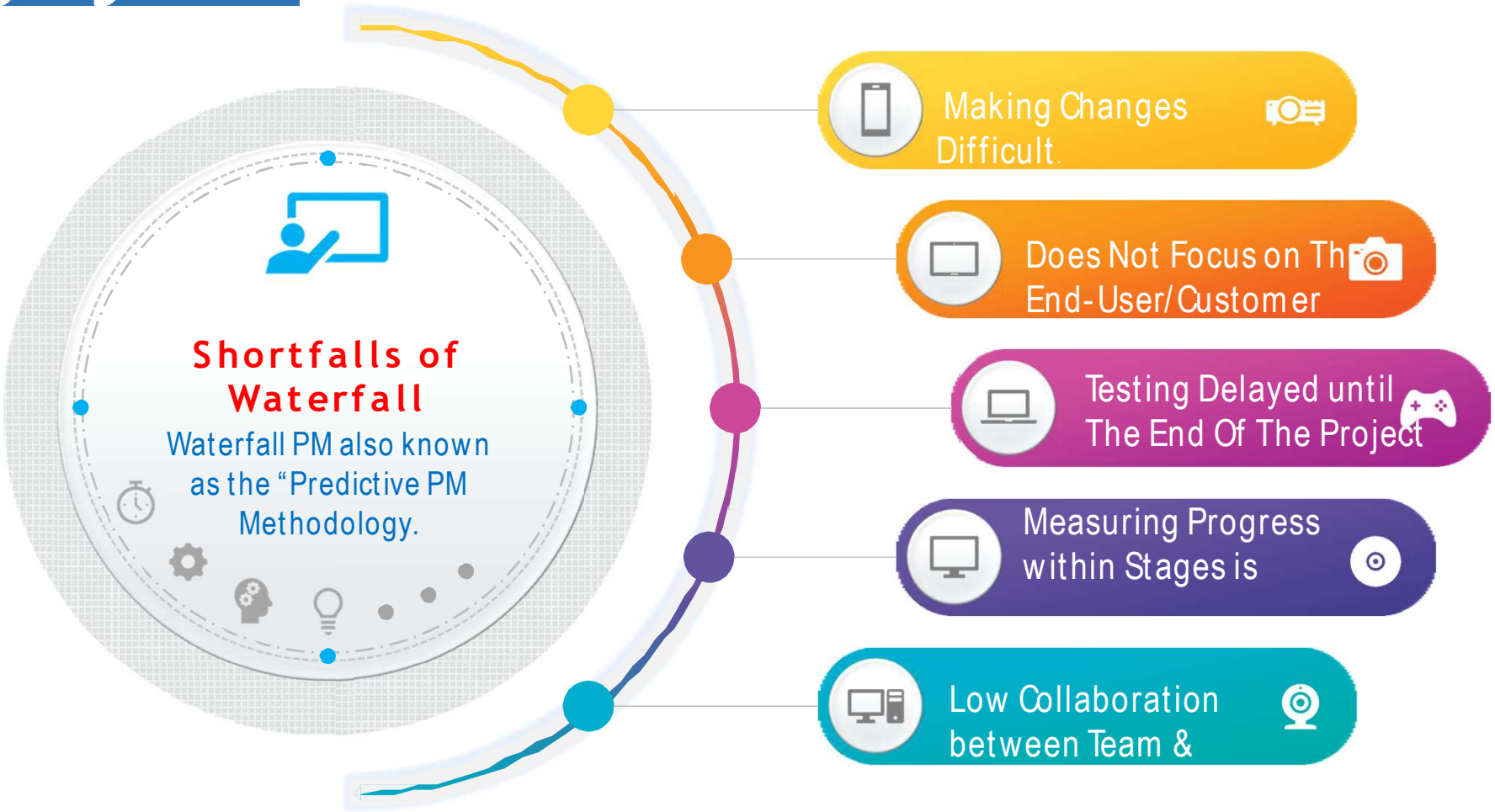
Agile Project Management

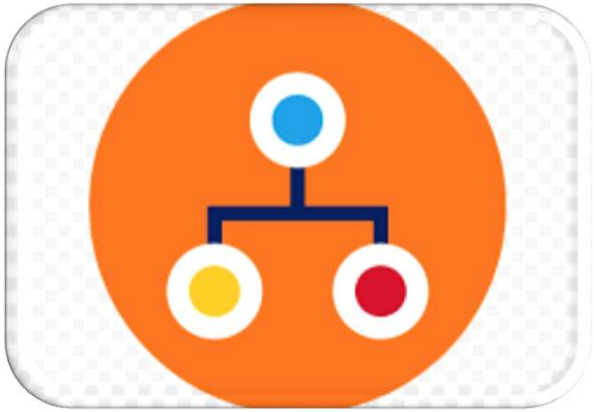
What you shall learn?

- To understand Agile project management approach within the Project Management Professional (PMP) Examination Syllabus
- To be able to apply the knowledge gained on product development where multiple variants are required or desirable.

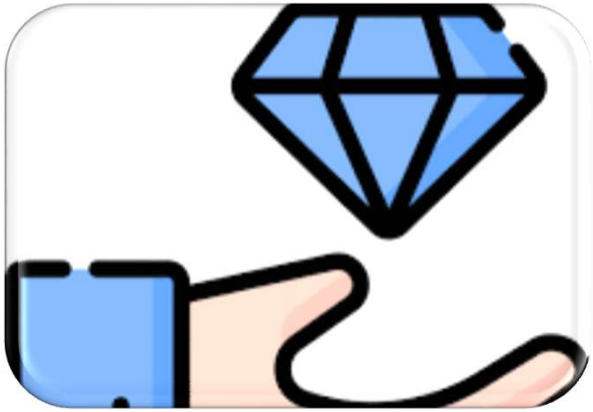
Why Agile?


Shortfalls of Waterfall
Waterfall PM also known as the "Predictive PM Methodology.
Making Changes Difficult.
Does Not Focus on Th End-User/Customer
Testing Delayed until The End Of The Project
Measuring Progress within Stages is
Low Collaboration between Team &

What is Agile?



Agile is a set of **Principles** used in project management and software development



Teams deliver **Value** to customer with ease.

Team deliver work in small but usable **Increments**.

What is Agile?

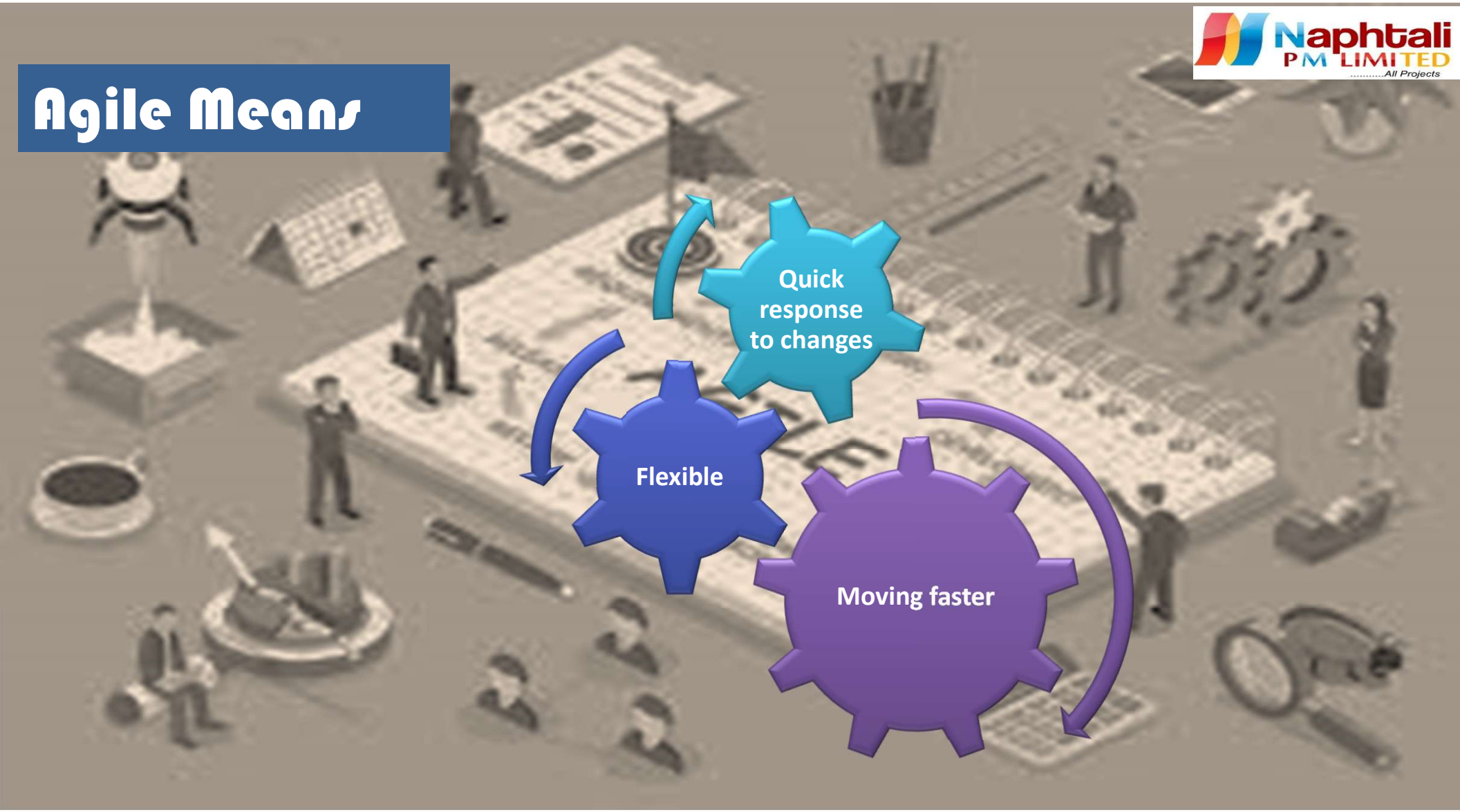
Evaluation of requirements/ plans/ results takes place continuously

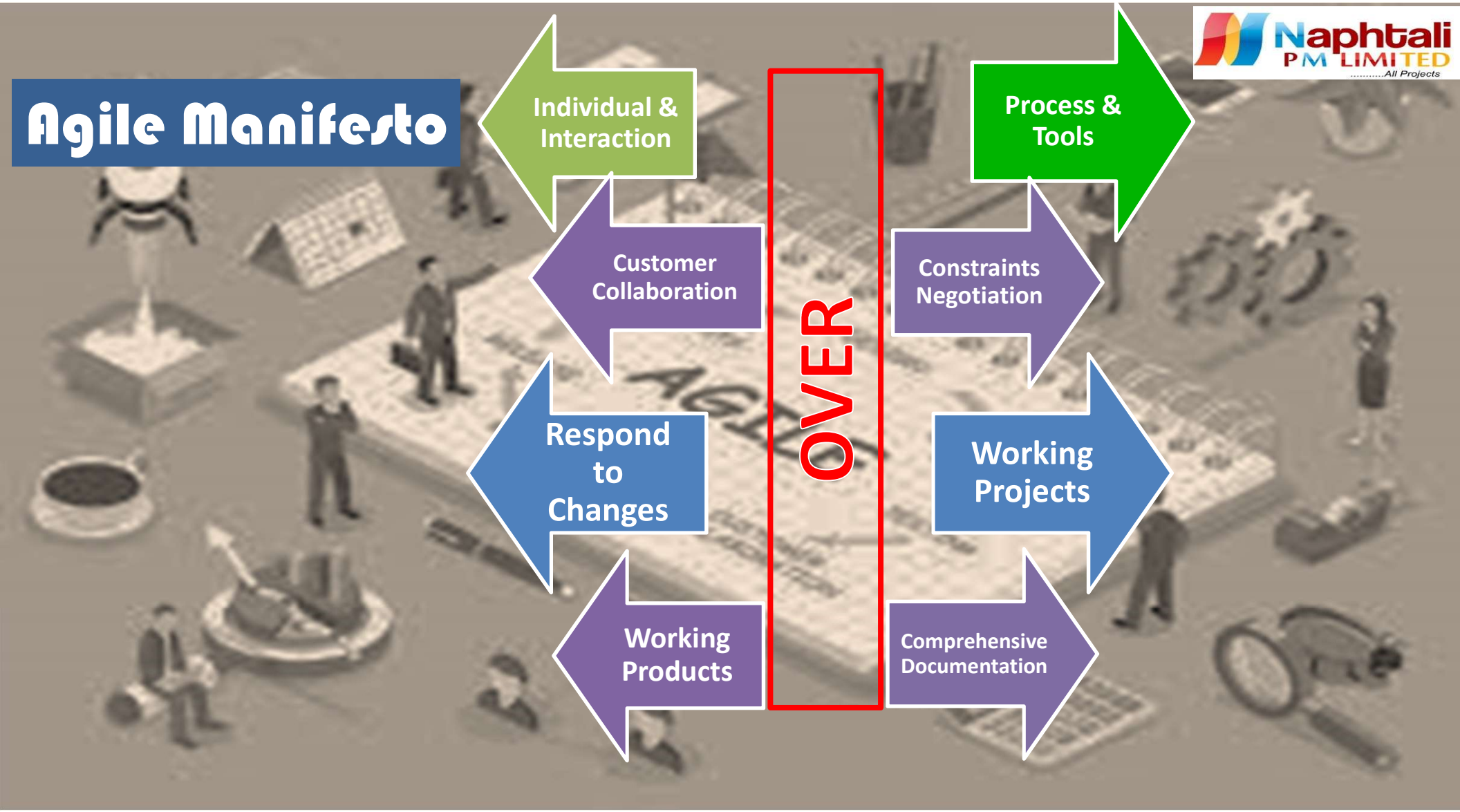
This enables team to **Respond to Change** quickly.

Agile Means

- Set of methods & practices that focuses on *interactive development*, requirement & solutions are obtained BECAUSE the TEAM is:-

Agile Means




Agile Manifesto
Individual & Interaction
Process & Tools
OVER
Customer Collaboration
Constraints Negotiation
Respond to Changes
Working Projects
Working Products
Comprehensive Documentation
Naphtali PM LIMITED
All Projects

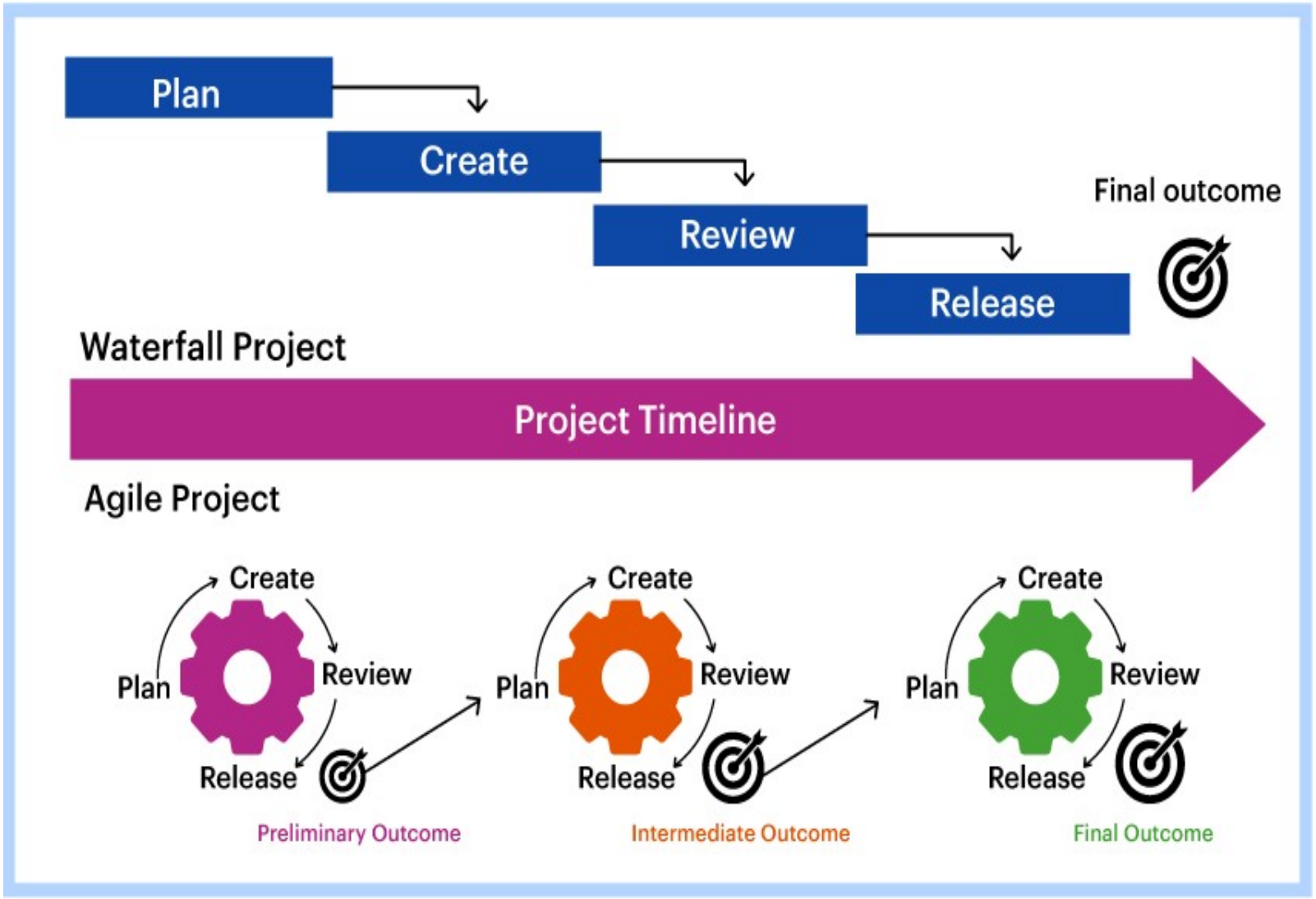
Agile Methodology

Agile Methodology

- Believes that even project is different and need to be handle differently and the existing method need to be tailored to best suit the project requirements
- Agile methodology promotes ***continuous iterations*** of development and testing all through the project development lifecycle.
- Process ensures rapid/quick delivery of all the components of the project that are completely final.
- The tasks are divided into small time frames to deliver specific features for the ***release***.
- This divisions are known as ***sprints***
- Each sprints have its own set of deliverable which are decided at the beginning of each sprint.

Agile Vs. Waterall

Waterfall PM vs. Agile PM



Agile Vs. Waterfall

LIFE CYCLE

Agile

- Is a *continuous iteration* cycle model for project delivery

Waterfall

- *Linear sequential* life cycle model for project delivery

Agile Vs. Waterfall

RIGIDITY

Agile

Is a *flexible way* of building project delivery that allow feedback causing changes even project have been developed or has began.

Waterfall

Is *rigid, structured* way of project development

Agile Vs. Waterfall

COLLABORATION

Agile

- Is highly collaborative, in approach towards project delivery yielding a better output.
- Helps in completing the project in a more productive manner.

Waterfall

- Is least flexible and follows sequence of steps, team collaboration is not as inclusive in comparison with Agile approach
- Strictly follows the sequence of steps

Agile Vs. Waterfall

PROCESS

Agile

- Entire process is divided into smaller and more easily manageable components called *sprints.*
- *Sprints* have their own deadline and deliverables.

Waterfall

- Process broken down into several phases, giving/issuing their deliverables at the end.

Agile Vs. Waterfall

Agile

- *More susceptible* to accept changes because of its *flexibility*.
- Changes may be made even after the initial planning is completed

CHANGES

Waterfall

- It is not susceptible to changes because of its *rigidity*, changes are considered after going through the change management process.

Agile Vs. Waterfall

PROJECT DEVELOPMENT

Agile

- A collection of many different projects.
- Agile approach completes a project in several sprints

Waterfall

- Product development is completed as a single project or deliverables

Agile Vs. Waterfall

TESTING

Agile

- Testing is performed in the same step/iteration as execution

Waterfall

- This is a separate testing phase in which the system is tested after the build phase.

Agile Vs. Waterfall

Agile

- Focuses on making an easy approach for team interaction and customer satisfaction
- The process has customer inputs making the entire process *customer centric*

FOCUS

Waterfall

- Focuses on progression steps
- It has 2 important elements
  - Product
  - Processes

Agile Vs. Waterfall

PROJECT

Agile

- Best suited for project where requirement may change and evolve

Waterfall

- Best suited for project that have well defined requirements and changes are not expected.

Agile Vs. Waterfall

CUSTOMER SATISFACTION

Agile

- Focuses on customer satisfaction. Customers are involved throughout the development phase

Waterfall

- Customers participation is done at the stage of *planning* in the form of *requirement gathering*.
- Follows sequence of steps.

Agile 12 Principles

Agile Principles

1 CUSTOMER SATISFACTION

Early and quick delivery of the project collaboration

Agile Principles

2 WELCOME CHANGE

Need to be addressed at anytime.

Agile Principles

3 DELIVER FREQUENTLY

Ensure project deliverables/features are delivered frequently on a shorter time scale

Agile Principles

4 WORK TOGETHER

Customer satisfaction- early and quick delivery of the project collaboration

Agile Principles

5 MOTIVATED TEAM

Project need to be built around motivated individuals and they must be trusted to get the job done

Agile Principles

6 FACE TO FACE

Face to face interactions is the most efficient means of communication

Agile Principles

7 WORKING DELIVEABLE

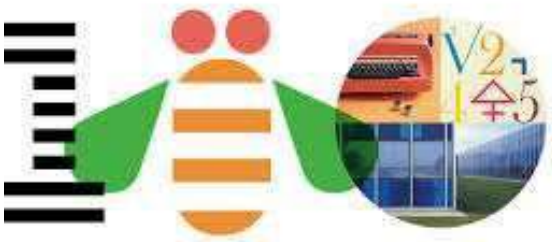
Working Deliverable is
Primary measure of progress

Agile Principles

8 CONSTANT PACE

Agile process promotes sustainable development

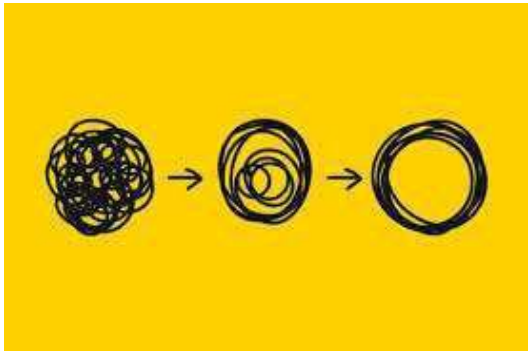
Agile Principles



9 GOOD DESIGN

Agility can be improved by focusing technical excellence and good design

Agile Principles



10 SIMPLICITY

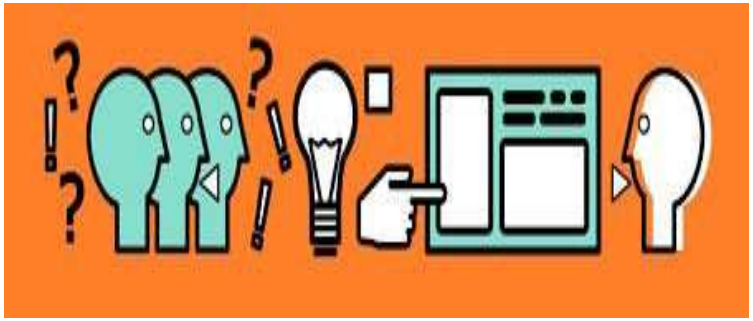
The amount of work that being done needs to be minimized

Agile Principles

11 SELF-ORGANISZATION

Self-organized teams provide the best architectures requirements and designs

Agile Principles



12 REFLECT & ADJUST

Effectiveness can be improved by the team regularly reflecting on it

Steps in Agile PM

Steps in Agile PM

Agile is commonly used to deliver complex projects due to its adaptiveness.

It aims to be clear and measurable by using six main deliverables to track progress and create the product.

- **Product vision statement** – A summary that articulates the goals for the product
- **Product road map** – The high-level view of the requirements needed to achieve the product vision
- **Product backlog** – Ordered by priority, this is the full list of what is needed to be done to complete the project
- **Release plan** – A timetable for the release of a working product
- **Sprint backlog** – The user stories (requirements), goals and tasks linked to the current sprint
- **Increment** – The working product functionality that is presented to stakeholders at the end of the sprint and could potentially be given to the customer

Steps in Agile PM

Project Planning

Roadmap Creation

Release Planning

Sprint Planning

Daily Meeting

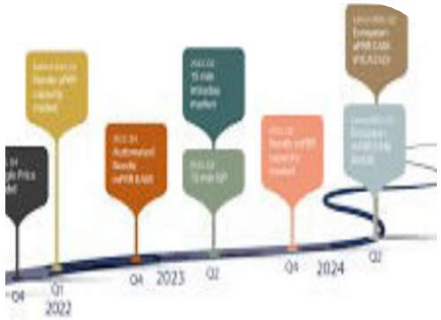
Spring Review & Retrospective

Steps in Agile PM

Project Planning

- Team selects items from the product backlog they can commit to completing
- Sprint backlog is created
- Tasks are identified and each is estimated (1-16 hours) Collaboratively, not done alone by the Scrum Master
- High-level design is considered

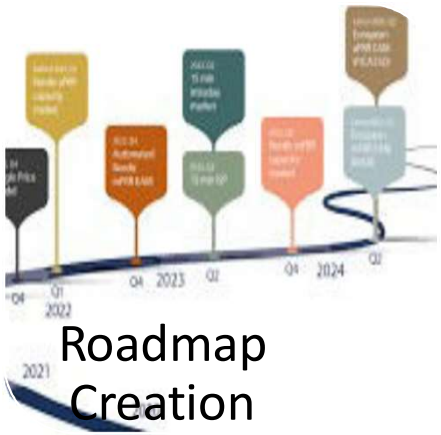
Steps in Agile PM



Roadmap Creation

A road map contains full list of ***features*** that the final project should have. It acts as a plan of action on how the project will evolve.

Steps in Agile PM



Roadmap Creation

- Integral part of the plan
- Features are built during each sprint
- Plan of action
- Use of features
- Steps for achieve the features.

Steps in Agile PM

Release Planning

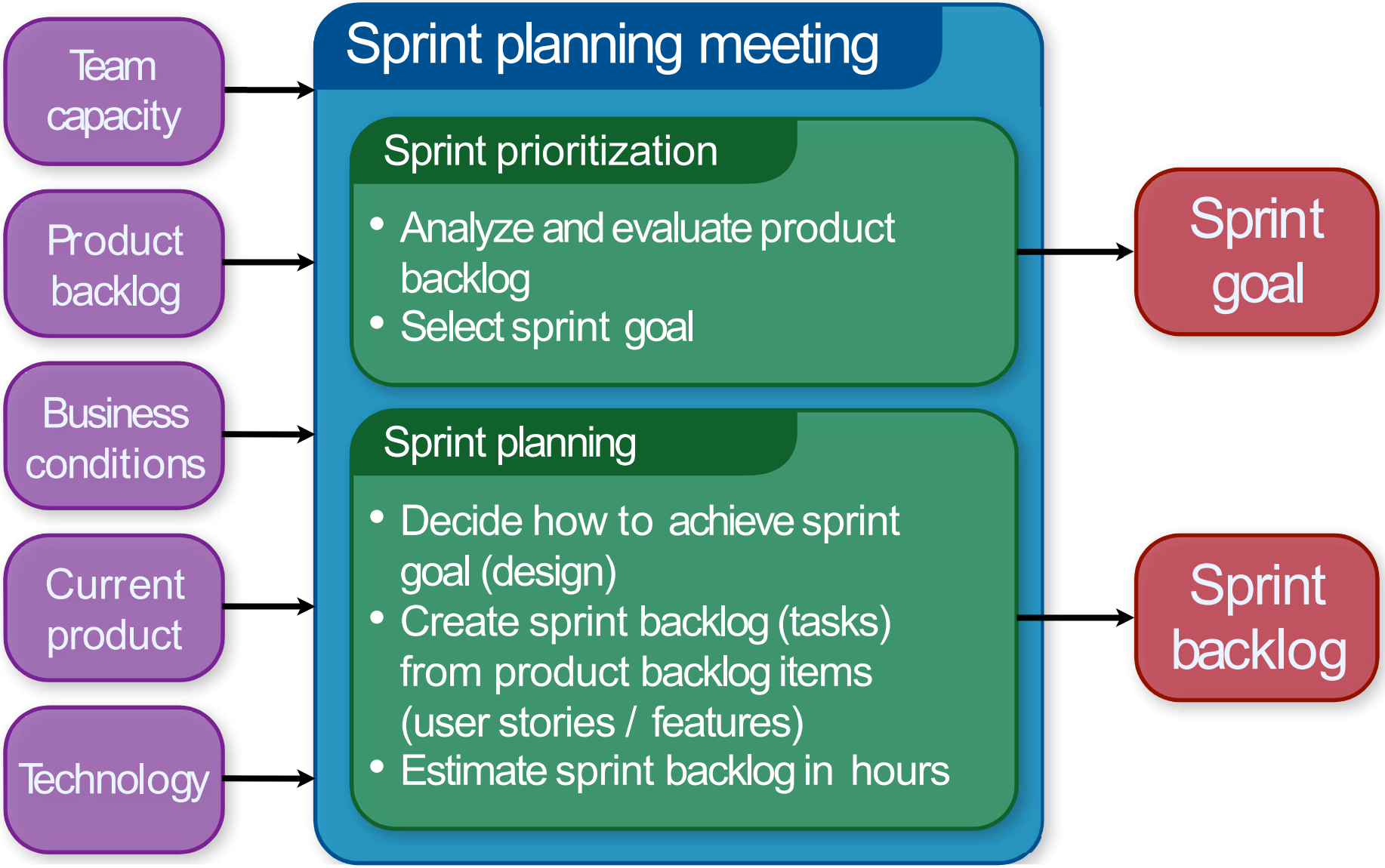
Plan is made for all features release and the plan is revisited at the beginning of each ***sprint***

Steps in Agile PM

Sprint Planning

- Ensure each member has an assigned task before the sprint begins
- Goal of each sprint is cleared
- Step taken to achieve the goals.

Steps in Agile PM



Steps in Agile PM

Daily Meeting

Helps the team to accomplish their daily tasks in an efficient manner

Each member talk about what they've achieved, their challenges and what they plan to accomplish for the day.

Steps in Agile PM

Spring Review
& Retrospective

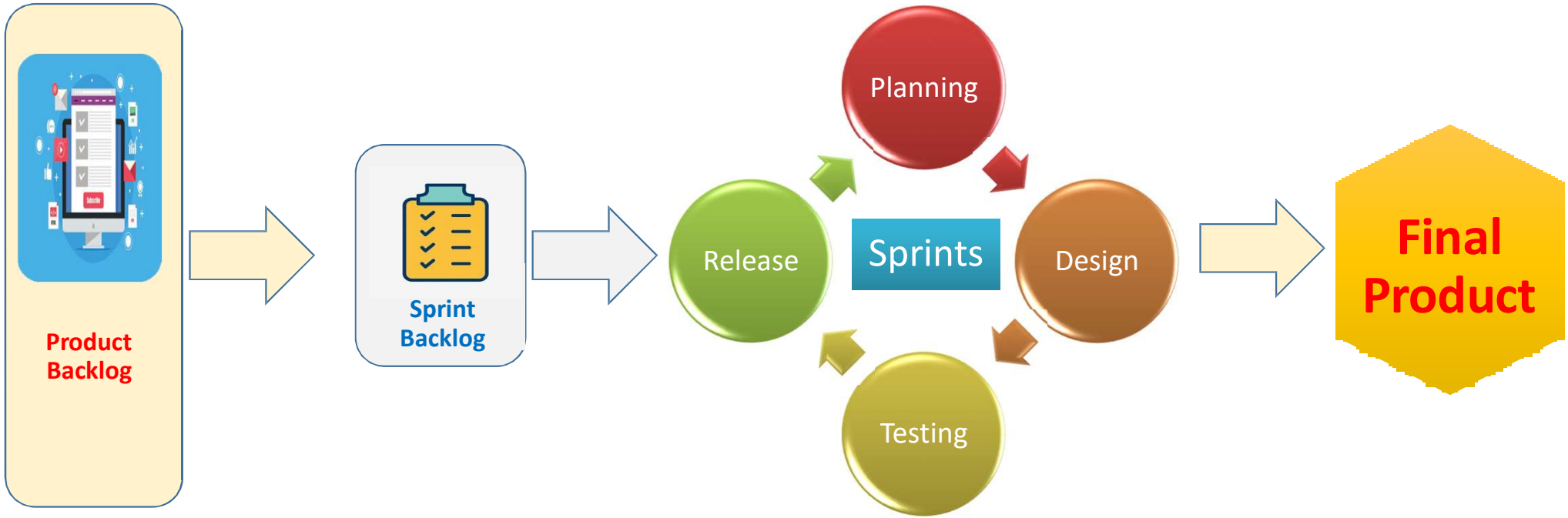
Sprint review first Meeting

- Show the stakeholder the finish project for the sprint
- To discuss if there are issues of the deliverable.

Sprint review second Meeting and before next sprint planning

- Stakeholder's discus what went well, what went wrong during the sprint.

Agile Development Cycle



What Makes Agile Work?

Green field
Developments

Customer always available

Executive Buy in

Why Agile Project Management?

High Product Quality

Smooth working of the project keep in mind stakeholders' requirement and demand

Testing is performed all through the project development process

Team perform regular check-ups to improve project quality

Why Agile Project Management?

Customer Satisfaction

Customers have full knowledge of what is been done

Continuous and fact delivery

Customers may give changes at any point in the project

Why Agile Project Management?

Reduced Risk

Project is divided into sprints so even if the risk (threat) is vulnerable in the first sprint, it will not affect the second sprint.

Risk analysis is simultaneously done with other project processes.

Easy adaptation to the client's requirement all through the development phase.

Why Agile Project Management?

Better and
Faster ROI

Project is completed in several versions, so the project is market ready after a few versions..

Agile helps in the fast release of the project and help stay ahead in competition with other companies.

Myths about Agile PM

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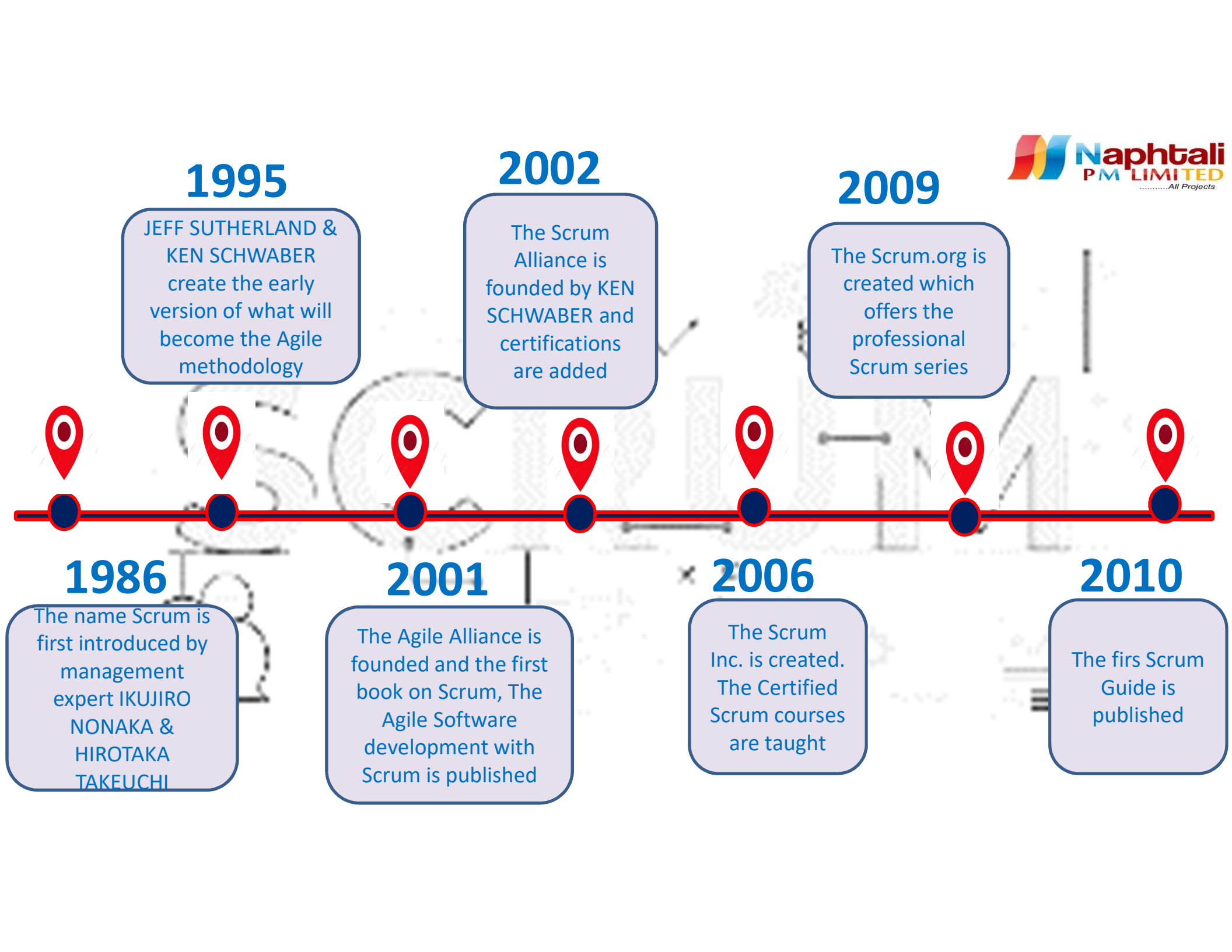
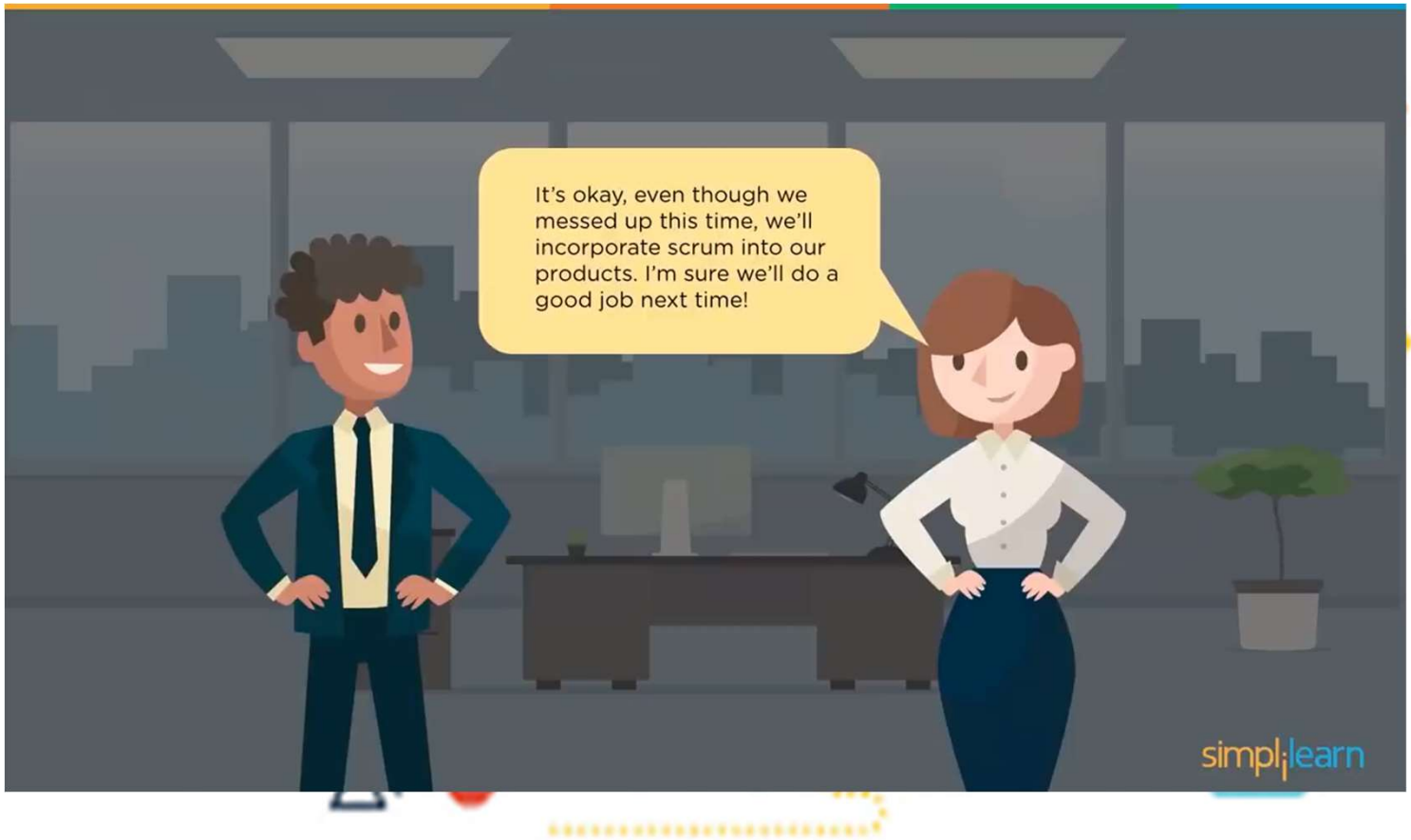
- Planning is not required
- No documentation
- Lacks discipline
- Requires a lot of rework
- Does not allow for scalability
- Is a direct and effortless solution to all project problems
- Agile is scrum

History of Scrum

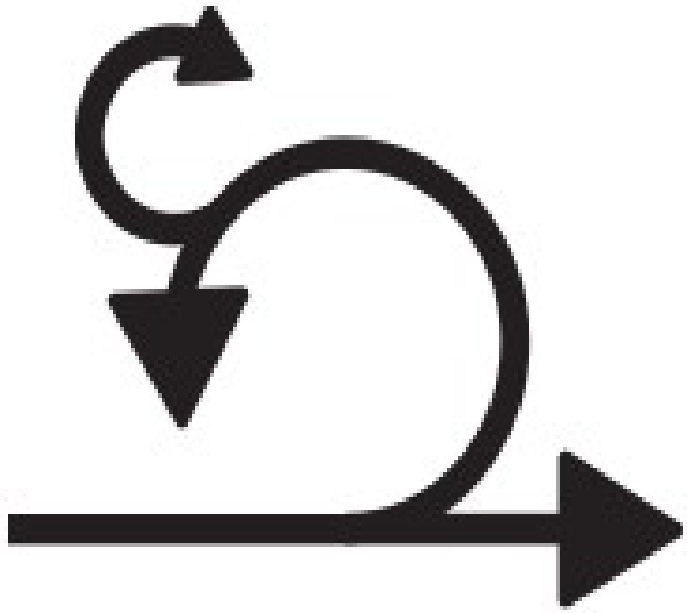

1986
The name Scrum is first introduced by management expert IKUJIRO NONAKA & HIROTAKA TAKEUCHI
1995
JEFF SUTHERLAND & KEN SCHWABER create the early version of what will become the Agile methodology
2001
The Agile Alliance is founded and the first book on Scrum, The Agile Software development with Scrum is published
2002
The Scrum Alliance is founded by KEN SCHWABER and certifications are added
2006
The Scrum Inc. is created. The Certified Scrum courses are taught
2009
The Scrum.org is created which offers the professional Scrum series
2010
The firs Scrum Guide is published
Naphtali PM LIMITED
All Projects

History of Scrum

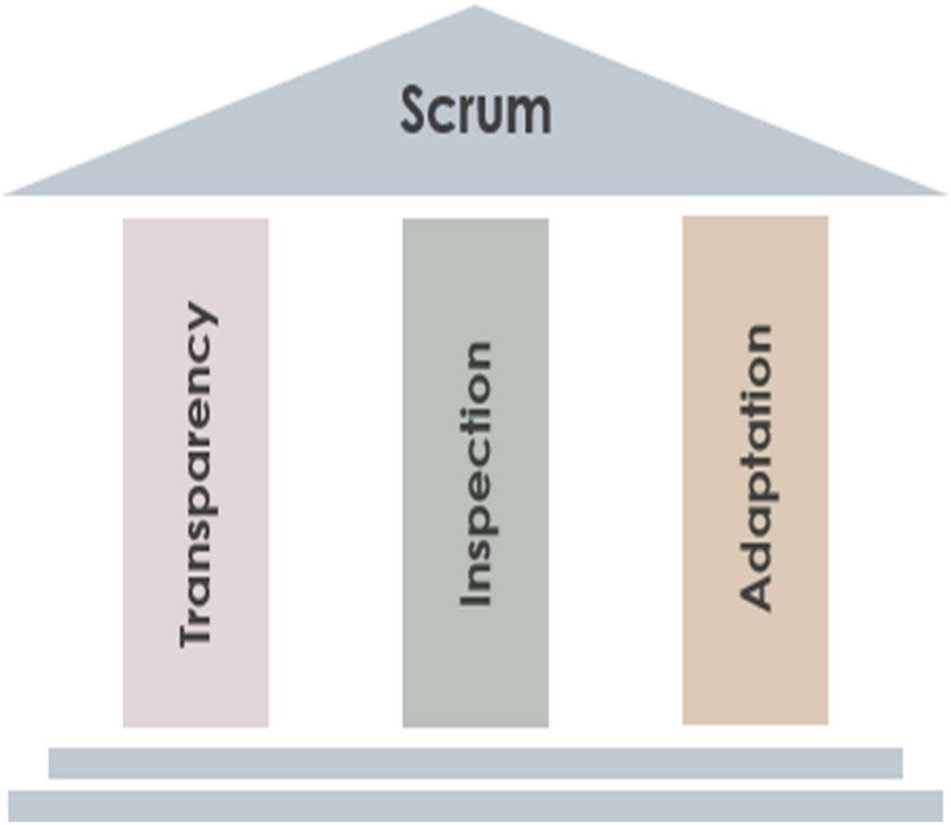


What is Scrum?

- Scrum is an agile framework
- Scrum is agile, agile is not scrum
- Scrum delivers features at a time
- Its goal is to develop, deliver and sustain complex products/projects through collaboration, accountability and an iterative process



3 Pillars of Scrum



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.

What is Scrum?

Roles	Ceremonies	Artifacts
• Product Owner • Scrum Master • Team	• Sprint planning • Sprint review • Sprint retrospective • Daily scrum meeting	• Product backlog • Sprint backlog • Burndown charts

Benefits of Scrum

Team provides project deliverables in an efficient manner

Time & money used efficiently

Projects are divided into smaller units called “Sprints”

Work best for fast moving projects

Benefits of Scrum

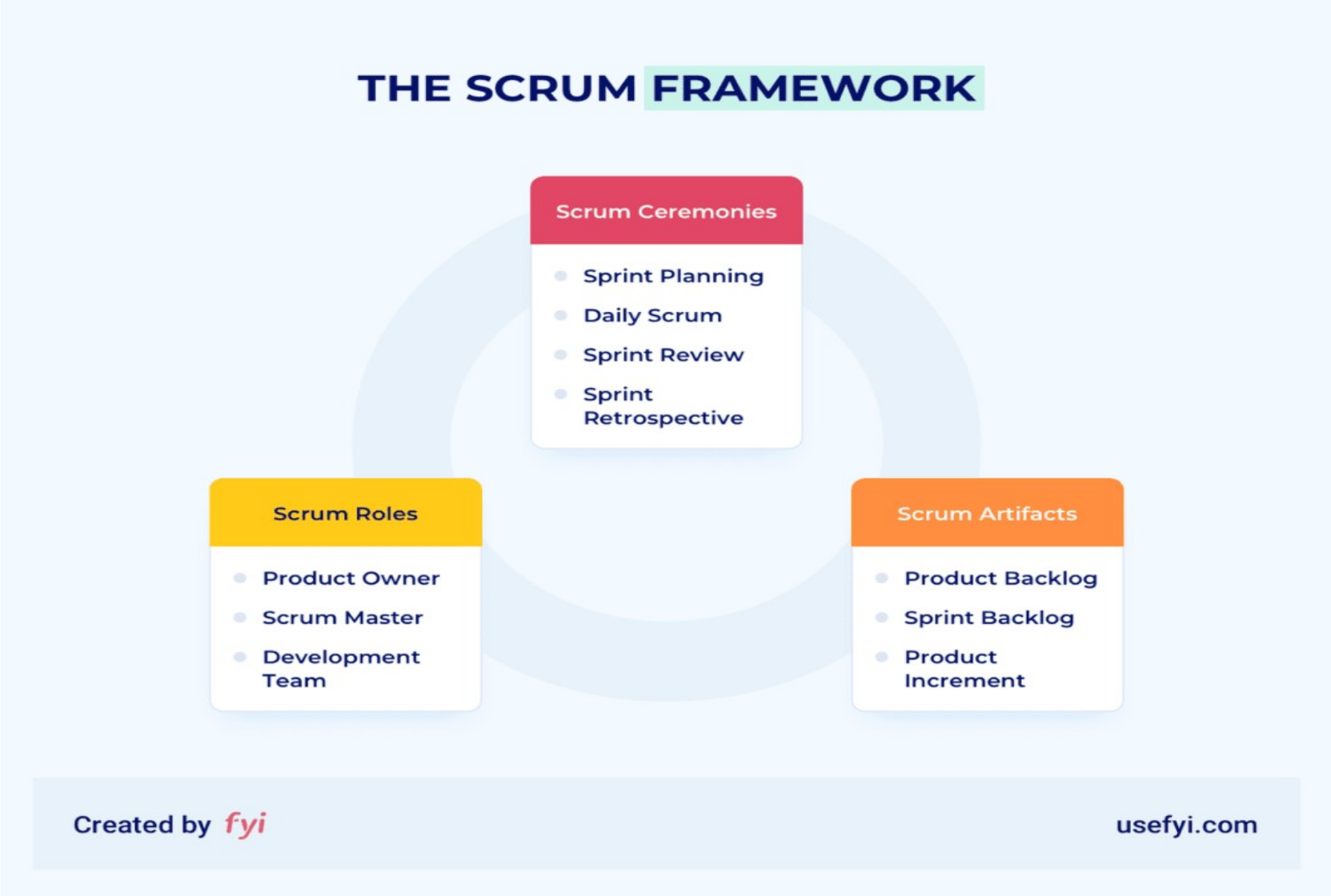
Scrum meeting (daily) provide great visibility

Constantly involves feedback from customers/sponsors

Making changes on feedback easy.

Individual efforts of members are given focus.

Scrum Framework



The Roles

Product owner

Scrum Master

Scrum Team

Product Owner

Product owner

Determines the product features

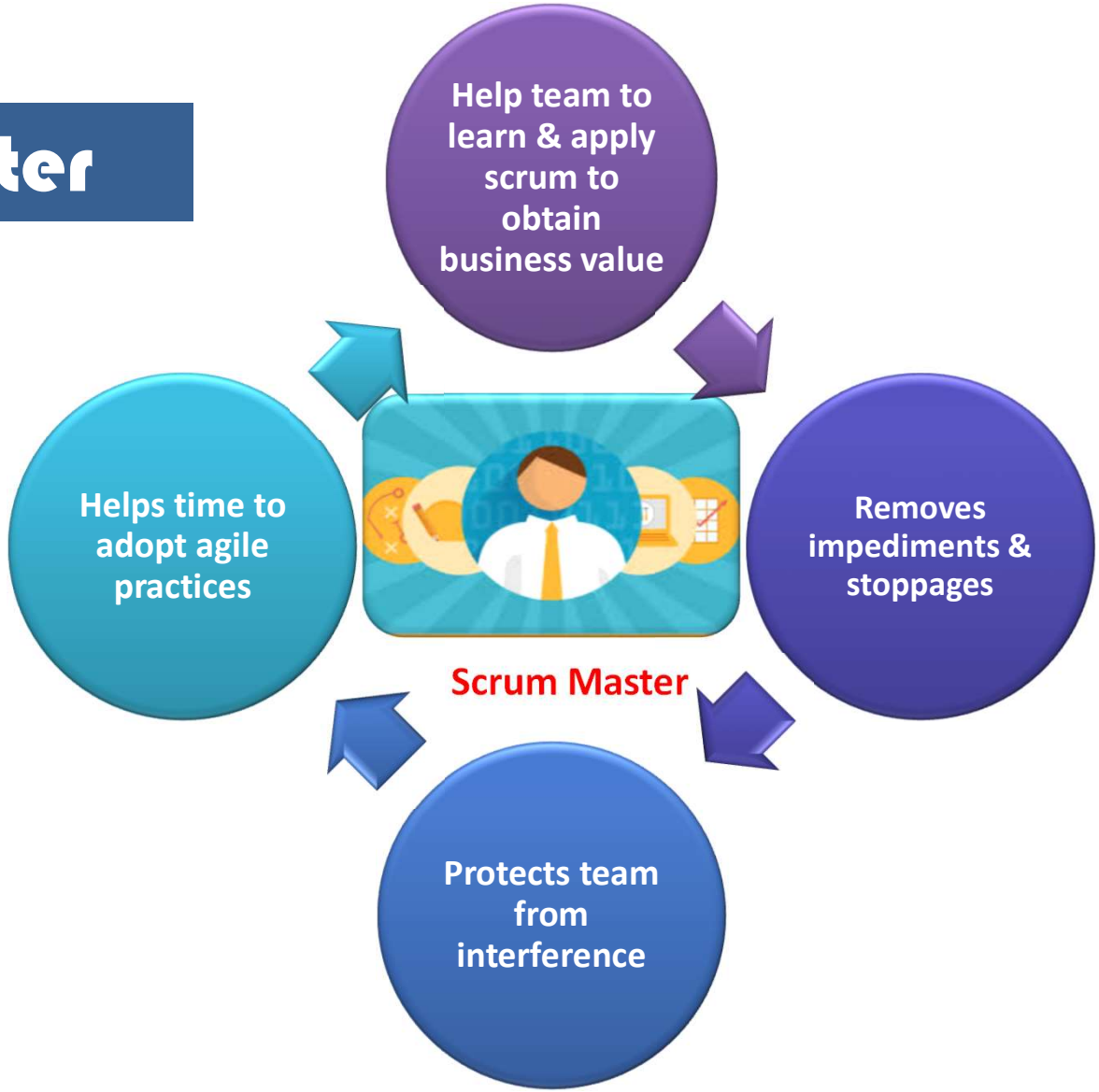
Accept or reject work result

Maximizing ROI - primary responsibility

Decide on the release date and content

Adjust features and Re-prioritizing & refining it the product backlog

Scrum Master



Scrum Team

Scrum Team

Collection of individuals that work together to delivered projected requirements/deliverables to the project stakeholders.

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.....All Projects

Scrum Artifacts

Scrum Artifacts

- Scrum artifacts are components of the scrum process that can improve transparency & understanding of the work/task. These are:

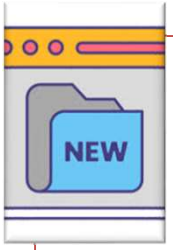
Product Backlog

Sprint Back Log

Product Increment

Scrum Artifacts

Product Backlog

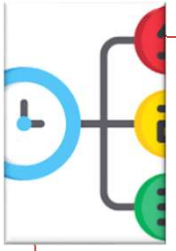


New features

Changes made to existing features

Bug fixes

Changes to infrastructure & several other activities that the team needs to deliver to achieve a goal.



These tasks are then added to the sprint backlog.

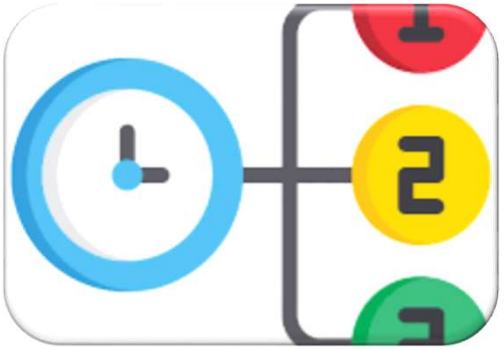
Scrum Artifacts

Sprint Back Log

Short period of time during which a scrum team aims to get a given amount of work done.

Could be 1-4 weeks.

Subset of project backlog.

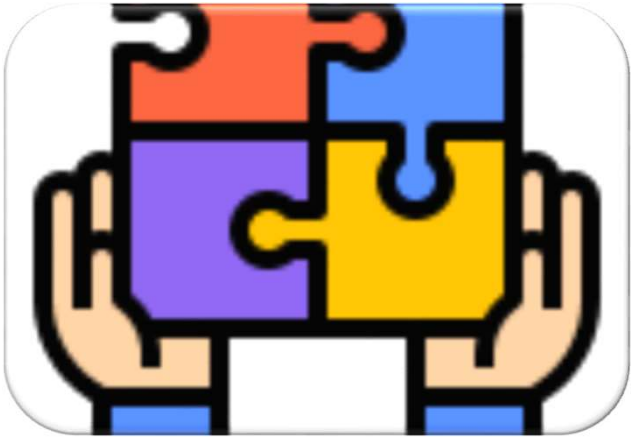


Contains tasks the team aims to complete to satisfy the spring goal.

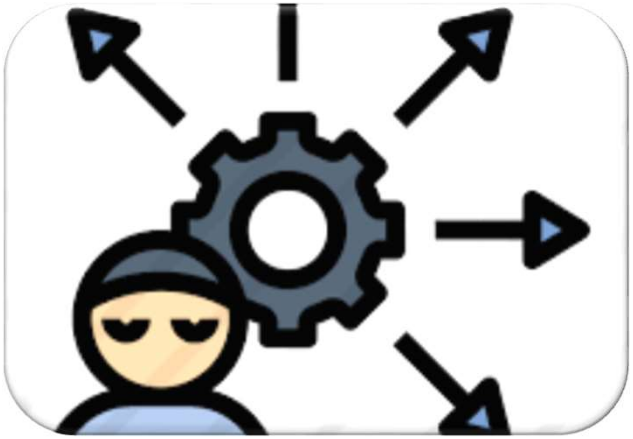
The objective decided for the sprint as an outcome of negotiation between the project owner and the team.

Scrum Artifacts

Product Increment



Combination of ALL backlog tasks complete in a sprint & the value increment of previous sprint



The outcome should be in usable condition even the project owner doesn't decide to release it.

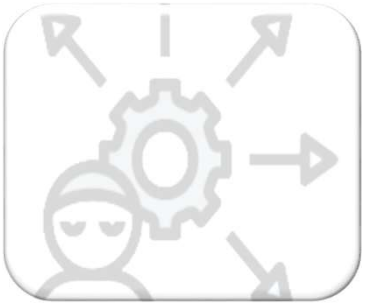
Scrum Artifacts

Product Increment

Represents a step toward overall goal or vision of the project

Combination of ALL backlog tasks complete in a sprint & the value

increment of previous sprint



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Scrum Artifacts

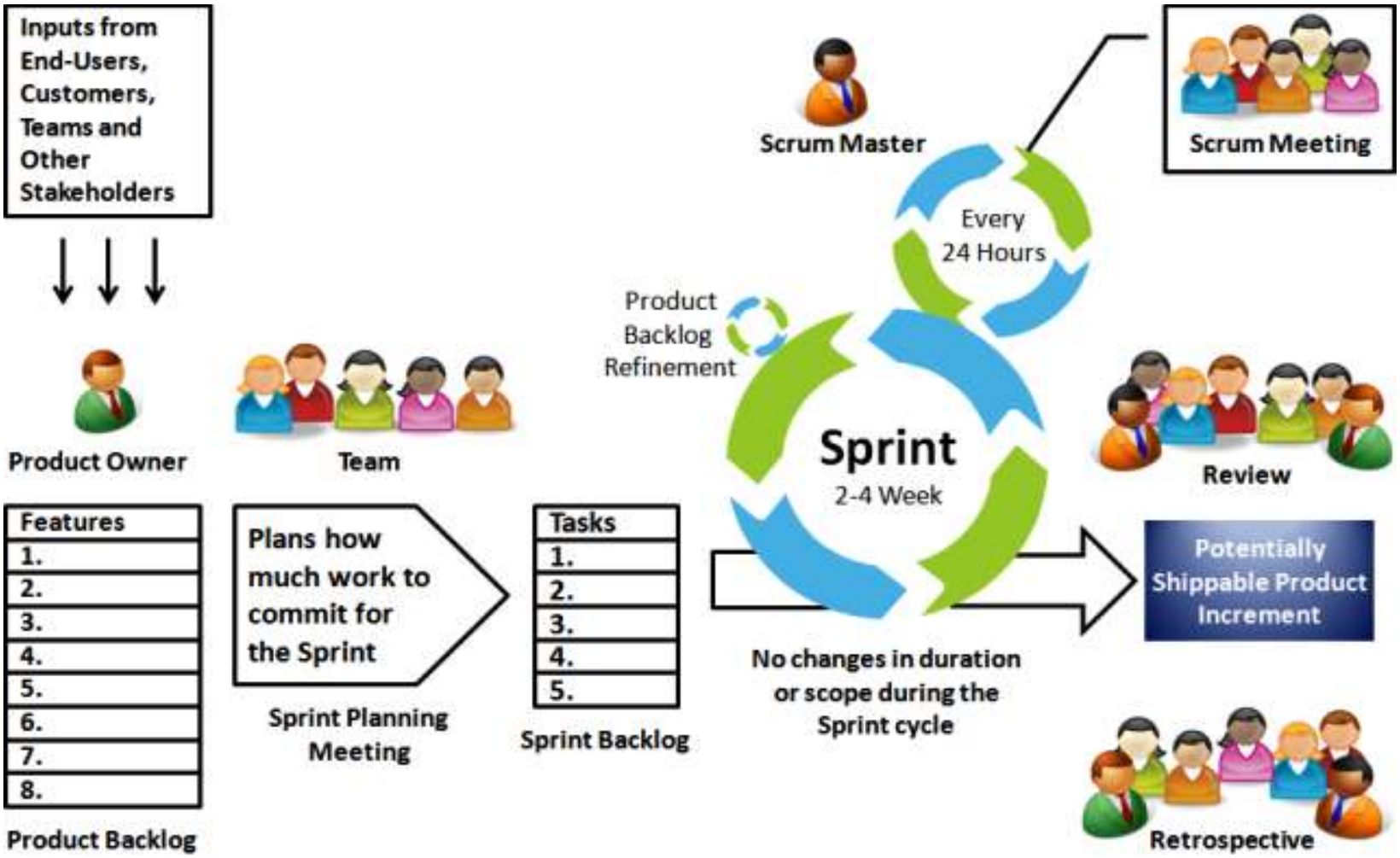
Product Increment

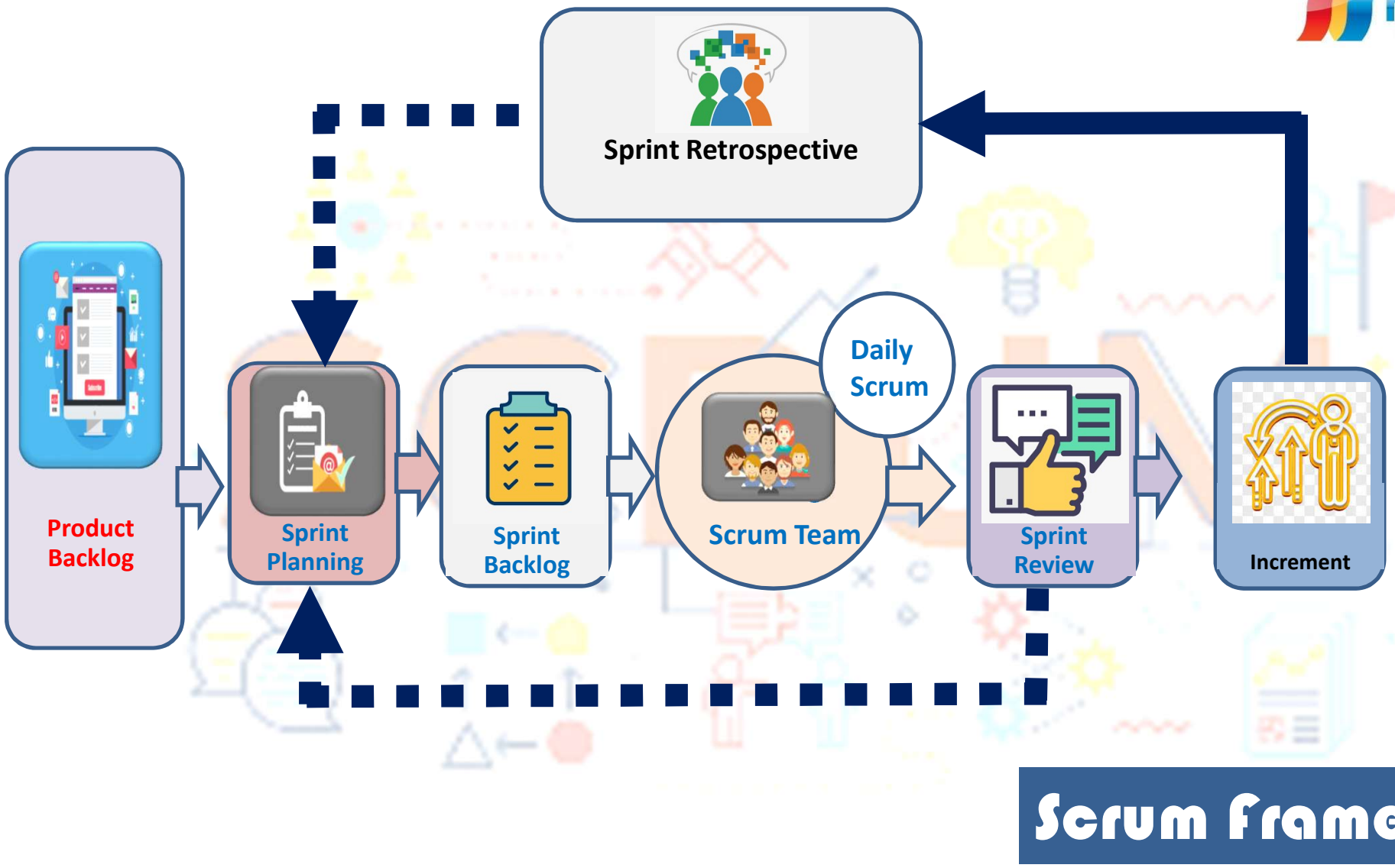
Combination of ALL backlog tasks complete in a sprint & the value increment of previous sprint

The outcome should be in usable condition even the project owner doesn't decide to **release** it.

*** Release mean that project deliverable is usable.**
*** Deployment- deliverable is available for the end user's use.**

Scrum Framework





Scrum Framework

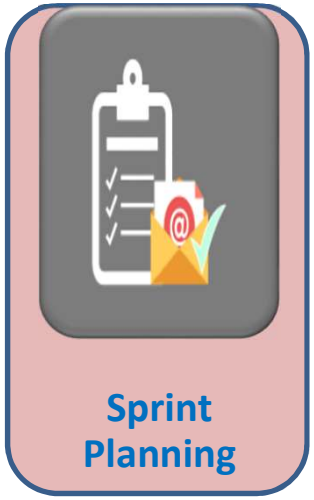
Scrum Framework

Product Backlog

First step of the scrum framework

Set of list of tasks to be implemented to successfully achieve the goal of the stakeholder.

Scrum Framework

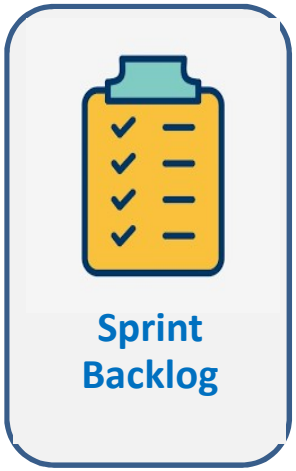


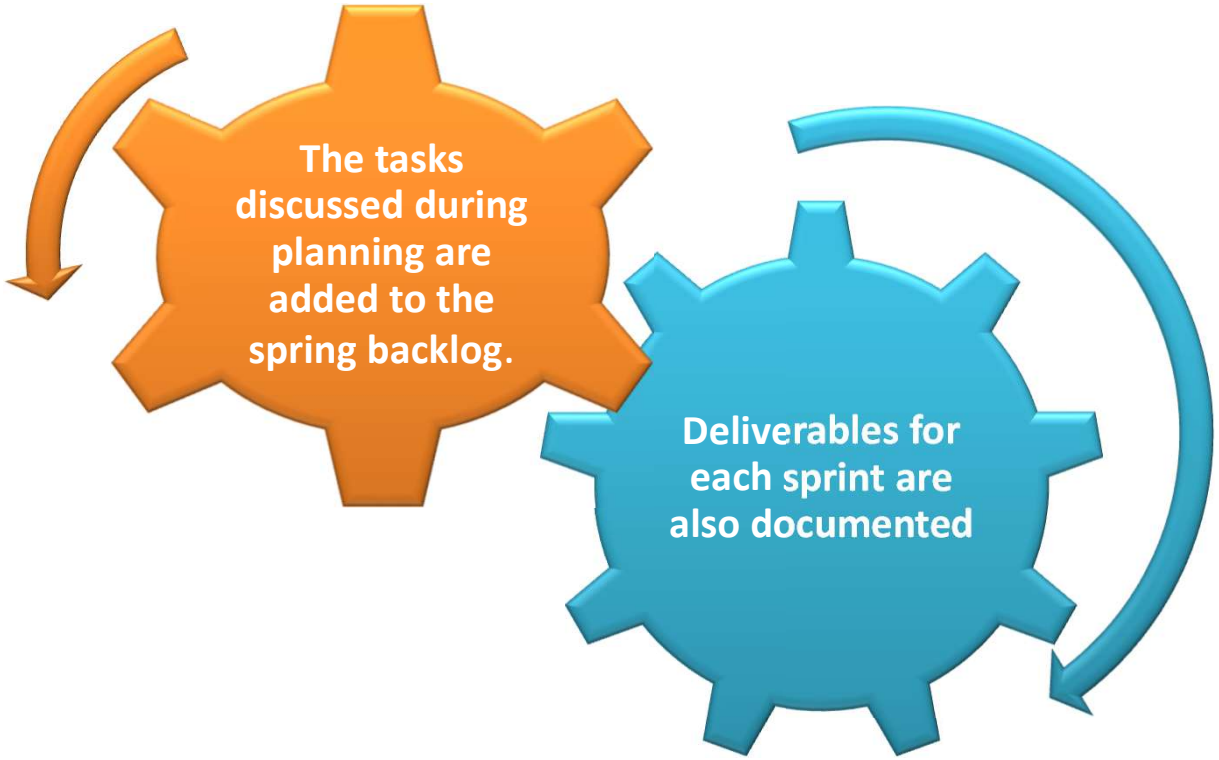
Sprint Planning

Team determines the tasks from the product backlog they will work on and aim to deliver during the sprints understood

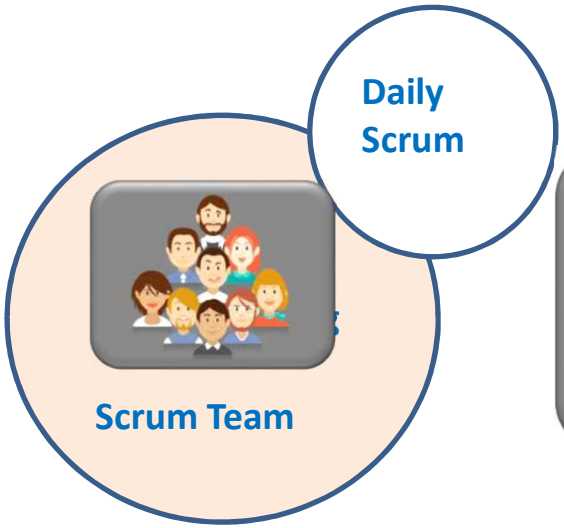
Negotiated, Understood, agreed and collaboratively work towards to get the sprint delivered

Scrum Framework



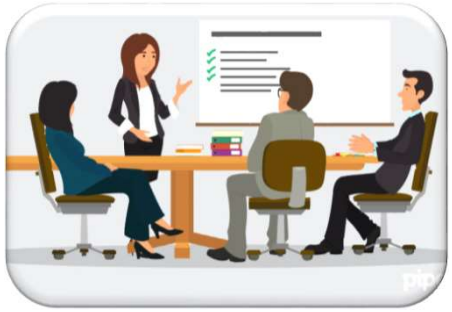


Daily Scrum



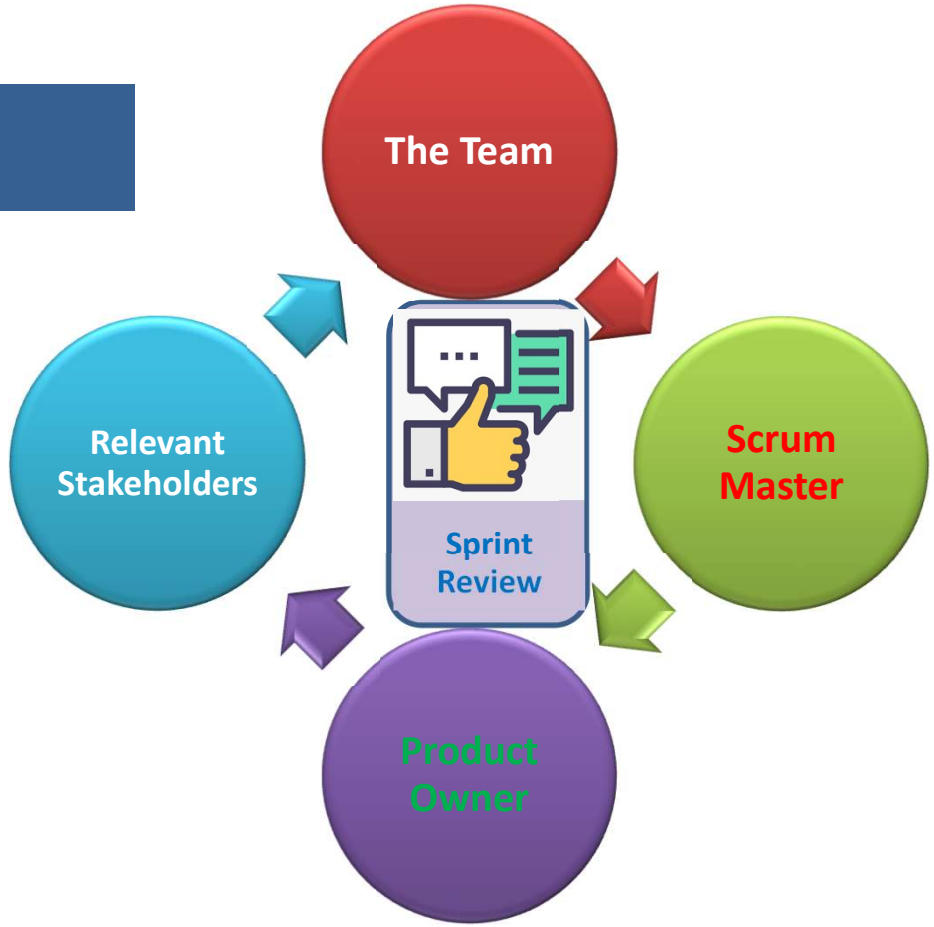
Usually 5-9

Works on the task of spring backlog



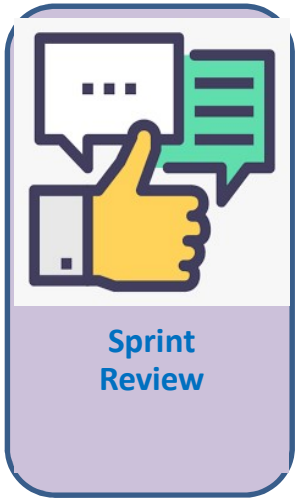
Daily scrum, 15minutes, team synchronize action and discuss what must be done in the next 24hours.

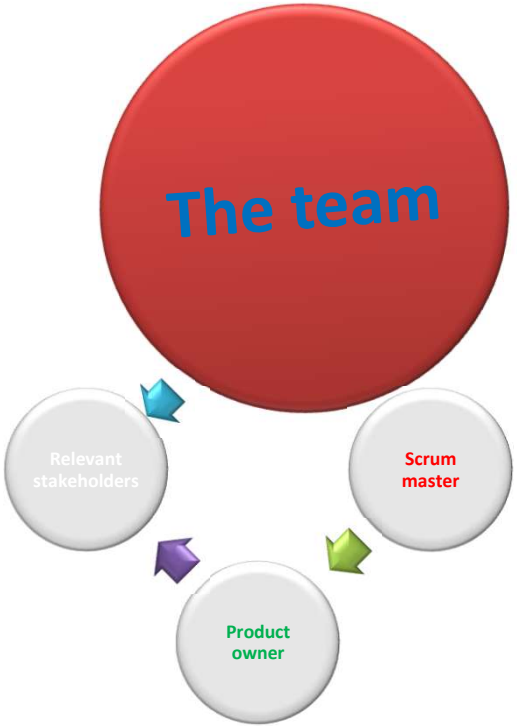
Sprint Review



- Team shows what is accomplished during the sprint, what is agreed upon and what is accomplished. Allows time for observations, ask questions and give feedback
- Checking whether the promised is fulfilled in its entirety
- Informal

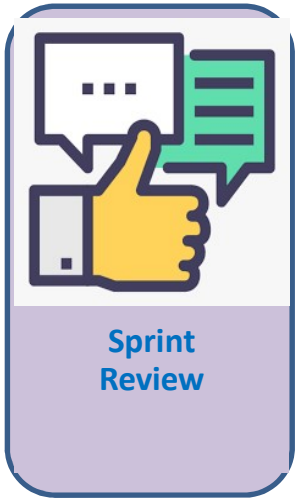
Sprint Review

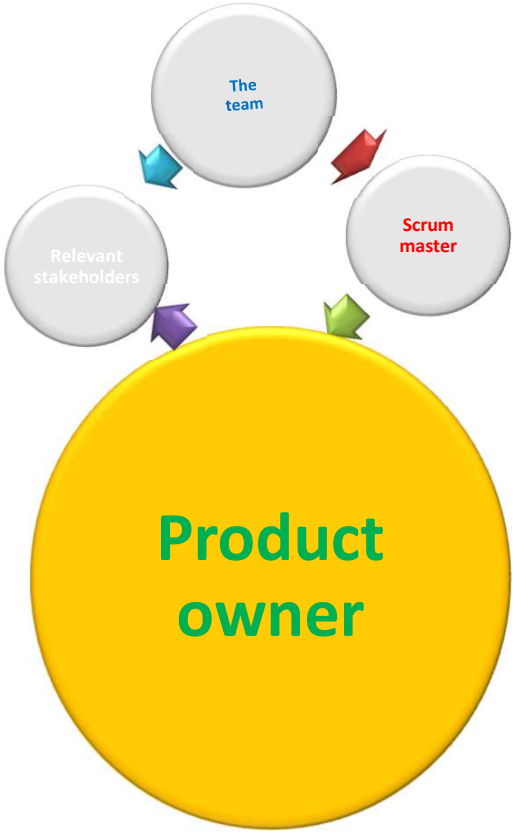




- The **Team** shows what is accomplished during the sprint,
- what is agreed upon and what is accomplished.

Sprint Review





- The **Product Owner** presents the product backlog to the stakeholders to get feedback for upcoming springs and things related to the backlog
- Prioritization for next spring to get good handshake with the stakeholders on what need to be deliver and their priority in the backlog

Sprint Retrospective

Naphtali PM LIMITED ..... All Projects

Sprint Retrospective

Lesson Learnt

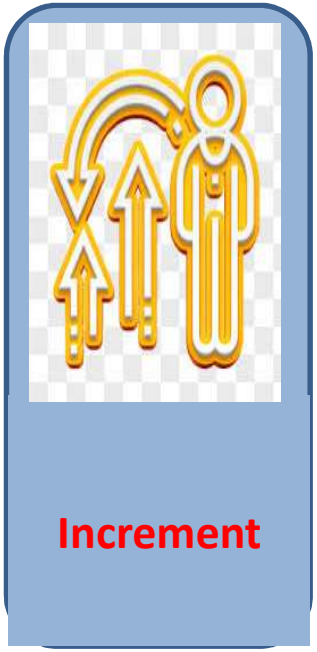
Past mistakes

Potential issues and risks

Solutions and new ways to resolve or respond to issues and risks in sequent iteration and springs are identified and documented

Data from here are incorporated when planning new sprint.

Increment



Workable outputs given to the stakeholders.

Stakeholders give feedback on the deliverable given to them

Project Study

PROJECT TITLE –

Scrum Meeting

Time Box = 15

Team discussed what they did yesterday

Plans to today

Impediment they faced i.e challenges

Project Study

PROJECT TITLE –

Scrum (Standard) meeting provides;-

Scrum Meeting

Direction

Clarify requirement

Set priorities

Project Study

PROJECT TITLE –

Scrum Meeting

Product Owner

- The product owner may be present on absent during daily
- The product owner whenever he attending is only to listen
- Use information generated at the meeting for separate offline conversations.

Project Study

PROJECT TITLE –

Scrum Meeting

Scrum Master

- **Re-emphasize and reinforce the sense of the self-managing team.**
- **Facilitates communicate between team member**
- He/She brings the team focus on what is important and support improvement.

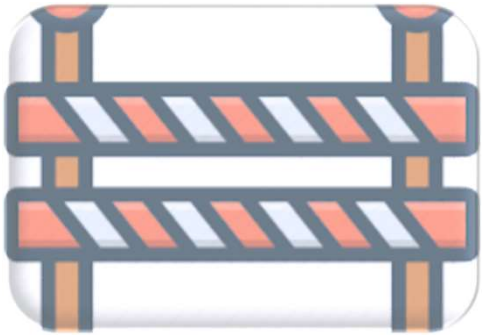
Project Study

PROJECT TITLE –

Scrum Meeting

- The daily scrum is not a platform for resolving issues/challenges/blockers.
- The issue should be document in the “Parking lot” to generate conversation for solution offline.
- The purpose of the scrum meeting is to keep the team members updated and resolve any impediments

Impediments, Obstacles & Blockers

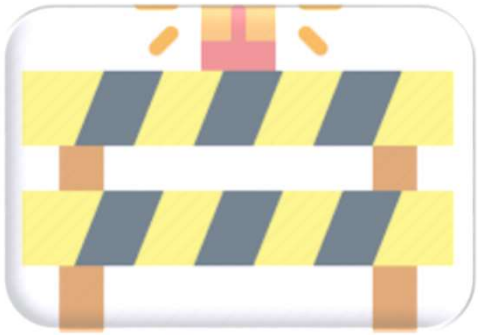


Impediments

These are situations that prevents the team from achieving its objectives.

Impediments reference situations, conditions, and actions that slow down or hinder progress. (For example, the team not coming to a decision on a file saving location.)

Impediments, Obstacles & Blockers



Obstacles

An Obstacle reference barriers that should be moved, avoided, or overcome with some effort or strategy. (For example, the construction crew is unable to arrive at the worksite before permits are signed.)

Impediments, Obstacles & Blockers

Blocker

A Blocker reference events or conditions that cause *stoppages* in the work or any further advancement. (For example, the company has halted the use of any products in a certain firm until a new contract is signed.)

Backlog Assessment

Backlog Assessment

- Impediments and obstacles may block work or planned efforts.
- Assess product backlog, scheduled activities, and other lists of work items in reference to the hindrances.
- Evaluate the impediments against the pending work.
- The team and business stakeholders must assess the backlogged work in terms of value and priority.
- Backlog assessment and refinement can explore alternatives to overcome or avoid the risk, such as removing the work item or blockage

Tracking Impediments

Tracking Impediments

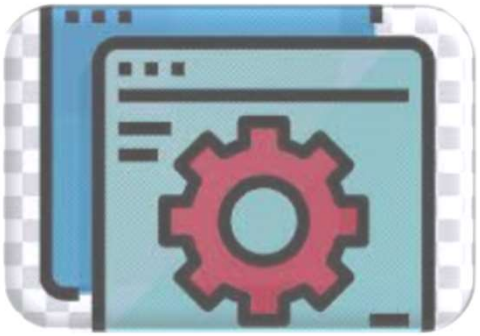
- By tracking impediments as they are raised, addressed, and resolved, communication and proper oversight is increased.
- Methods for tracking impediments might include: Impediment task boards and Software applications
- Task boards need to convey the status and efforts associated with the identified impediments.

Handling Impediments as Servant Leaders

Handling Impediments

- Servant leaders aim to clear an unobstructed path for the project team so they may contribute and deliver.
- Project managers want to optimize the workplace to be free of obstacles and other impediments.
  - Physical team space
  - Shielding the team from non-value activities
- Removing distraction, randomization, and other confusion enables the project team to be more effective and efficient.
- Project managers can take on most of the burden of addressing and removing impediments so the team can do their best work on the project to achieve its desired objectives.

Prioritization Techniques to Determine Objective



Features Prioritization

- Product backlog: An ordered list of user-centric requirements that a team maintains for a product.
- Product backlog prioritization technique:
  - **MoSCoW** prioritization
  - **Kano** model
  - **The Relative Weighting Method**

Scrum Board

Scrum Board

- A Scrum board is a visual way to manage and organize projects, breaking them down into defined “sprints” of time. It is a key part of a larger project management system
- The **scrum master** is the role responsible for gluing everything together and ensuring that scrum is being done well.

Scrum Board

Scrum Board

- A standard Scrum Board has only 3 columns: **"To do", "Doing", and "Done"**. Simple, yet effective. A Scrum team usually works with user stories which are then broken down into tasks. They add another column to map stories to their tasks.
- For new sprint, the board is reset and a new scrum board is created. That is, scrum board are created per sprint.

What are User Stories?

User Stories

Agile project development Project management tool that provides users with simple, natural language explanation of one or more features written from the end user's/customer's perspective

What are User Stories?

User Stories

User stories are not written in detail

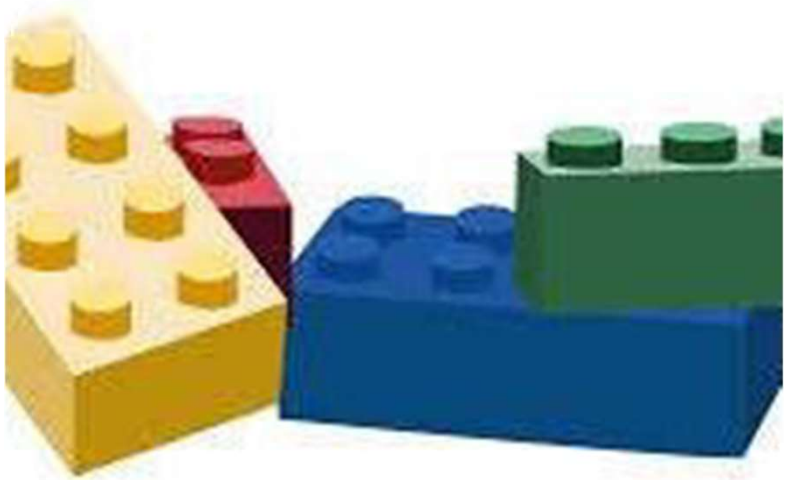
- Its just to mentions how a certain type of work/feature will bring value to the end-user. The role of the end user and the transaction involved
- End user could be Internal or External
- Explain the interface very brief, this help in visualizing the interface to be provided and its uses.

What are User Stories?

User Stories

User stories also form the building block of agile framework like ***Epics*** and ***initiatives***.

What are User Stories?



User stories also form the building block of agile framework like *Epics* and *initiatives*.

- Represent large amounts of work broken down into user stories.
- Provide insight how the user stories are connected to each other.

User Stories

What are User Stories?

User stories also form the building block of agile framework like Epics and *initiatives*.

-Combination of multiple epics forms an initiative
-Managing perspective becomes easy
-Objectives clarified and purpose clear.

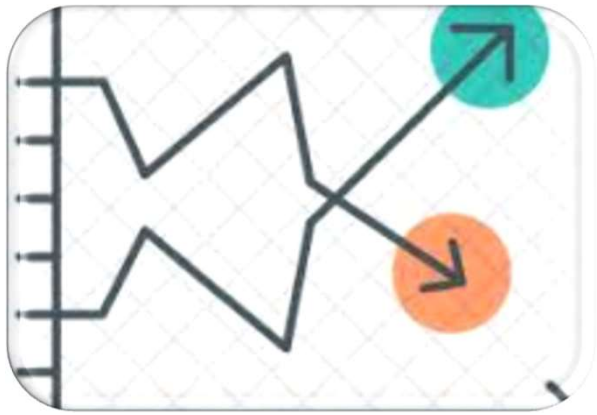
User Stories

Burndown Chart

Burn-Down Chart

- A Burn-Down chart is a graphical representation of work left to do versus time. The outstanding work is often on the vertical axis, with time along the horizontal. Burn down charts are a run chart of outstanding work. It is useful for predicting when all of the work will be completed.

What are User Stories?



Burn-Up Chart

- A **Burn-Up** chart is a graph that shows **project progress over time**. There are two main lines shown on the chart: one for the total project work planned, and the other for tracking the

work completed to date..

- The **Burn-Down** chart shows the amount of work remaining on a project (the remaining effort), whereas a **Burn-Up** chart shows how much work has been completed and the total scope of the project.

Q & A?