XP
- Kanban
- Test Driven Development (TDD)
- Feature Driven Development (FDD)
- Crystal
- Dynamic Software Development Method (DSDM)
- Lean

# Introduction

## What is the PMI-ACP?

- ▶ The PMI-ACP® exam is situationally-based, thus also testing the test-taker's command of applying the doctrine
- ▶ Passing the exam results in the globally recognized Project Management Institute – Agile Certified Practitioner credential (PMI-ACP)®
- ▶ In the mind of Civilian hiring managers, the PMI-ACP® ‘validates’ the Member's, Veteran's, or Retiree's (“Veteran”) Agile knowledge and experience





# Course Learning Objectives



# The PMI-ACP Exam

## ► Prerequisites Include:

- 2,000 hours of general project experience working on teams. A current PMP® or PgMP® will satisfy this requirement but is not required to apply for the PMI-ACP®.
- 1,500 hours working on agile project teams or with agile methodologies. This requirement is in addition to the 2,000 hours of general project experience.
- 21 contact hours of training in agile practices.

Category	Hours Leading and Directing Project Tasks	Time Period
Project Management	2,000 hours	within last 5 years
Agile Experience	1,500 hours	within last 2 years

# The PMI-ACP Exam

## ▶ Price:

- ▶ PMI Members - \$435.00
- ▶ Non-Member - \$495.00

## ▶ Gain and Maintain Your PMI-ACP:

- ▶ The certification exam has 120 multiple-choice questions and you have three hours to complete it.
- ▶ To maintain your PMI-ACP, you must earn 30 professional development units (PDUs) in agile topics every three years.



April 1, 2019 – PMI announced that the PMI-ACP Exam may be taken at home.



All you need is:

A computer with a webcam

A reliable internet connection

A quiet space where you can spend a few hours without interruptions



More information can be found at:

<https://www.pmi.org/certifications/types/agile-acp>

<https://www.pmi.org/certifications/types/agile-acp/exam-prep/online>

**\*\*\* NEW INFORMATION \*\*\***

# The PMI-ACP Exam

## Domains

**Agile Principles & Mindset (16%)**

**Value-Driven Delivery (20%)**

**Stakeholder Engagement (17%)**

**Team Performance (16%)**

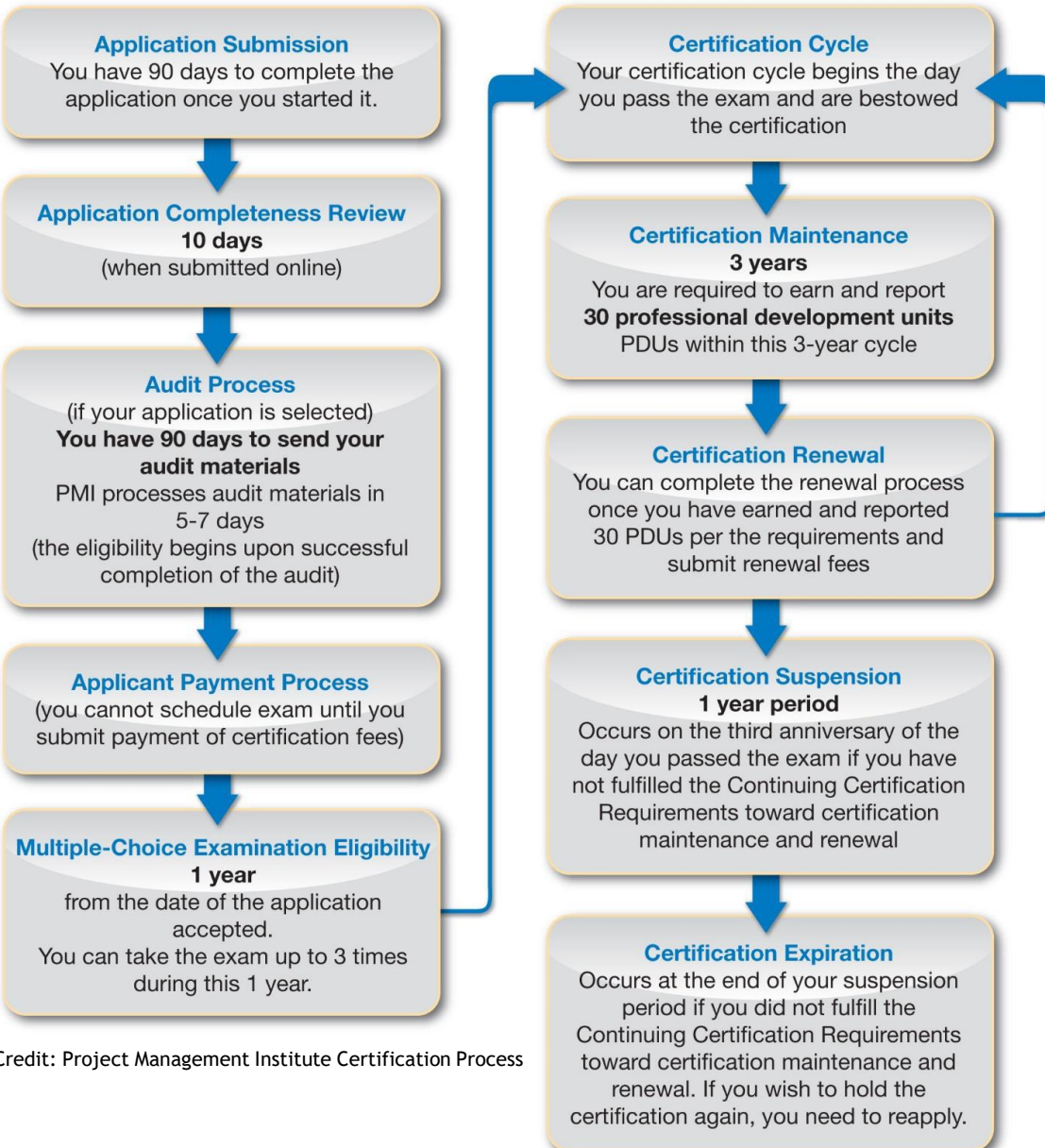
**Adaptive Planning (12%)**

**Problem Detection & Resolution  
(10%)**

**Continuous Improvement (9%)**

- ▶ 3-Hours Long
- ▶ 120 Questions
  - ▶ 100 Scored
  - ▶ 20 Test Questions
- ▶ “Pass” or “Fail”
- ▶ Most Questions are Situational in Nature

# Certification Process



- 1) Take this class and receive your 21 contact hours
- 2) Apply on PMI's website
- 3) (If approved) pay the exam fee
- 4) Schedule your exam with Pearson or from Home
- 5) Take the Exam
- 6) Pass & Crush the Exam!

Credit: Project Management Institute Certification Process

# Who is PMI?

- ▶ The Project Management Institute was founded in 1969, and is a globally recognized certifying organization.
- ▶ Certifications offered include:
  - ▶ CAPM® – Certified Associate in Project Management
  - ▶ PMP® – Project Management Professional
  - ▶ PgMP® – Program Management Professional
  - ▶ PfMP® – Portfolio Management Professional
  - ▶ PMI-ACP® – PMI Agile Certified Practitioner
  - ▶ PMI-RMP® – PMI Risk Management Professional
  - ▶ PMI-SP® – PMI Scheduling Professional
  - ▶ PMI-PBA® – PMI Professional in Business Analysis
- ▶ PMI is the author to the PMBOK® & the PMI-ACP® Exam



# How Does PMI Think About Agile?

- ▶ The Agile Coach focuses on clarifying project objectives, coordinating with organizational stakeholders, and assisting the self-managing team
- ▶ You [the Coach] are supporting an Agile project team
  - ▶ Multi-release schedule
  - ▶ Numerous Stakeholders
  - ▶ Software project for large organization
- ▶ Planning is important, but less important than adapting to change!



# How Does PMI Think About Agile?

- ▶ You support the Agile team throughout the project, key Stakeholders are engaged effectively, roles and responsibilities are defined
- ▶ Self-organizing teams own implementation of project processes
- ▶ Agile Coaches influence stakeholders, enable change, help to resolve problems, and help teams focus on, and communicate outcomes
- ▶ We are always looking for small, incremental improvements

# How Does PMI Think About Agile?

- ▶ Agile Coaches spend their time:
  - ▶ Helping the team self-organize and self-manage
  - ▶ Helping the team resolve problems and impediments
  - ▶ Help engage stakeholders
  - ▶ Coach team members and members of the organization on Agile principles
- ▶ The Agile approach stipulates:
  - ▶ Plan at the high level up-front, and execute releases and iterations, help the team manage work, communicate with stakeholders
  - ▶ Planning actions are done by Product Owner working with the team; decisions are made by the team
  - ▶ Changes to the plan are sought after, and embraced

# PMP® vs. PMI-ACP®

<b>PMP®</b>	<b>PMI-ACP®</b>
<b>Traditional Waterfall</b>	<b>Agile</b>
<b>Over 900,000 hold this credential</b>	<b>Less than 30,000 hold this credential</b>
<b>Project Manager Average Salary \$75,000</b>	<b>Agile Coach Average Salary \$138,000</b>
<b>Focuses on Delivering a Product or Service</b>	<b>Focuses on Delivering Value</b>
<b>Concerned about Project and Results</b>	<b>Concerned about People</b>
<b>Defines Project all up Front</b>	<b>Defines Project Incrementally</b>

# Other Agile Certifications

- ▶ PMI-ACP®
- ▶ CSM – Certified Scrum Master
- ▶ CSPO – Certified Scrum Product Owner
- ▶ CSD – Certified Scrum Developer
- ▶ SAFe – Scaled Agile Framework
- ▶ Prince2
- ▶ Kanban – Kanban Management Professional
- ▶ Six Sigma – Yellow, Green, Black, Master Black Belt
- ▶ Lean – Lean Production & Manufacturing / Lean Software Development
- ▶ CAL – Certified Agile Leadership

# Resources

- ▶ **PMI's Agile Practice Guide**
  - ▶ <https://www.pmi.org/pmbok-guide-standards/practice-guides/agile>
- ▶ **RMC Learning Solutions PMI-ACP® Exam Prep System, Updated Second Edition**
  - ▶ <https://store.rmcproject.com/pmi-acp-exam-prep-system-updated-second-edition>
- ▶ **PM PrepCast PMI-ACP® Exam Simulator**
  - ▶ <https://www.project-management-prepcast.com/pmi-acp-exam/the-pmi-acp-exam-simulator>
- ▶ **The PMI-ACP® Exam: How To Pass On Your First Try, Iteration 3**
  - ▶ [https://www.amazon.com/PMI-ACP-Exam-Pass-First-Iteration/dp/099090749X/ref=pd\\_lpo\\_sbs\\_14\\_img\\_1?encoding=UTF8&psc=1&refRID=Y3KCRS3K4ZD4BNAYPNV9](https://www.amazon.com/PMI-ACP-Exam-Pass-First-Iteration/dp/099090749X/ref=pd_lpo_sbs_14_img_1?encoding=UTF8&psc=1&refRID=Y3KCRS3K4ZD4BNAYPNV9)
- ▶ **Edward Chung's PMI-ACP® Exam Last Minute Study Notes**
  - ▶ <https://edward-designer.com/web/pmi-acp/>

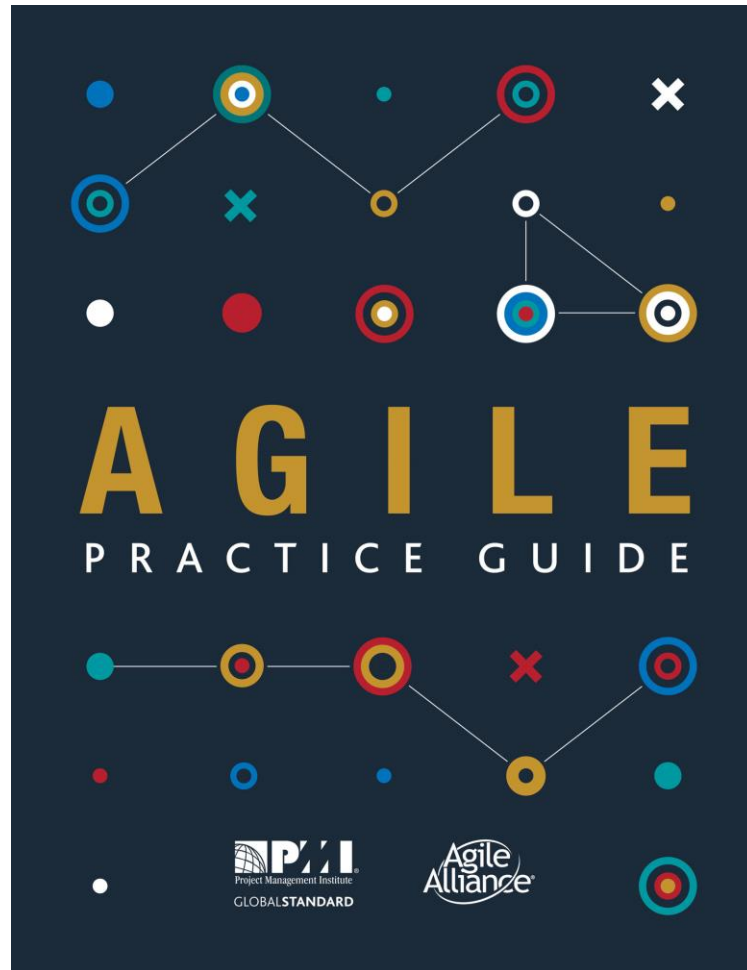
# Resources

## PMI's Agile Practice Guide

<https://www.pmi.org/pmbok-guide-standards/practice-guides/agile>

\$24.50 (member)

\$49.00 (non-member)



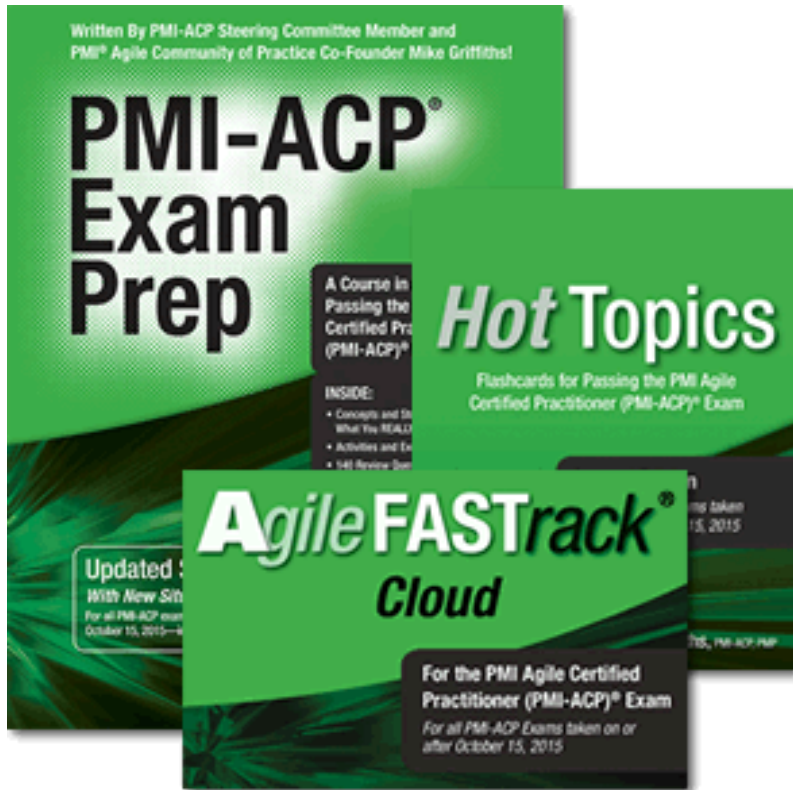
# Resources

## RMC Learning Solutions PMI-ACP® Exam Prep System, Updated Second Edition

<https://store.rmcpjproject.com/pmi-acp-exam-prep-system-updated-second-edition>

\$209.30 (complete system)

\$69.30 (book only)



# Resources



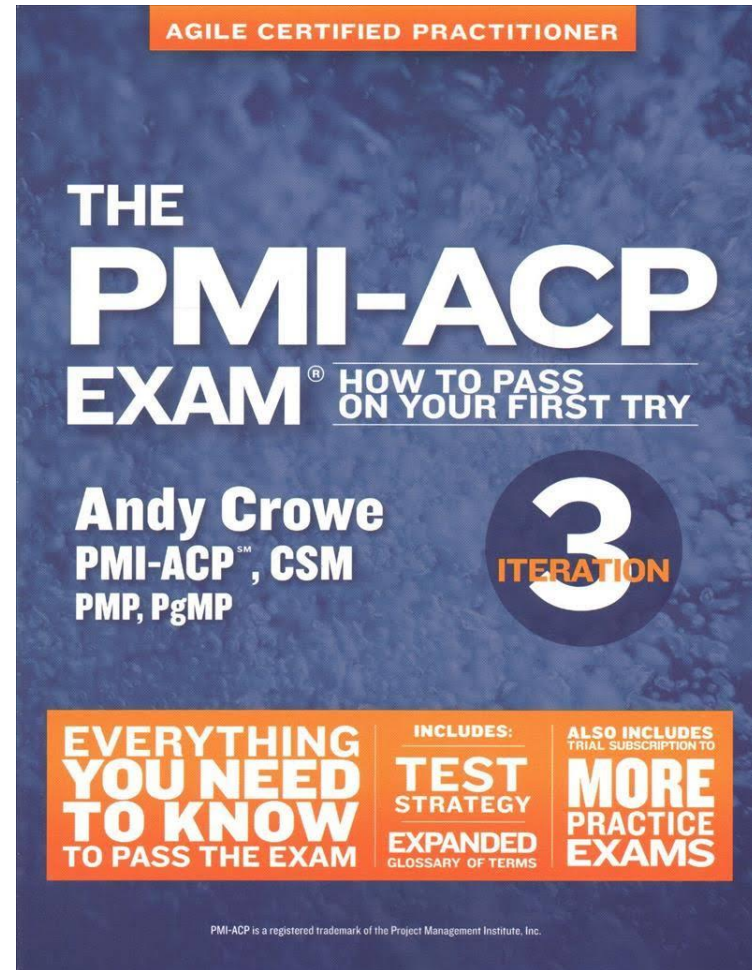
## PM PrepCast PMI-ACP® Exam Simulator

<https://www.project-management-prepcast.com/pmi-acp-exam/the-pmi-acp-exam-simulator>

\$99.00



# Resources



## The PMI-ACP® Exam: How To Pass On Your First Try, Iteration 3

[https://www.amazon.com/PMI-ACP-Exam-Pass-First-Iteration/dp/099090749X/ref=pd\\_lpo\\_sbs\\_14\\_img\\_1?encoding=UTF8&psc=1&refRID=Y3KCRS3K4ZD4BNAYPNV9](https://www.amazon.com/PMI-ACP-Exam-Pass-First-Iteration/dp/099090749X/ref=pd_lpo_sbs_14_img_1?encoding=UTF8&psc=1&refRID=Y3KCRS3K4ZD4BNAYPNV9)

\$59.01

# Resources

## Edward Chung's PMI-ACP® Exam Last Minute Study Notes

<https://edward-designer.com/web/pmi-acp/>

Free Resource

CATEGORY: PMI-ACP EXAM


### PMI-ACP Agile Certification Exam Tips and Resources

BY EDWARD CHUNG, PMP, PMI-ACP, ITIL FOUNDATION | UPDATED: 20 MARCH, 2019



Hi, I am Edward Chung. I passed the PMI-ACP® exam with Proficient in all domains ("Proficient" is the best grade given by PMI indicating the domain knowledge is above the average level).

On this website, I try to **summarize my PMI-ACP® Certification Exam process**. It is hoped that my blog will be able to remove some roadblocks for fellow PMI-ACP® aspirants in the quest of the PMI-ACP® Certification (*as 'correct' information on PMI-ACP® is difficult to find on the internet*). This is my way of contributing to the Agile project management community.



I get PMI-ACP® certified (and PMP®, ITIL® Foundation...) while having to take care of my daily full-time job and my family with 3 kids. It is doable and I will share my experience and tips below.

# ▶ Questions?

# ▶ **Section 2**

## **Introduction to Agile**

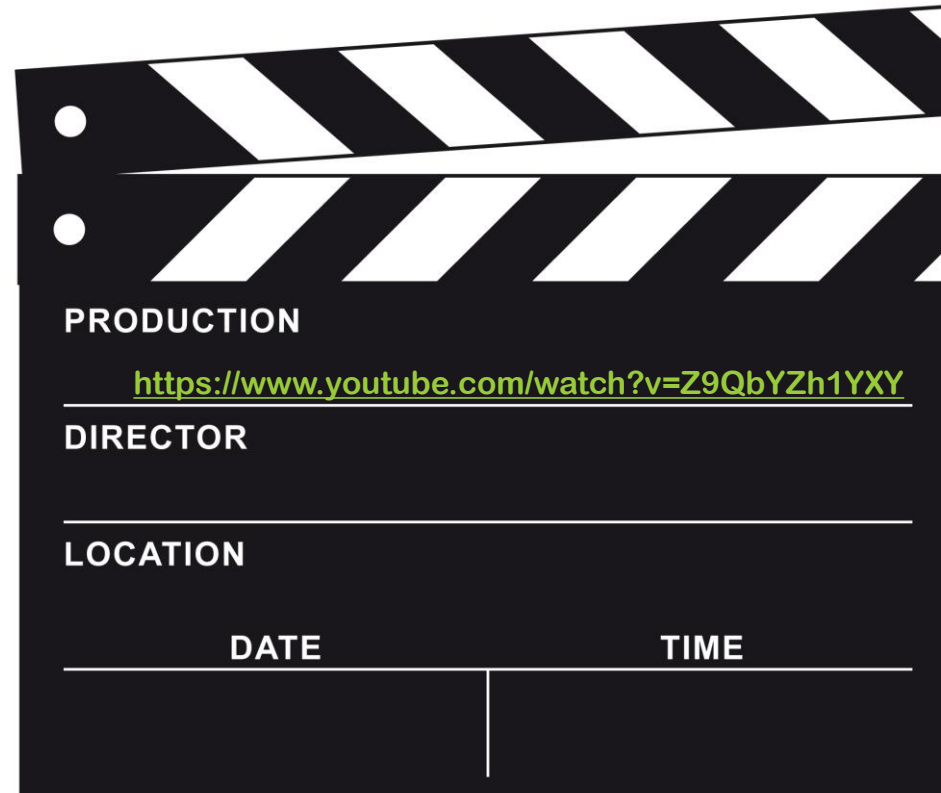
# Learning Objectives

- Origins of Agile
- Agile in Practice
- Agile Values
- Agile Manifesto
- Agile Principles
- Declaration of Interdependence
- Different Agile Methods

# Origins of Agile

- ▶ In 2001, 17 individuals went to The Lodge at Snowbird Ski Resort in Utah.
  - ▶ Jeff Sutherland, Ken Schwaber, Alistair Cockburn, Dave Thomas, Kent Beck, etc.
- ▶ Leaders in Programming, Software Development, and Architecture.
- ▶ The purpose was to find a simpler way of doing Software Development.
- ▶ The Agile Manifesto was born.

# Agile = Mindset



# Agile Manifesto / Values

We are uncovering better ways of developing software by doing it and helping others do it. Through this work we have come to value:



That is, while there is value in the items on the right, we value the items on the left more.



# Agile Principles

**Our highest priority is to satisfy the customer through early and continuous delivery of valuable software.**

**Welcome changing requirements, even late in development. Agile processes harness change for the customer's competitive advantage.**

**Deliver working software frequently, from a couple of weeks to a couple of months, with a preference to the shorter time scale.**

**Business people and developers must work together daily throughout the project.**

# Agile Principles

**Build projects around motivated individuals. Give them the environment and support they need, and trust them to get the job done.**

**The most efficient and effective method of conveying information to and within a development team is face-to-face conversation.**

**Working software is the primary measure of progress.**

**Agile processes promote sustainable development. The sponsors, developers, and users should be able to maintain a constant pace indefinitely.**

# Agile Principles

**Continuous attention to technical excellence and good design enhances agility.**

**Simplicity – the art of maximizing the amount of work not done – is essential.**

**The best architectures, requirements, and designs emerge from self-organizing teams.**

**At regular intervals, the team reflects on how to become more effective, then tunes and adjusts its behavior accordingly.**

# Declaration of Interdependence



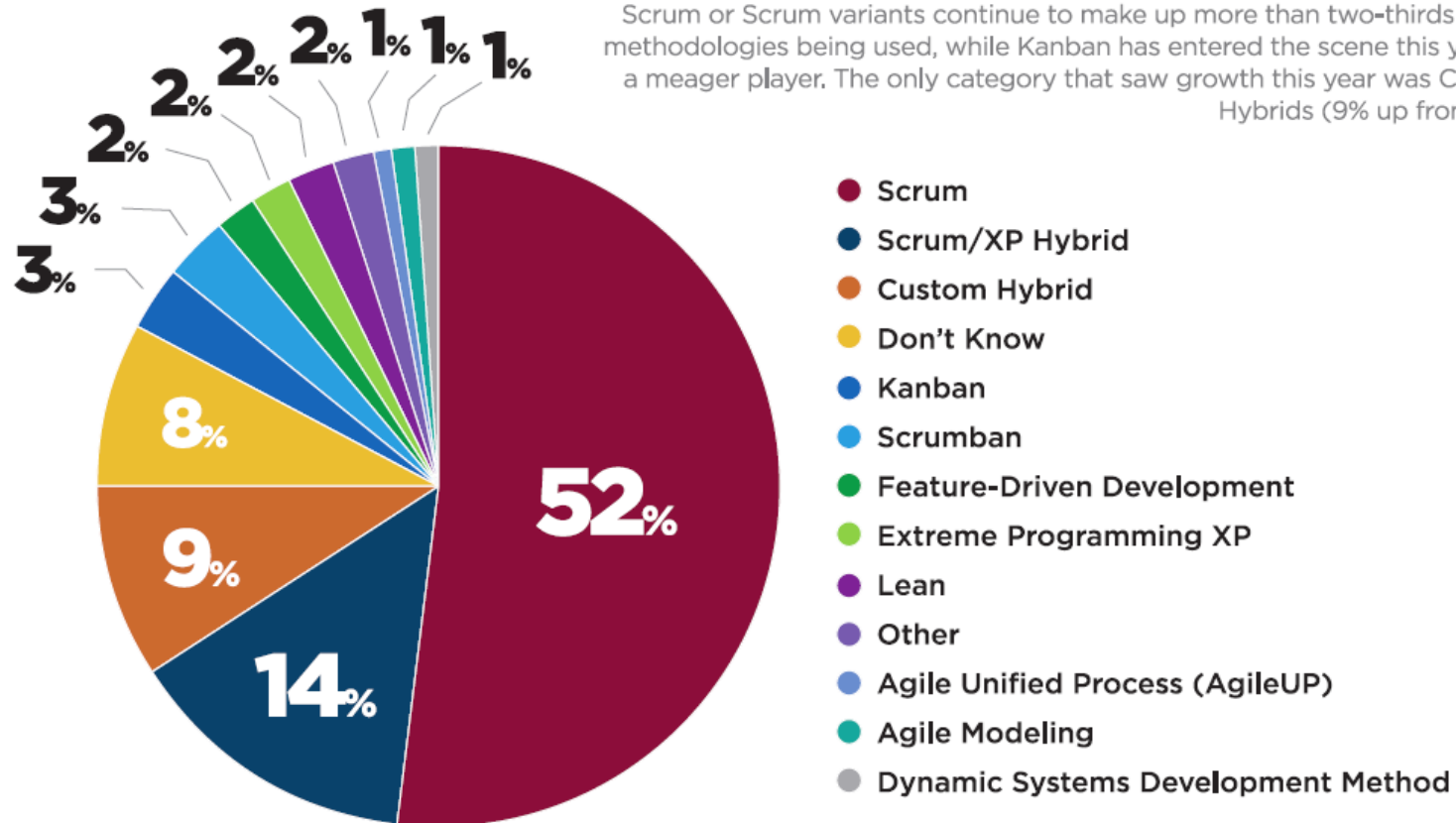
- ▶ Increase return on investment by making continuous flow of value our focus.
- ▶ Deliver reliable results by engaging customers in frequent interactions and shared ownership.
- ▶ Expect uncertainty and manage for it through iterations, anticipation and adaptation.
- ▶ Unleash creativity and innovation by recognizing that individuals are the ultimate source of value, and creating an environment where they can make a difference.
- ▶ Boost performance through group accountability for results and shared responsibility for team effectiveness.
- ▶ Improve effectiveness and reliability through situationally specific strategies, processes, and practices.

# Different Methodologies

Scrum	XP	Kanban	Lean
Test Driven Development (TDD)	Feature Driven Development (FDD)	Agile Software Development (ASD)	Dynamic Software Development Method (DSDM)
Crystal	Prince2	Hybrids	Etc./Misc.

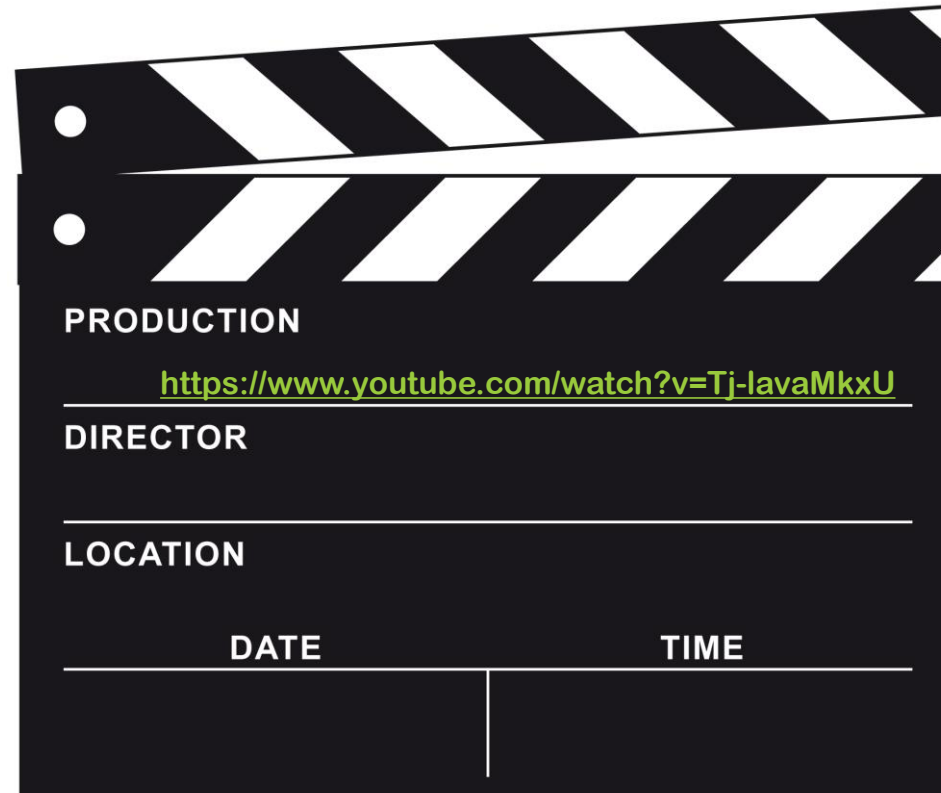
## AGILE METHODOLOGY USED

Scrum or Scrum variants continue to make up more than two-thirds of the methodologies being used, while Kanban has entered the scene this year as a meager player. The only category that saw growth this year was Custom Hybrids (9% up from 5%).



Credit: [https://www.researchgate.net/figure/1-Pie-chart-showing-the-state-of-Agile-survey-Adopted-from-VersionOne-VersionOne\\_fig1\\_303200204](https://www.researchgate.net/figure/1-Pie-chart-showing-the-state-of-Agile-survey-Adopted-from-VersionOne-VersionOne_fig1_303200204)

# Agile at Work



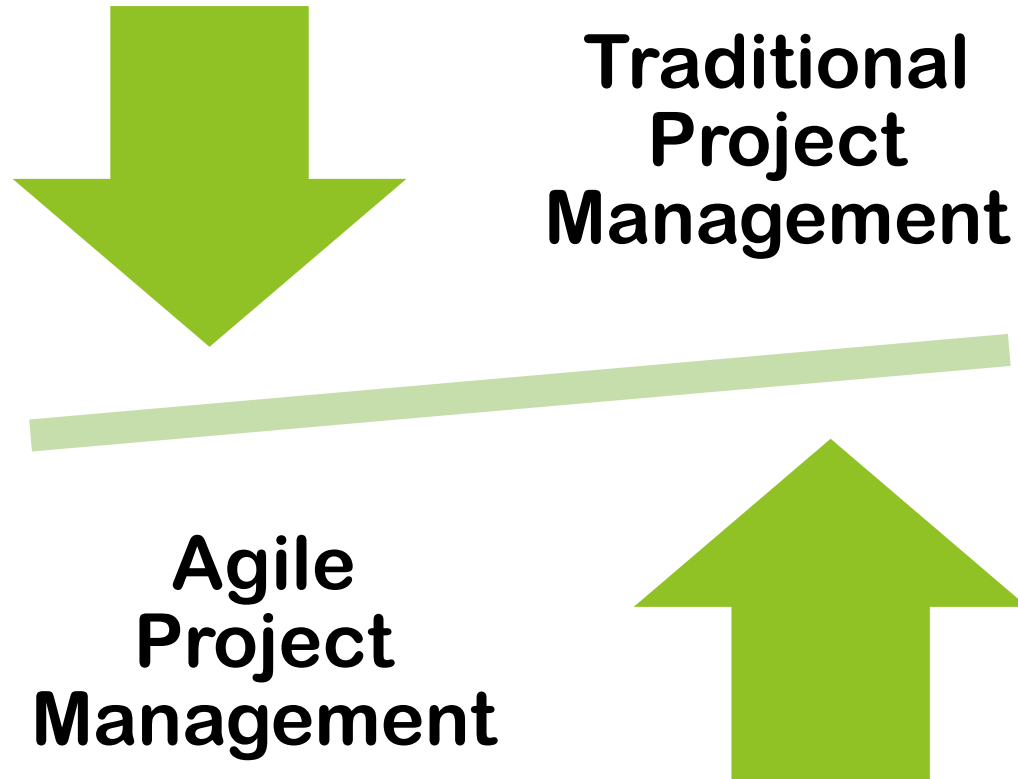
# ▶ Questions?



# ▶ **Section 3**

## **Waterfall vs. Agile**

# Learning Objectives



# Agile Project - Definition



## A project is defined as:

“A temporary endeavor undertaken to create a unique product, service, or result.”



Projects produce *deliverables*



Agile is mainly targeted and geared towards “Tech Projects”

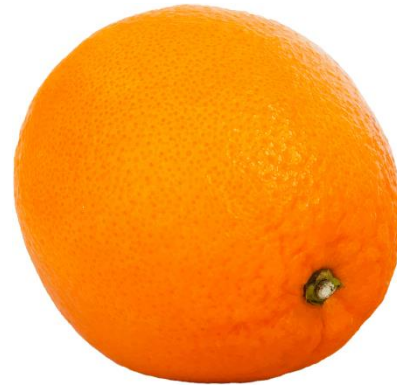
- Software Development
- Enterprise Architecture
- Business Intelligence
- Information Technology
- Computer Engineering
- Database Warehousing

# Project Delivery Methods



Analyze>  
Design>  
Execute>  
Test>  
Evaluate...Once

**Predictive**  
(plan-driven)



Analyze>  
Design>  
Execute>  
Test>  
Evaluate...Iteratively

**Incremental**

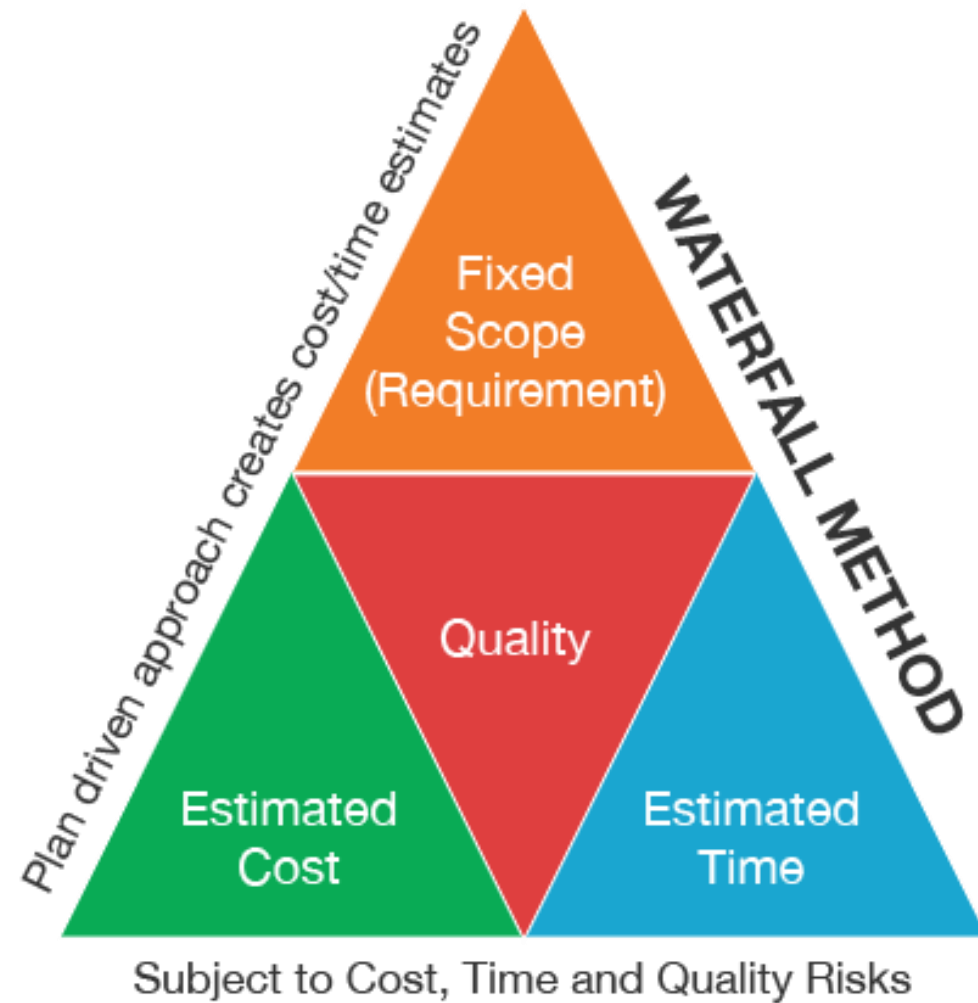


Plan Just Enough>  
Deliver Quickly>  
Evaluate Often>  
Improve

**Adaptive**  
(change-driven)

# Traditional Project Management

- ▶ The focus is on the project, planning, stakeholders, and a fixed scope
- ▶ Risk increases as time passes
- ▶ All planning is done up front
- ▶ Change is detrimental and could derail the project
- ▶ The main goal is to deliver the project



Credit: <https://www.pinterest.es/pin/757801074769476403/>

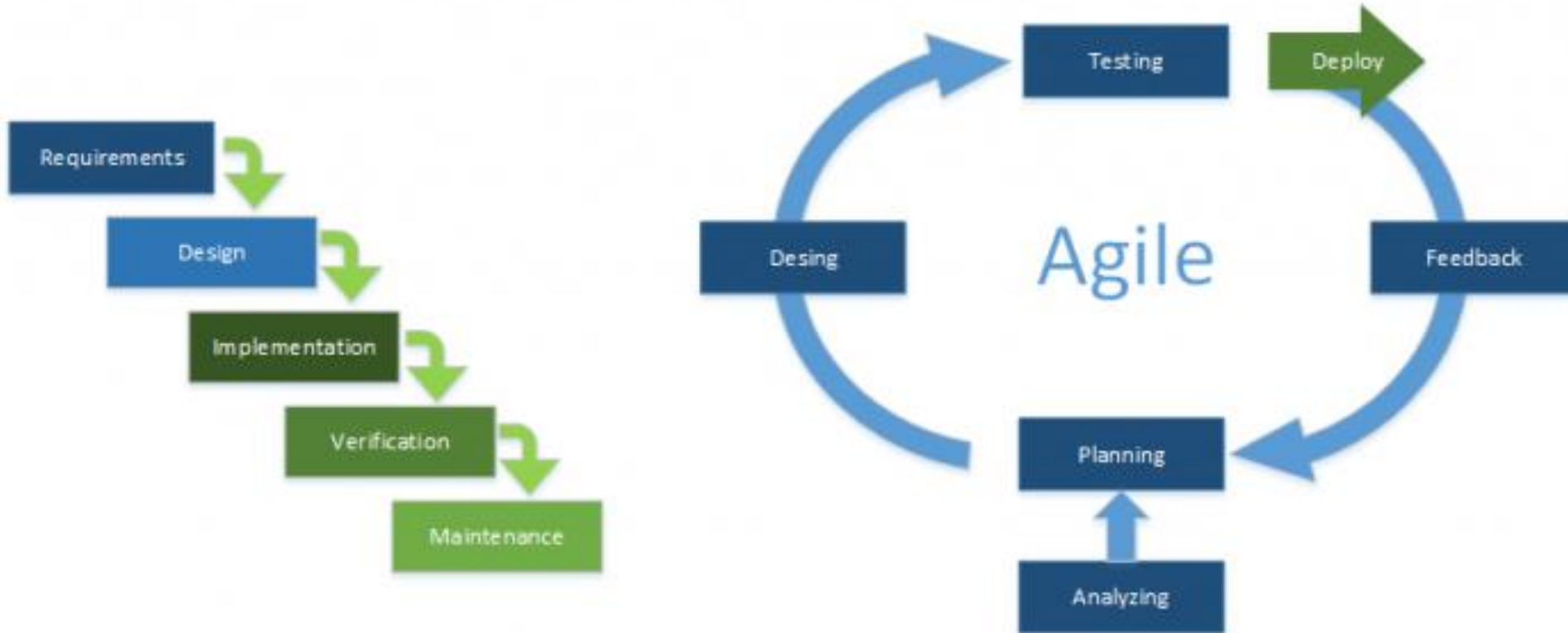
# Agile Project Management

- ▶ The focus is on the team, adapting to change, and progressive elaboration
- ▶ Risk decreases as time passes
- ▶ Planning is done iteratively
- ▶ Change is encouraged and could help the project
- ▶ The main goal is to deliver value



Credit: <https://www.pinterest.es/pin/757801074769476403/>

# Waterfall vs. Agile



Credit: <https://www.devteam.space/blog/waterfall-vs-agile-which-methodology-is-right-for-your-project/>

# ▶ Questions?



# ▶ Section 4

## SCRUM

# Learning Objectives

Scrum

Scrum Values

Scrum Practices/Principles

Scrum Roles

CSM

CSPO

DevOps

Scrum Artifacts

Scrum Ceremonies

# What is Scrum?



Scrum is an agile framework for completing complex projects.



Origins can be traced back to 1986 study done by Takeuchi and Nonaka which was published in the Harvard Business Review (HBR).



Rugby term for when a team gathers together and all attack the goal.

# Scrum (Rugby)

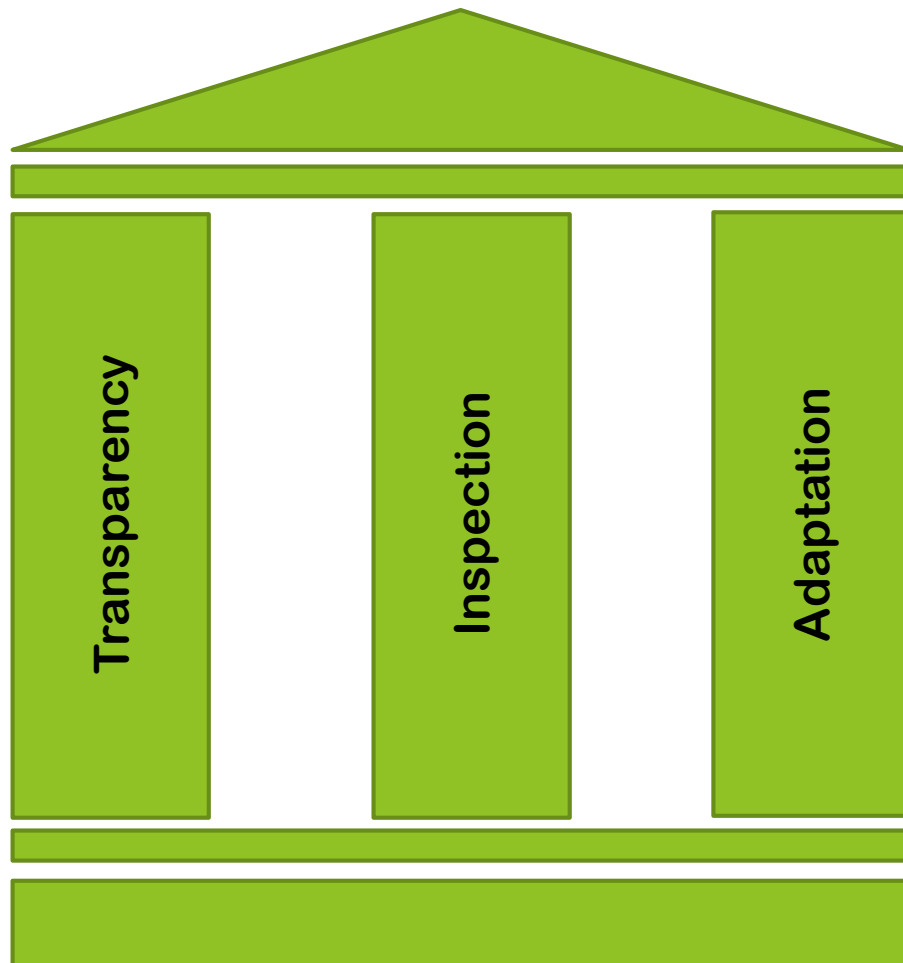
- ▶ In Scrum, a team works closely together and “attacks” the mission.



Credit: <https://www.youtube.com/watch?v=hm01iZ-CIQc>

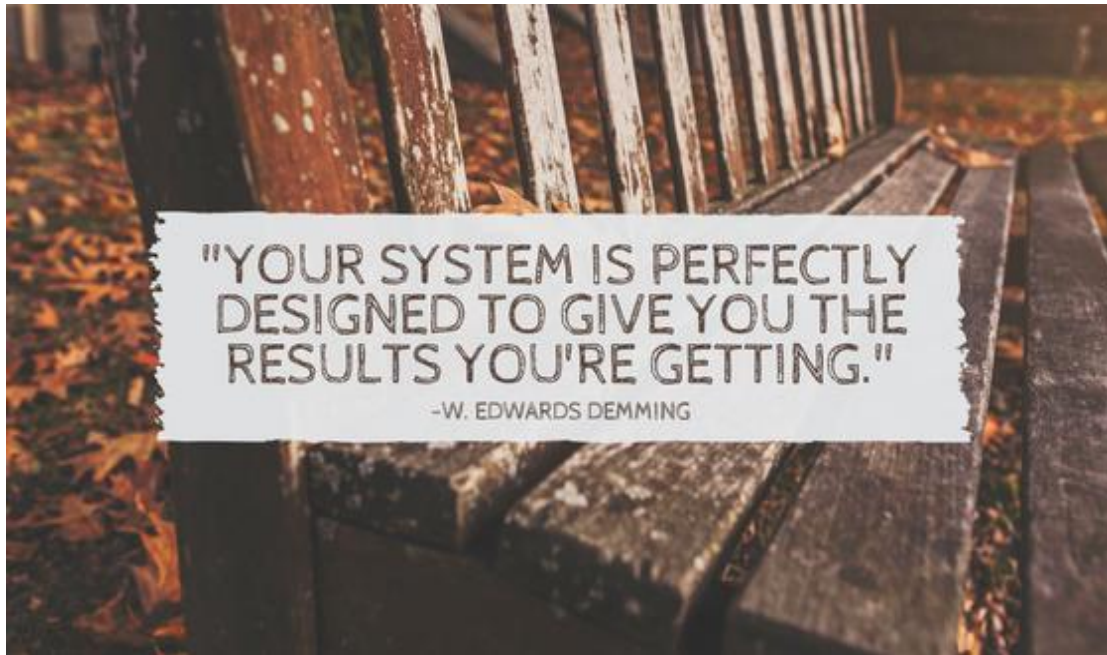
PMBOK Guide, PMP, and PMI-ACP are registered marks of the Project Management Institute, Inc. Copyright 2016, Vets2PM, LLC. All rights reserved.

# The 3 Scrum Pillars

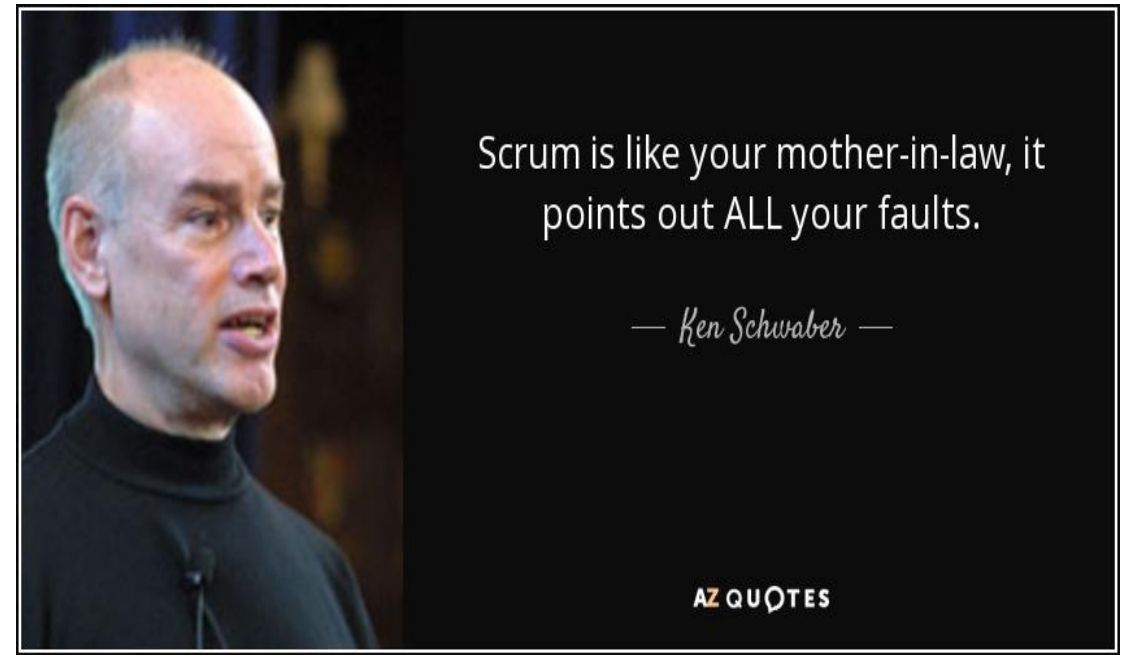


- ✓ **Transparency**
  - In Work, Performance, Communication
- ✓ **Inspection**
  - In Processes, Product, Continuous Improvement
- ✓ **Adaptation**
  - In Progress, Situation, Abilities

## Scrum is unforgiving – it does not discriminate



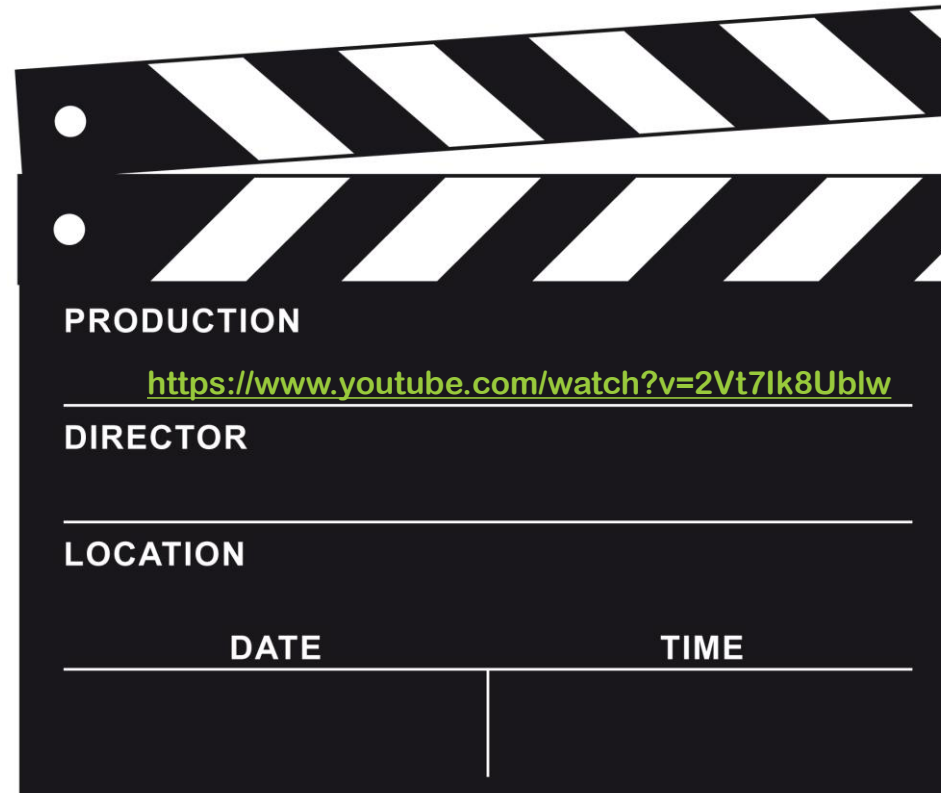
Credit: <https://ssanddg87.com/2017/10/12/are-you-getting-the-results-you-desire/>



Credit: <https://www.azquotes.com/quote/1428307>

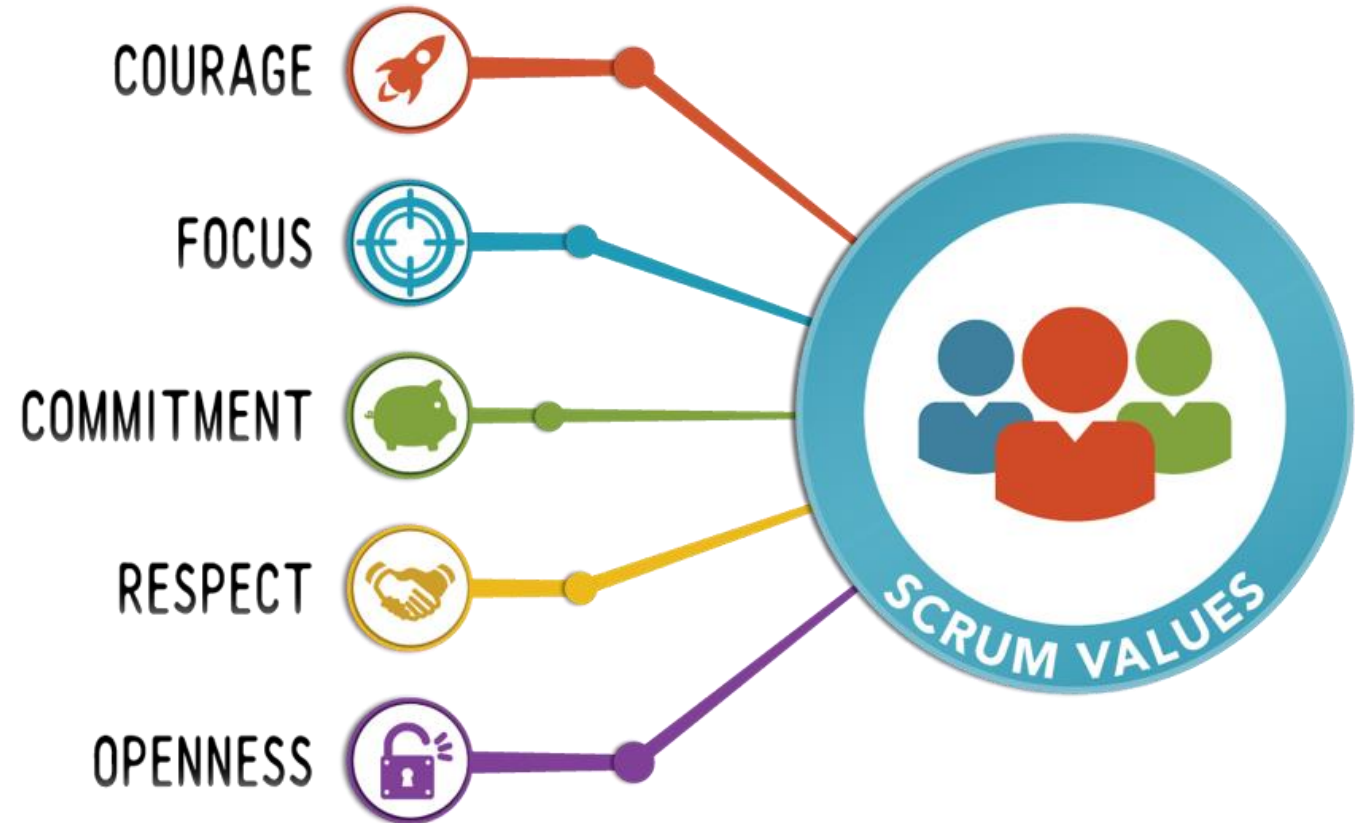
## Transparency is at the core of everything in Scrum

# Scrum in 5 Minutes



# Scrum Values

- ▶ **Courage**
  - Scrum Team members have courage to do the right thing and work on tough problems.
- ▶ **Focus**
  - ▶ Everyone focuses on the work of the Sprint and the goals of the Scrum Team
- ▶ **Commitment**
  - ▶ People personally commit to achieving the goals of the Scrum Team
- ▶ **Respect**
  - ▶ Scrum Team members respect each other to be capable, independent people
- ▶ **Openness**
  - ▶ The Scrum Team and its stakeholders agree to be open about all the work and the challenges with performing the work



Credit: <https://www.scrumalliance.org/learn-about-scrum/scrums-values>



# Scrum Principles

## Empirical Process Control

Think about the 3 Pillars

## Self-Organization

Teams work better when they are self-organized

## Collaboration

Everyone has a stake – no one is any less important

## Value Based Prioritization

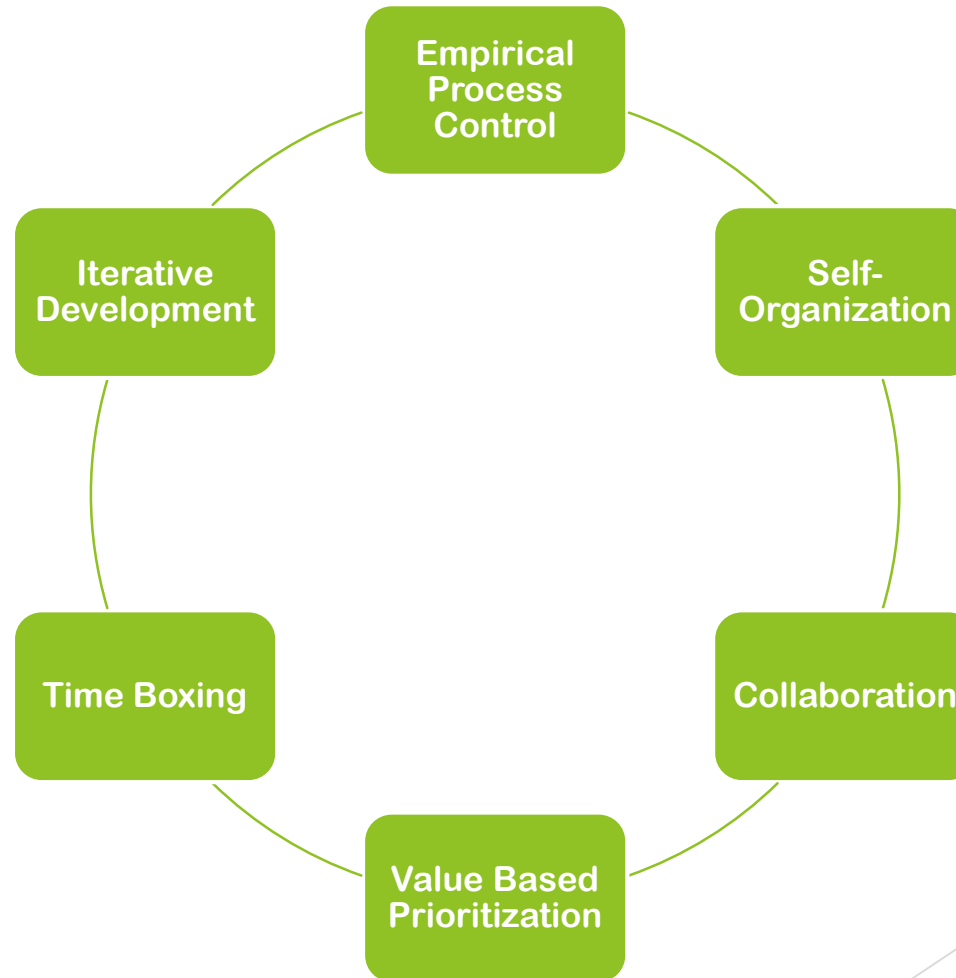
The focus is always delivering value

## Time Boxing

Events and meetings are time-boxed

## Iterative Development

Think of a perfect cycle



# Roles of Scrum

Scrum Master (CSM)



Product Owner (CSPO)



Development Team (DevOps) (CSD)



- ▶ The Team's Agile Coach
- ▶ Ensures that the integrity of Agile and Scrum are maintained
- ▶ Acts as a Servant Leader to the team
- ▶ Protects the team to ensure they can focus on their job
- ▶ Organizational Change Leader
- ▶ Removes obstacles from the team and their environment
- ▶ Ensures that the team is productive and taken care of
- ▶ Promotes Scrum Values and Principles



# Scrum Master (CSM)

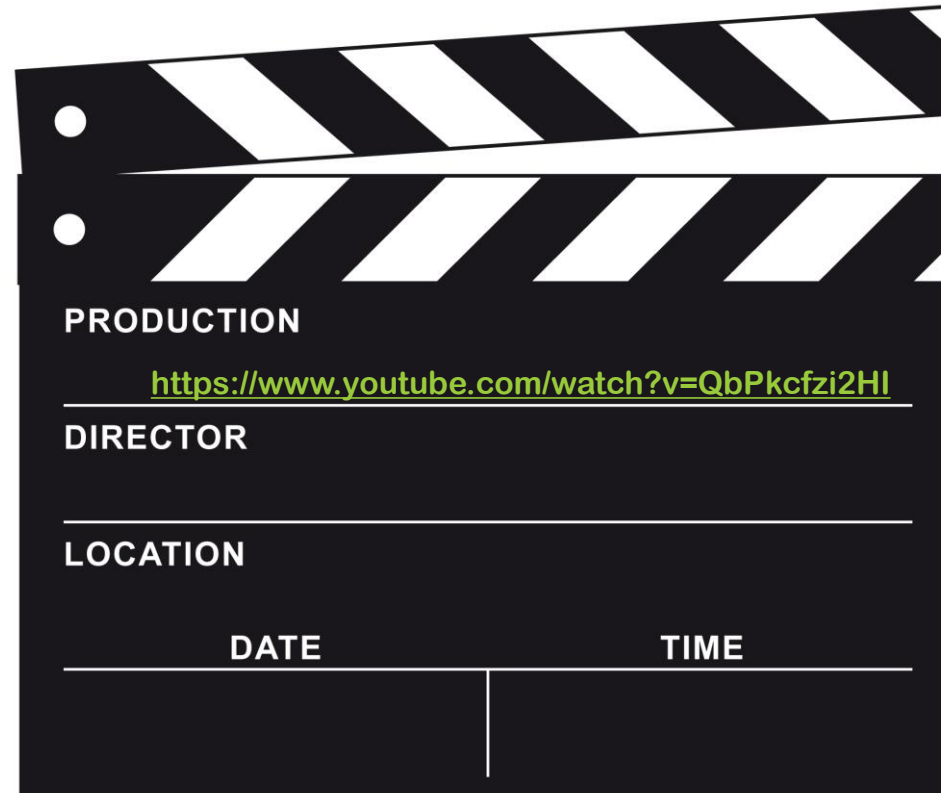
# A Great Scrum Master...

- ▶ Always looks for possible distractions or obstacles and seeks to eliminate them
- ▶ Creates and Promotes a collaborative environment full of transparency and communication
- ▶ Listens to their team during meetings
- ▶ Will continuously hold the team accountable
- ▶ Helps guide the team through disfunction into a self-organizing team
- ▶ Will seek to make themselves dispensable, not indispensable

Remember: Agile is a Mindset!

**\*\*\*FOR THE EXAM\*\*\*  
YOU MUST UNDERSTAND THE MENTALITY AND THE PURPOSE OF AN  
AGILE COACH OR SCRUM MASTER**

# The Scrum Master

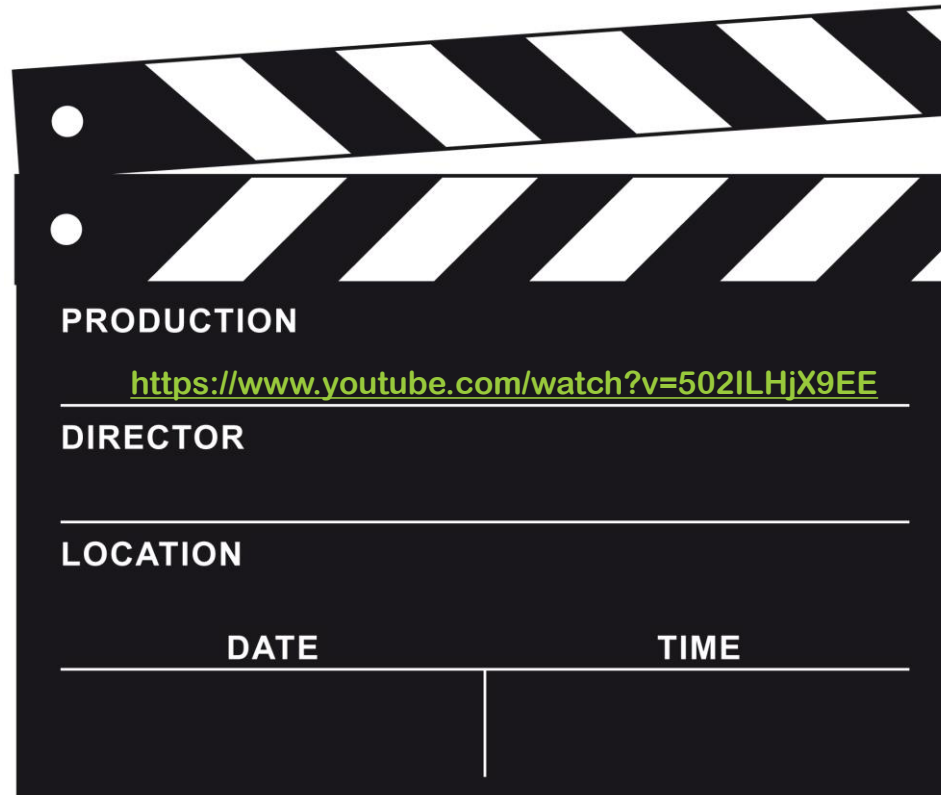


- ▶ Creates, Sets, and maintains the product vision
- ▶ Act as the middle-man between the business (user) and the team
- ▶ Provides the team with information on what the user wants
- ▶ Prioritizes features according to business value and needs
- ▶ Maximized the Value of the work produced
- ▶ Responsible to the team and the business (user)
- ▶ Ultimately, acts as the Voice of the Customer
- ▶ Maintains the product backlog
- ▶ Updates stakeholders and the team



# Product Owner (CSPO)

# The Product Owner



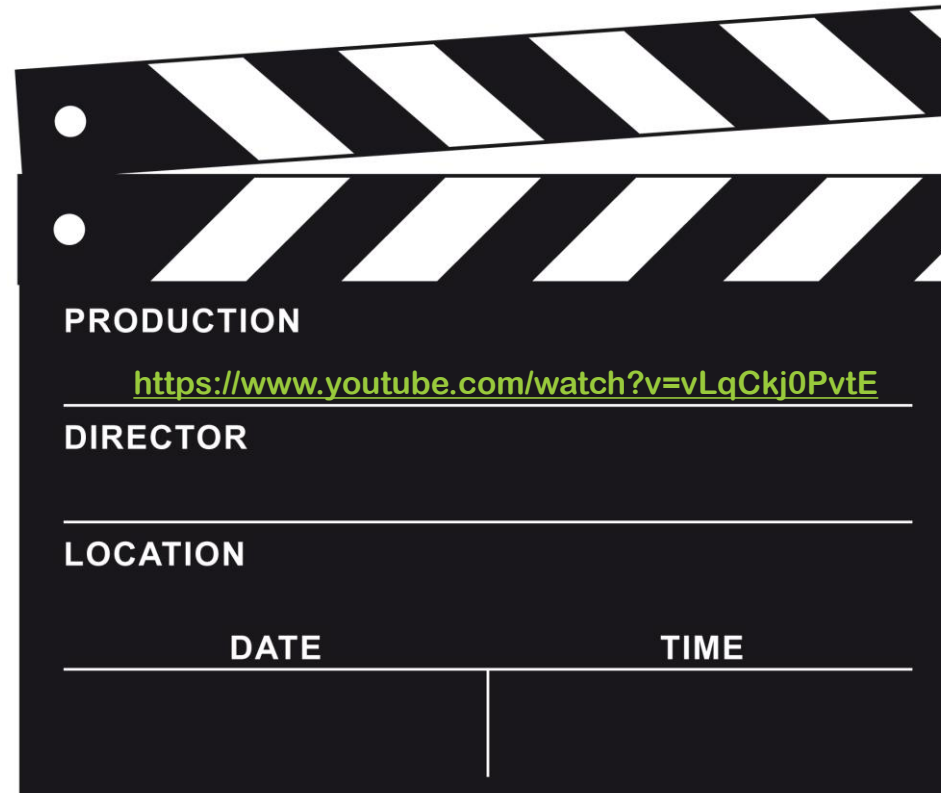
- ▶ The workers and producers of value
- ▶ Size of teams 3 – 9 people
- ▶ Comprised of generalists who are good at everything
- ▶ The team makes local decisions and changes processes as necessary
- ▶ Team is Role Free (no one person is better than another)
- ▶ Work collaboratively
- ▶ Team members are dedicated to each other and the team
- ▶ They decide what they are going to do, how they are going to do it, and when
- ▶ A Scrum team is Self-Organizing, Cross Functional, Empowered, and engages in Constructive Disagreements



# Development Team (DevOps) (CSD)



# The Development Team



## Scrum Roles: A different way of thinking, a better way to drive success

Scrum roles differ from traditional project roles.

By collaborating, a Scrum team delivers more business value, faster.



Credit: <https://www.scrumalliance.org/agile-resources/scrum-roles-demystified>

<https://www.scrumalliance.org/learn-about-scrum/scrum-elearning-series>

- ✓ Scrum Theory and Values
- ✓ Scrum Roles
- ✓ Scrum Events
- ✓ Scrum Artifacts

# More Information / Resources

# Scrum Artifacts (Documents)

## Product Backlog

- List of items for the Development Team to work on

## Sprint Backlog

- List of items agreed upon by the team to work on during a Sprint

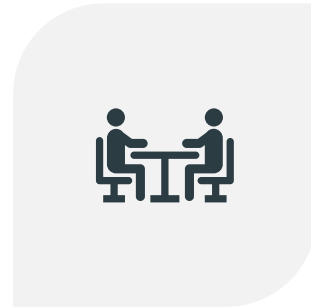
## Product Increment

- The product or work accomplished at the end of a Sprint

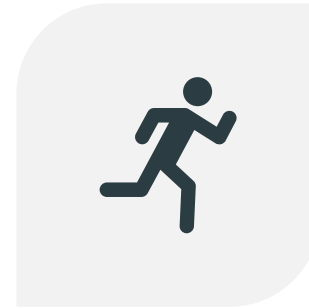
<https://www.scrumalliance.org/learn-about-scrum/scrums-elearning-series/scrums-artifacts>



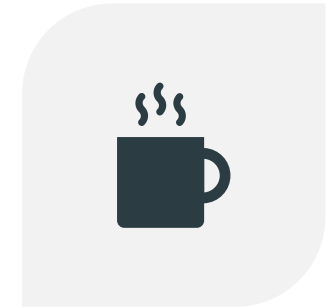
**SPRINT  
PLANNING**



**SPRINT REVIEW**



**SPRINT  
RETROSPECTIVE**



**DAILY SCRUM**

# Scrum Ceremonies (Meetings)

# Sprint Planning



**What is it?**

**Decides what is going to be worked on during the Sprint**



**How long is it?**

**Lasts 2 hours or less/week of Sprint**



**Who needs to be there?**

**Development Team, Scrum Master, Product Owner**



**What does it produce?**

**Sprint Backlog**

# Sprint Review



**What is it?**

A chance for the Product Owner and Stakeholders to “review” the product



**How long is it?**

1 hour or less/week of Sprint



**Who needs to be there?**

Product Owner,  
Development Team,  
Scrum Master,  
Stakeholders



**What does it produce?**

Guidance for the team moving forward

# Sprint Retrospective



**What is it?**

**Discusses: what went well, what didn't work, what are we going to change**



**How long is it?**

**3 hours for 1 month Sprint**



**Who needs to be there?**

**Scrum Master, Development Team, Product Owner**



**What does it produce?**

**Overall Continuous Improvement**

# Daily Scrum



**What is it?**

Discusses: what did we do yesterday, what are we doing today, any obstacles



**How long is it?**

15 minutes or less



**Who needs to be there?**

Scrum Master,  
Development Team



**What does it produce?**

Overall Transparency



# ▶ Questions?

# ▶ **Section 5**

## **Xtreme Programming (XP)**

# Learning Objectives

Extreme Programming (XP)

XP Values

XP Practices/Principles

XP Activities

XP Roles

XP Standards

# What is XP?



XP is an agile software development framework that aims to produce higher quality software, and higher quality of life for the development team.



Created by Kent Beck, its origins can be traced back to 1966, where it was first used.



XP is hyper focused on Software Development and Engineering

# XP Values

- ▶ **Courage**
  - ▶ XP members have courage to do the right thing and work on tough problems.
- ▶ **Feedback**
  - ▶ Constant feedback provide the team guidance in order to improve
- ▶ **Simplicity**
  - ▶ Avoid waste and only do what is barely necessary to get the job done
- ▶ **Respect**
  - ▶ XP members respect each, their abilities, and relationships to better work together
- ▶ **Communication**
  - ▶ Face-to-Face communication is the best form of relaying information



Credit: <https://agilevelocity.com/agile/xp-values-forgotten-agile-guidance/>

# XP Principles

- ▶ Humanity
- ▶ Economics
- ▶ Mutual Benefit
- ▶ Self Similarity
- ▶ Improvement
- ▶ Diversity
- ▶ Reflection
- ▶ Flow
- ▶ Opportunities
- ▶ Redundancy
- ▶ Failure
- ▶ Quality
- ▶ Baby Steps
- ▶ Accepted Responsibility

# XP Principles

- ▶ **Humanity** – What does everyone need to have to be the best at their job
- ▶ **Economics** – Every action should result in value being added to the business
- ▶ **Mutual Benefit** – Activities should benefit everyone involved
- ▶ **Self Similarity** – Uniformity in structure and code
- ▶ **Improvement** – Progressively getting better over time
- ▶ **Diversity** – Different perspectives, skills, attitudes, and people
- ▶ **Reflection** – Why is something being done? How is it being done?
- ▶ **Flow** – Continuous and steady flow of working software being produced
- ▶ **Opportunities** – Learn to optimize problems and turn them into opportunities
- ▶ **Redundancy** – Be mindful of redundancy and if it is necessary
- ▶ **Failure** – Embrace failure and learn from it
- ▶ **Quality** – Is this valuable and does it meet the specified standards?
- ▶ **Baby Steps** – Rapid Small Steps towards success
- ▶ **Accepted Responsibility** – Responsibility is assumed – never assigned

# 12 XP Practices

## Fine Scale Feedback

- Pair Programming
- Planning Game
- Test Driven Development
- Whole Team

## Continuous Process

- Continuous Integration
- Design Improvement
- Small Releases

## Shared Understanding

- Coding Standards
- Collective Code Ownership
- Simple Design
- System Metaphor

## Programmer Welfare

- Sustainable Pace



# XP Activities



## Coding

This is what actually delivers value – no code means no product



## Testing

Unit Tests are performed to ensure functionality and quality



## Listening

Programmers must listen to the customer and determine their needs



## Designing

Good design and Simplicity is at the heart of each product

# XP Roles



- ▶ **Agile Coach**
  - ▶ Is the team's coach and assists in promoting XP and Agile practices
- ▶ **Programmers**
  - ▶ Workers who communicate with the customer and write the code
- ▶ **Testers**
  - ▶ Workers who verify code that has been written (integrity, simplicity, QA)
- ▶ **Customer**
  - ▶ Usually a representative and acts as the Voice of the Customer (this role is similar to the Product Owner in Scrum) Could be internal or external

# Pair Programming



Credit: [https://en.wikipedia.org/wiki/Pair\\_programming](https://en.wikipedia.org/wiki/Pair_programming)

- ▶ Increases Efficiency
- ▶ Encourages Collaboration
- ▶ Allows for Learning
- ▶ Improves Morale and Working Environment

**\*\*\*FOR THE EXAM\*\*\***  
**Pair Programming is XP**

# ▶ Questions?

# ▶ **Section 6**

**Test Driven Development (TDD)  
Feature Driven Development (FDD)**

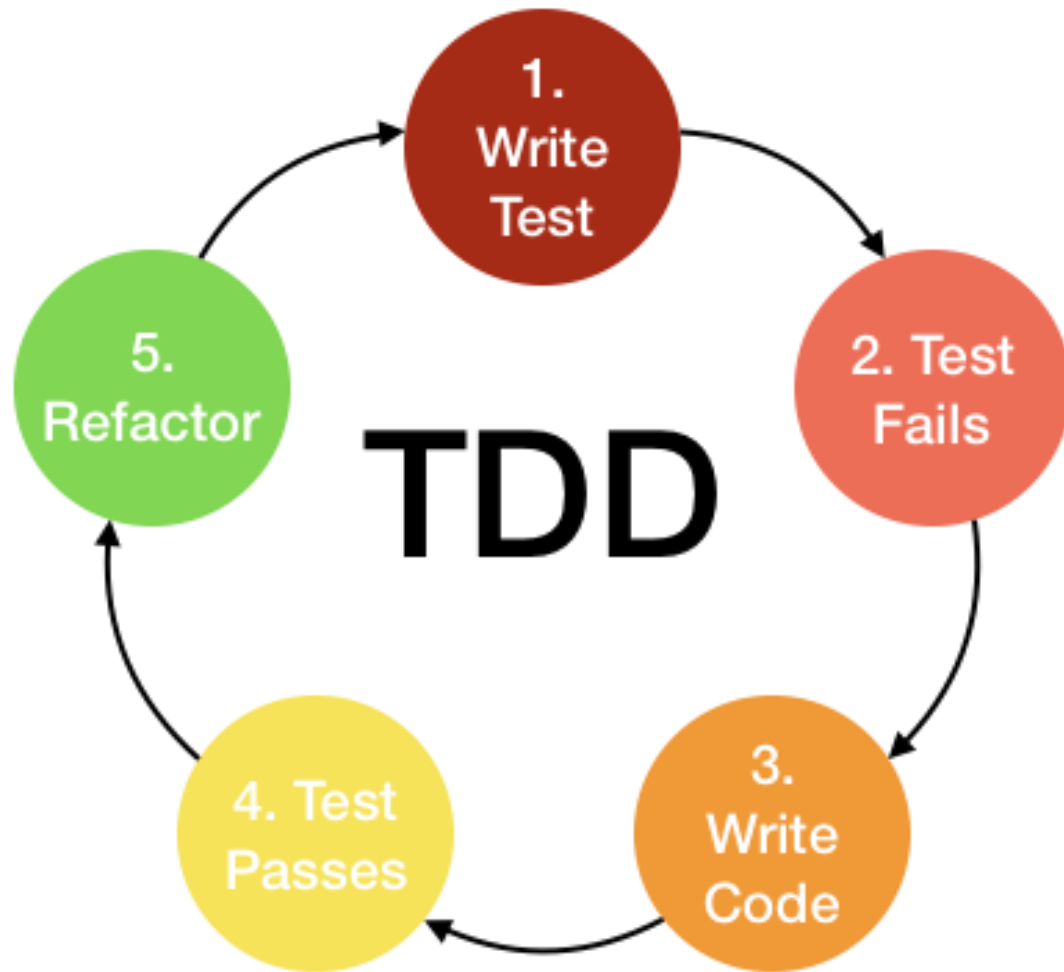
# Learning Objectives



Test Driven  
Development  
(TDD)



Feature Driven  
Development  
(FDD)



# Test Driven Development (TDD)

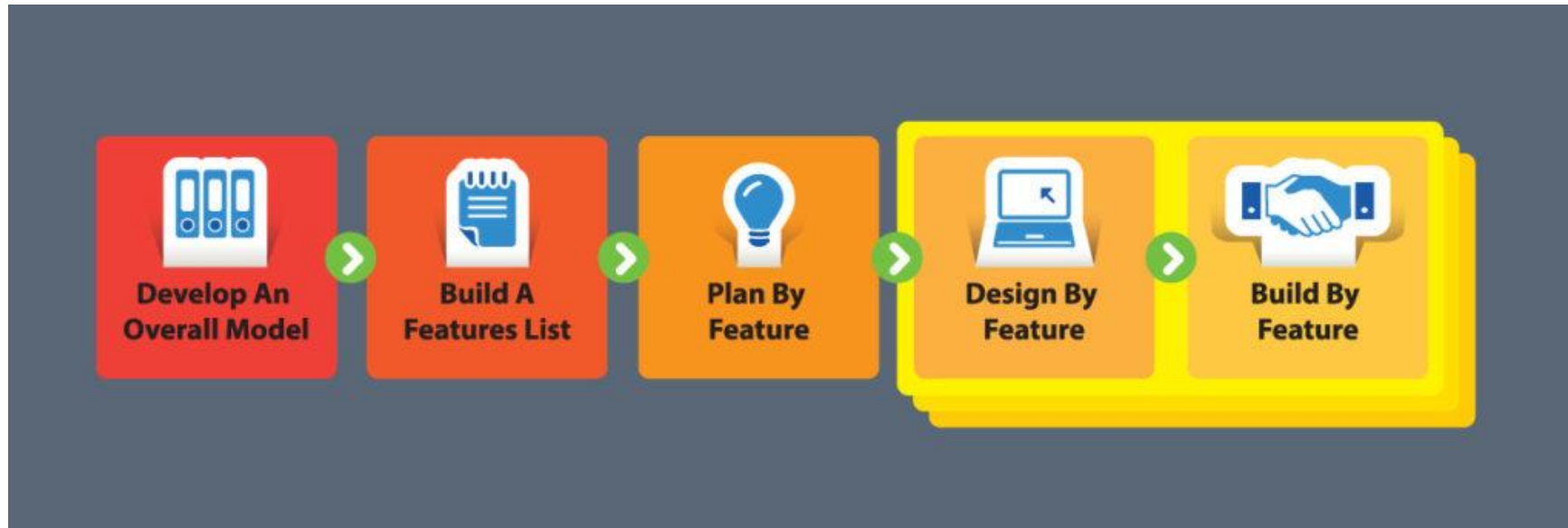
Credit: <https://medium.com/@luisfmachado/swift-test-driven-development-tdd-810add46a1b9>

# How Does TDD Work?

- ▶ Write A "Single" Unit Test Describing An Aspect Of The Program
- ▶ Run The Test, Which Should Fail Because The Program Lacks That Feature
- ▶ Write "Just Enough" Code, The Simplest Possible, To Make The Test Pass
- ▶ "Refactor" The Code Until It Conforms To The Simplicity Criteria
- ▶ Repeat, "Accumulating" Unit Tests Over Time

<https://www.agilealliance.org/glossary/tdd/>





Credit: <https://www.openxcell.com/9-things-must-know-fdd-feature-driven-development>

# Feature Driven Development (FDD)

# How Does FDD Work?

- ▶ An overall model is created by the team to visualize and gain a better understanding
- ▶ Create a list of every feature that needs to be developed
  - ▶ Since the project is divided into features, one must be delivered every iteration
- ▶ Teams select when each feature will be created and released
- ▶ A feature is selected and the team begins to mobilize on how they wish to handle and create the given feature
- ▶ Finally, the feature is built accordingly and then tested

# ▶ Questions?

# ▶ Section 7

## Lean

# Learning Objectives

- Lean Six Sigma
- Plan – Do – Check – Act
- Lean Principles
- Forms of Waste
- 5-S
- Lean Software Development (LSD)

# What is Lean & Six Sigma?



**Lean – Minimizing Waste**  
**Six Sigma – Reducing Defects**



**Origins can be traced back to the 1980s  
in Japan (Toyota and Motorola).**

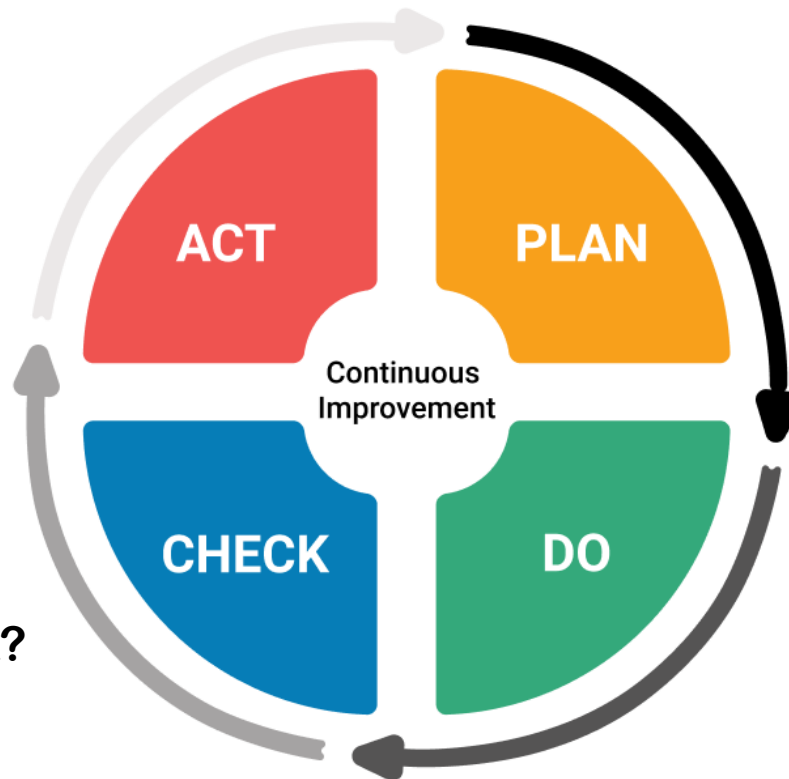


**While both are separate, they work  
together to eliminate waste and  
increase efficiency through process  
improvement.**

# Plan – Do – Check – Act (William Edwards Deming)

Refine the work,  
standardize it,  
and improve

What is the goal?

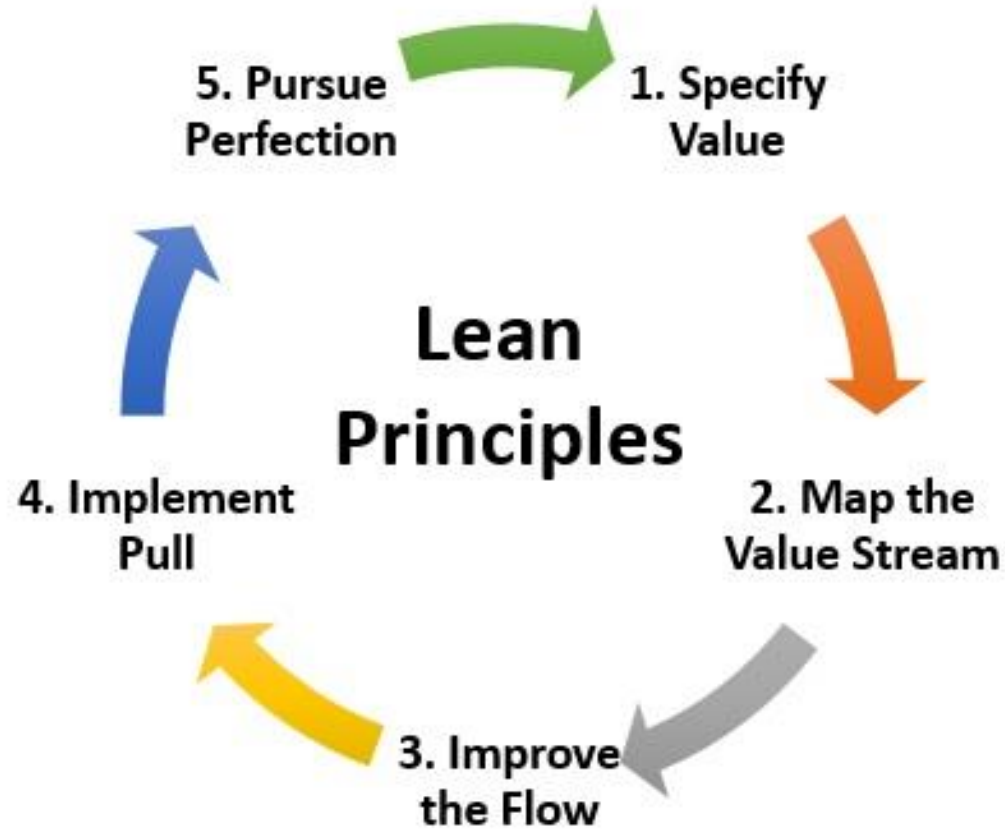


Was the goal met?  
Did it work?

Begin working towards  
that goal

Credit: <https://kanbanize.com/lean-management/improvement/what-is-pdca-cycle/>

# Lean Principles



Credit: <http://knowledgeblob.com/agile/lean-principles/>



## Transportation

- Excessively moving items or materials

## Over Producing

- Producing too much too soon

## Over Processing

- Quality assurance should be built into the process – not performed at the end

## Inventory

- Storing in excess of what is necessary

## Defects

- Cost of Quality – reproducing or fixing work

## Waiting

- Bottlenecks and downtime

## Motion

- Physical motion of people throughout their work space

# 7 Forms of Waste

# Seiri – Seiton – Seiso – Seiketsu – Shitsuke

## 5S Explanation



Sort

When in doubt,  
move it  
out –  
Red Tag  
technique



Set in Order

A place  
for  
everything  
and  
everything  
in its  
place



Shine

Clean and  
inspect  
or  
Inspect  
through  
cleaning



Standardize

Make up  
the rules,  
follow and  
enforce  
them



Sustain

Part of  
daily work  
and it  
becomes  
a habit

Credit: <https://www.kaizenworld.com/what-is-5s.html>

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# Lean Software Development

## Questions to always ask:

Why are we doing this?

Does our process build quality in?

Are we continuously learning and adapting?

Do we fully understand the bigger picture?

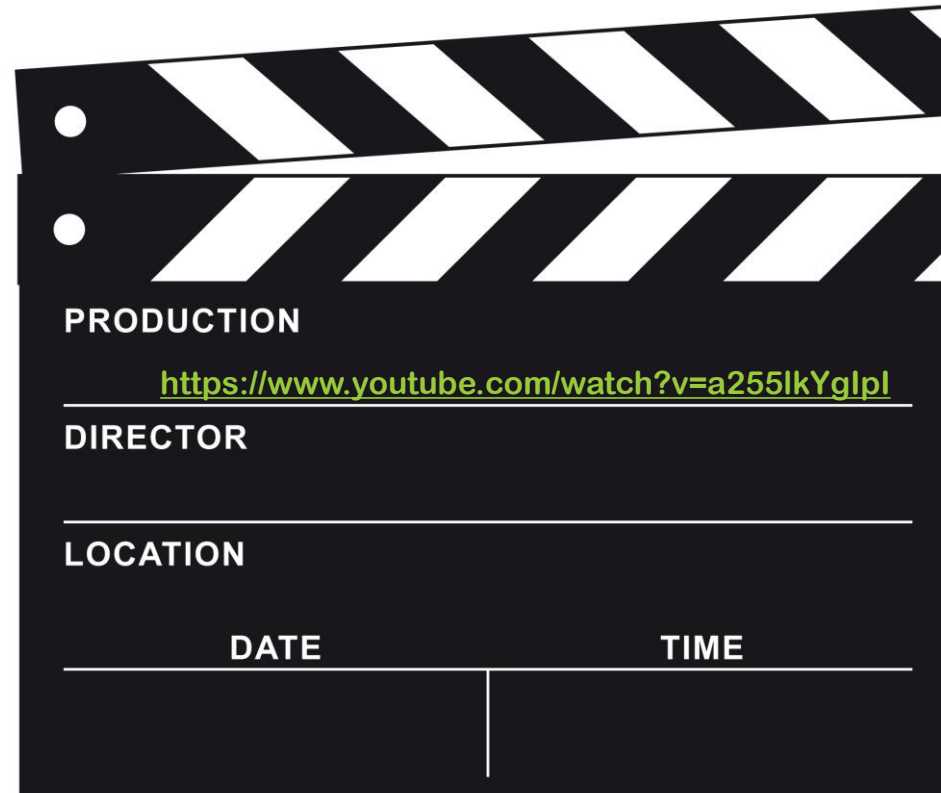
Are we waiting until the last responsible moment to act?

Does our process promote teamwork?

Credit: <https://www.viatesting.com/understanding-lean-software-development/7-principles-of-lean-software-development/>

-  01 Eliminate Waste
-  02 Amplify Learning
-  03 Decide As Late As Possible
-  04 Decide As Fast As Possible
-  05 Empower The Team
-  06 Build Integrity In
-  07 See The Whole

# Thinking Lean



# ▶ Questions?

# ▶ **Section 8**

## **Kanban**

# Learning Objectives

**Kanban**

**Kanban Values**

**Kanban Principles/Practices**

**Kanban Board**

**Kanban Benefits**

**Pull vs Push Systems**

**Kanban vs Task Boards**

# What is Kanban?



Kanban is a method or system of managing work that needs to be done, is currently being worked on, and is complete.



Origins can be traced back to the 1940s in Japan with the Toyota Production System (Pull System) (Just In Time)



Kanban literally translates to “Sign Board” and is typically practiced as a visual display of work in progress.



# Kanban's 9 Values

- ▶ Understanding
- ▶ Agreement
- ▶ Respect
- ▶ Leadership
- ▶ Flow
- ▶ Customer Focus
- ▶ Transparency
- ▶ Balance
- ▶ Collaboration



# Kanban's 4 Principles

<b>Start</b>	<b>Start With What You Do Know</b>
<b>Agree</b>	<b>Agree to Pursue Incremental, Evolutionary Change</b>
<b>Respect</b>	<b>Respect the Current Process, Roles &amp; Responsibilities</b>
<b>Encourage</b>	<b>Encourage Acts of Leadership at All Levels</b>

# Kanban's 6 Practices



## Visualize the Workflow

Make a display board where everyone can see the entire process



## Limit Work in Progress (WIP)

Typically, the WIP will be limited to no more than 2 items at a time



## Manage Flow

A continuous steady flow of products is better than one massive batch



## Make Process Policies Explicit

Ensure everyone understands the process and is able to perform accordingly



## Feedback Loops

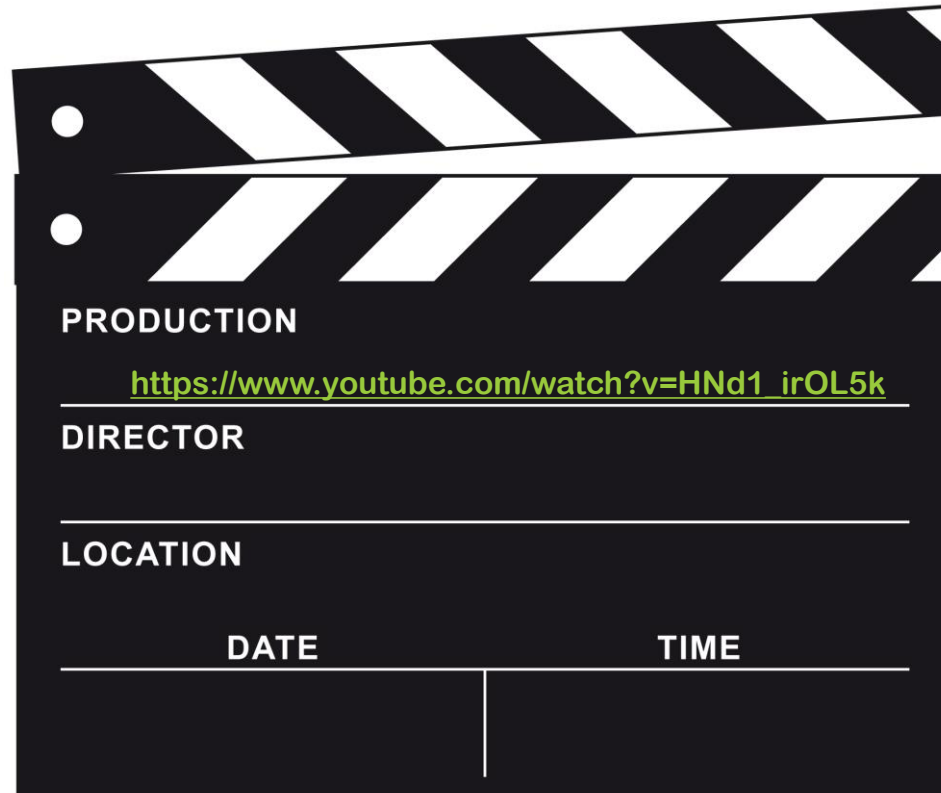
“Daily Standups” at the board are encouraged to keep everyone on track

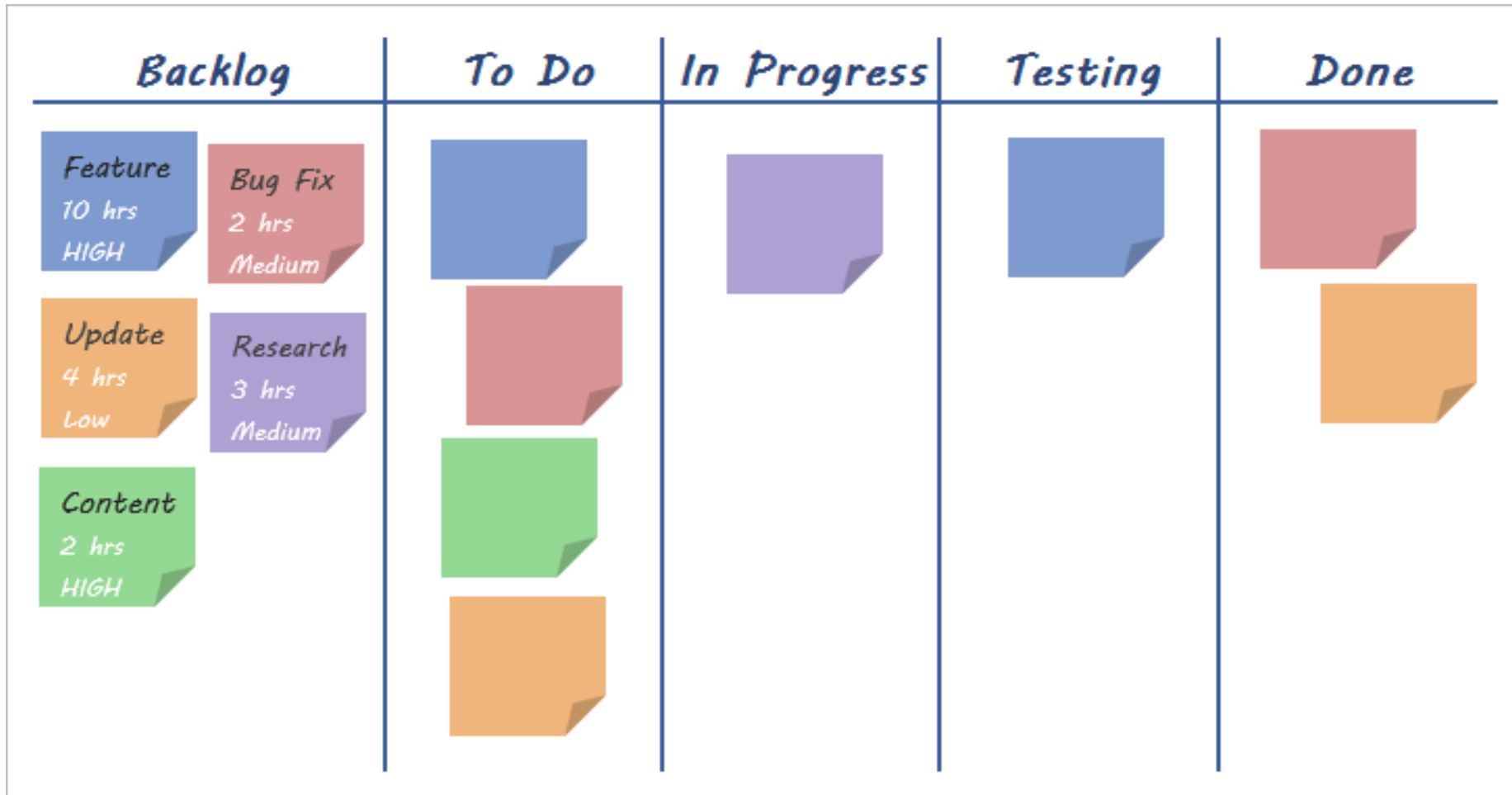


## Improve Collaboratively

Collectively work together towards continuous improvement

# Kanban





Credit: <https://www.myfrugalbusiness.com/2018/04/understanding-benefits-kanban-lean-startup.html>

# Benefits of Kanban



**Increased Visibility and Understanding**



**Responsiveness and Adaptability**



**Improved Flow**



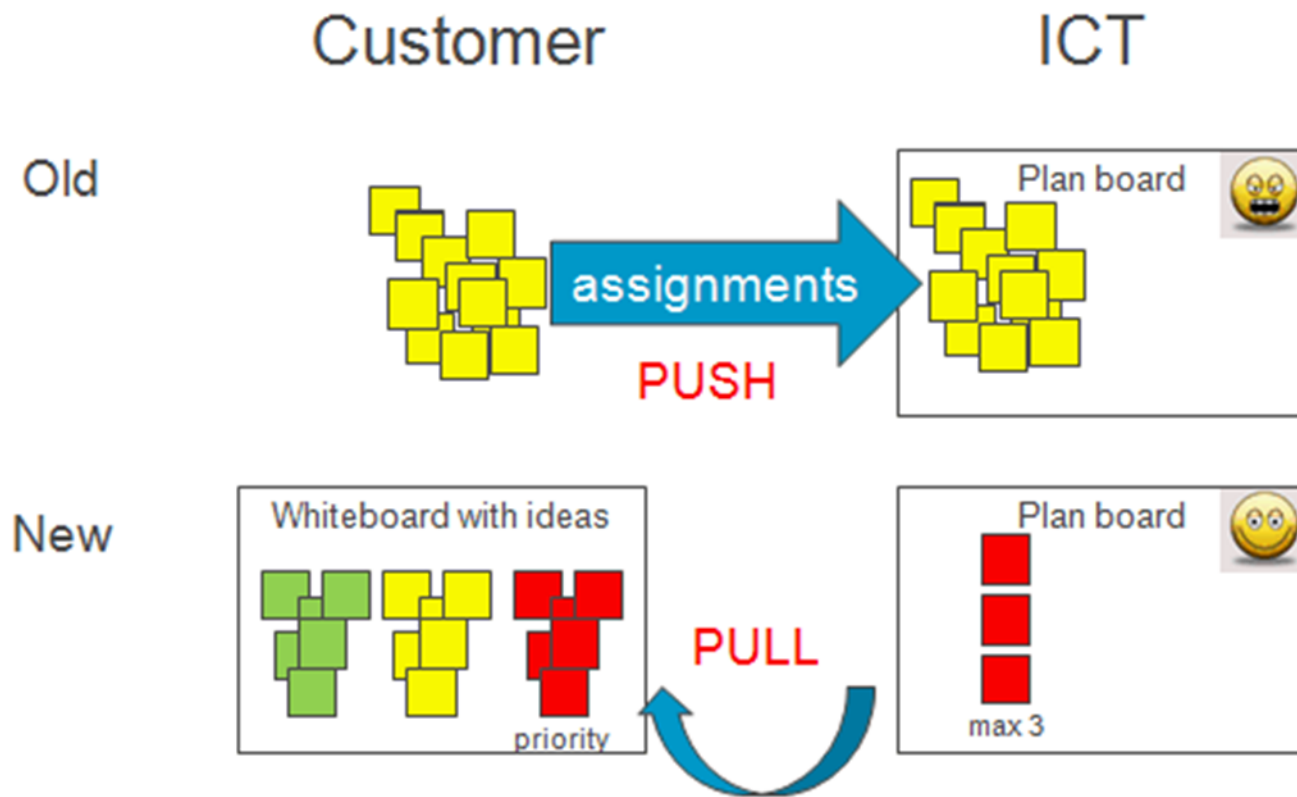
**Optimize Throughput**



**Collaboration and Communication**



**Exposes Problems, Bottlenecks, and Utilization**

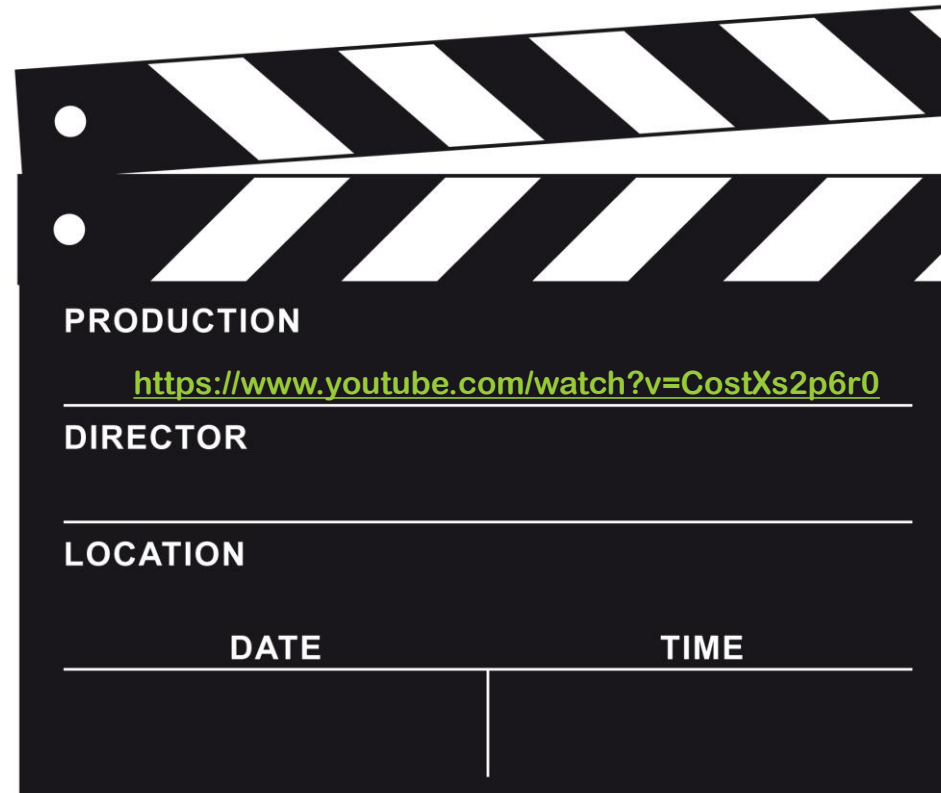


Credit: <https://norulesjustwords.wordpress.com/2012/04/05/from-push-to-pull-for-task-assignments/>

- ✓ Reduces Waste
- ✓ Better Communication
- ✓ Just in Time
- ✓ Optimized Workflow
- ✓ Sustainable

# Push vs. Pull

# Resource Utilization Trap





# Kanban vs. Task Board

## Kanban

- ▶ Focuses on WIP and Throughput
- ▶ Empowers the Team
- ▶ No Timeframes
- ▶ Allows for the Team to swarm
- ▶ Is a living breathing representation of the work being performed

## Task Board

- ▶ Focuses on Doing Work
- ▶ Teams are responsible for their own task
- ▶ Typically changes every Iteration
- ▶ No Swim Lanes
- ▶ Act as a static Status board

**Kanban is concerned with the flow and the work in progress  
(it adapts accordingly based off of this)**

# ▶ Questions?

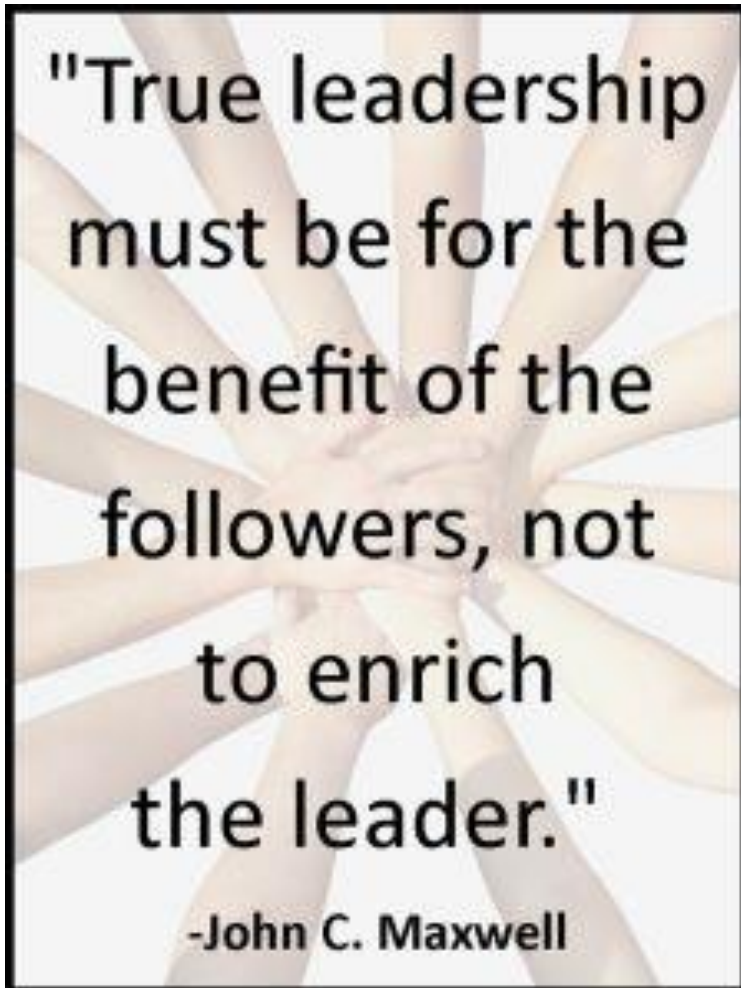
# ▶ **Section 9**

## **Agile Leadership & Teams**

# Learning Objectives

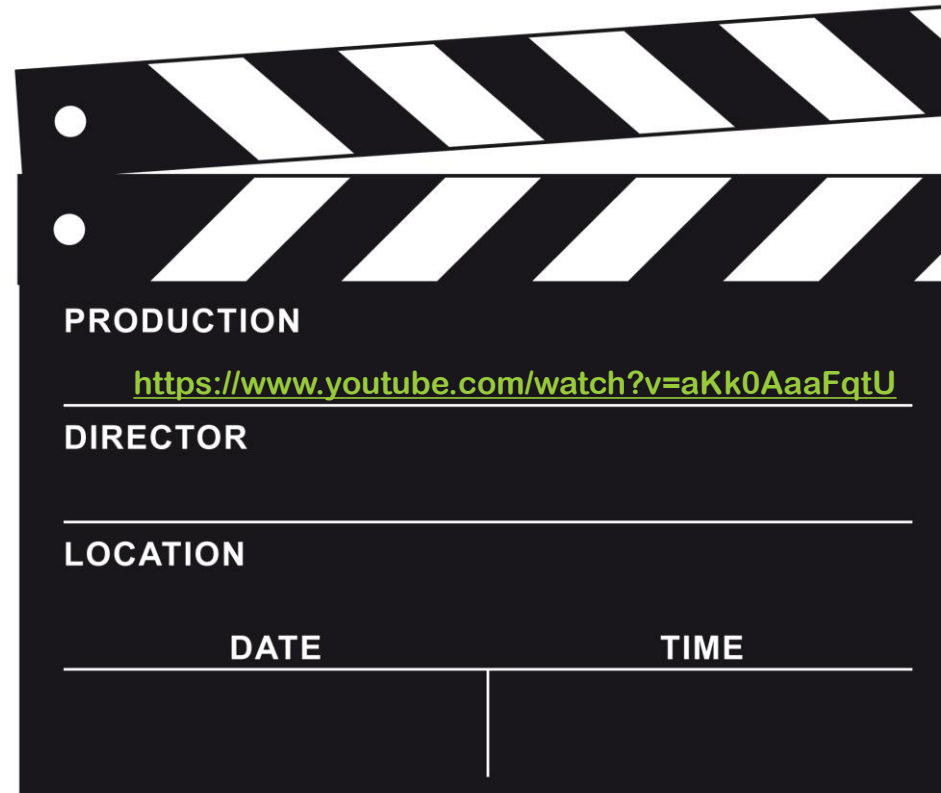


# Servant Leadership



- ✓ Servanthood is about putting others ahead of yourself so **THEY** may gain.
- ✓ Servant Leadership is about helping others achieve **MORE** than you.
- ✓ Having a Servant's Heart is about giving to **OTHERS** without any reservation or expectations.
- ✓ Being a Servant to those around you requires **HUMILITY**, empathy, and compassion.

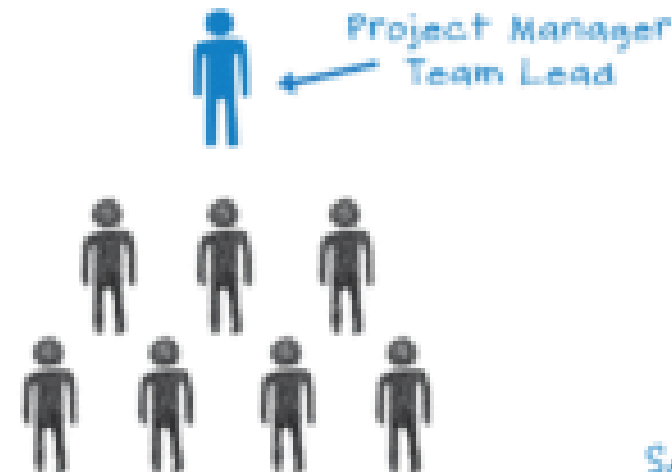
# Servant Leadership



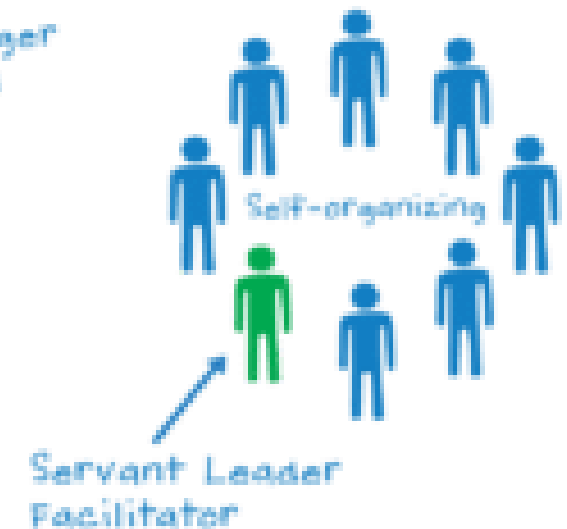
# Agile Teams

- ✓ **Cross-Functional**
  - Generalists capable of handling various tasks
- ✓ **Self-Organizing**
  - Independently managed and controlled
- ✓ **Empowered**
  - Capable of making local decisions themselves
- ✓ **Constructive Disagreement**
  - Respectfully challenge each other for the betterment of the product and team

## Traditional Teams



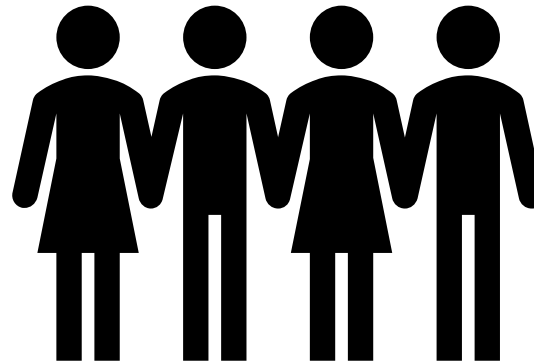
## Agile Teams



Credit: <https://www.testingexcellence.com/10-traits-agile-self-organizing-team/>

# Selecting Team Members

- ▶ **Key Criteria**
  - ▶ **Maturity (mental & emotional)**
  - ▶ **Technical Knowledge and Competency**
  - ▶ **Familiarity with Agile Concepts and Techniques**
  - ▶ **Flexibility**
  - ▶ **Humility**
  - ▶ **Cooperativeness**
  - ▶ **\*Generalists\***



**If at all possible - the agile team should remain a team until the project is completed.**

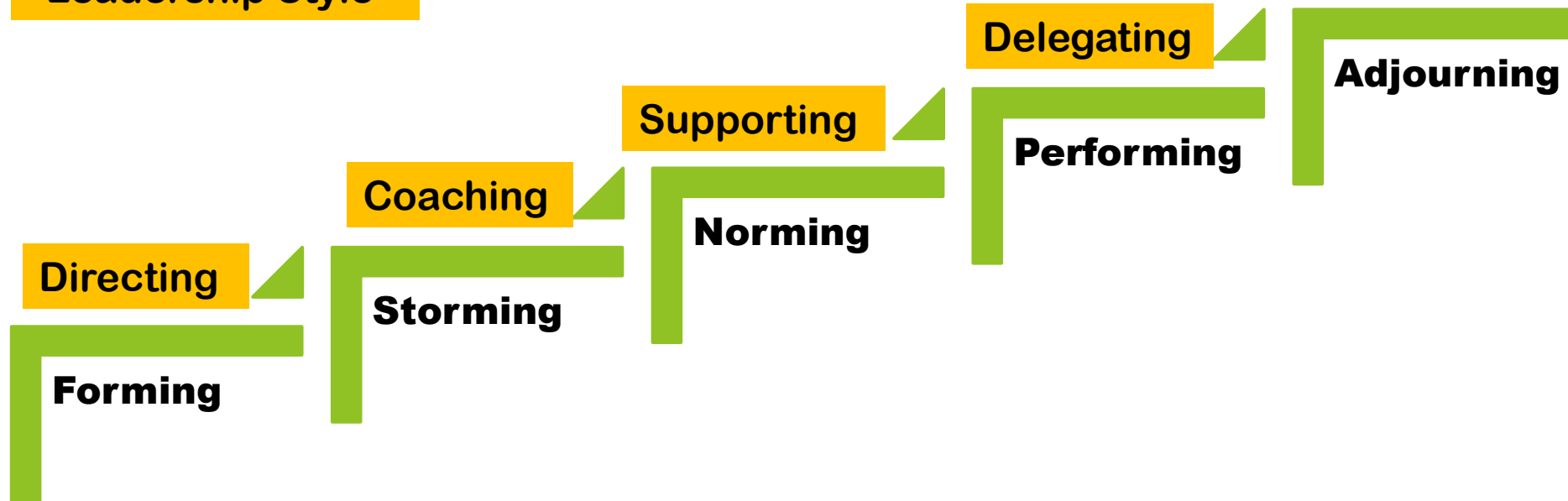


# Team Space

- ▶ Creating an environment which increases productivity and collaboration is critical to the success of any agile team
- ▶ It should:
  - ▶ Allow for osmotic communication
  - ▶ No walls or anything dividing people from each other
  - ▶ Allow space for information radiators
  - ▶ Free from distractions
  - ▶ Provide the team with everything they may need to work together

# Tuckman's Ladder

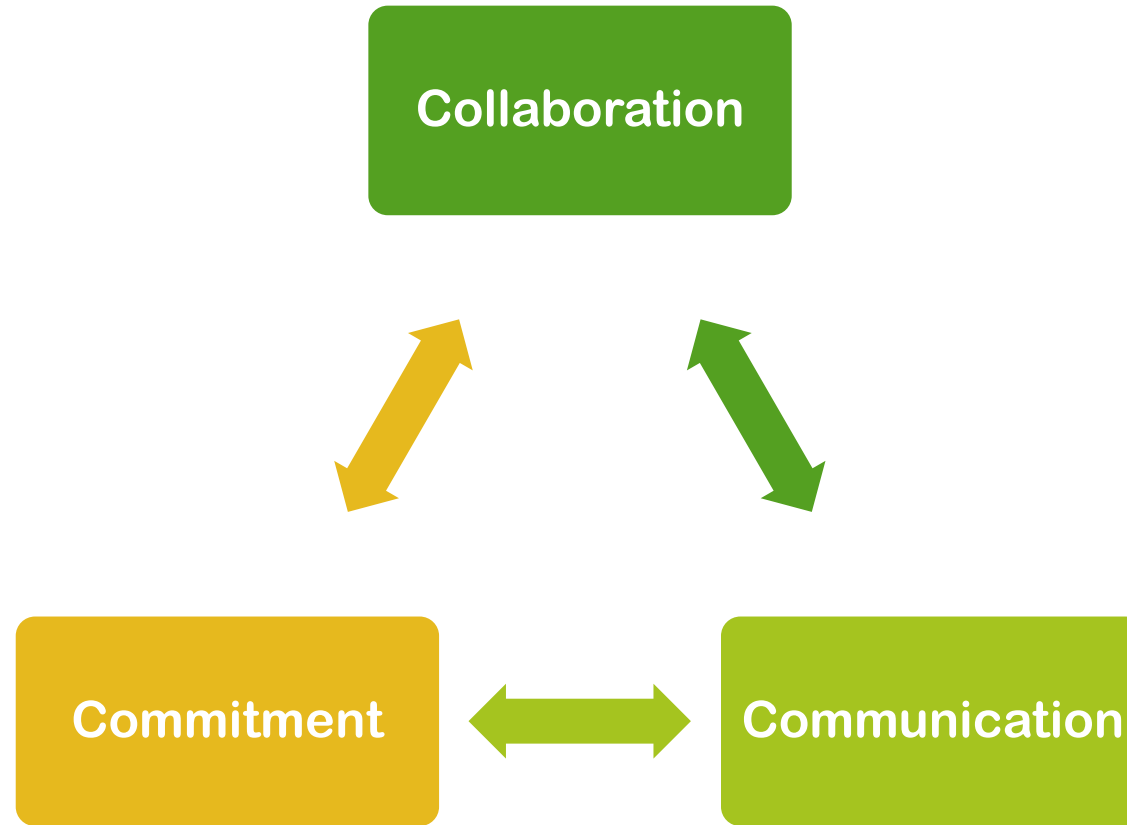
“Leadership Style”



Developed by Dr. Bruce Tuckman in 1965, fifth step added with Mary Jensen in 1977

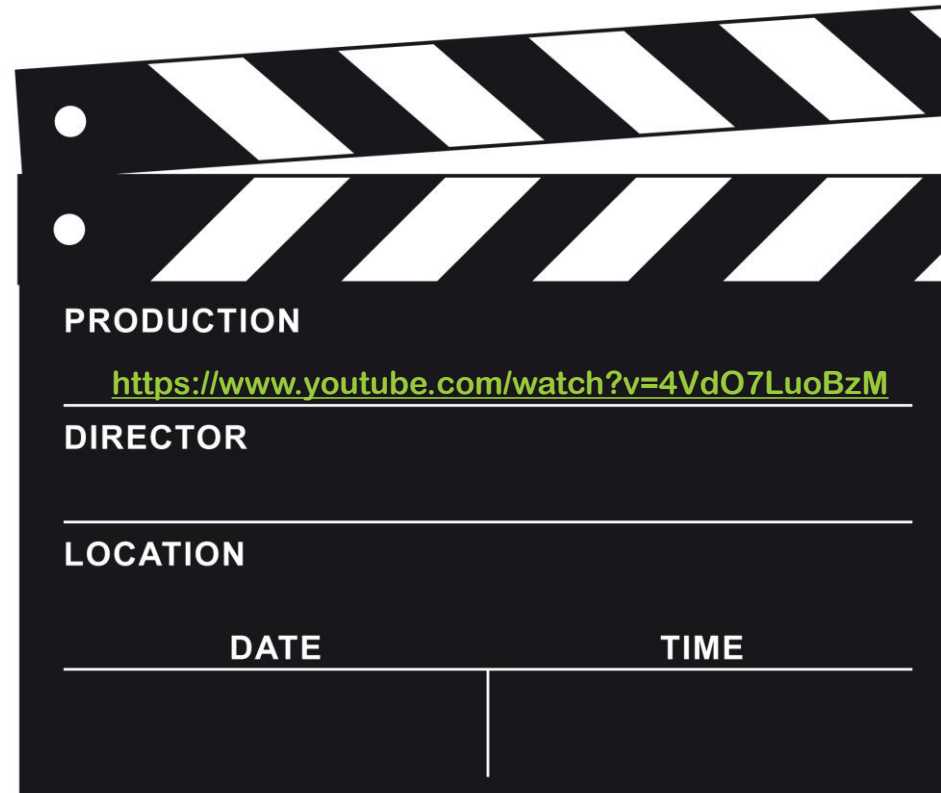
# Speed Leas' Conflict Levels





# Agile Leadership

# Mindset





# An Agile Coach Is...

- ▶ Facilitator
- ▶ Mentor
- ▶ Agile Expert
- ▶ Dynamic
- ▶ Inspiring
- ▶ Unifying
- ▶ Self-Aware
- ▶ Empathetic
- ▶ Team Oriented
- ▶ Motivating

# ▶ Questions?

# ▶ **Section 10**

## **Agile Activities**



# Learning Objectives



**Agile Games**



**User Stories**



**Estimating**



**Backlog Grooming**



**Putting it Together**



**Vocabulary**

# Agile Games

- ▶ Designed to promote collaboration
- ▶ Have fun
- ▶ Gamify the process
- ▶ Spark innovation and creativity
- ▶ Encourages participation
- ▶ Generate organic conversations
- ▶ Brings the team closer together
- ▶ Promotes diversity

# Examples Of Games

- ▶ Planning Poker – Used to estimate the size of a User Story
- ▶ Coin Game – Used to show workflow, pull, and batches
- ▶ 20/20 Vision – Used to prioritize User Stories on a board
- ▶ Prune the Product Tree – Used to prioritize User Stories on a “tree”
- ▶ Product Box – Used to have stakeholders show what they want and value
- ▶ Buy a Feature – Used to “buy” features based on priority
- ▶ Draw a House – Used to encourage reasoning and communication
- ▶ Chair Game – Used to promote communication and have fun
- ▶ SO MANY MORE...

**\*\*\*FOR THE EXAM\*\*\***

**You may be tested on identifying what game is being played**

# User Stories

## ▶ *I.N.V.E.S.T.*

- ▶ Independent
- ▶ Negotiable
- ▶ Valuable
- ▶ Estimable
- ▶ Small
- ▶ Testable

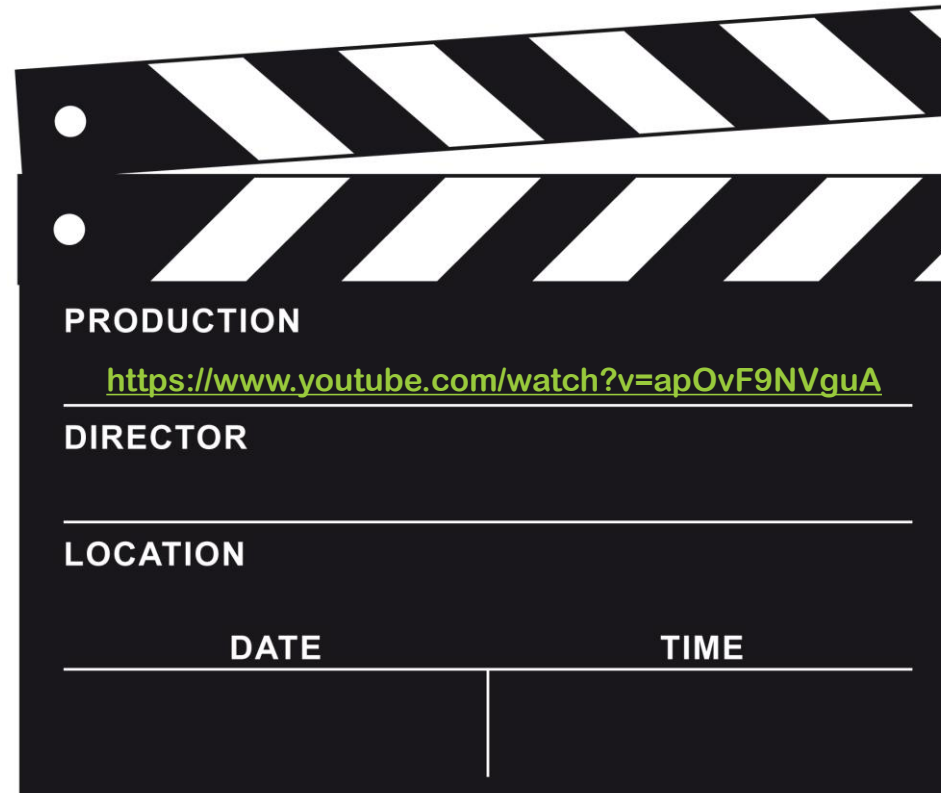
As a <user role>

I want <goal>

so that <benefit>.

Credit: <https://www.scrumwithstyle.com/courses/effective-user-stories/>

# User Stories



# Estimating User Stories

- ▶ Agile Estimating uses “Relative Sizing”
  - ▶ Since effort is subjective, we use Relative Sizing to other User Stories
- ▶ Fibonacci Sequence – 1, 2, 3, 5, 8, 13, 21+
  - ▶ We try to keep it under 13 so we can better categorize Stories
- ▶ T-Shirt Sizing is popular
  - ▶ XS, S, M, L, XL, XXL
- ▶ The number assigned to these are called “Story Points”
  - ▶ Story Points can be thought of as “Effort Points” – more points = more effort
- ▶ Breakdown of Estimating
  - ▶ Epics = Large and Vague
  - ▶ Features = A useable product
  - ▶ User Story = One part of a feature
  - ▶ Task = The smallest item a person could possibly do

# Product Backlog Grooming



**Who Does it?**

**Product Owner  
(with the help of the  
Team)**



**How Often Is It  
Done?**

**Average 8 hours/week**



**Why Is It Done?**

**To keep the Team  
producing only the  
Highest Value items the  
customer wants**



**When Can It Be  
Done?**

**At ANY TIME (Ideally  
during Sprint Planning)**

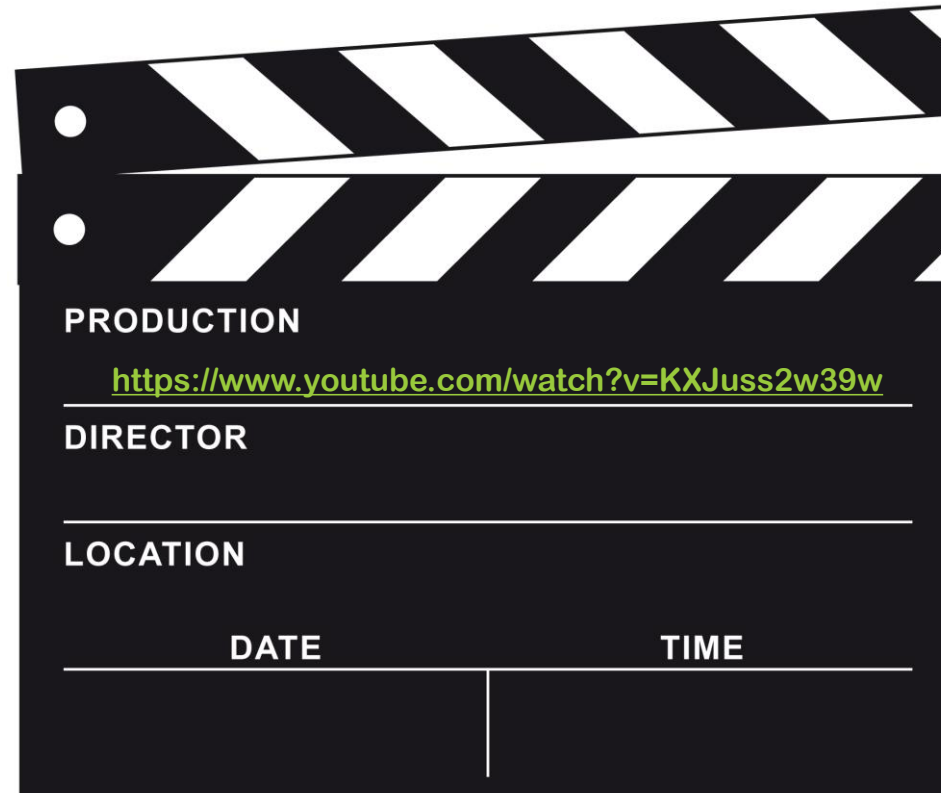


Credit: <https://agilewriter.wordpress.com/2017/06/24/fail-fast/>

# Failing Fast – Failing Often



# Product Backlog Grooming



# Putting it Together

- ▶ Create a Kanban Board
- ▶ Think of a product you want to create
- ▶ Everyone create 1 User Story for that product
- ▶ Place all User Stories on the Board
- ▶ Use Dot-Voting to select the top 4
- ▶ Estimate the size
- ▶ Groom the Backlog
- ▶ Walk through the Kanban Board

# Vocabulary / Knowledge Check

- ▶ What is the main purpose of a Kanban Board?
- ▶ Who is in charge of the Product Backlog?
- ▶ How are the User Stories prioritized?
- ▶ Why do we want to fail early and fast?
- ▶ How do we estimate User Stories?

# ▶ Questions?

# ▶ **Section 11**

## **Agile Metrics**

# Learning Objectives

Agile Estimating

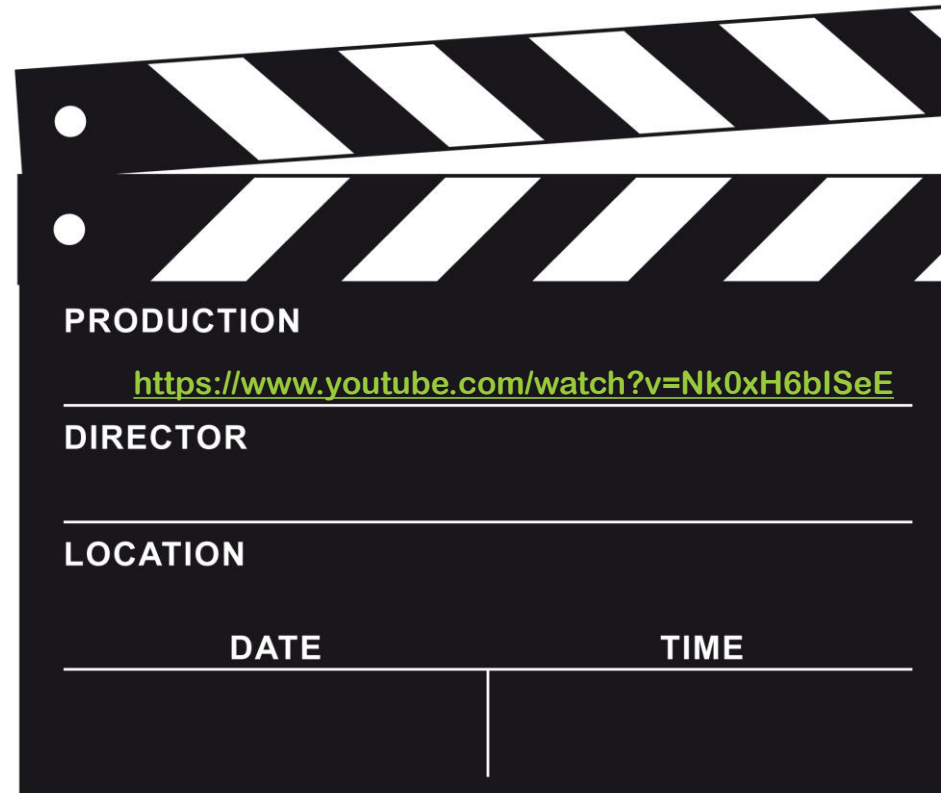
Agile Math

Agile Charts

# Agile Estimating

- ▶ **Velocity = The number of Story Points completed during an iteration (Sprint)**
  - ▶ Points are **ONLY** added if the User Story is 100% complete
  - ▶ Cumulative Average
  - ▶ It will take several iterations for Velocity to stabilize
  - ▶ Tracked as a **TEAM** – not for individual performance
  - ▶ Velocity will naturally fluctuate (a little) “reasonable amount”
  - ▶ The more broken down a Feature can be, the better the estimates will be
  - ▶ It can include **ANY** task so long as there are User Stories (placeholders)

# Velocity





# Agile Math

## ► Velocity

Sprint 1, the team finished 20 story points.

Sprint 2, the team finished 30 story points.

Sprint 3, the team estimates how many story points will be completed?

- A) 20
- B) 30
- C) 50
- D) 25

# Agile Charts

Kano Analysis

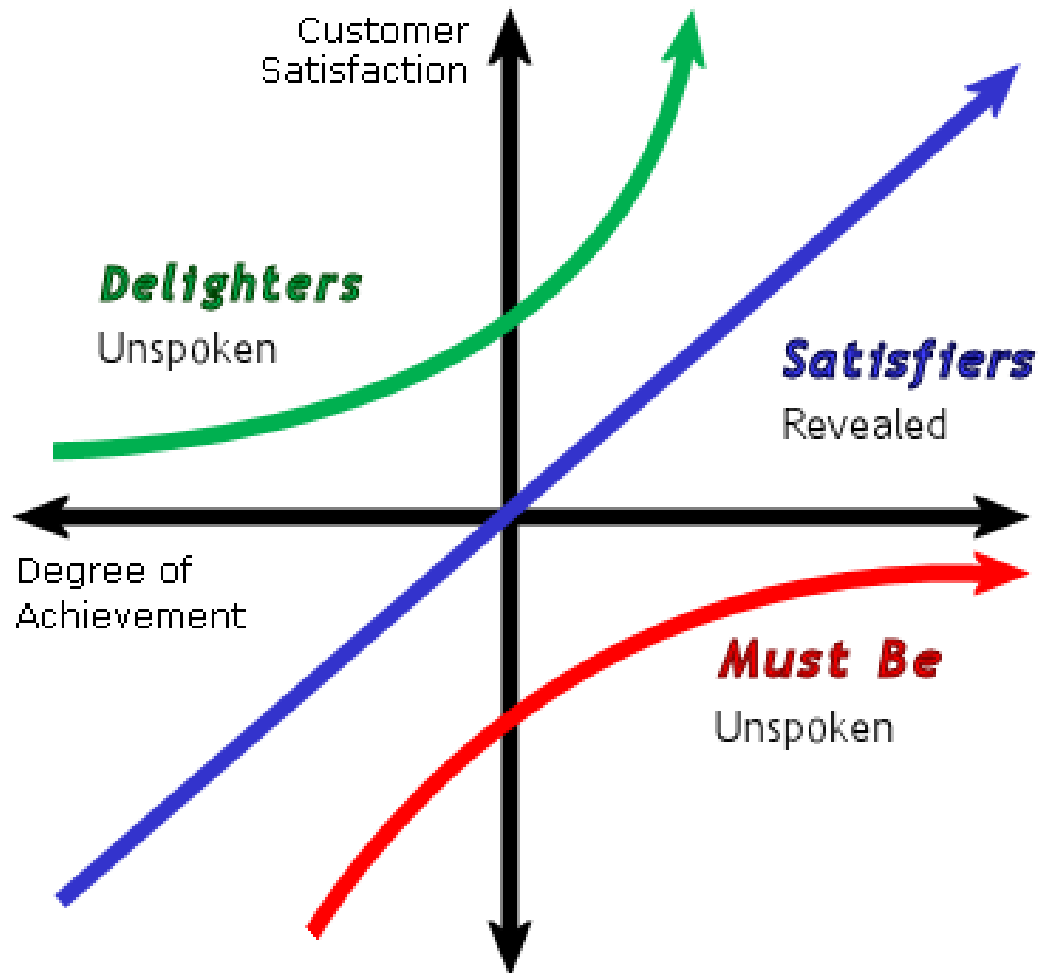
Burnup Charts

Burndown Charts

Information Radiator

Cumulative Flow Diagram

# Kano Analysis



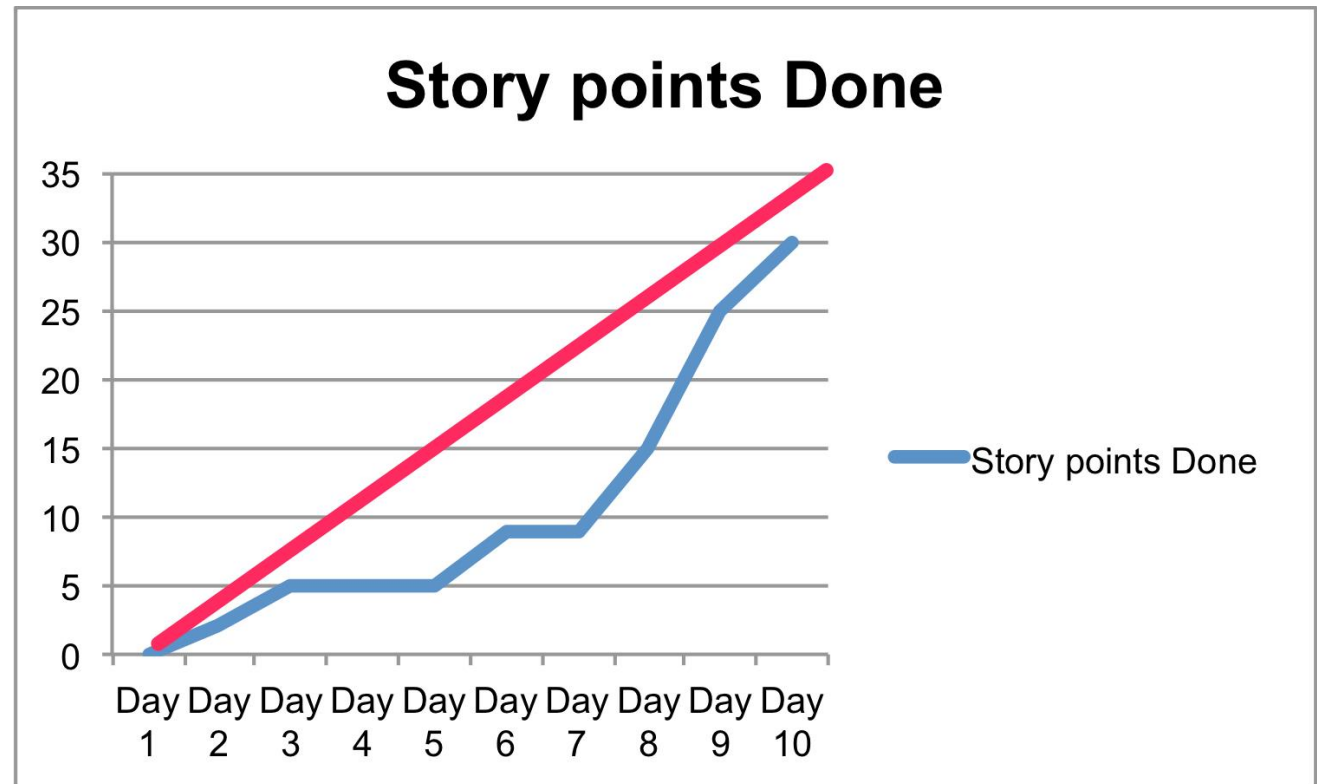
Credit: <https://citoolkit.com/articles/kano-analysis/>

## Order or Importance

- 1) Must Be
  - 2) Satisfiers
  - 3) Delighters
- \*Throw Out Indifferent

# Burnup Charts

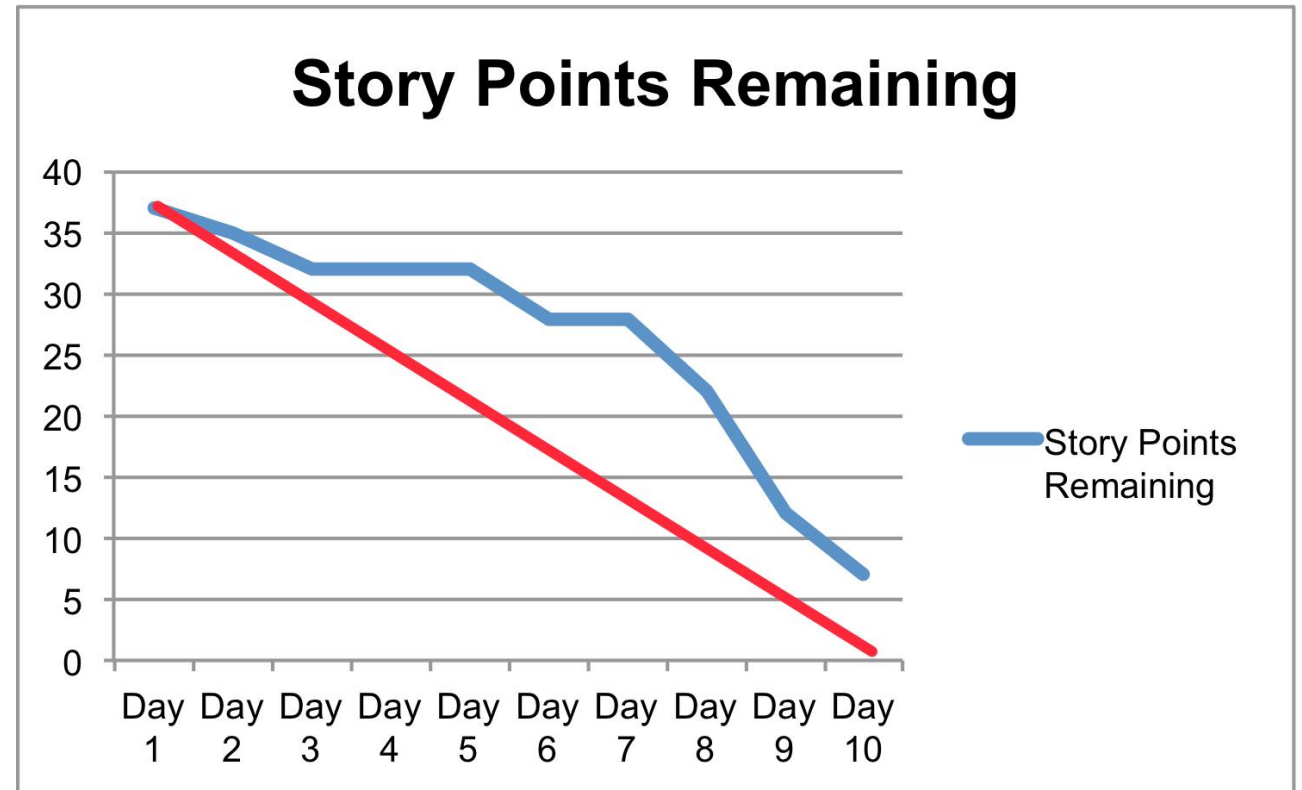
- ✓ Burnup Charts tell more than a Burndown Chart
- ✓ A Burnup Chart will show changes in Scope
- ✓ These Charts are more complex, but tell a complete story



Credit: <https://www.jrothman.com/mpd/project-management/2016/02/value-of-burndown-and-burnup-charts/>

# Burndown Charts

- ✓ Burndown Charts are most common and user friendly
- ✓ These Charts are simple and easy to use, but can be lack vital information



Credit: <https://www.jrothman.com/mpd/project-management/2016/02/value-of-burndown-and-burnup-charts/>

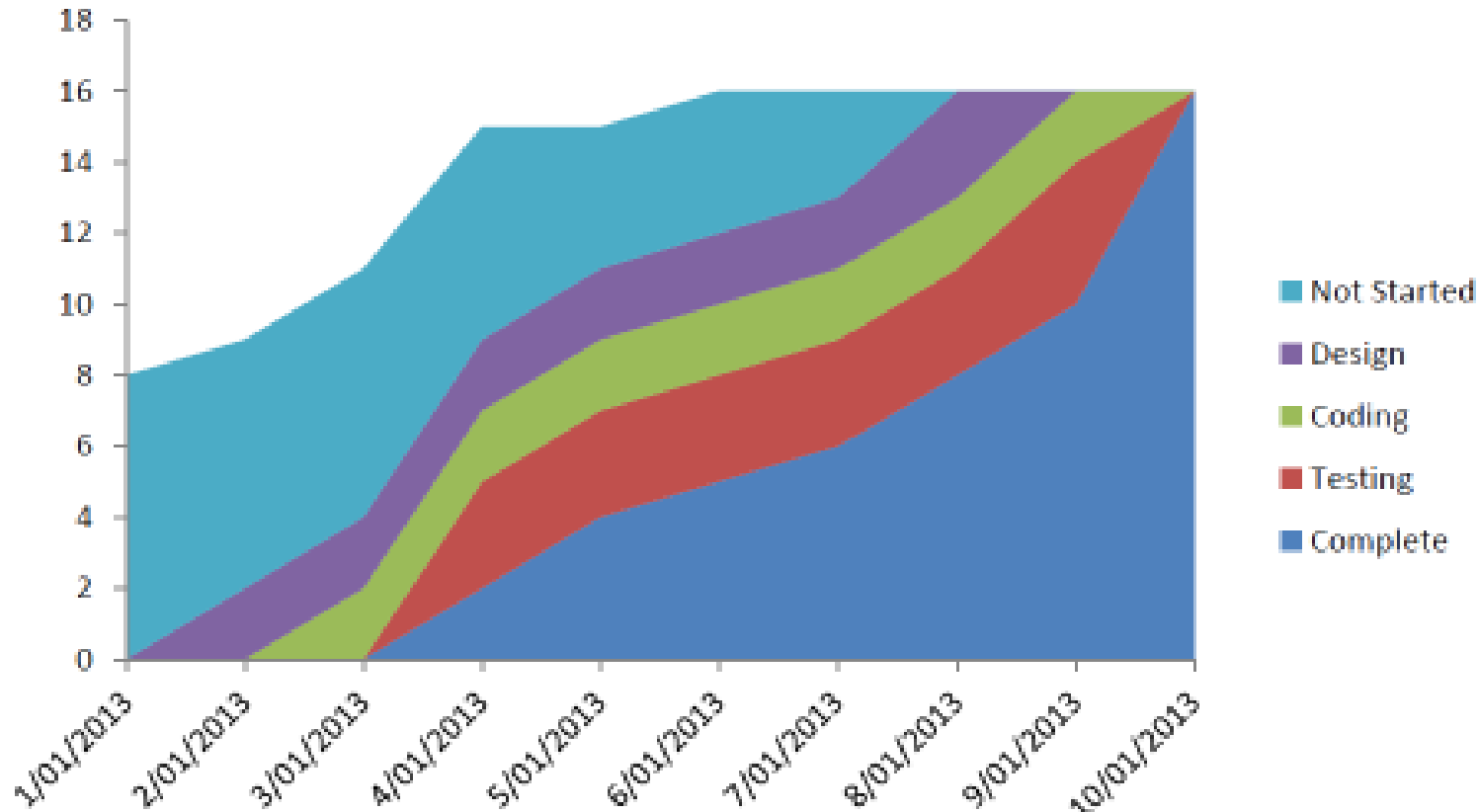
# Information Radiators



Credit: <http://www.asianefficiency.com/systems/information-radiators/>

**Visible charts and figures that display project progress and current status for all team members and stakeholders to use.**

# Cumulative Flow Diagram



Credit: <http://www.clariostechnology.com/productivity/blog/whatisacumulativeflowdiagram>

**A Burndown Chart that tracks all activities and can be used to find bottlenecks or delays**

# ▶ Questions?



# ▶ **Section 12**

## **Misc. Agile Topics & Information**

# Learning Objectives

Agile Spikes

MMP v. MMF v. MVP

Cone of Uncertainty

Iteration 0

Personas

# Agile Spikes

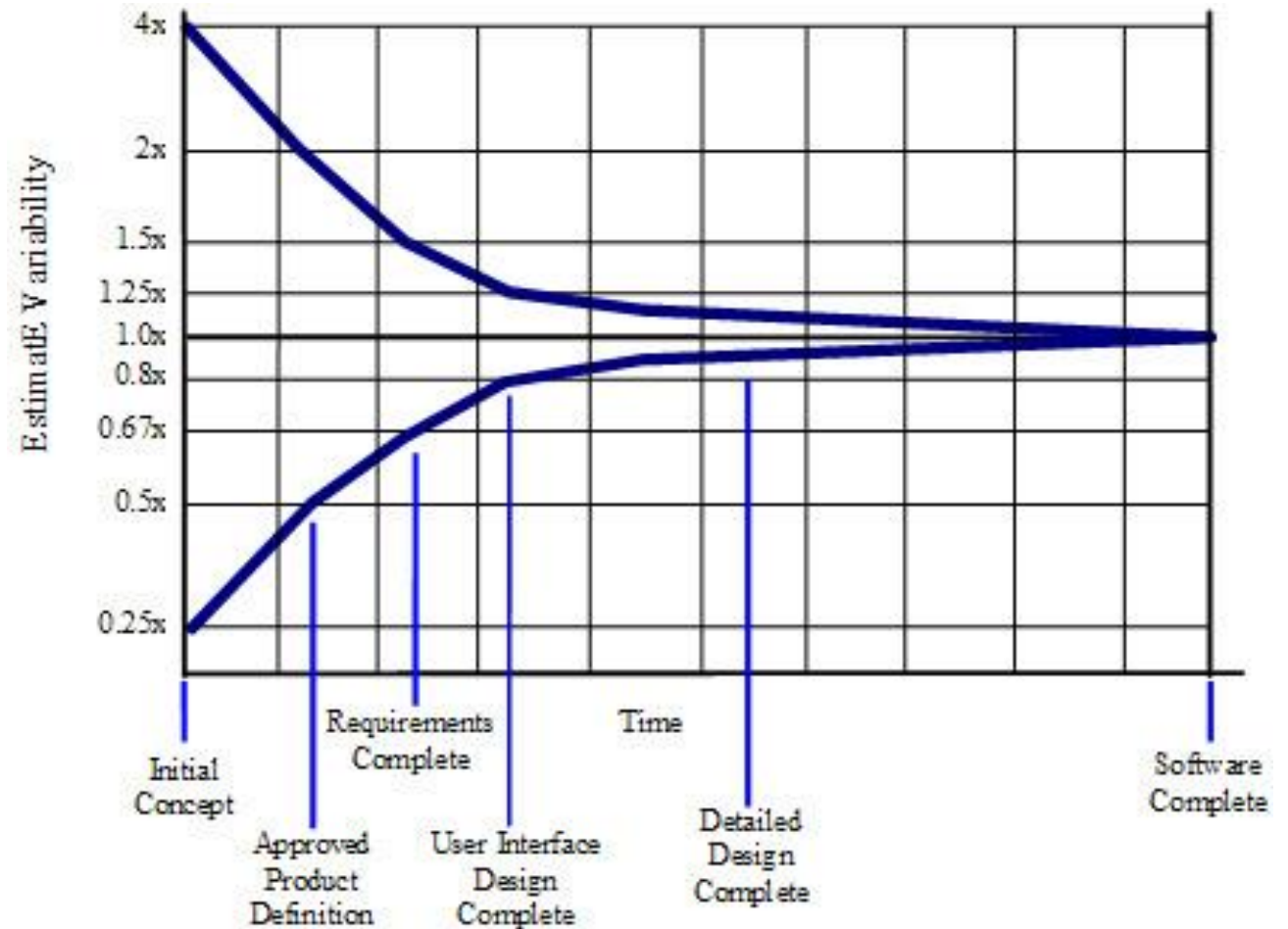
- ▶ **Spike – A technical investigation done by the Team to reduce risk**
  - ▶ \*Think of it as a time-out
  - ▶ Time-boxed to no more than 1 Sprint
  - ▶ Used to gain knowledge on a new domain or technology
  - ▶ Used to prototype an idea
  - ▶ Used to gain confidence about a special field or topic previously unknown
  - ▶ Considered to be a quick team experiment
  - ▶ Can be Planned on added during a Sprint

# MMP v. MMF v. MVP

<b>Minimal Marketable Product (MMP)</b>	<b>Minimal Marketable Feature (MMF)</b>	<b>Minimal Viable Product (MVP)</b>
<b>The first release or edition of a product to the general public</b>	<b>The smallest feature that still provides value to the customer/user</b>	<b>The most basic product that can be released to a test group</b>
<b>Used to ensure “first to market”</b>	<b>Used to provide instant value</b>	<b>Used as a Beta test</b>
<b>Aimed at early adopters</b>	<b>Can be used for feedback</b>	<b>Used to see Market Acceptance</b>
<b>Think of the first iPhone</b>	<b>Think of a touchscreen</b>	<b>Think of the first food delivery app/service</b>

# Cone of Uncertainty

- ▶ Key Takeaway:
  - ▶ As the project progresses, we learn more and uncover additional information
  - ▶ This decreases our “Cone” and allows us to hone in on specific topics



Credit: <https://www.construx.com/books/the-cone-of-uncertainty/>

# Iteration “0”



Iteration 0 Is Used As A Planning Iteration



It Is Often Used Before The First Real Iteration



Helps The Team Prepare Their Environment And Gather Tools



Allows The Team To Set Rules And Introduce Themselves



Team Can Practice And Learn New Technology



Reduces Risk




The Project Charter Or Vision Is Discussed

# Personas

- ▶ Useful for User Interface (UI) and User Experience (UX)
- ▶ Created to give developers a better understanding of their customer
- ▶ Provides a deeper connection to their audience
- ▶ Personas are concise and visual
- ▶ They are often displayed on information radiators

# Example - Personas

 <p>Peter</p>	<p>Works as product manager for a mid-sized company.</p> <p>Is 35 years old, holds a marketing degree.</p> <p>Has got experience working as a product owner on software products with agile teams.</p> <p>Has had some Scrum training.</p>	<p>Has managed mature products successfully. Now faces the challenge of creating a brand-new product.</p> <p>Wants to leverage his agile knowledge but needs advice on creating innovative product using agile techniques.</p>
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Credit: <https://www.interaction-design.org/literature/article/personas-why-and-how-you-should-use-them>



# ▶ Questions?

# ▶ **Section 13**

## **Ethics & Professional Conduct**

# Learning Objectives



**Code of Ethics**



**Professional  
Conduct**



**Agile  
Communication**



**Agile Skills and  
Education**

# PMI Code of Ethics & Professional Conduct

- ▶ Who does it apply to?
  - ▶ All members of PMI
- ▶ What are the Values?
  - ▶ **Responsibility** – We take full responsibility for our actions and conduct
  - ▶ **Respect** – We respect our duties, ourselves, and those around us
  - ▶ **Fairness** – We treat everyone and our decisions with objectivity
  - ▶ **Honesty** – We act in a truthful manner both in our conduct and communications
- ▶ Resource: <https://www.pmi.org/about/ethics/code>

**\*\*\*FOR THE EXAM\*\*\***

**You will be tested on this through various situations provided**

# Agile Communications

- ✓ Agile is all about people, teamwork, collaboration, and effective communication
- ✓ Face-to-Face requires more effort, but is the best way to convey information as well as show engagement and interest in the other person
- ✓ **55% – 38% – 7% Rule**
  - 55% = Body Language
  - 38% = Tone/Inflection
  - 7% = What You Say

Face-to-Face

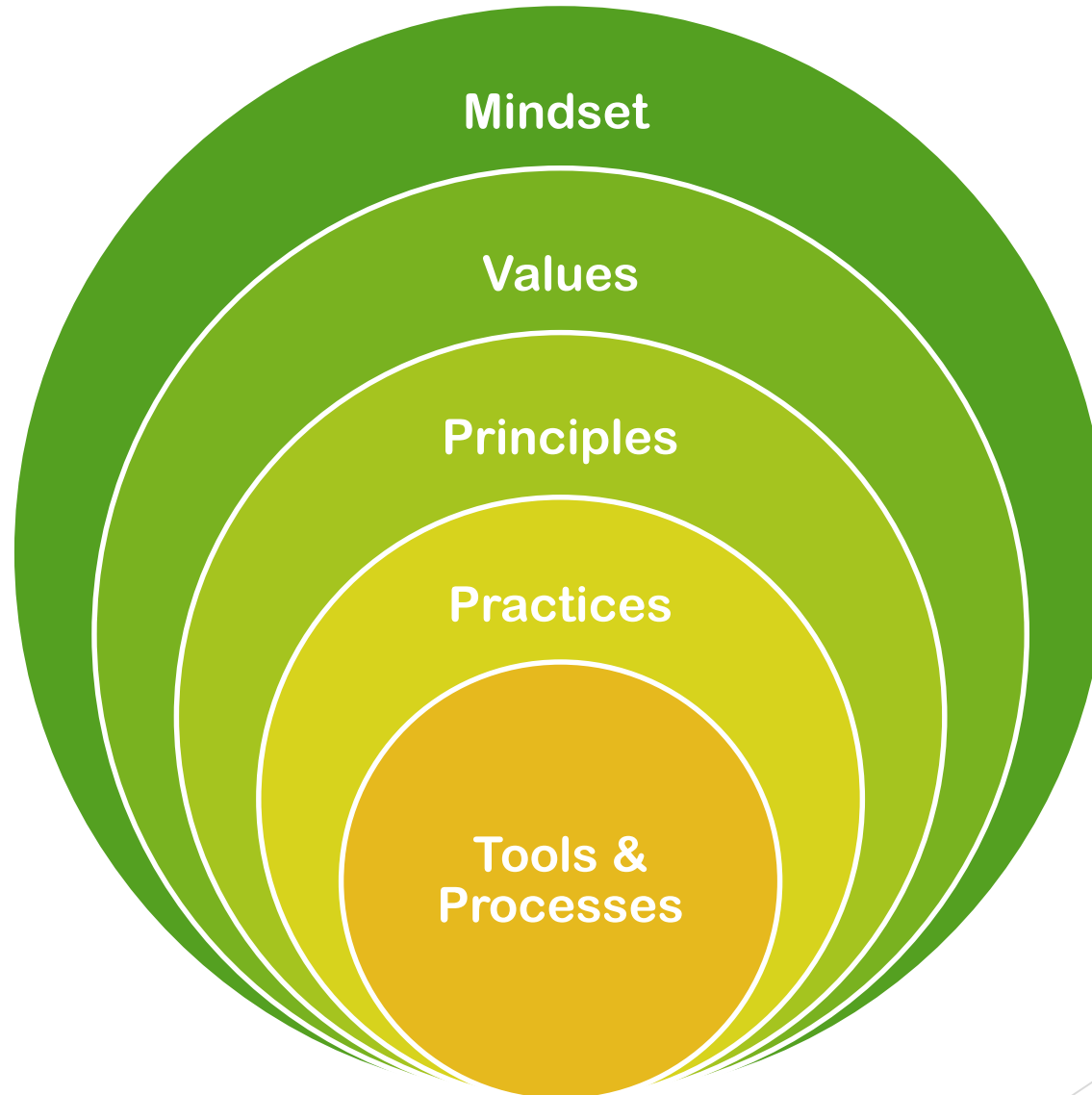
Video Conferencing

Phone Calls

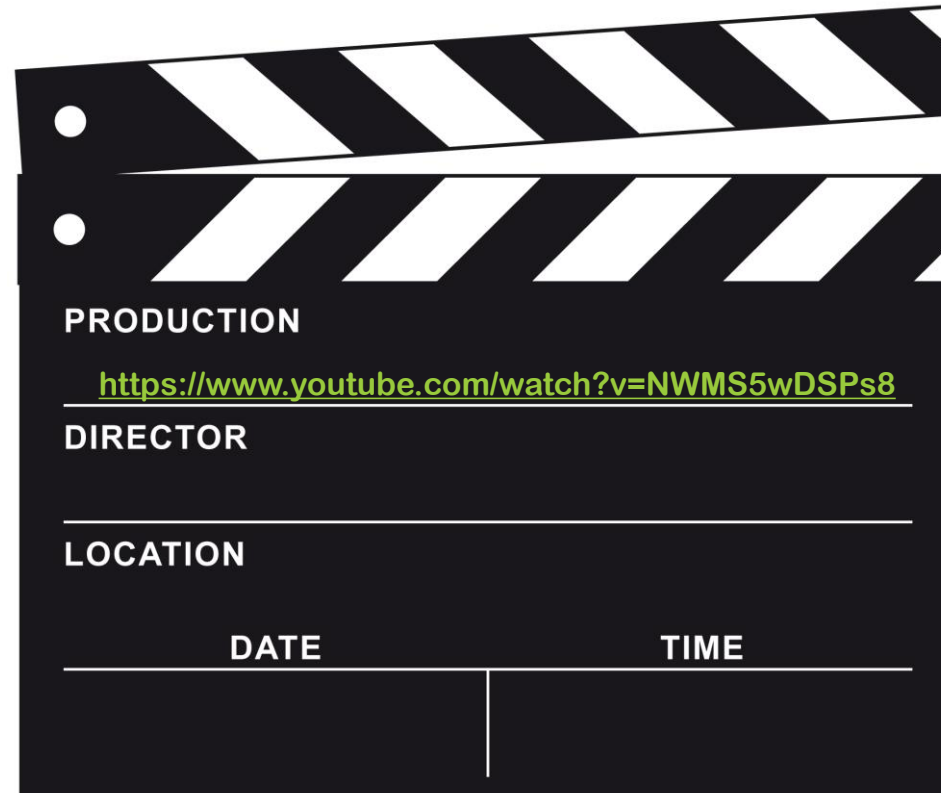
Emails

Documents

# Remember...It Is All In The Mindset



# Agile Leadership

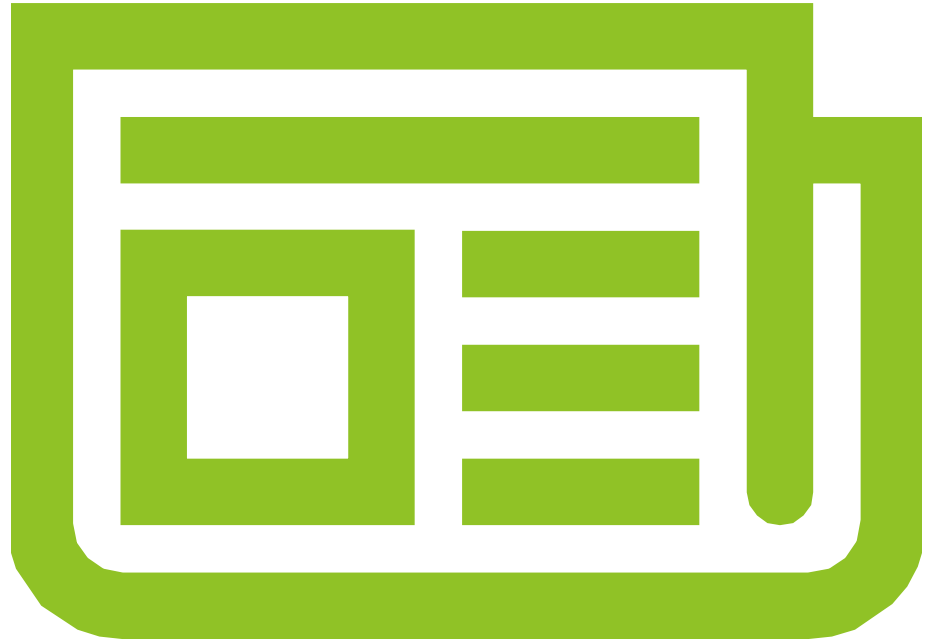


# ▶ Questions?



# ▶ **Section 14**

## **Course Review**



# Review Time!

# The Seven Agile Domains

- ▶ Domain 1: Agile Principles & Mindset
- ▶ Domain 2: Value Driven Delivery
- ▶ Domain 3: Stakeholder Engagement
- ▶ Domain 4: Team Performance
- ▶ Domain 5: Adaptive Planning
- ▶ Domain 6: Problem Detection / Resolution
- ▶ Domain 7: Continuous Improvement

# Domain 1: Agile Principles & Mindset

- ▶ **TASK 1:** Advocate for agile principles by modeling those principles, and discussing agile values. This will help develop a shared mindset across the team, as well as between the customer and the team.
- ▶ **TASK 2:** Help ensure that everyone has a common understanding of the values and principles of agile, and a common knowledge around the agile practices and terminology being used.
- ▶ **TASK 3:** Support the change related to embracing agile approaches at the system and organization level by educating individuals, and influencing processes and people.

# Domain 1: Agile Principles & Mindset

- ▶ **TASK 4: Maintain highly visible information radiators, accurately showing progress on the project, and team performance. Use these to enhance transparency and trust.**
- ▶ **TASK 5: Contribute to a safe and trusting team environment by allowing everyone to experiment and make mistakes. This enhances learning, and continuous improvement of processes.**
- ▶ **TASK 6: Enhance creativity by experimenting with new techniques and process ideas. This will allow the discovery of more effective and efficient ways of working.**

# Domain 1: Agile Principles & Mindset

- ▶ **TASK 7: Encourage team members to share knowledge by collaborating and working together. This will help to eliminate knowledge silos, and will reduce bottlenecks in workflows.**
- ▶ **TASK 8: Encourage emergent leadership within the team by establishing a safe and respectful environment in which new approaches can be tried. This will foster self-organization, and empower emergent leaders.**
- ▶ **TASK 9: Practice servant leadership by supporting and encouraging others. This will help them to perform at their highest level, and continue to improve.**

# Domain 2: Value Driven Delivery

- ▶ **TASK 1: Define deliverables by identifying Features that can be produced incrementally. This will maximize value to the customer, and minimize work that does not add value.**
- ▶ **TASK 2: Refine requirements by gaining consensus on acceptance criteria for Features. These should be focused on value to the customer, and determined in the planning for an Iteration, and before development begins.**
- ▶ **TASK 3: Select the processes to be used based on characteristics of the project, and the organization. Tailor the processes based on those same considerations, in whatever way optimizes delivery of value.**

# Domain 2: Value Driven Delivery

- ▶ **TASK 4:** Plan for small releasable increments, focusing on minimally marketable features and minimally viable products. This will allow for early delivery [and recognition] of value.
- ▶ **TASK 5:** Limit increment size, and conduct frequent product reviews with stakeholders. This will allow for the early identification of, and response to, variances and risks.
- ▶ **TASK 6:** Solicit feedback from the customer and end-users frequently, by reviewing the produced features often. This will help to confirm that the product being delivered is providing real value.



# Domain 2: Value Driven Delivery

- ▶ **TASK 7: Collaborate with stakeholders to determine their prioritization of features to be developed, based on value to the customer.**
- ▶ **TASK 8: Perform frequent quality checks on the product being developed, and take the necessary actions to maintain the quality of the deliverables. This will reduce the overall cost of the development, and ensure delivery of value.**
- ▶ **TASK 9: Continuously identify, and respond to, environmental, operational, and infrastructure factors, to effectively and efficiently produce valuable deliverables.**

# Domain 2: Value Driven Delivery

- ▶ **TASK 10: Conduct frequent reviews and planning sessions with stakeholders to solicit feedback, and use that feedback to adjust the work to be accomplished next.**
- ▶ **TASK 11: Balance actual development / production efforts and risk reduction efforts by including risk reduction work in the Product Backlog. This will optimize the value of the product actually delivered, and overall project success.**
- ▶ **TASK 12: Continuously collaborate with the customer and stakeholders to re-prioritize requirements, based on changes to the environment and stakeholder needs.**

# Domain 2: Value Driven Delivery

- ▶ **TASK 13:** Elicit and prioritize relevant non-functional requirements [on-going operations, security, etc.], considering the environment in which the final product will be used. This will help ensure long-term value to the customer.
- ▶ **TASK 14:** Conduct frequent inspections, reviews, and testing of the work products. This will help to identify opportunities to improve both the product, and the processes used to produce it.

# Domain 3: Stakeholder Engagement

- ▶ **TASK 1:** Continuously identify key business stakeholders throughout the project. Engage the stakeholders to determine and refine their interests, needs, and expectations.
- ▶ **TASK 2:** Engage all key stakeholders in knowledge sharing early in the project, and throughout the project. This will ensure the continuous delivery of value to the customer.
- ▶ **TASK 3:** Establish relationships with stakeholders by forming working agreements. This will promote effective participation and collaboration.

# Domain 3: Stakeholder Engagement

- ▶ **TASK 4:** Continuously assess changes in the project and organization to ensure that new stakeholders are identified and appropriately engaged.
- ▶ **TASK 5:** Establish collaborative behaviors among members of the organization to foster group decision-making and group conflict resolution. This will improve the quality and timeliness of decisions.
- ▶ **TASK 6:** Collaboratively develop a high-level vision and supporting objectives. This will establish a shared understanding of the products and deliverables, and the schedule [releases and iterations], to align expectations.

# Domain 3: Stakeholder Engagement

- ▶ **TASK 7:** Establish and maintain a shared understanding of the desired deliverables, success criteria, and acceptable trade-offs with key stakeholders. This will help to align expectations.
- ▶ **TASK 8:** Provide transparent and accurate information to stakeholders regarding work progress, product quality, impediments, and risks. This will help stakeholders to make informed decisions about requirements and priorities.
- ▶ **TASK 9:** Provide forecasts at a level of detail that balances the need for certainty and the benefits of adaptability. This will support informed prioritization and decision-making by key stakeholders.

# Domain 4: Team Performance

- ▶ **TASK 1: Cooperate with other Team Members to establish ground rules and internal Team processes and procedures. This will foster Team cohesion, and strengthen members' commitment to shared outcomes.**
- ▶ **TASK 2: Help develop a Team that has the technical and interpersonal skills to achieve all of the project objectives. This will allow for the rapid creation and delivery of business value to the customer.**
- ▶ **TASK 3: Encourage Team Members to become generalizing specialists, in order to create a high-performing cross-functional team. This allows for a smaller team, and reduces bottlenecks in the work-flow.**

# Domain 4: Team Performance

- ▶ **TASK 4: Contribute to self-organizing and self-managing by the Team Members, by empowering them, and encouraging emerging leadership. This enhances agility and speed.**
- ▶ **TASK 5: Continuously discover Team and individual motivators and de-motivators, and use them to help maintain Team high morale and productivity.**
- ▶ **TASK 6: Facilitate close communication within the Team, and with key stakeholders, through co-location and the use of collaboration tools.**



# Domain 4: Team Performance

- ▶ **TASK 7: Reduce distractions in order to facilitate effective and efficient work accomplishment.**
- ▶ **TASK 8: Participate in the process of aligning the goals and objectives of the Team with the overall goals of the project. Initially and continuously share the project vision.**
- ▶ **TASK 9: Assist the Team in measuring their velocity, based on performance in previous iterations and releases. Help them use their velocity to understand their capacity, and create accurate forecasts.**

# Domain 5: Adaptive Planning

- ▶ **TASK 1: Plan at multiple levels [project, release, iteration, daily] in the appropriate level of detail. Use rolling wave planning and progressive elaboration to balance predictability with flexibility.**
- ▶ **TASK 2: Make planning activities transparent and visible by encouraging participation of key stakeholders, and publishing the results of the planning.**
- ▶ **TASK 3: As the project progresses, make increasingly specific commitments, to set and manage stakeholder expectations.**

# Domain 5: Adaptive Planning

- ▶ **TASK 4:** Adapt the planning cadence, and planning processes used, based on the results of retrospectives, and the characteristics of the features to be produced.
- ▶ **TASK 5:** Throughout the project, inspect and adapt the project planning artifacts to reflect changes in requirements, shifting priorities, scheduling considerations, and budget.
- ▶ **TASK 6:** Begin the features / work estimating process with the sizing of features / deliverables based on difficulty and the likely amount of effort required. Do this estimating initially independent of team velocity measures and external variables.

# Domain 5: Adaptive Planning

- ▶ **TASK 7:** Adjust Team capacity and velocity measurements to reflect maintenance, administrative, and operational demands. This will allow for more realistic estimating and forecasting related to productivity.
- ▶ **TASK 8:** Create initial, rough estimates for the amount of work required for the project, and the time and cost that might be involved. Use these to establish a starting point for project planning.
- ▶ **TASK 9:** Refine the initial, rough estimates for the work, time and cost that might be required, based on new information gained over time. Use this progressive elaboration to advance project planning, and refine forecasts shared with stakeholders.

# Domain 5: Adaptive Planning

- ▶ **TASK 10:** Using new, updated information regarding project requirements, resource capabilities, and Team velocity, continuously revise the estimates of remaining time [schedule] and remaining cost [budget] needed to complete the project.

# Domain 6: Problem Detection / Resolution

- ▶ **TASK 1:** Create an open and safe environment in which problems and impediments can be surfaced. Do this by encouraging conversation and experimentation.
- ▶ **TASK 2:** Identify problems and issues, so they can be resolved at the appropriate time, and the processes that caused the issues can be improved. Do this by educating and engaging the Team.
- ▶ **TASK 3:** Ensure issues are resolved by the appropriate Team members, when that is possible. When problems arise that cannot be resolved, reset expectations with stakeholders and Team members.

## Domain 6: Problem Detection / Resolution

- ▶ **TASK 4:** Maintain a visible, monitored, prioritized list of problems and issues that stakeholders and Team members can easily see. This will help to encourage action, maintain accountability, and track ownership and resolution status.
- ▶ **TASK 5:** Communicate the status of problems and issues by posting and maintaining the list of problems in the information radiators. List the problem resolution activities planned in the Product Backlog / Iteration Backlog, along with the product development activities. This will provide transparency, and help to ensure that time and resources are devoted to problem resolution.

# Domain 7: Continuous Improvement

- ▶ **TASK 1:** Tailor and adapt the processes utilized, by periodically reviewing Team practices, delivery goals, and organizational factors. This will ensure on-going Team effectiveness and efficiency.
- ▶ **TASK 2:** Improve Team processes by incorporating inputs from retrospective meetings and improvement experiments. This will help to continuously improve Team effectiveness and performance.
- ▶ **TASK 3:** Seek feedback on the quality and suitability of the product by incremental delivery, and frequent product reviews and demonstrations.



# Domain 7: Continuous Improvement

- ▶ **TASK 4: Create an environment of continued learning, and provide opportunities for people to develop their skills. This will develop a more productive team of generalizing specialists.**
- ▶ **TASK 5: Challenge existing process elements with tools such as value stream analysis, and continuously seek to remove waste. This will increase Team effectiveness and efficiency.**
- ▶ **TASK 6: Contribute to systemic improvements by sharing knowledge and practices across projects and organizational boundaries. This will improve effectiveness and efficiency throughout the organization as a whole, and the community in general.**

# Final Thoughts

<b>Apply</b>	<b>Apply to take the PMI-ACP®</b>
<b>Study</b>	<b>Study Hard for at least 2 weeks prior</b>
<b>Go</b>	<b>Go Pass The Exam!</b>

# Resources



Email: [Steven@Vets2PM.com](mailto:Steven@Vets2PM.com)



LinkedIn:

<https://www.linkedin.com/in/steven-b-crane/>



Phone: (937) 308-6941

# Preparing for the Exam

- ▶ **LinkedIn Learning – Prepare for the PMI-ACP Certification (24 hours)**
  - ▶ 120 Question Timed Practice Test at the end
  - ▶ <https://www.linkedin.com/learning/paths/prepare-for-the-pmi-acp-certification>
- ▶ **20 Practice Questions**
  - ▶ [http://leadinganswers.typepad.com/leading\\_answers/2015/12/20-pmi-acp-v2-sample-questions.html](http://leadinganswers.typepad.com/leading_answers/2015/12/20-pmi-acp-v2-sample-questions.html)
- ▶ **20 Practice Questions**
  - ▶ <http://pmiacptraining.com/>
- ▶ **PrepCast Free Questions**
  - ▶ <https://www.project-management-prepcast.com/free/pmi-acp-exam/>
- ▶ **120 Practice Questions**
  - ▶ <https://pmiacp4u.blogspot.com/2013/09/free-pmi-acp-exam-dumps-120-quest.html>

# Survey

- ▶ *Please be honest...*
  - ▶ Tell me what you would like to see more of?
  - ▶ Tell me what you did not like about the class?
  - ▶ Tell me what I should improve on?
  - ▶ Tell me if you think I did a good job?
  - ▶ Tell me what you liked about the class?
  - ▶ Tell me if you would recommend it to someone?
  - ▶ Tell me EVERYTHING

▶ Thank You!