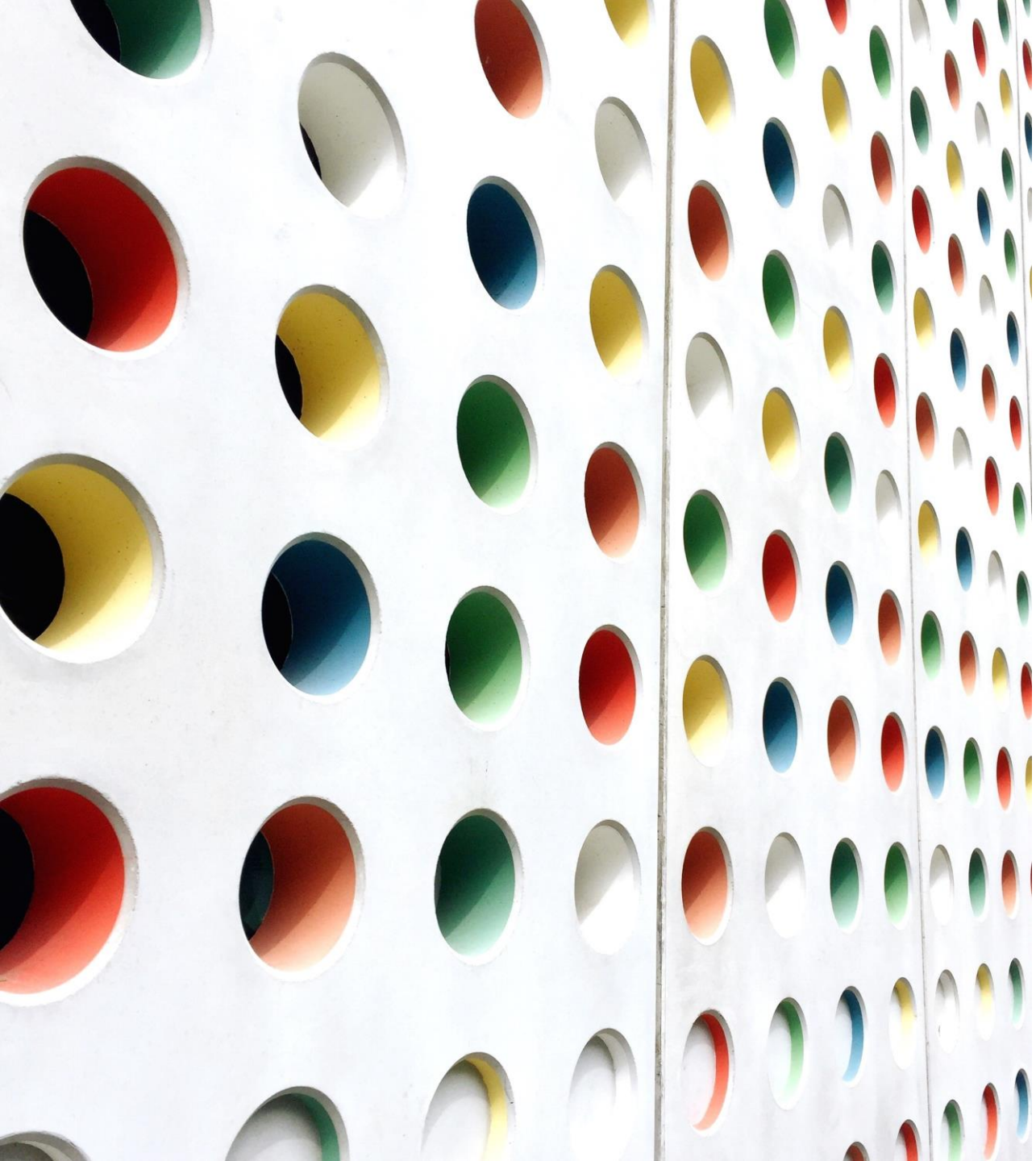

Introduction to Agile Project Management

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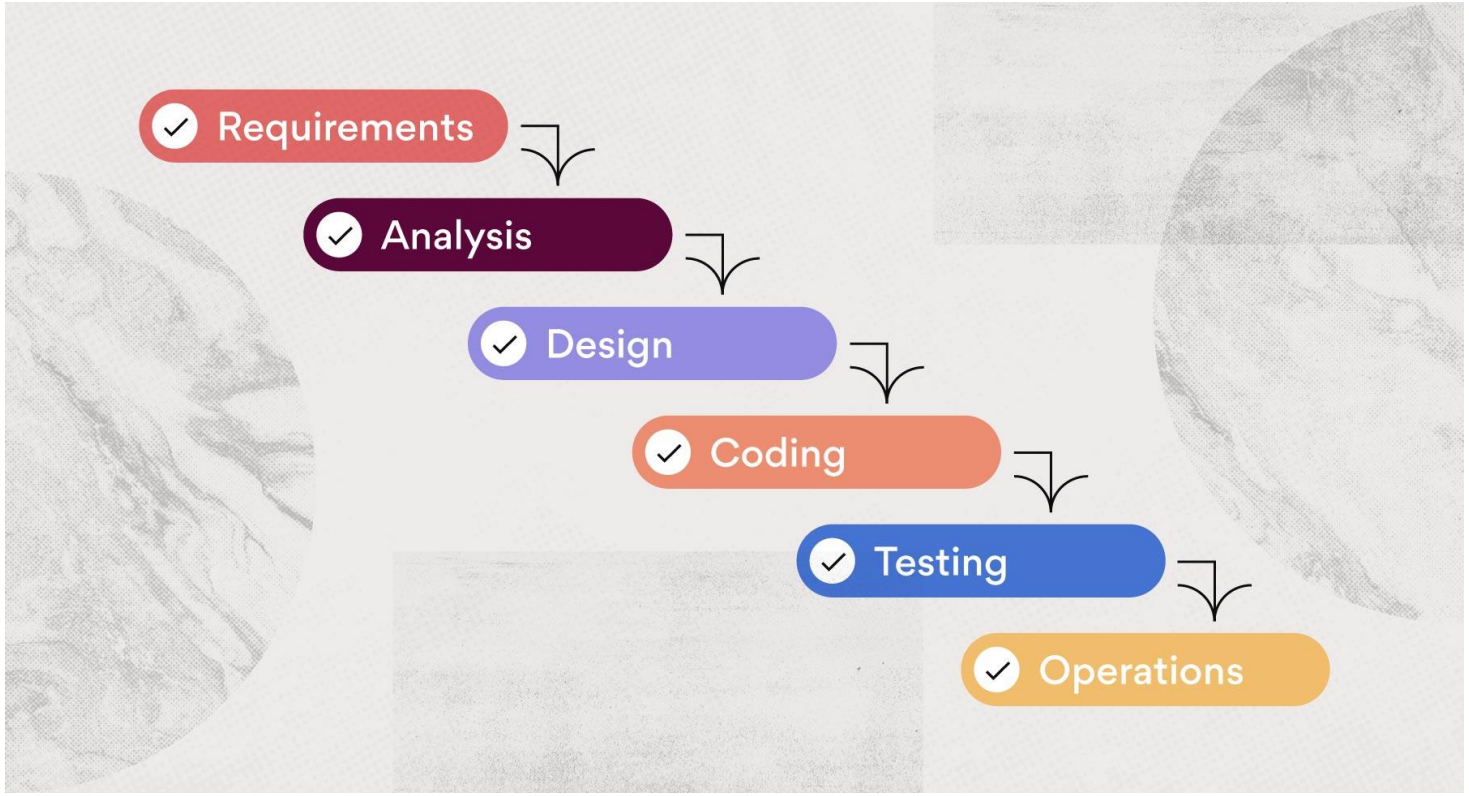
Traditional Waterfall Model



Traditional PM versus Agile Methods

Traditional PM Approach

- Concentrates on thorough, upfront planning of the entire project.
- Requires a high degree of predictability to be effective.

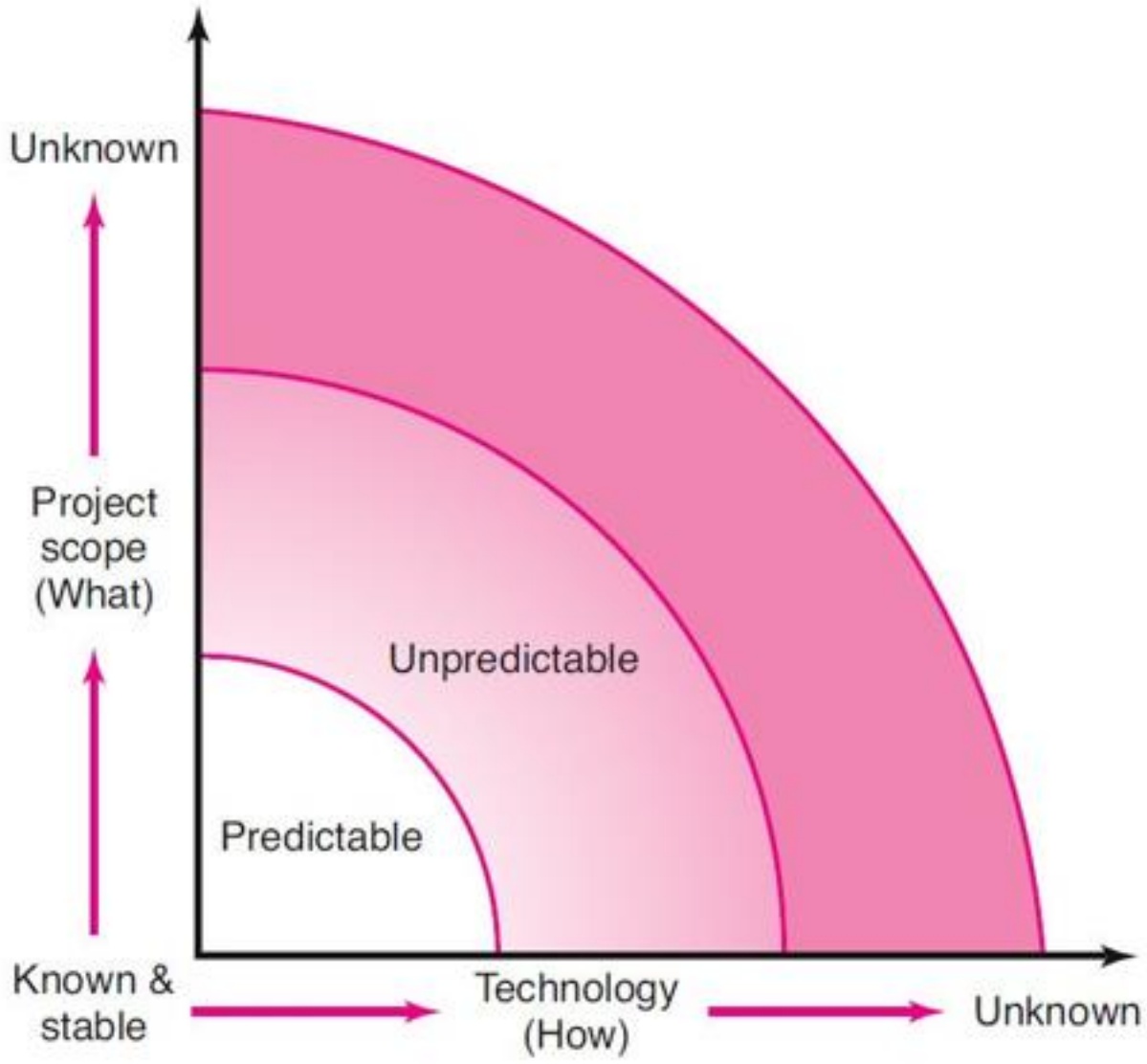
Agile Project Management (Agile PM)

- Relies on incremental, iterative development cycles to complete less-predictable projects.
- Is ideal for exploratory projects in which requirements need to be discovered and new technology tested.
- Focuses on active collaboration between the project team and customer representatives.

Traditional Project Management versus Agile Project Management

TRADITIONAL	AGILE
Design up front	Continuous Design
Fixed Scope	Flexible
Deliverables	Features / Requirements
Freeze Design as early as possible	Freeze Design as late as possible
Low uncertainty	High uncertainty
Avoid change	Embrace change
Low customer interaction	High customer interaction
Conventional project teams	Self-organized project teams

Project Uncertainty



Agile Project Management

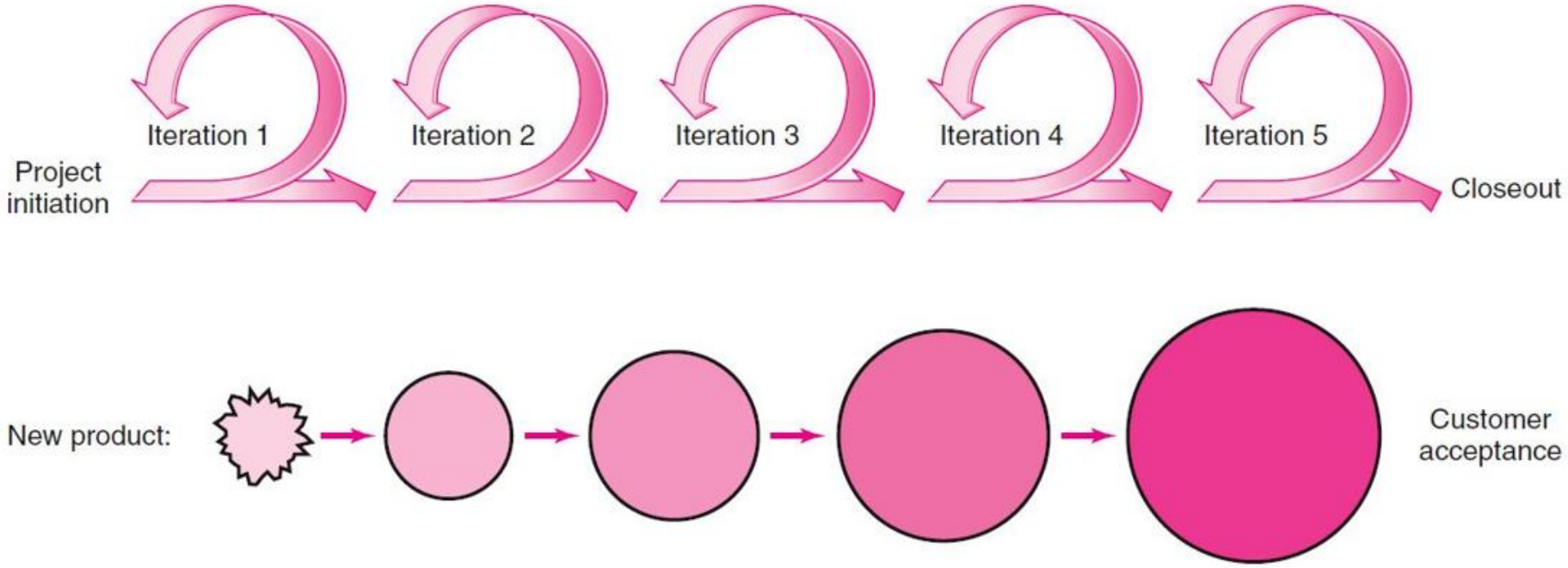
Is related to the rolling wave planning and scheduling project methodology.

Uses iterations (“time boxes”) to develop a workable product that satisfies the customer and other key stakeholders.

Stakeholders and customers review progress and re-evaluate priorities to ensure alignment with customer needs and company goals.

Adjustments are made and a different iterative cycle begins that subsumes the work of the previous iterations and adds new capabilities to the evolving product.

Iterative, Incremental Product Development



Advantages of Agile PM

Useful in developing critical breakthrough technology or defining essential features

Continuous integration, verification, and validation of the evolving product.

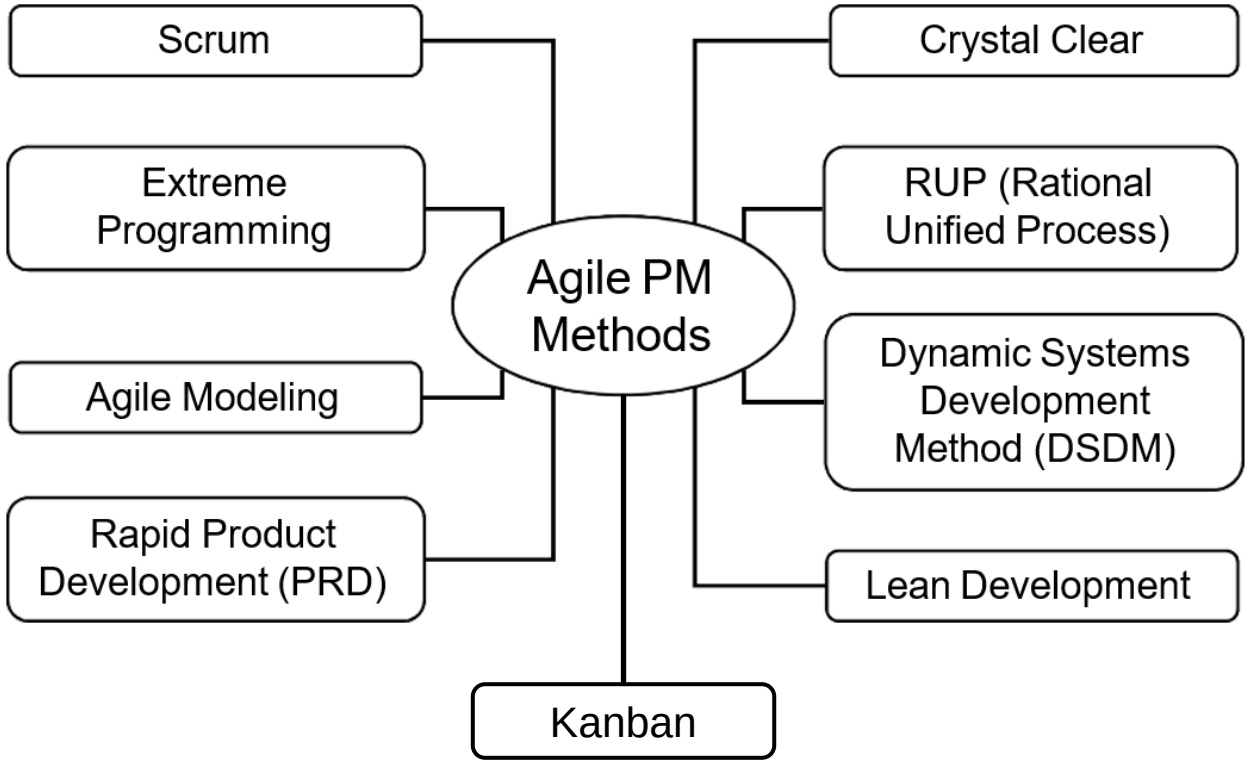
Frequent demonstration of progress to increase the likelihood that the end product will satisfy customer needs.

Early detection of defects and problems.

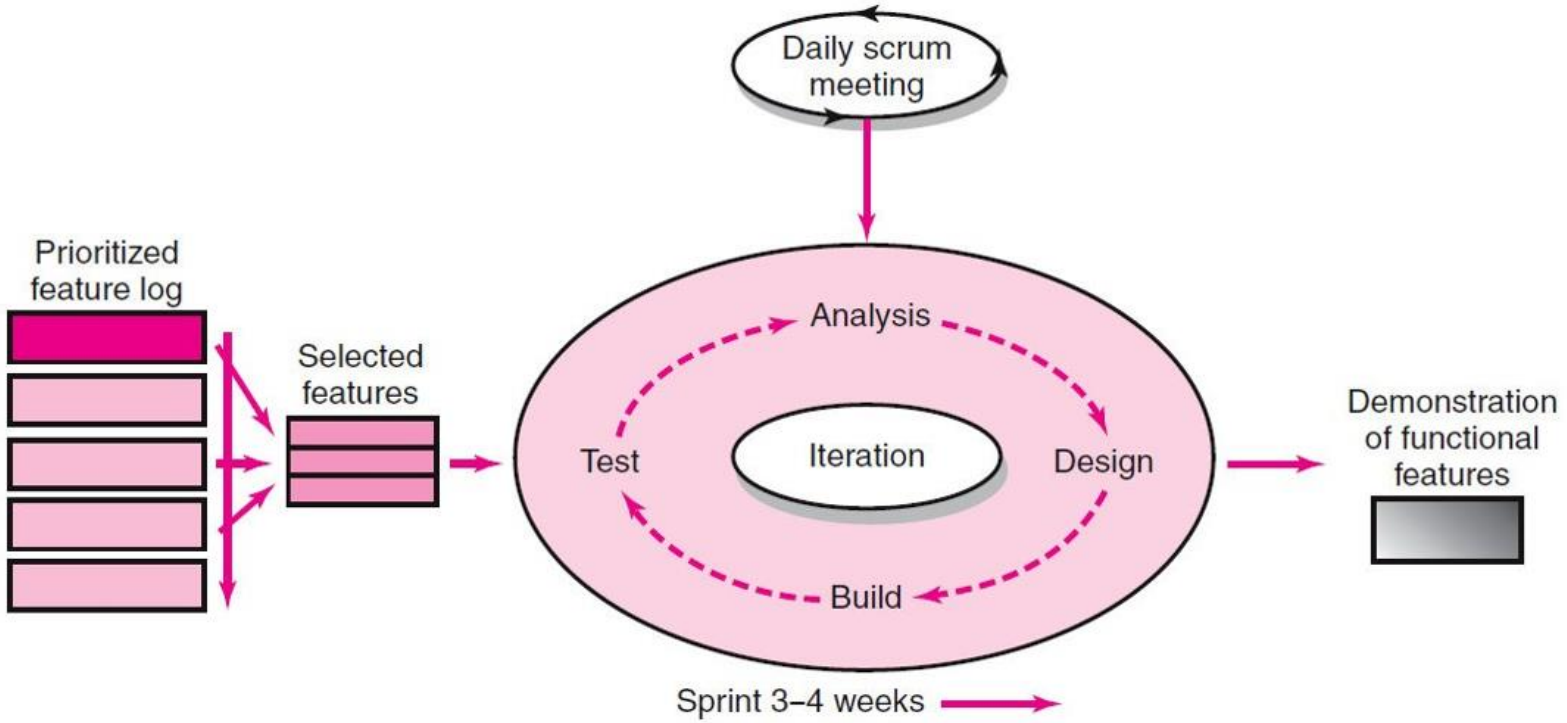
Agile PM Principles

- Focus on customer value
- Iterative and incremental delivery
- Experimentation and adaptation
- Self-organization
- Continuous improvement

Popular Agile PM Methods



Scrum Development Process



Extreme Programming Key Practices

01

Pair Programming

02

Planning Game

03

Continuous Process.

04

Coding Standards.

05

Sustainable Pace.

06

Test Driven Development (TDD)

Agile Modeling

KEY VALUES

Communication

Simplicity

Feedback

Courage

Humility

CORE PRINCIPLES

Model With a Purpose

Adopt Simplicity

Embrace Change

Enable the Next Effort (Secondary goal)

Incremental Change

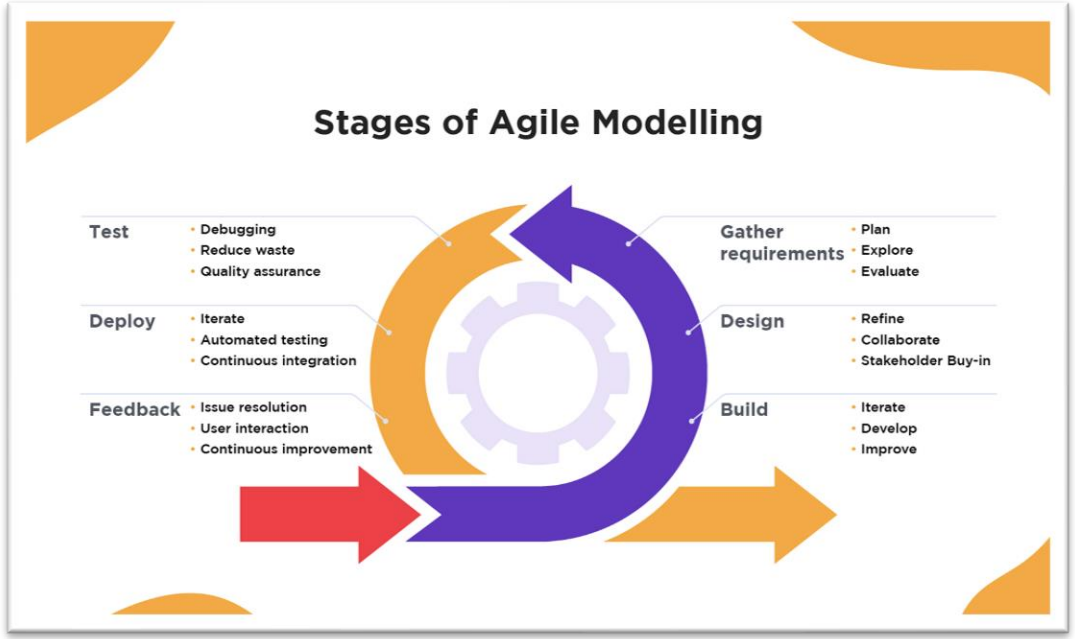
Produce Quality Work

Provide Rapid Feedback.

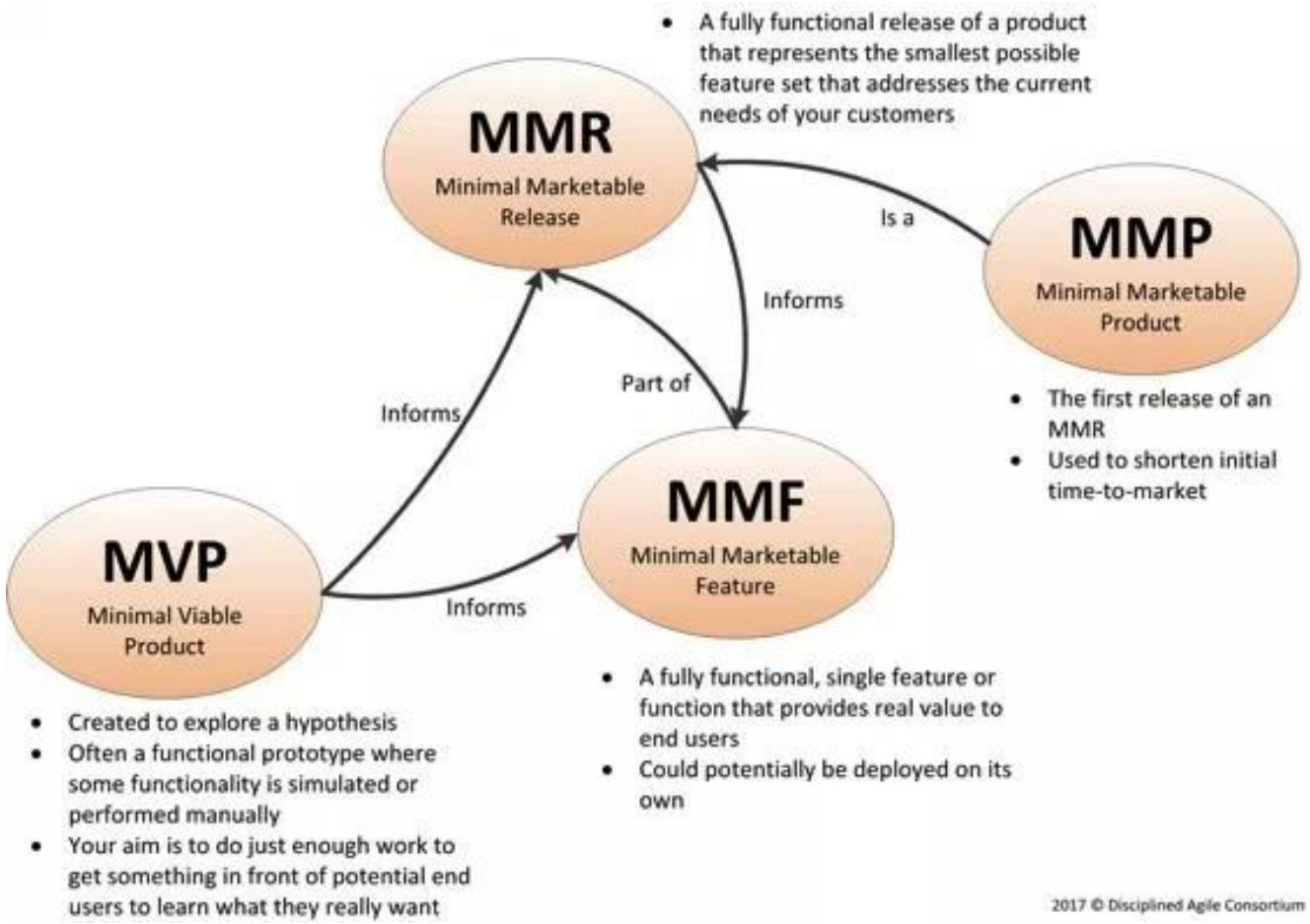
Make Working Software (Primary Goal)

Travel Light

PHASES OF THE AGILE MODEL



Rapid Product Development (RPD)



Properties of Crystal Clear methodology

Frequent Delivery

Reflective Improvement

Osmotic communication

Personal safety

Focus

Easy access to expert users

Technical environment

Conclusion

- Development teams do best in an environment that is safe, from a personal and emotional point of view, and is free from personal attacks.
- A key Crystal Clear concept is to have constructive but not vindictive criticism.
- Ron Jeffries closely characterized Crystal Clear as:
  - Bring a few developers together in peace, love, and harmony; shipping code every other month, and good software will emerge

Rational Unified Process (RUP)

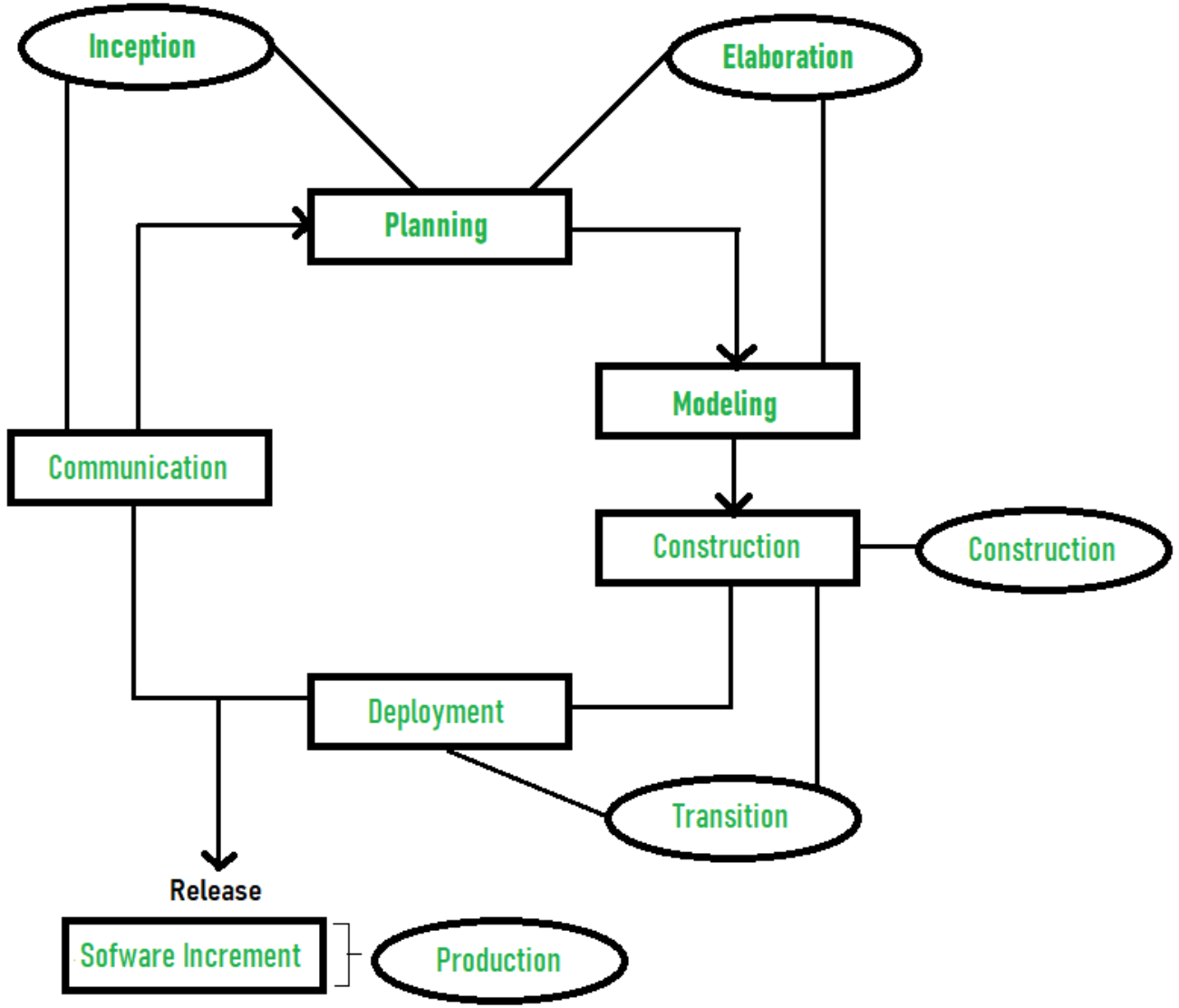
Inception
- Communication and planning

Elaboration
- Planning and modeling

Construction
- Project is developed and completed

Transition
- Final project is released to public

Production
- Project is handed to operational team



Principles of Dynamic Systems Development Method

DSDM is an Agile method that focuses on the full project lifecycle

DSDM (formally known as Dynamic System Development Method) was created in 1994, after project managers using RAD (Rapid Application Development) sought more governance and discipline to this new iterative way of working.

- Focus on the business need
- Deliver on time
- Collaborate
- Never compromise quality
- Build incrementally from firm foundations
- Develop iteratively
- Communicate continuously and clearly
- Demonstrate control

Lean Development Methodology

Improve efficiency by eliminating waste.

Traditional, waterfall project management, which dictates a set plan laid out by a project manager

Lean agile strives to reduce all tasks and activities that don't provide real value.

This helps ensure everyone involved in a project or product development can work at optimal efficiency.

Value
- Identify Value

Value stream
- Map the value stream

Flow
- Create flow

Pull
- Establish a pull system

Perfection
- Seek perfection

Kanban

Kanban is a subsect of the Agile methodology developed in 1940s

The Kanban Agile philosophy is all about

- adaptive planning,
- early delivery, and
- continuous improvement

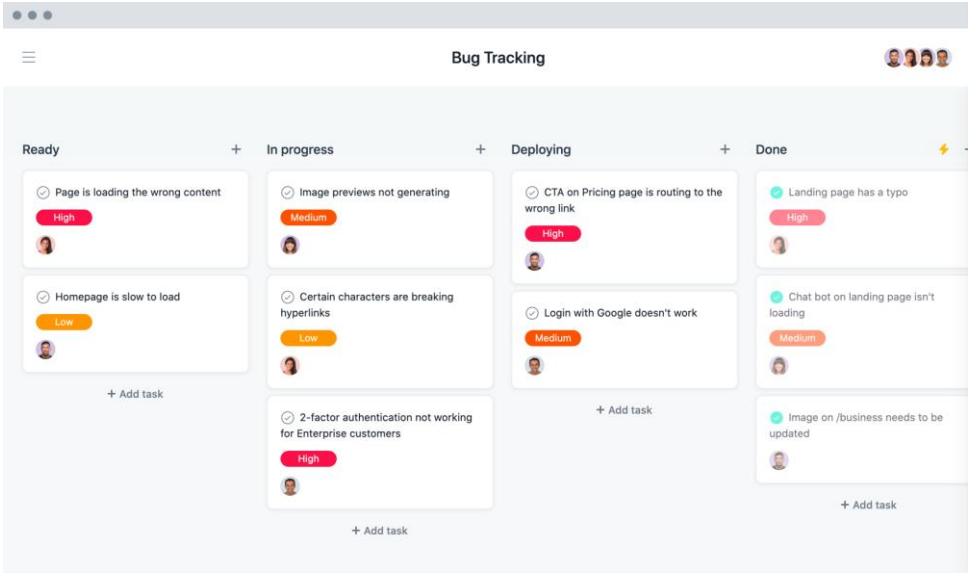
When someone speaks of Kanban in project management, they're most commonly referring to Kanban boards.

A Kanban board represents stages of work with columns that hold the individual tasks for each stage–but more on that in a little bit.

The Kanban framework is very flexible and can help your team become more dynamic and agile over time.

Kanban boards are one of the most popular forms of visual project management.

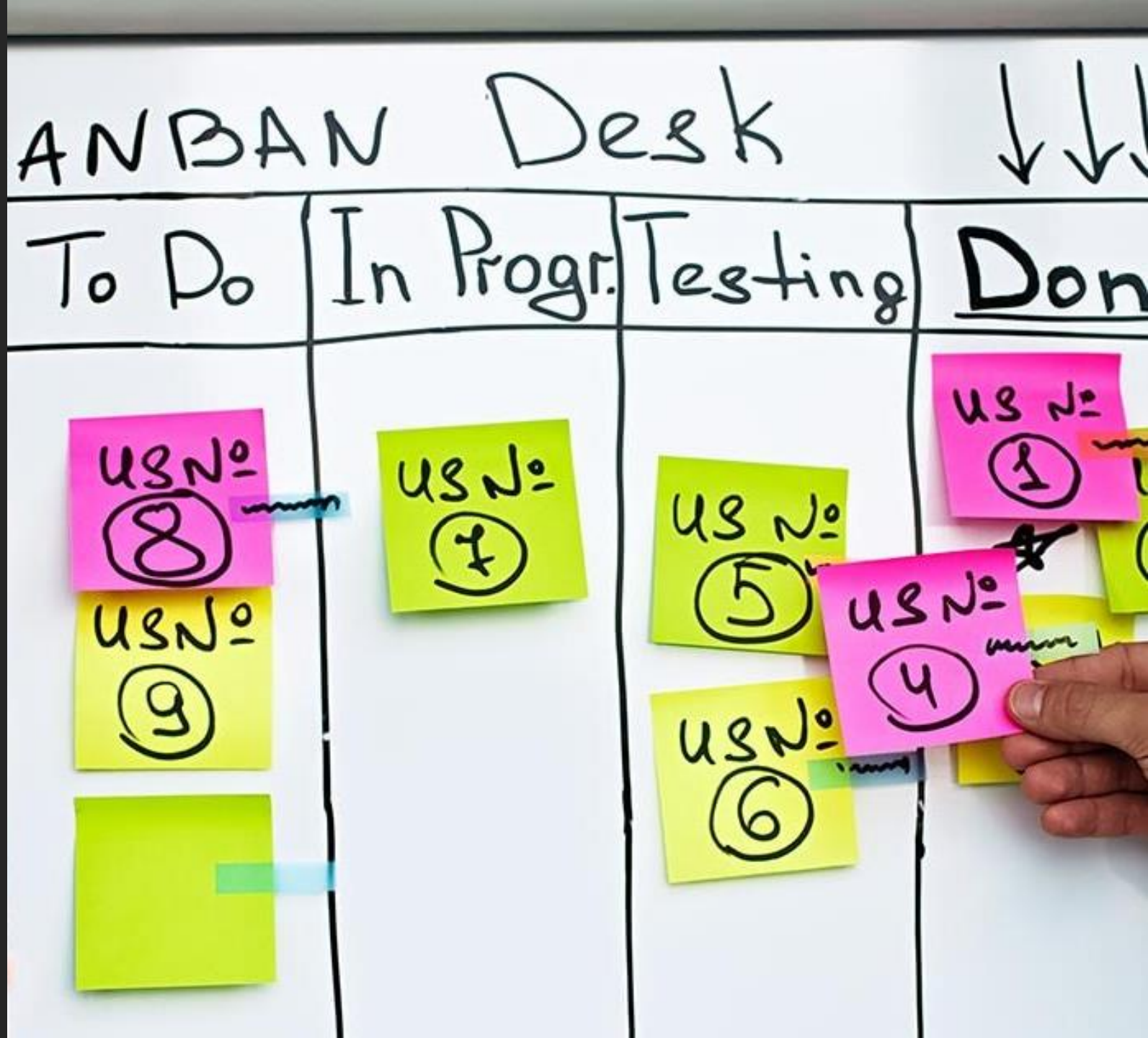
They're most effective for providing easy, at-a-glance insight into a project.



Benefits of Kanban boards

When you use a Kanban board for visual project management, you provide your team at-a-glance information, including but not limited to:

- Tasks or deliverables
- Task assignee
- Due dates
- Relevant tags, like priority or task type
- Task details
- Context
- Relevant files



What is Scrum

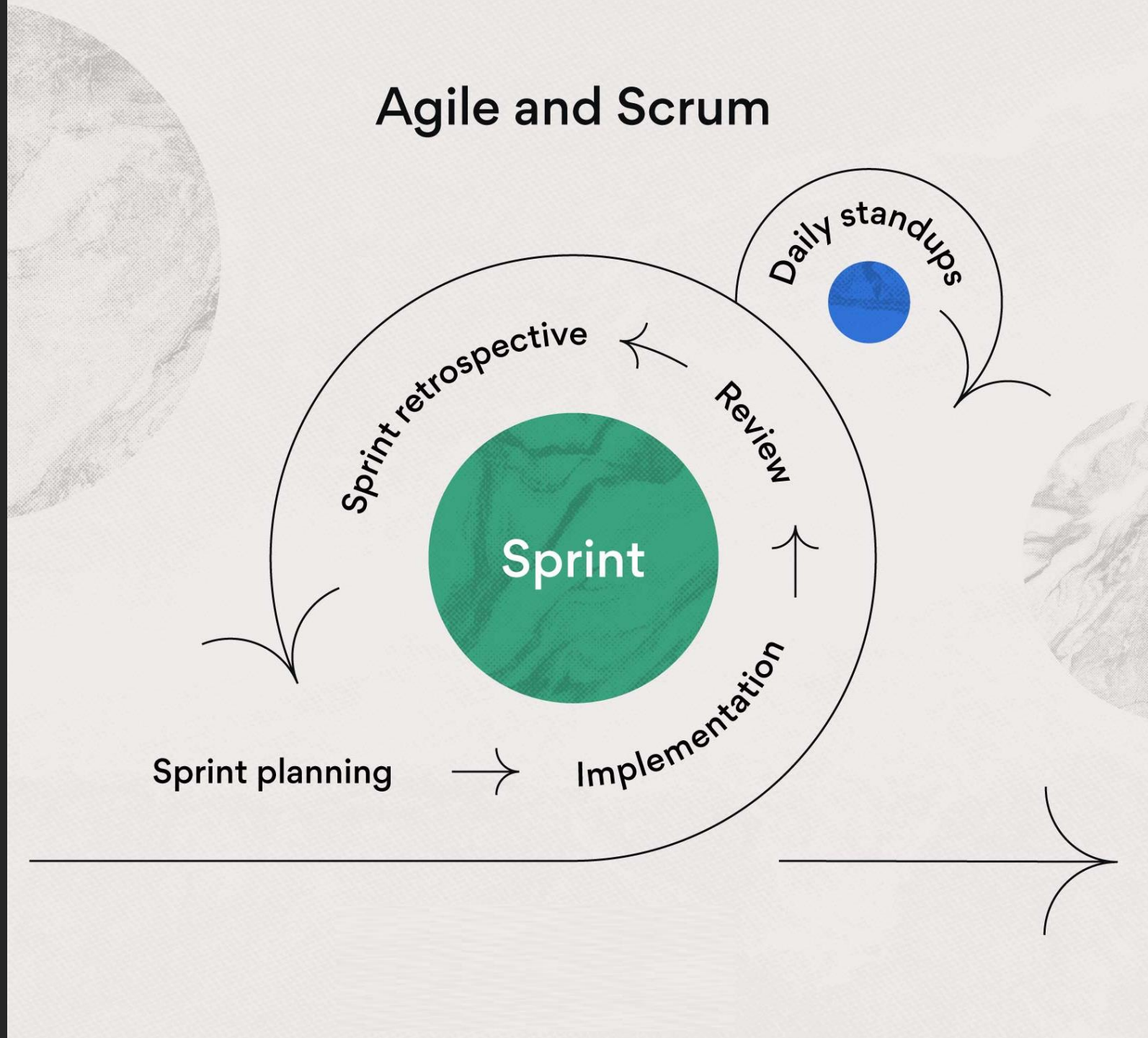
Scrum is one of the most popular Agile frameworks.

Kanban, is generally used as a tool to visualize work

Scrum is a full framework and you can “run teams” on Scrum.

The framework was pioneered by Taiichi Ohno and provides a blueprint of values, guidelines, and roles to help your team focus on continuous improvement and iteration.

It’s much less flexible than Kanban but a great way for Agile teams to collaborate and get high-impact work done.



Agile PM in Action: Scrum Methodology

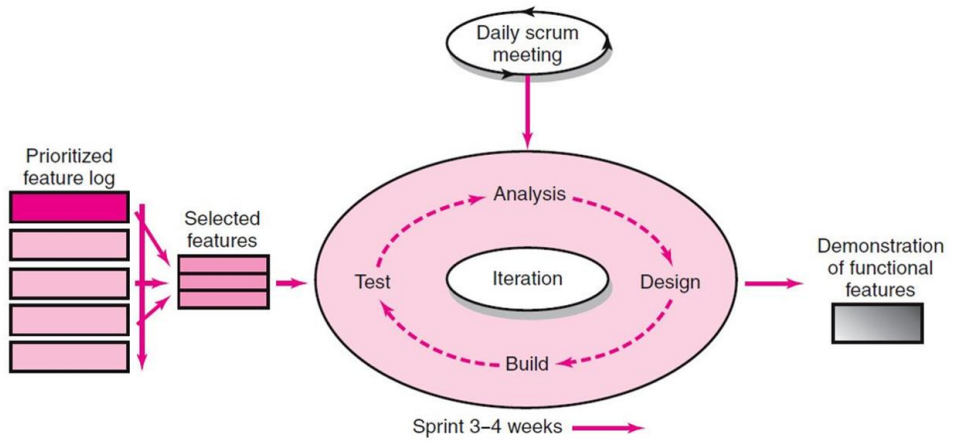
Is a holistic approach for use by a cross-functional team collaborating to develop a new product.

Defines product features as deliverables and prioritizes them by their perceived highest value to the customer.

Re-evaluates priorities after each iteration (sprint) to produce fully functional features.

Has four phases: analysis, design, build, test

Scrum is a lightweight framework that helps people, teams and organizations generate value through adaptive solutions for complex problems



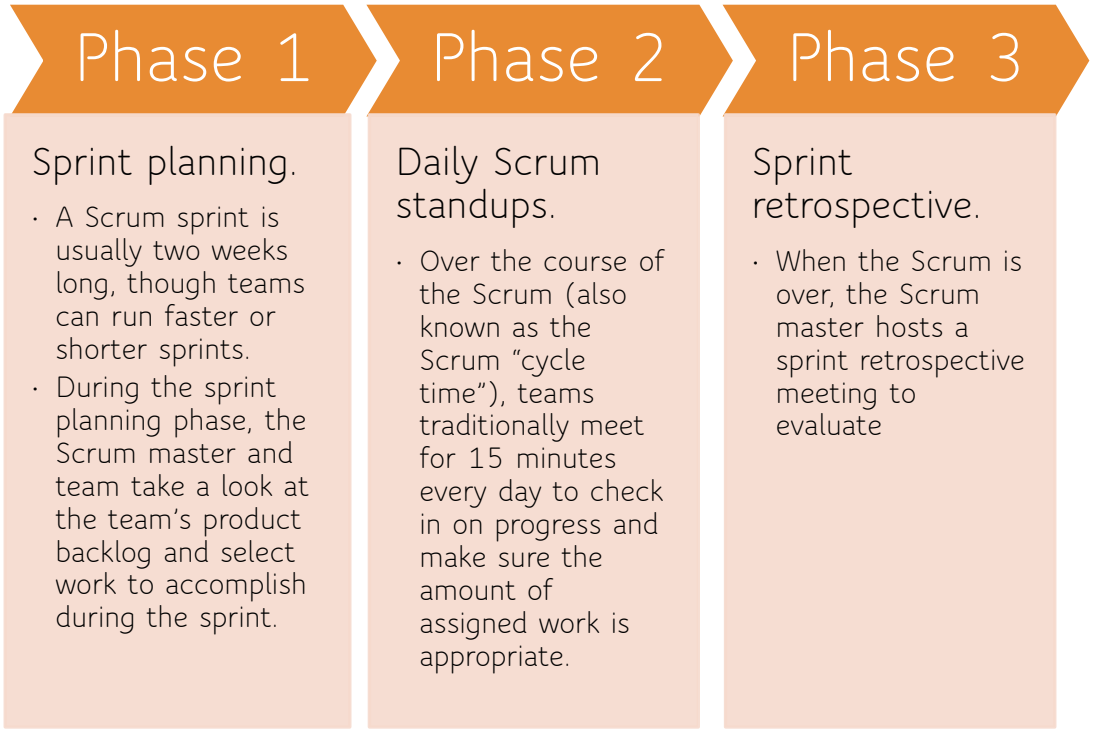
More on Scrum

While Scrum, like Agile, was originally created for software development teams, industries like product, engineering, and others now run Scrum to execute their work faster and more effectively.

To run a Scrum, teams typically assign a Scrum master, who is in charge of running the three distinct Scrum phases and keeping everyone on track.

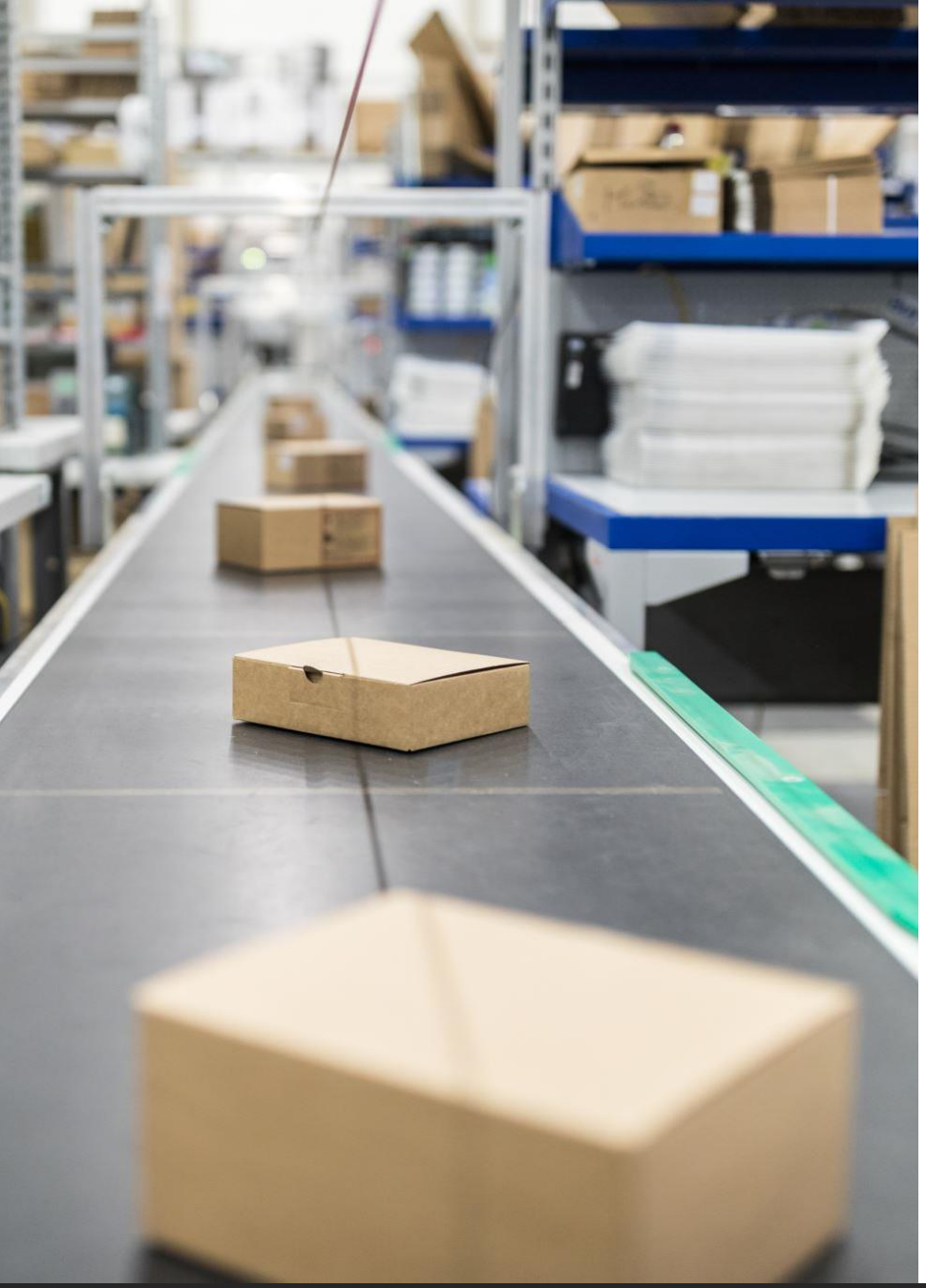
The Scrum master can be your team lead, project manager, product owner, or the person most interested in running Scrum.

The Scrum master is responsible for implementing the three traditional Scrum phases:



Key Roles and Responsibilities in the Scrum Process

Product Owner	Development Team	Scrum Master (aka Project Manager)
• Acts on behalf of customers to represent their interests.	• Is a team of five-nine people with cross-functional skill sets is responsible for delivering the product.	• Facilitates scrum process and resolves impediments at the team and organization level by acting as a buffer between the team and outside interference



Product Backlog in SCRUM

A product backlog is a prioritized list of work for the development team

It is derived from the project roadmap and its requirements.

The most important items are shown at the top of the product backlog.

The development team doesn't work through the backlog at the product owner's pace

The product owner isn't pushing work to the development team.

Instead, the development team pulls work from the product backlog as there is capacity for it, by iteration (scrum).

Product Backlog Items

A Product Backlog Item (PBI) is a single element of work that exists in the product backlog.

PBIs can include user stories, epics, specifications, bugs, or change requirements.

The Product Owner of an Agile team compiles and prioritizes the product backlog

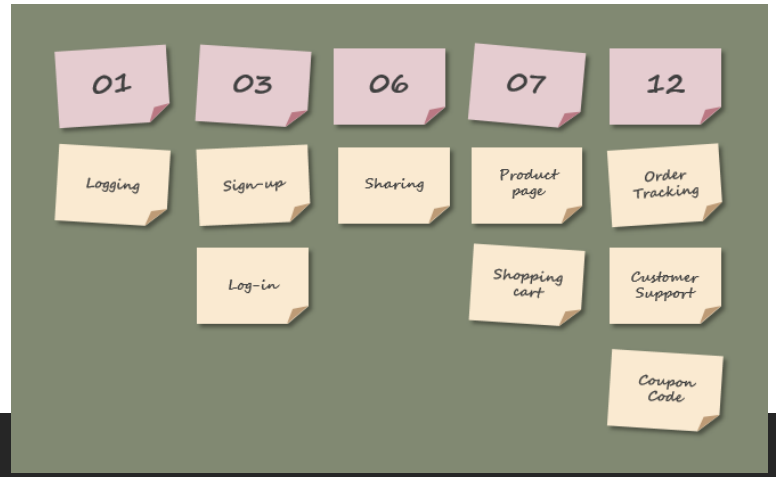
The most urgent or important PBIs are put at the top.

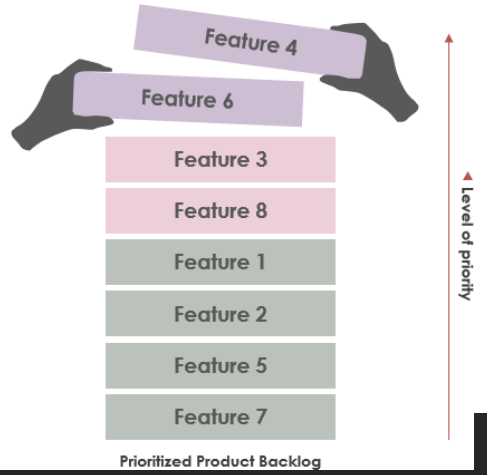
PBIs comprise tasks that need to be completed during a Scrum sprint

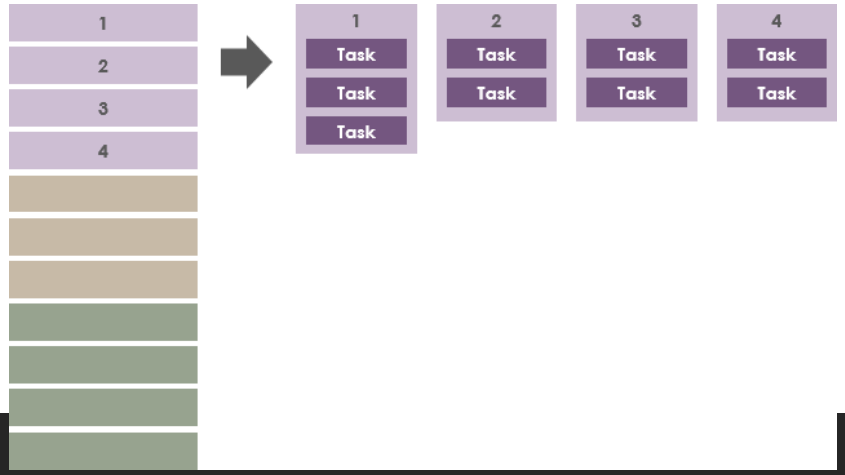
a PBI must be a small enough increment of work to be completed during a single sprint.

As PBIs move up to a higher priority in the product backlog, they are broken down into user stories.

Characteristics of Product Backlog





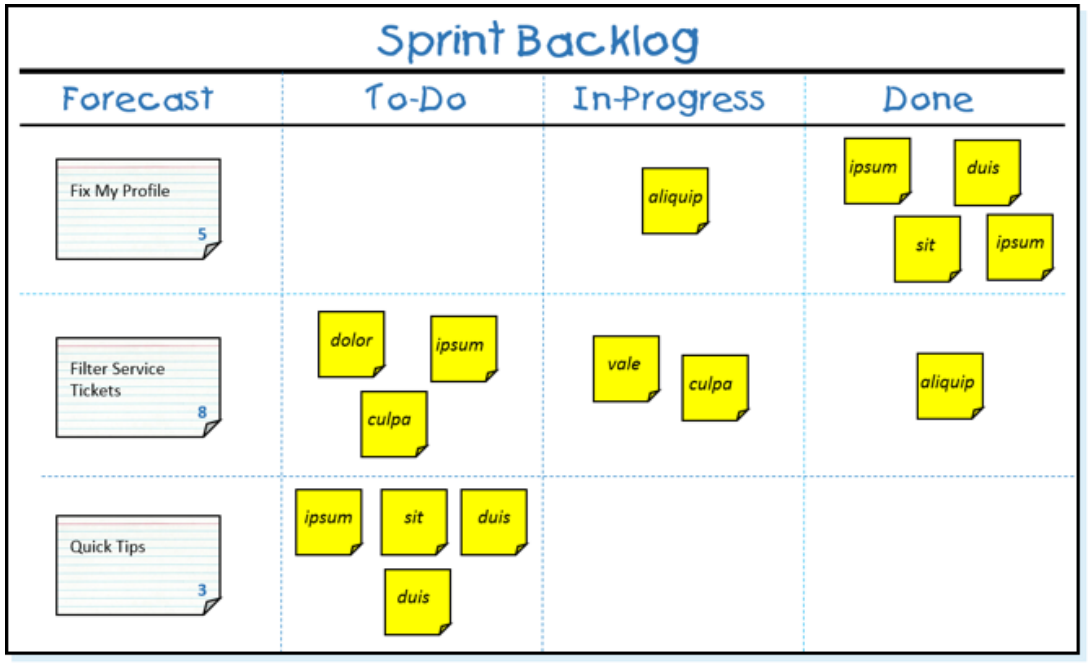


Sprint Backlog

Is a subset of the product backlog

Sprint backlog has a limited scope

It contains PBIs which are part of the upcoming sprint.



Tasks, Stories, epics, and initiatives

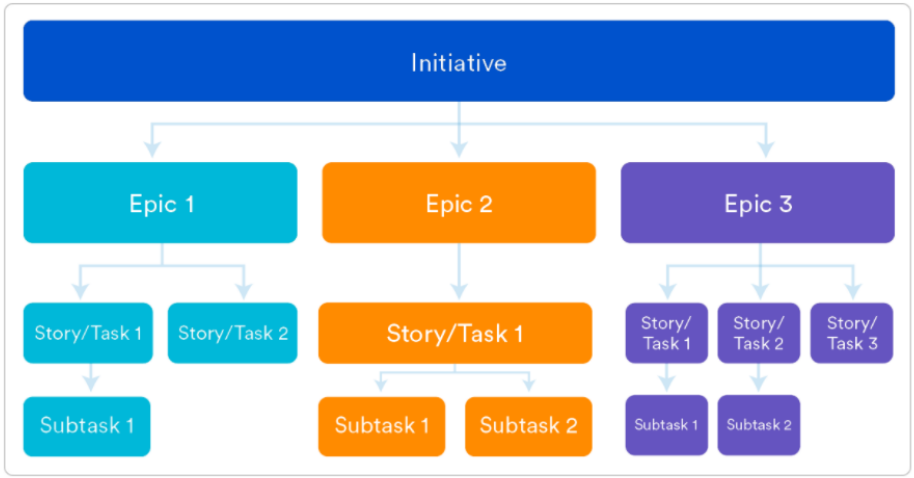
Initiatives are collections of epics that drive toward a common goal.

Epics are large bodies of work that can be broken down into a number of smaller tasks (called stories).

Stories, also called "user stories," are short requirements or requests written from the perspective of an end user.

Tasks, are work that needs to be done to build the feature.

SubTasks are used to split the issue into smaller chunks or to allow various aspects of an issue to be assigned to different people



Scrum Meetings or Ceremonies

Sprint planning meeting

- Before your team begins a Scrum sprint, you need to know where you're going. ...

Daily standup meeting

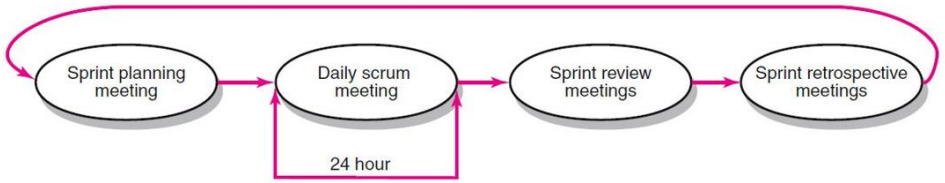
- most frequently held Agile Scrum meetings, daily standup meetings.
- They’re short, to the point, and, as the name suggests, held each day

Sprint review meeting.

- Sprint review meetings are held at the end of each sprint.
- This meeting is an opportunity for you and your team to demonstrate what you’ve accomplished

Sprint retrospective meeting.

- Just like review meetings, a sprint retrospective meeting is held at the end of each sprint
- primarily for the benefit of your Scrum team–there’s usually no need to get outside players involved.



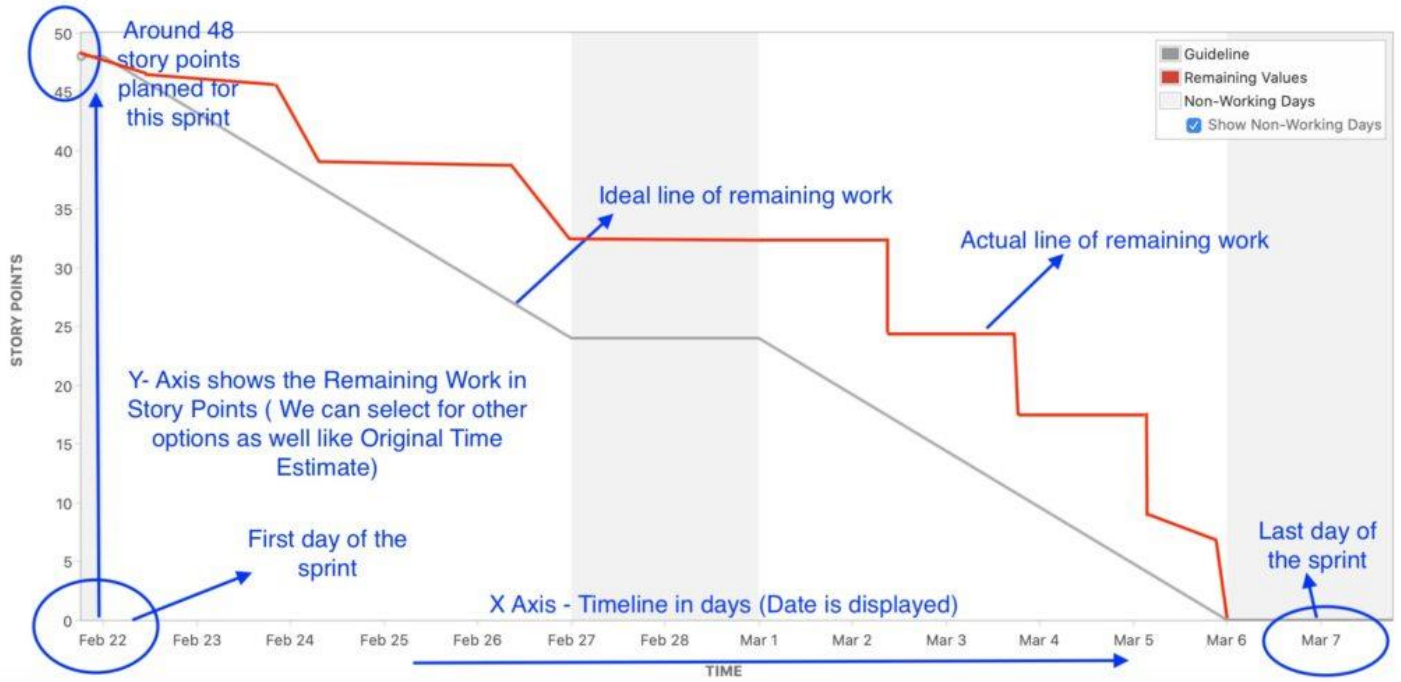
Burndown chart

A burndown chart is a graphical representation of work left to do versus time.

The outstanding work (or backlog) is often on the vertical axis, with time along the horizontal.

Burn down charts are a run-rate chart of outstanding work.

It is useful for predicting when all of the work will be completed.



Benefits of Scrum

Teams that run Scrum have clearly established rules, rituals, and responsibilities.

Additionally, your daily Scrum meetings, combined with sprint planning and sprint review (or "retrospective" meetings), help teams continuously check in and improve on current processes.

Because it draws from a backlog of work, and begins with a sprint planning meeting, Scrum offers an easy, built-in structure for team leads or product owners to manage and support their team's most important work.

During a Scrum, your team has a pre-set and limited amount of work and time for each sprint.

This level of built-in prioritization is combined with clearly defined responsibilities ensuring that everyone knows what they're responsible for at all times.