Welcome
Agile, Scrum

DevelopIntelligence
A PLURALSIGHT COMPANY

What is Agile?

Framework

Methodology

Project Management Technique

Using JIRA for tickets

"Feel good" industry hot trend

Do "something" faster

Doing Daily Stand-up

Software Development Process

Forming small teams

What is Agile?

Is a
Mindset

Described & Defined by
Agile Manifesto (4 values & 12 principles)

Manifested through many
practices
(Scrum, XP, Kanban, SAFe)

Agile is change in culture & values of an organization & its people

How it all started?

Customer doesn't really know what he/she wants

All requirements are determined in the beginning

Product is designed, developed, and tested sequentially, with many handovers

Often delivery is delayed and over budget

First working software late in the project—by then, many requirements have changed

The project fails or the customer doesn't get what he/she really needs

12 months

Another Dimension – VUCA world

VOLATILITY

The nature, speed, volume and magnitude of change is not predictable, causing consistent turbulence.

Easily Understood | Unpredictable

UNCERTAINTY

Lack of predictability in issues and events make it difficult to see future outcomes or make decisions.

May be understood | Unpredictable

COMPLEXITY

Many difficult-to-understand and interconnected variables make individuals feel overwhelmed and confused.

Fuzzy | Predictable

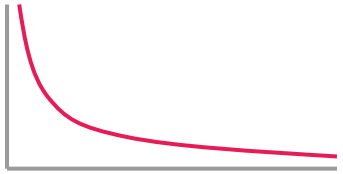
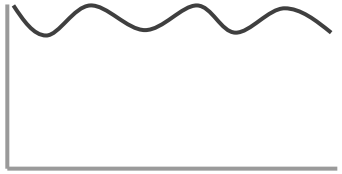
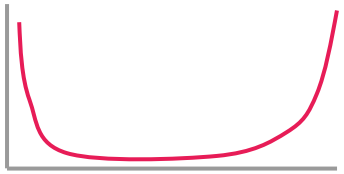
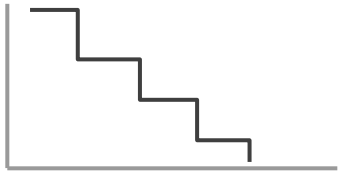
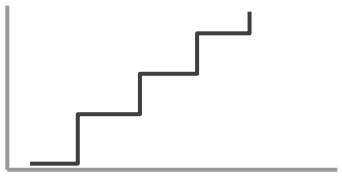
AMBIGUITY

Lack of clarity on the causes behind what's happening leads to frustration and an abundance of "unknown unknowns"

Fuzzy | May be predicted

Activity – Traditional vs Agile

Traditional vs Agile Approach

	Traditional	Agile	
Flexibility			Short, sharp cycles—able to change direction and react more quickly
Visibility			User engagement and frequent delivery—highly visible
Delivery risk			Lower delivery risks through smaller but many deliveries to “release”
Business value			Each cycle should deliver business benefit allowing early accrual

4 values - Agile Manifesto

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

4 values of Agile Manifesto

Customer collaboration

over

Contract negotiation

Working software

over

Comprehensive documentation

Responding to change

over

Following a plan

Individuals and interactions

over

Processes and tools

Ambition: Create a culture of continuous improvement.

12 Principles of Agile

Principles behind the Agile Manifesto

1. Early and Continuous Delivery of Valuable Software
2. Embrace Change
3. Deliver value often/Frequent Delivery
4. Business and Developers Together
5. Empower individuals
6. Rhythm for communication
7. Measure progress by working software
8. Use sustainable processes
9. Strive for excellence
10. Simplicity
11. Self-organizing teams
12. Regular Reflection and Adjustment

12 Principles - Agile Manifesto

1 Our highest priority is to satisfy the customer through early and continuous delivery of valuable software.	2 Welcome changing requirements, even late in development. Agile processes harness change for the customer's competitive advantage.	3 Deliver working software frequently, from a couple of weeks to a couple of months, with a preference to the shorter timescale.
4 Business people and developers must work together daily throughout the project.	5 Build projects around motivated individuals. Give them the environment and support they need, and trust them to get the job done.	6 Agile processes promote sustainable development. The sponsors, developers, and users should be able to maintain a constant pace indefinitely.
7 Working software is the primary measure of progress.	8 The most efficient and effective method of conveying information to and within a development team is face-to-face conversation.	9 Continuous attention to technical excellence and good design enhances agility.
10 Simplicity – the art of maximizing the amount of work not done – is essential.	11 The best architectures, requirements, and designs emerge from self-organizing teams.	12 At regular intervals, the team reflects on how to become more effective, then tunes and adjusts its behavior accordingly.

Agile principles

1. **Early and Continuous Delivery of Valuable Software**: Our highest priority is to satisfy the customer through early and continuous delivery of valuable software.
2. **Embrace Change**: Welcome changing requirements, even late in development. Agile processes harness change for the customer's competitive advantage.
3. **Deliver value often/Frequent Delivery**: Deliver working software frequently, from a couple of weeks to a couple of months, with a preference to the shorter timescale.
4. **Business and Developers Together**: Business people and developers must work together daily throughout the project.

Agile principles

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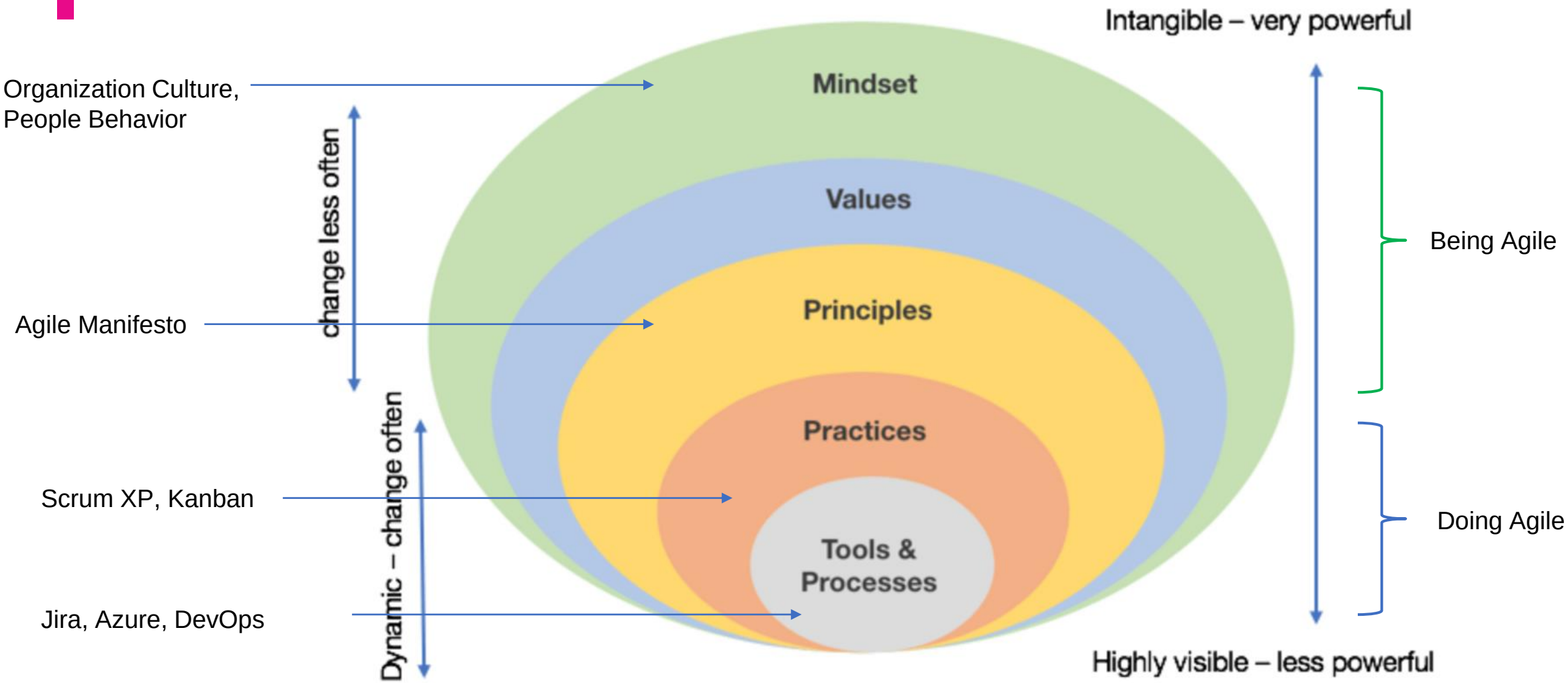
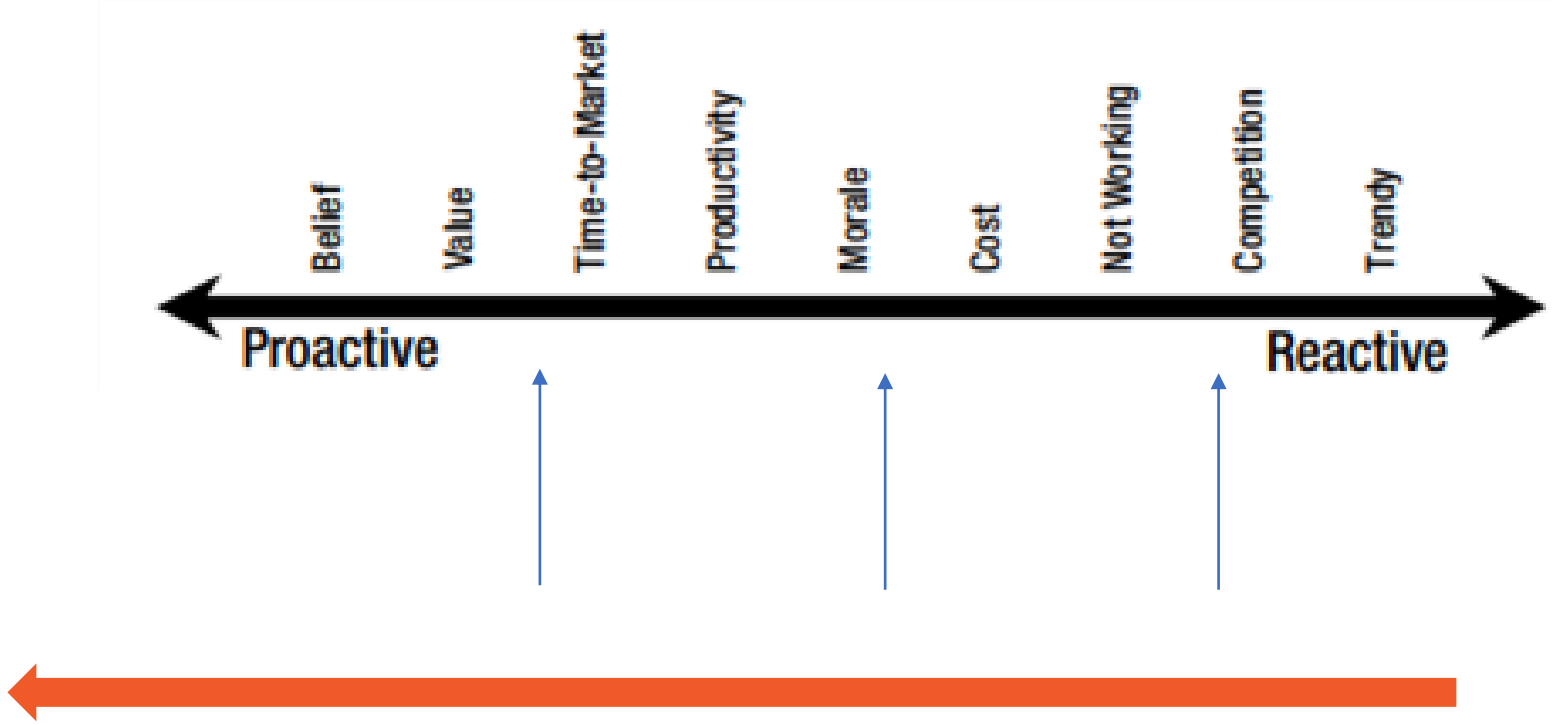
Agile principles

9. **Strive for excellence**: Continuous attention to technical excellence and good design enhances agility.
10. **Simplicity**: Simplicity--the art of maximizing the amount of work not done--is essential.
11. **Self-organizing teams**: The best architectures, requirements, and designs emerge from self-organizing teams.
12. **Regular Reflection and Adjustment**: At regular intervals, the team reflects on how to become more effective, then tunes and adjusts its behaviour accordingly.

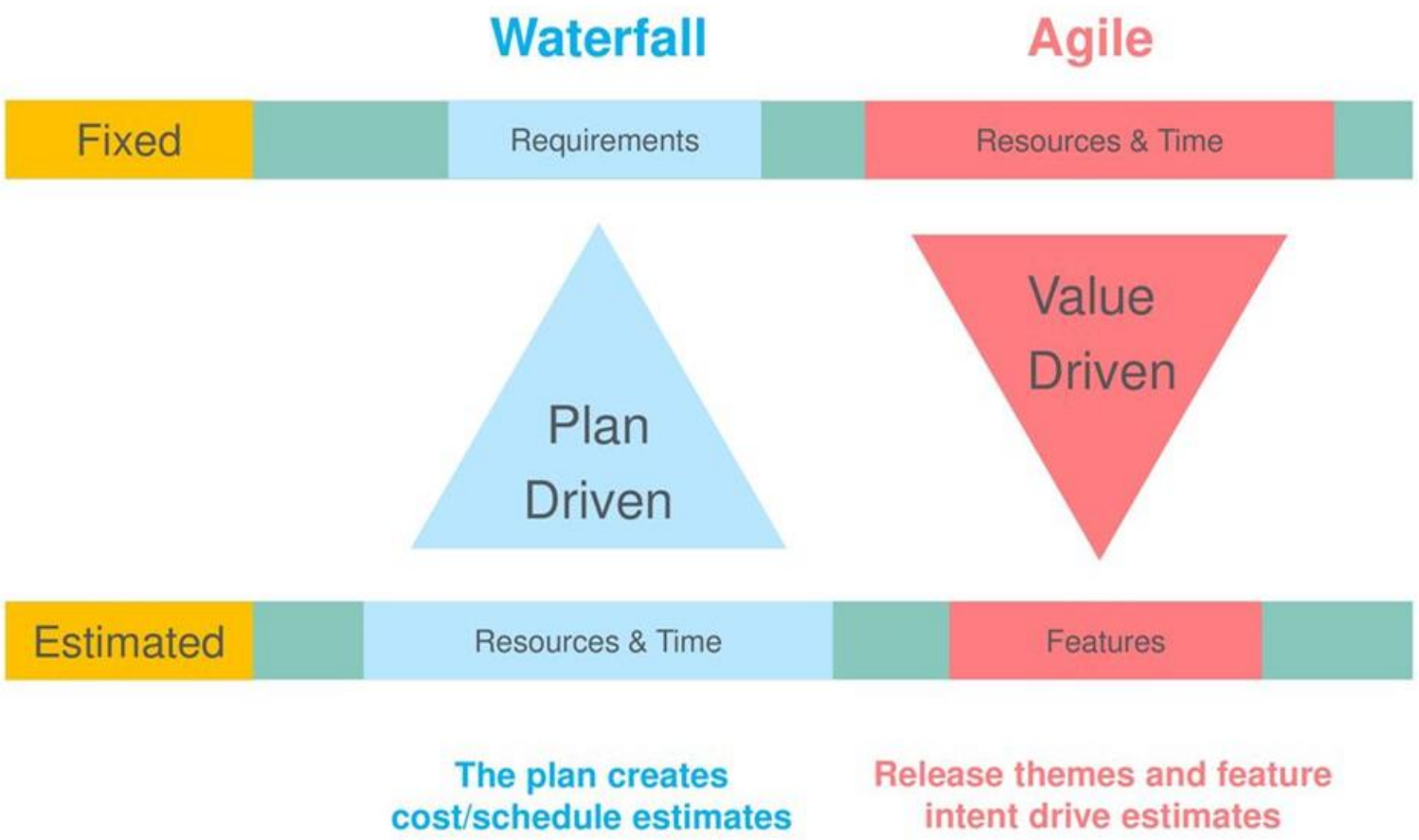
Being Agile vs Doing Agile



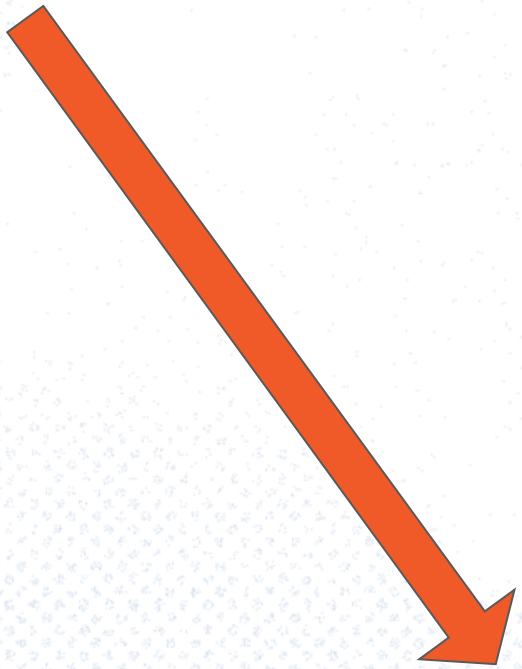
Common Motivators For Moving To Agile



Agile vs Waterfall – A Change in Philosophy



/reads/agile-manifesto



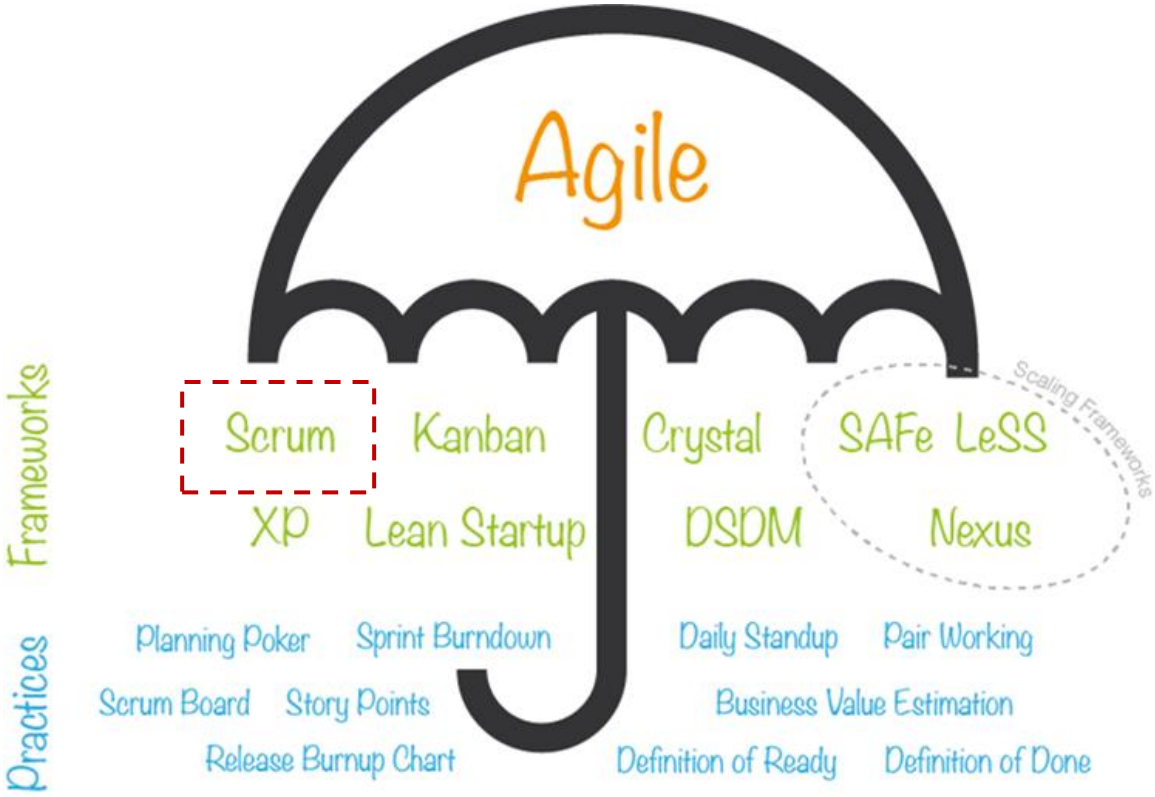
Activity: Cohort collaboration

1. Join a breakout room with your cohort
2. Every group will be assigned one principle. Read the manifesto document
    - *Embrace Change (2)*
    - *Deliver value often/Frequent Delivery (3)*
    - *Strive for excellence (9)*
    - *Simplicity (10)*
    - *Regular Reflection and Adjustment (12)*
3. You need to discuss and brainstorm examples of how that value can be demonstrated in an Agile team.
4. Each group presents their findings to the larger group. Select a member to present

Scrum

Agile Umbrella

Agile is an umbrella term for a set of methods and practices based on the values and principles expressed in the Agile Manifesto that is a way of thinking that enables teams and businesses to innovate, quickly respond to changing demand, while mitigating risk.



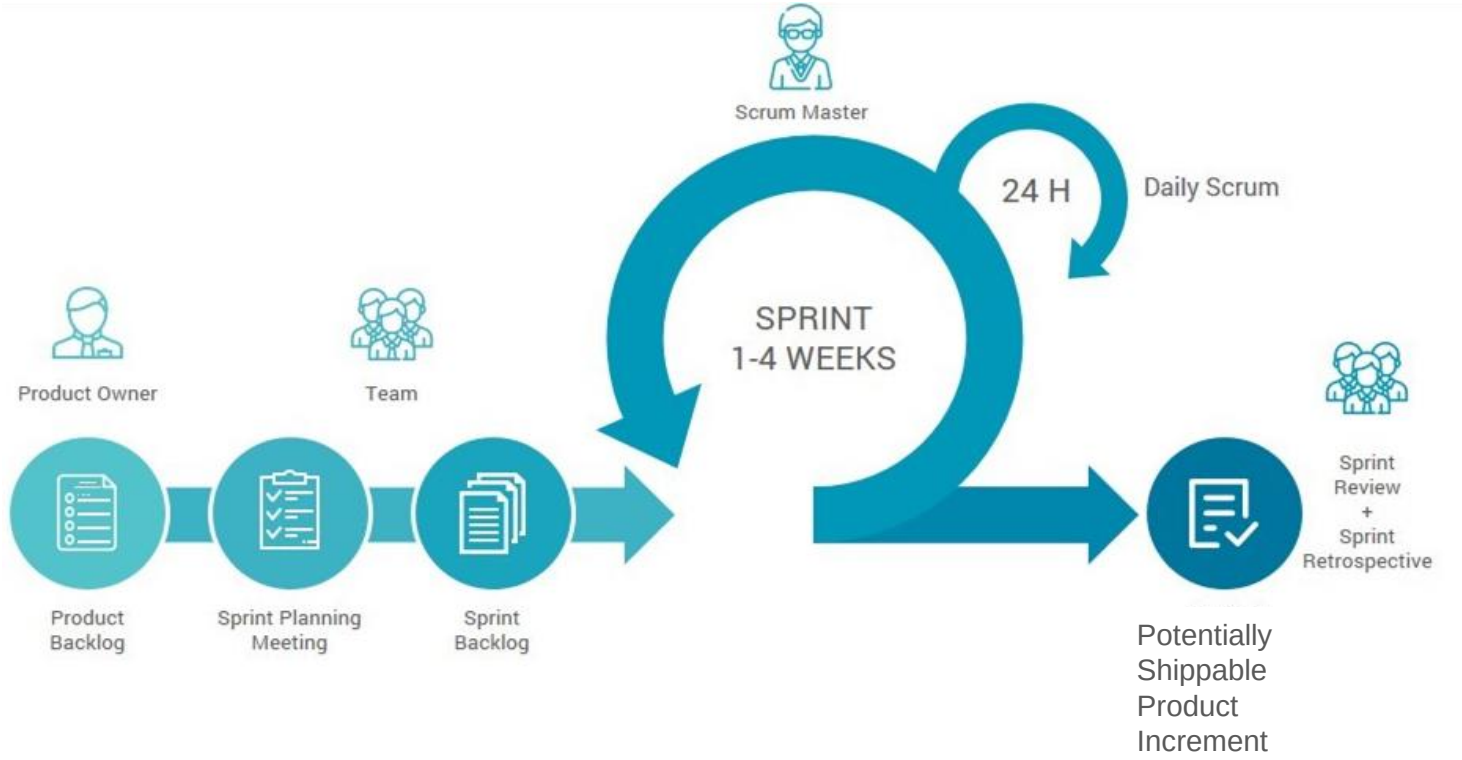
Scrum Overview

Scrum (n): An empirical framework within which people can address complex adaptive problems, while productively and creatively delivering products of the highest possible value

– Scrum.org

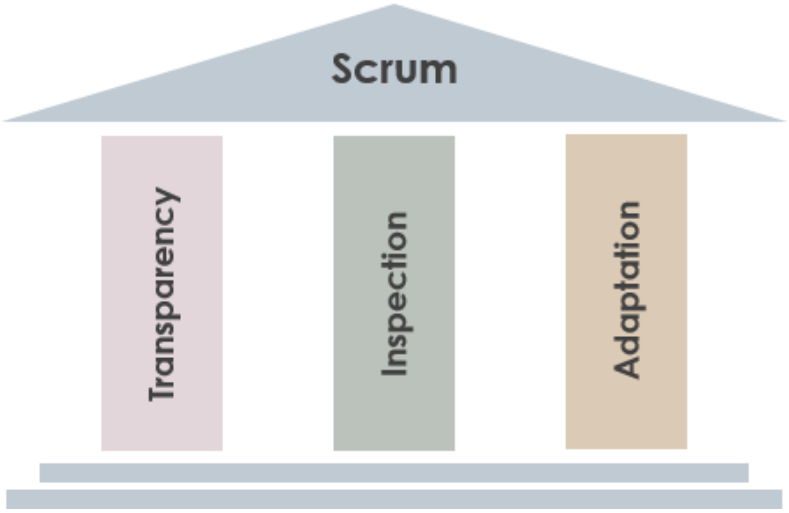
Scrum is:

- Lightweight
- Simple to understand
- Difficult to master



Scrum – Pillars & Values

3 Pillars



Transparency

Giving visibility to the significant aspects of the process to those responsible for the outcome.

Inspection

Timely checks on the progress toward a sprint goal to detect undesirable variances.

Adaptation

Adjusting a process as soon as possible to minimize any further deviation or issues.

5 Values

FOCUS

FOCUS ON THE WORK OF THE SPRINT.

COURAGE

HAVE THE COURAGE TO DO THE RIGHT THING AND TO WORK ON TOUGH PROBLEMS.

COMMITMENT

THE SCRUM TEAM COMMITS TO ACHIEVING ITS GOALS AND TO SUPPORTING EACH OTHER.

OPENNESS

OPEN ABOUT THE WORK AND THE CHALLENGES.

RESPECT

RESPECT EACH OTHER TO BE CAPABLE, INDEPENDENT PEOPLE.

Scrum: 3-5-3

3
Roles

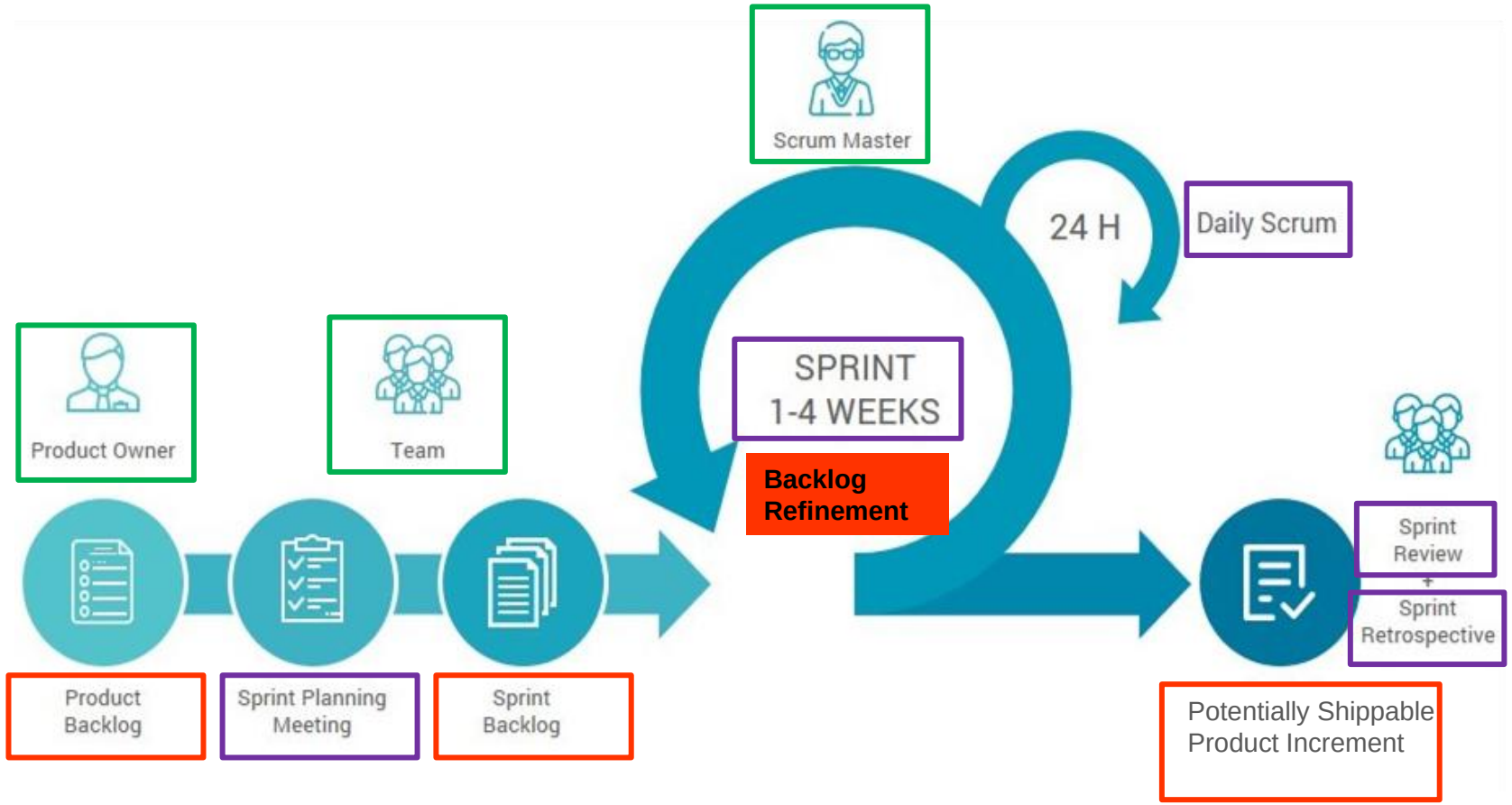
- Product Owner
- Team/Agile team
- Scrum Master

5
Events

- Sprint Planning
- Sprint
- Daily Scrum/Stand-up
- Sprint Review/ Demo
- Sprint Retrospective

3
Artifacts

- Product Backlog
- Sprint Backlog
- Potentially Shippable Product Increment
- Backlog Refinement*



Scrum Roles

Product Owner

- Accountable for maximizing the value of the product resulting from the work of the Scrum Team.
- Product backlog management & prioritization; owns product backlog, i.e., single authority on product backlog
- Developing & communicating product goal & vision.
- Ensuring Product Backlog is visible, transparent and understood
- Is a one person; not a committee.

Developers/Team

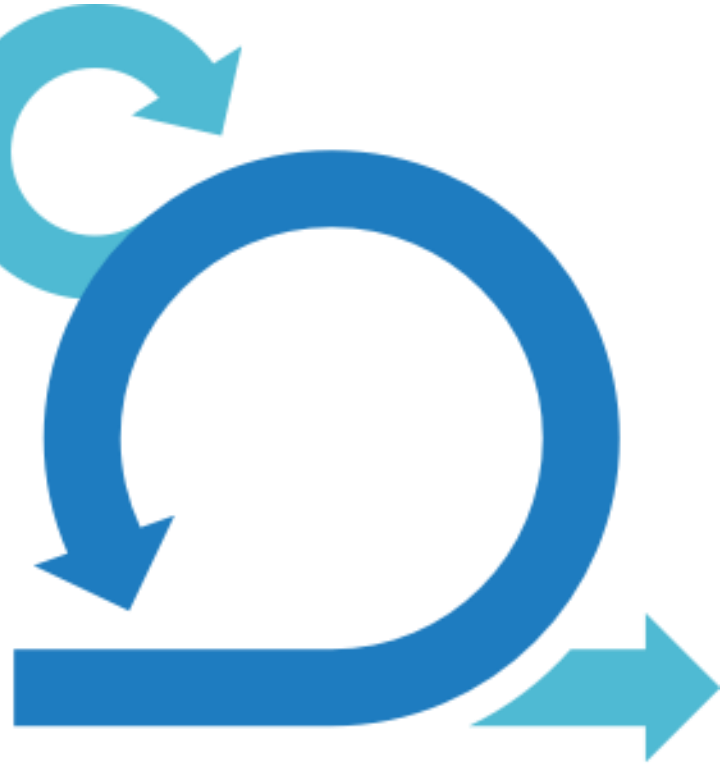
- Developers/Team are the people on agile/scrum team that are committed to creating any aspect of a usable Increment each sprint.
- Creates a plan for the Sprint, the Sprint Backlog.
- Instilling quality by adhering to a Definition of Done.
- Adapting their plan each day toward the Sprint Goal.
- Holding each other accountable as professionals.

Scrum Master

- True leaders (servant-leaders) who serve the Scrum Team and the larger organization.
- Responsible for the Scrum Team's effectiveness.
- Ensuring that all Scrum events take place and are positive, productive, and kept within the timebox.
- Causing the removal of impediments to the Scrum Team's progress.
- Helping find techniques for effective Product Goal definition and Product Backlog management.
- Leading, training, and coaching the organization in its Scrum adoption.

Scrum Events – The Sprint

- Heartbeat of Scrum
- Has a goal
- Fixed length events for consistency
- During the sprint
  - Everyone focuses on sprint goal
  - Quality is consistent
  - Product backlog is refined
  - Clarifications Re-negotiations happens
- Timeboxed – 1- 4 weeks
- All other events happen within the sprint

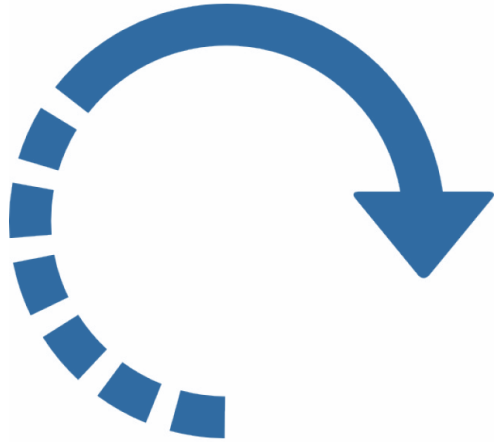


Scrum Events – Sprint Planning

- Initiates the sprint
- Outcomes are:
    - Sprint Goal
    - Sprint Backlog
- Addresses the following:
    - Why is sprint valuable?
    - What can be done in this Sprint?
    - How will the work get done?
- Timeboxed – Max. 2 hours per week of sprint

Scrum Events – Daily Scrum

- Inspect progress towards sprint goal
- Adjust the unplanned work
- 15-minute event for the complete team
- Improves communication
- Identify Impediments
- Promotes quick decision making
- Timeboxed – 15 minutes daily



Scrum Events – Sprint Review

- Inspect the outcome of the Sprint.
- Team presents the results of work to key stakeholders and PO
- May result in adjustment of Product Backlog
- Is a working session, avoid presentations
- Timeboxed – Max. 1 hour per week of sprint

Scrum Events – Sprint Retrospective

- Plan ways to increase quality & effectiveness
- Primary discussion is :
  - What went well?
  - Problems encountered
  - How problems were (were not) solved?
  - Most impactful improvement(s) are identified & added to product backlog
- Last event and concludes the sprint
- Timeboxed – Max. 1 hour per week sprint

Backlog Refinement/Grooming

What is backlog refinement/grooming?

- Add detail, estimates and order to user stories
- Refining involves 3 actions:
  - Making it easier to understand
  - Making it small enough to complete in one sprint
  - Adding acceptance criteria which define when the story is complete
- Refined stories from the input for the next “sprint planning”

Why do we do backlog refinement?

- To ensure common understanding of the stories.
- Develop a view on what needs to be delivered 2-3 sprints ahead to have confidence

Backlog Refinement/Grooming

Who participates?

- Team members to clarify stories
- Product Owner to prepare stories and facilitate discussion
- Scrum Master to ensure right practices are followed and observer behavior
- Relevant Subject Matter Expertise (SME)

Scrum Artifacts

Product Backlog

- Is an emergent, ordered list of what is required or needs to be done in a product.
- Product Backlog Refinement/Grooming is the act of breaking larger items to small precise items.
- Team does the sizing of product backlog items (PBIs).
- Single ownership by Product Owner to prioritize and enhance.
- Product goal is in the product backlog. The rest of the Product Backlog emerges to define “what” will fulfill the Product Goal.

Sprint Backlog

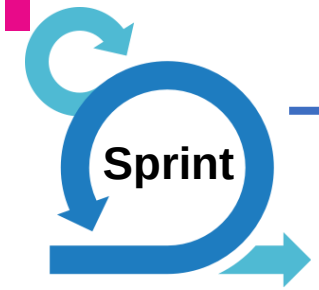
Developers/Team are the people on agile/scrum team that are committed to creating any aspect of a usable Increment each sprint. Accountable for:

- Creating a plan for the Sprint, the Sprint Backlog.
- Instilling quality by adhering to a Definition of Done.
- Adapting their plan each day toward the Sprint Goal.
- Holding each other accountable as professionals.

Potentially Shippable Product Increment

- A concrete stepping stone towards the product goal.
- Each increment is additive to all prior increments.
- Thoroughly verified (through various testing techniques) ensuring all increments work together.
- Increment must be usable to provide value.
- Multiple increments may be created within a sprint.

Sprint – How it all works together?



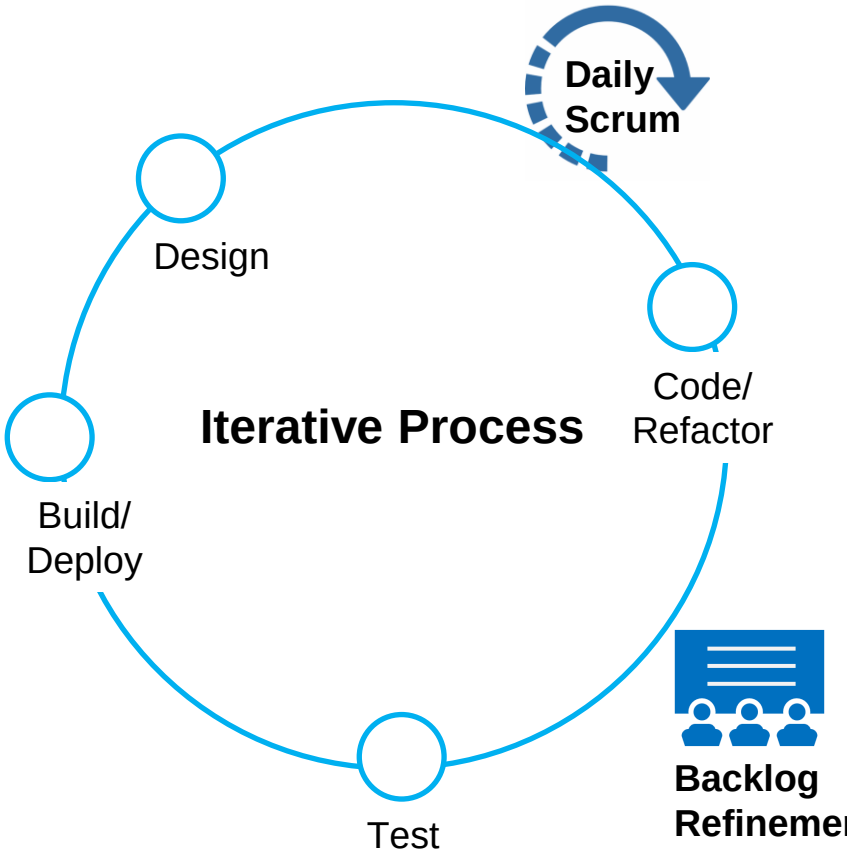
1- 4 weeks

Product Backlog

Sprint Start - Day 1

Sprint Planning

Sprint Goal + Sprint Backlog



Backlog Refinement

Sprint End - Last Day

Sprint Review

Sprint Retrospective

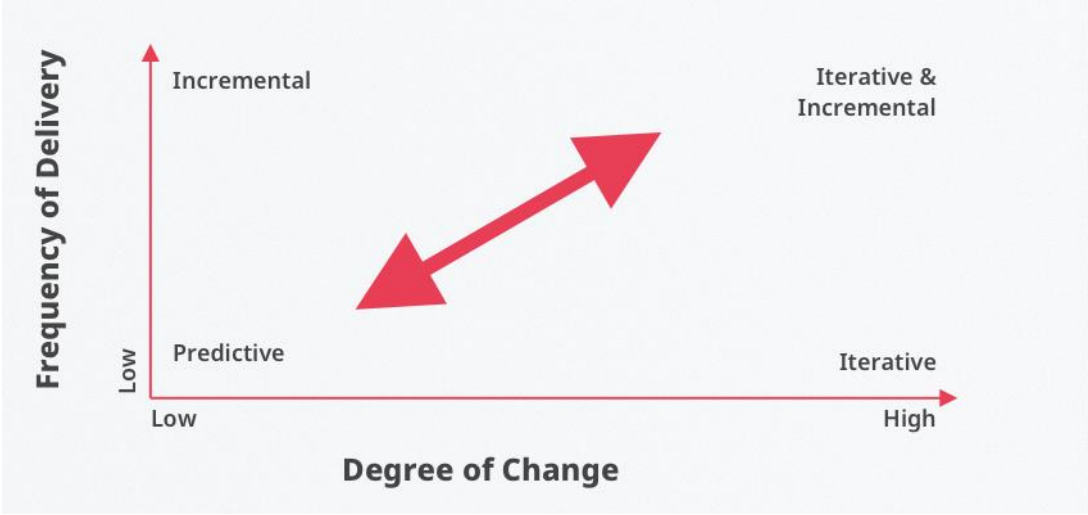
Potentially Shippable Product Increment

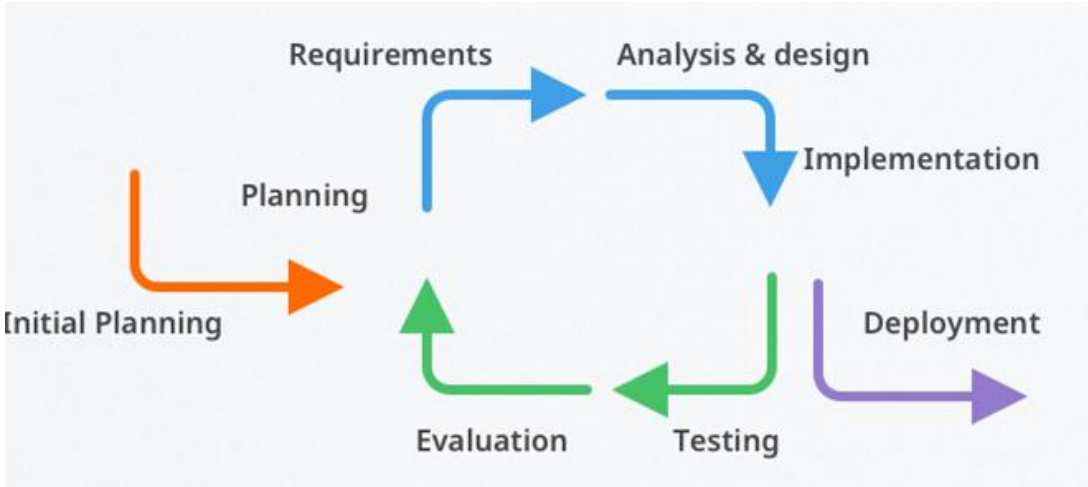
Iterative Process

Breaks down large tasks into smaller pieces that can be repeated, refined, and researched throughout the software development cycle.

Also called as PDCA model:

- P (Plan) – Iteration planning focuses on the planning and discussion of requirements and objectives of an iteration/sprint.
- D (Design) – Iteration implementation is concerned with the analysis, design, and implementation of projects. The team develops & tests software during this phase of the cycle.
- C (Check) – Iteration testing is concerned with ensuring the deliverable meets project requirements. If certain criteria are not met, the team can move backward to the other phases for further improvements.
- A (Adjust) – Iteration evaluation means comprehensively reviewing the work of the iteration or cycle. The software development team will also refine its backlog to prepare for future iterations.

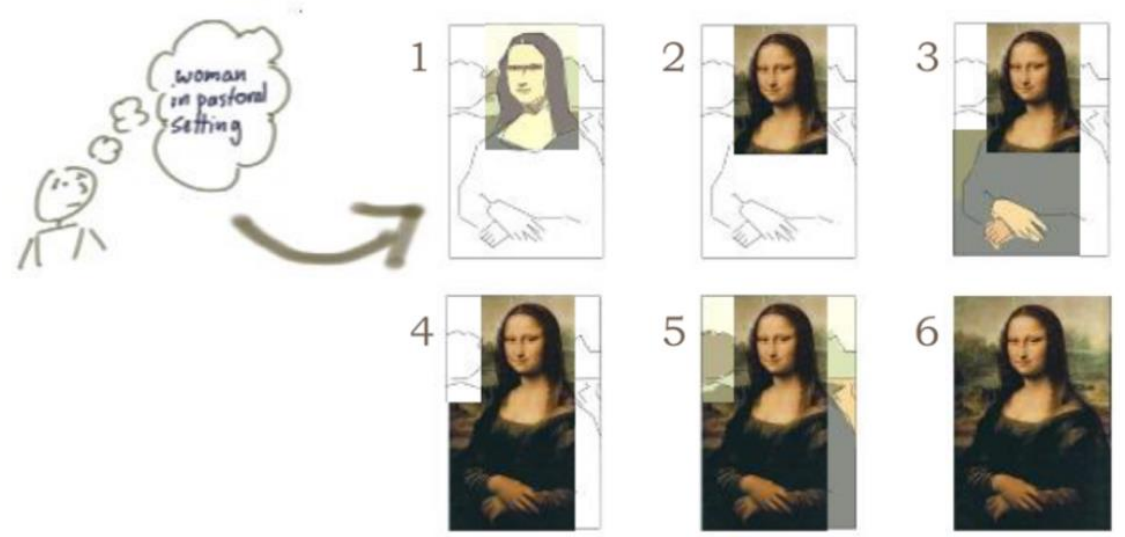




Iterative or Incremental

— Incrementing Mona Lisa (Source: Jeff Patton)

— Iterating Mona Lisa (Source: Jeff Patton)



— Drawing Mona Lisa Iteratively and Incrementally

Thank you!

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