PMP® EXAM PREP

PMI Authorized Training Partner

BOOTCAMP

Session 8

Attendance Alert

Please make sure you log into Zoom with your correct first name and last name and enter the same information for every session.

Instructor: Priscilla Bakx-Kabai, MCE, PMP®, ACP®, DASSM, LSSGB

PMP® Exam Prep

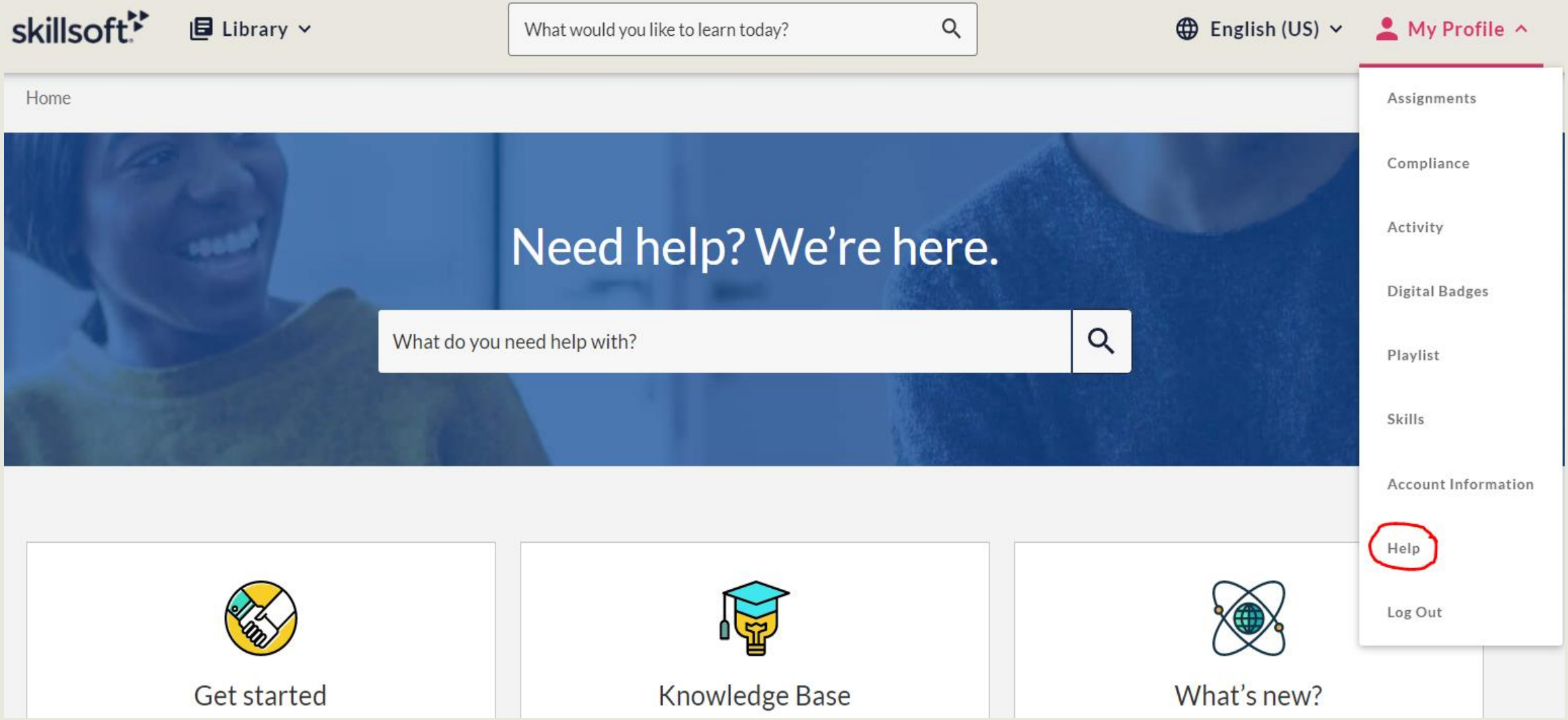
This course will assist learners in preparing for PMI's PMP Exam (2021 Update)

HOUSEKEEPING

Resources & Materials

This class will be recorded for quality assurance purposes.

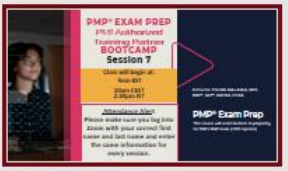
For any issues regarding accessing resources via Percipio, please ask for support via Q&A.



Your PMP Bootcamp Course Syllabus
(Mapped to the PMP Student Manual)

	Creating a High-Performing Team Lesson 1	Starting the Project Lesson 2	Doing the Work Lesson 3	Keeping the Team on Track Lesson 4	Keeping the Business in Mind Lesson 5
Topic A	Build a Team	Determine Appropriate Project Methodology/Methods and Practices	Assess and Manage Risks	Lead a Team	Manage Compliance Requirements
Topic B	Define Team Ground Rules	Plan and Manage Scope	Execute Project to Deliver Business Value	Support Team Performance	Evaluate and Deliver Project Benefits and Value
Topic C	Negotiate Project Agreements	Plan and Manage Schedule	Manage Communications	Address and Remove Impediments, Obstacles, and Blockers	Evaluate and Address Internal and External Business Environment Changes
Topic D	Empower Team Members and Stakeholders	Plan and Manage Budget and Resources	Engage Stakeholders	Manage Conflict	Support Organizational Change
Topic E	Train Team Members and Stakeholders	Plan and Manage Quality of Products and Deliverables	Create Project Artifacts	Collaborate with Stakeholders	Employ Continuous Process Improvement
Topic F	Engage and Support Virtual Teams	Integrate Project Planning Activities	Manage Project Changes	Mentor Relevant Stakeholders	**Plus, BONUS Agile Content!**
Topic G	Build Shared Understanding about a Project	Plan and Manage Procurement	Manage Project Issues	Apply Emotional Intelligence to Promote Team Performance	
Topic H		Establish Project Governance Structure	Ensure Knowledge Transfer for Project Continuity		
Topic I		Plan and Manage Project/Phase Closure			

Recap Session 07



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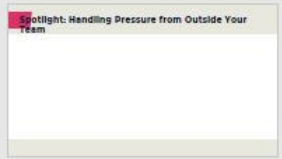

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AGILE ESTIMATING TECHNIQUES

Story points

- Relative estimation
- Arbitrary measure
- Usually used by scrum teams
- Express effort required to implement a story
- 3 items taken into consideration: level of complexity, level of unknowns, effort to implement.

RELATIVE SIZING

Quick and easy technique

Absolute value not considered

T-shirt sizing

Similar to Fibonacci

- Sizes instead of numbers

AGILE ESTIMATING TECHNIQUES

Ideal days

- Alternative to story points
- Units of time rather than arbitrary measure
- How long to build, test, and release functionality with ideal conditions

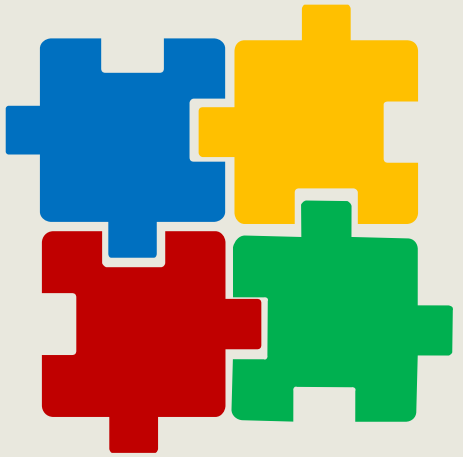
FACTORS IN ESTIMATING

Volume of work

How much effort?

Uncertainty

How risky is the work?



Complexity

How complex is the work?

STORY POINTS

Relative sizing

- We aren’t good at absolute estimate
- We are better at relative estimates

Not tied to days, hours, or dates

- Removes pressure or emotion

Based on quantity of work, not speed Unique to a team

- Not comparable to the work of other teams
- Removes competition between teams

Reference for future estimates

Reserves and buffers are not necessary

While story points is the most commonly used metric, teams may choose any unit to represent work.

PLANNING POKER

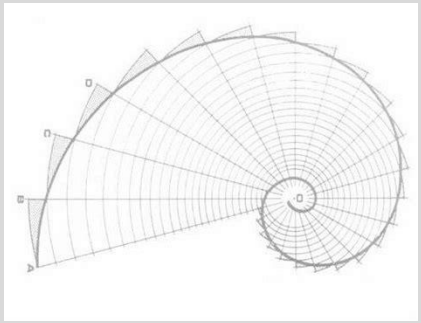
- Uses Fibonacci sequence
- Each player receives a deck of cards
- Facilitator reads a user story
- On the count of 3, everyone shows their estimate
- Purpose is to build consensus
- Close to consensus, move on and round to higher number
- Scattered estimates, discuss and estimate again
- Estimates are approximates

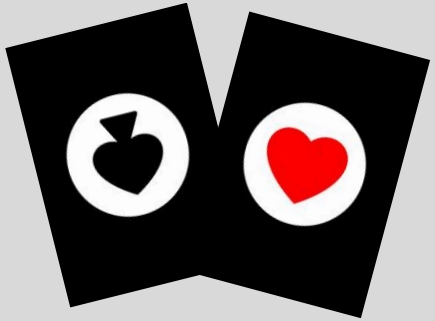
Spotlight: Planning Poker

Estimation Techniques

Planning poker estimates effort or relative size of development effort. Use a deck of cards with modified Fibonacci numbers to vote on user stories. Also called **Scrum poker**.

Story Pointing
Use a relative measure
e.g. numbers in the Fibonacci sequence—for the level of difficulty or complexity of a feature. Individuals assign story points.





TEAM VELOCITY

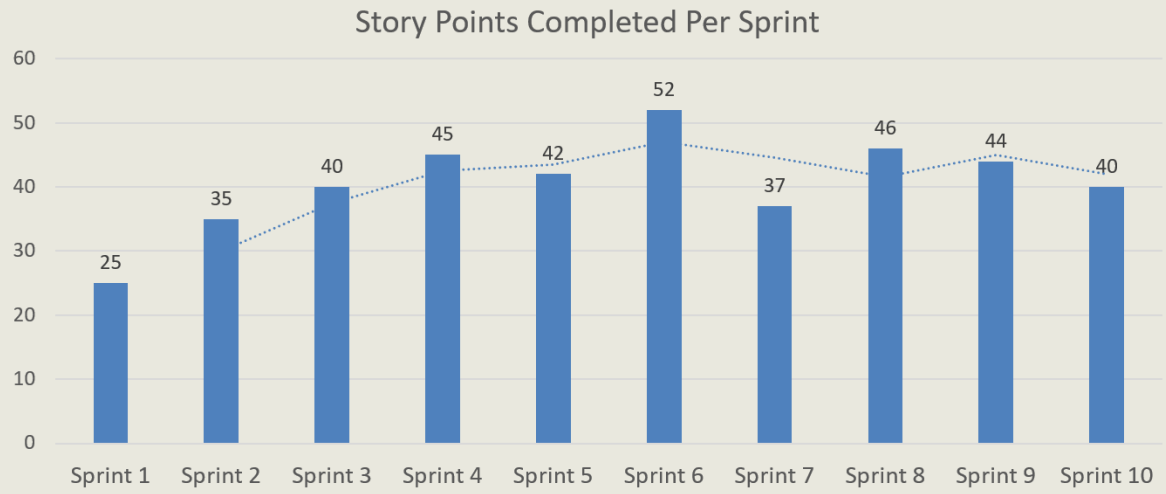
Velocity:

- Actual amount of development work completed per a certain amount of time or time-box
- Usually measured using a sprint as the time-box
- Used to estimate how quickly a certain amount of work can be completed
- Expressed as points (typically)
- Useful for forecasting

Use historical velocity data and take an average

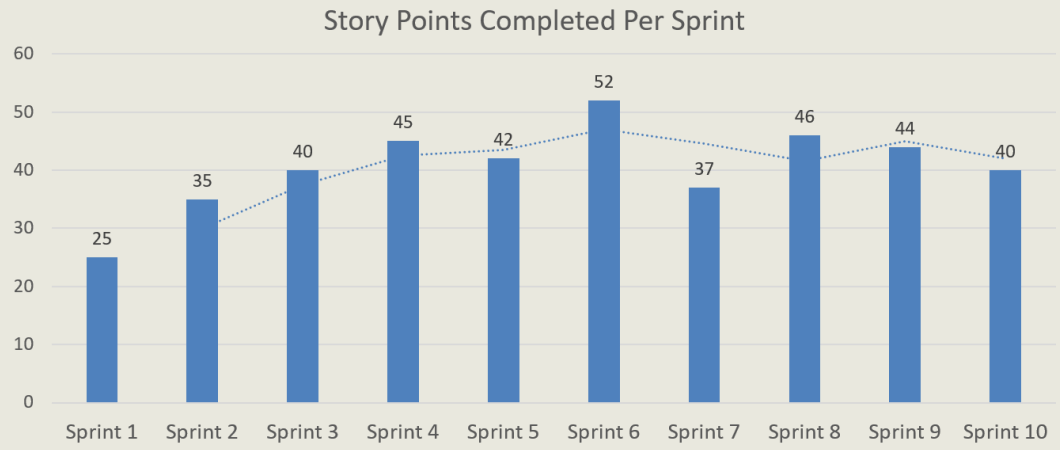
If first time:

- Historical value from other projects
- Run a few iterations for a baseline



VELOCITY VS CAPACITY

Velocity is based on story points achieved historically



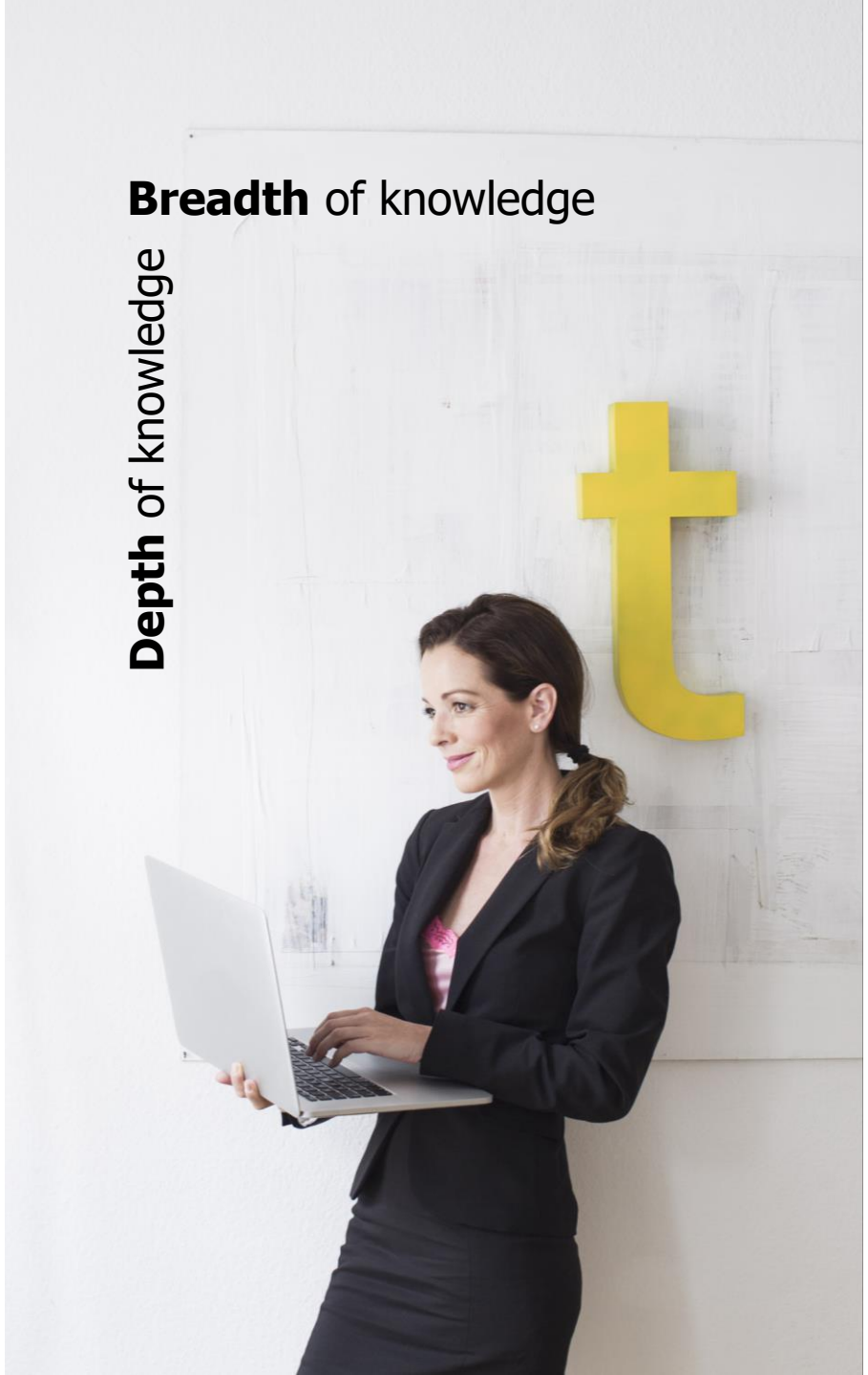
Capacity is based on team’s availability to do the work

T-Shaped Skills

Agile teams invest in becoming more cross-functional.

Leveraging all team members to help accomplish the team goals improves:

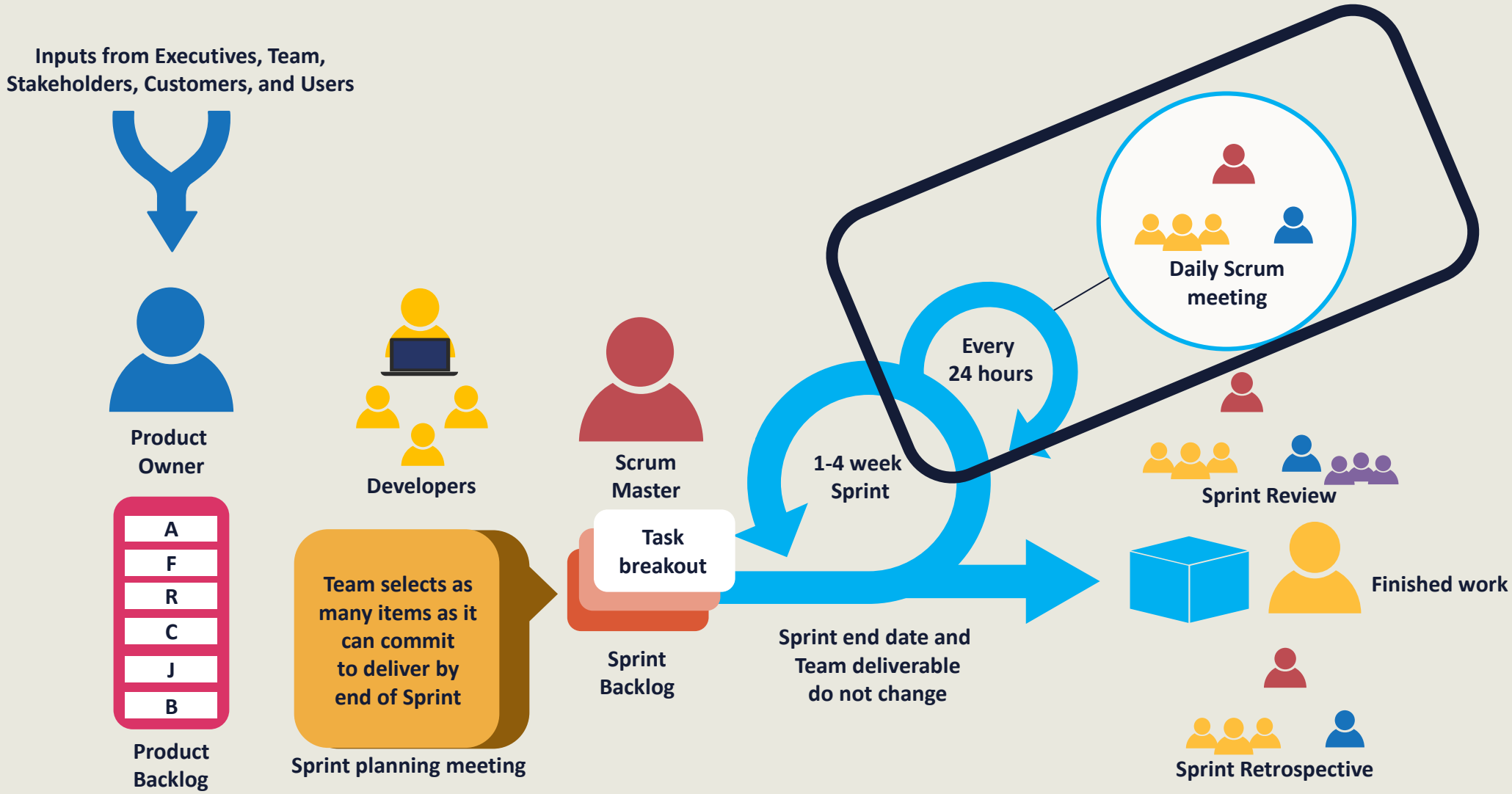
- ✓ The team's efficiency
- ✓ The likelihood of achieving objectives



More about...

Course: Engaging Team Members and Stakeholders (2021 Update)
Video: Team Member Skill Sets (3:54 run time)

DAILY SCRUM OR STAND-UP



Daily Standup

- ✓ Conducted at a designated time (in the team “ground rules”).
- ✓ Mandatory attendance of everyone in the Sprint.
- ✓ During the meeting, answer:
  - What’s been done since the last meeting?
  - What needs to be done before the next meeting?
  - What does anyone need help with?

DAILY SCRUM

“What did I do yesterday?”
“What will I do today?”
“What are my roadblocks?”

- The Daily Scrum is held at the same time and same place each day
- The routine keeps things simple
- Although it is also known as the “Daily Standup”, team members are not required to stand
- Inspect and adapt Sprint backlog
- Identify progress and remaining work against the Sprint goal
- Typically 15 minutes or less
- Reserve off-topic subjects for a separate discussion
- Developers own this event
- Scrum Master and Product Owner presence is helpful but not required

ROLES DURING THE DAILY SCRUM

What about upper management outside of the Scrum Team?

Scrum Master

- Promotes Scrum best practices
  - Stick to the time box
  - Team values
- Removes impediments
- Coaches the team
  - Problem solving
  - Roles and responsibilities
- Serve as a buffer for the team
- Attendance not required

Product Owner

- Explains the value of each backlog item
- Must be easily accessible
- Answer questions
- Provide clarification
- Seek additional clarification from stakeholders
- Last minute reprioritization
- May cancel a Sprint
- Attendance not required

Developers

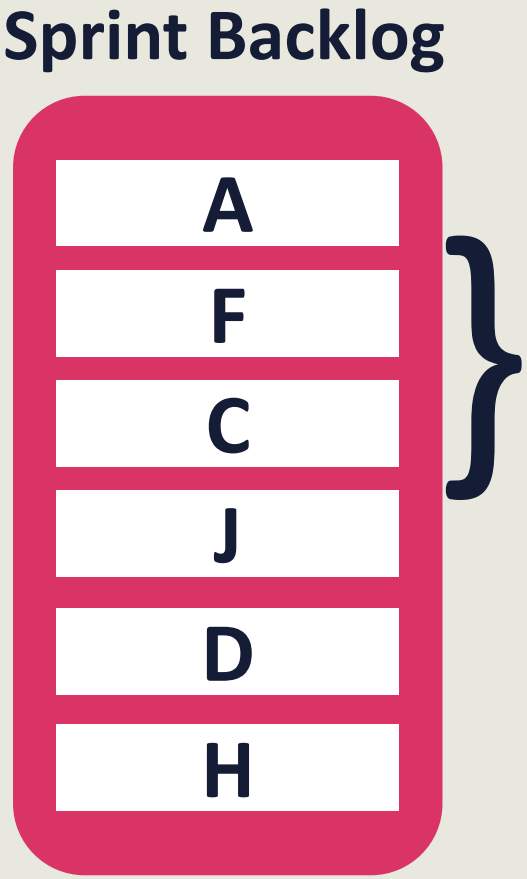
- Lead the conversation
- Answer three questions
  - What did I do yesterday?
  - What do I plan to do today?
  - Do I have any blockers?
- Inspect daily progress against the Sprint goal
- Ask clarifying questions about the user stories

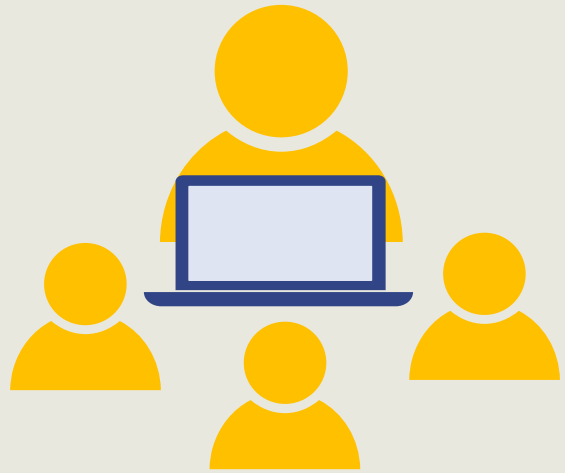
SELF-ORGANIZED AND SELF-MANAGING

- Developers decide how they will be organized
- The Developers play a strong role in the selection of new team members
- This is also true for multiple teams working together
- Self-organization benefits:
  - Personal accountability
  - Commitment
  - Innovation and creativity

SPRINT BACKLOG

- Belongs to the Developers
- Subset of the product backlog
- Used to achieve the goal for the current Sprint
- Highly detailed and visible
- The Developers decide how to approach and select the work
- Developers hold themselves and each other accountable
- Although tasks are divided, each Sprint backlog item is owned by the entire group
- May need to be renegotiated with Product Owner in order to meet the Sprint Goal



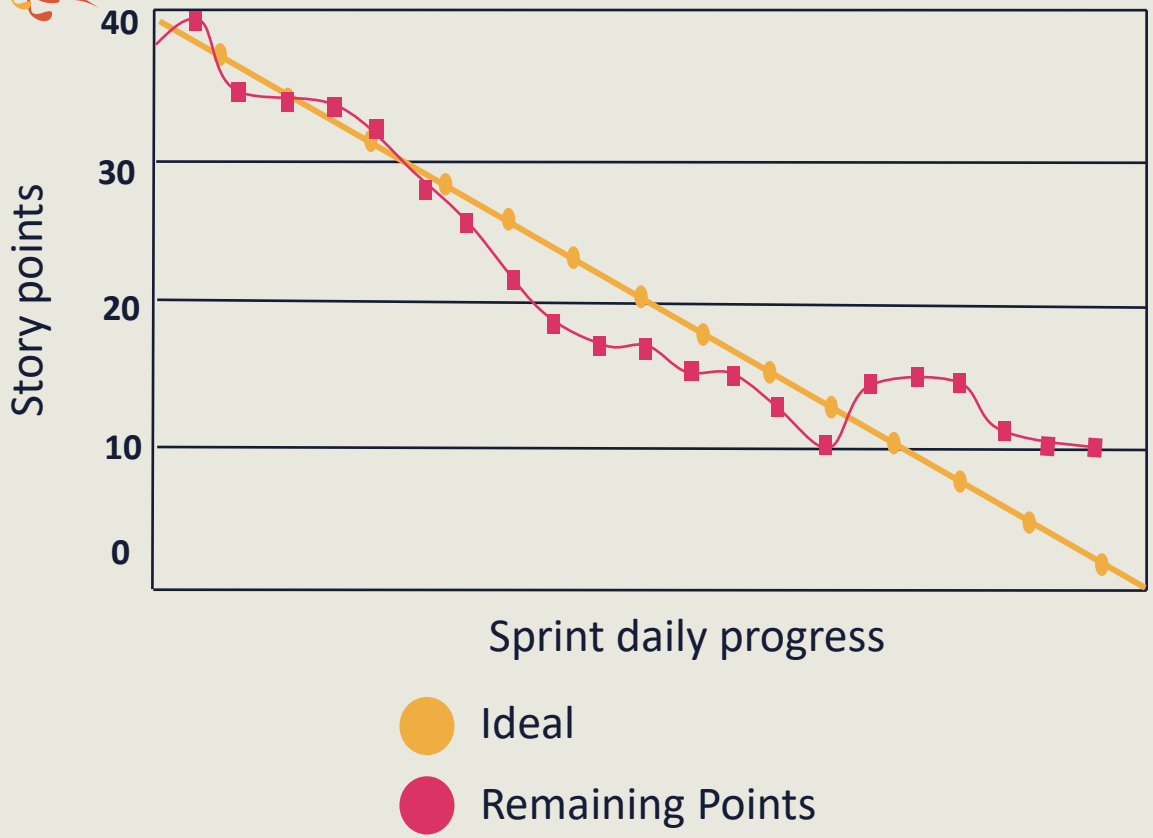


PERFORMANCE TRACKING: BURN CHARTS

Burndown and burnup charts

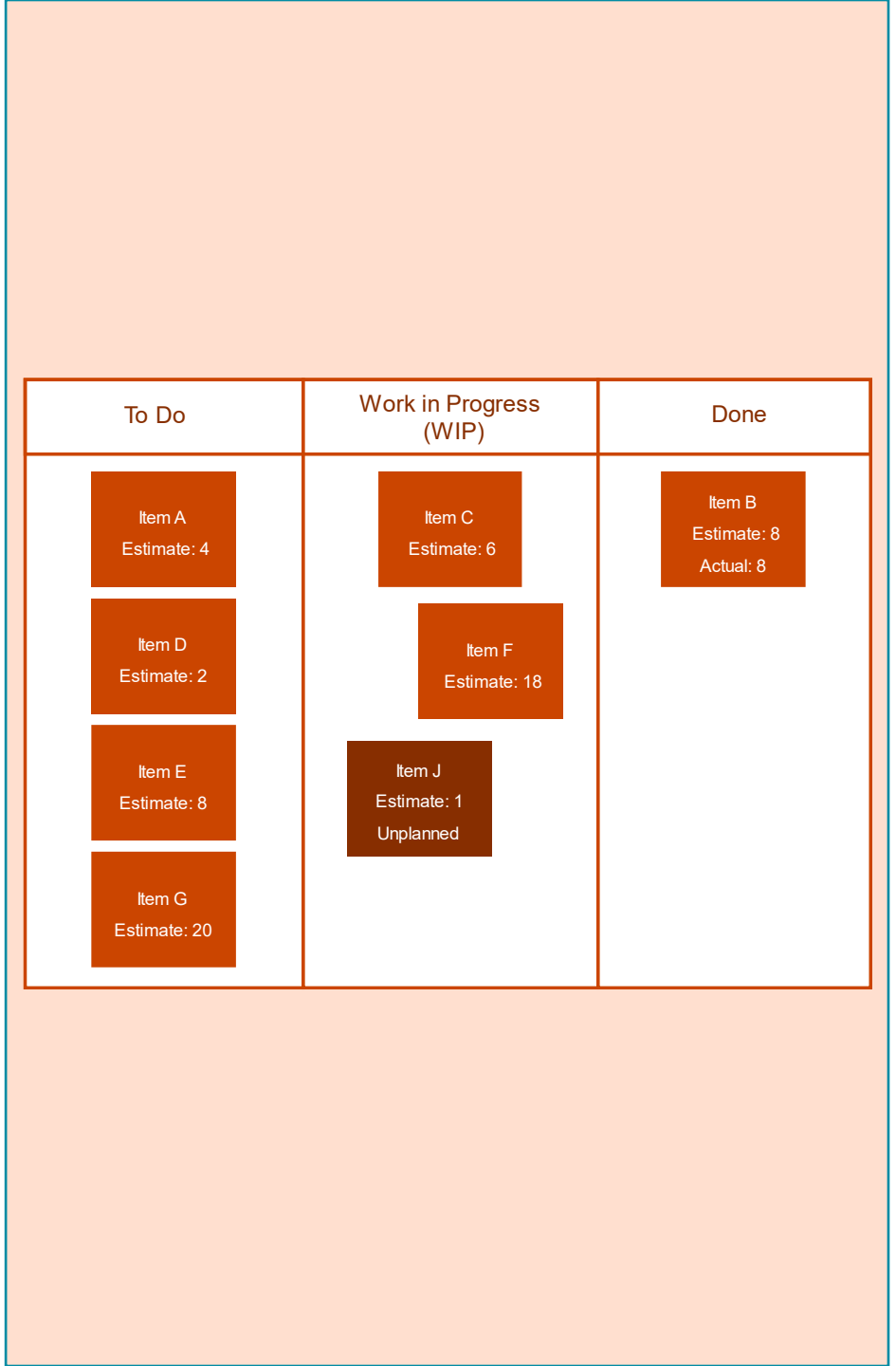
“Information Radiators”

- Generic term for a highly visible information display
- Graphs, charts, data dashboard
- Communication tool
- Shows remaining work for the Sprint
- Trend line shows the running average, and what will likely happen if progress continues at this rate



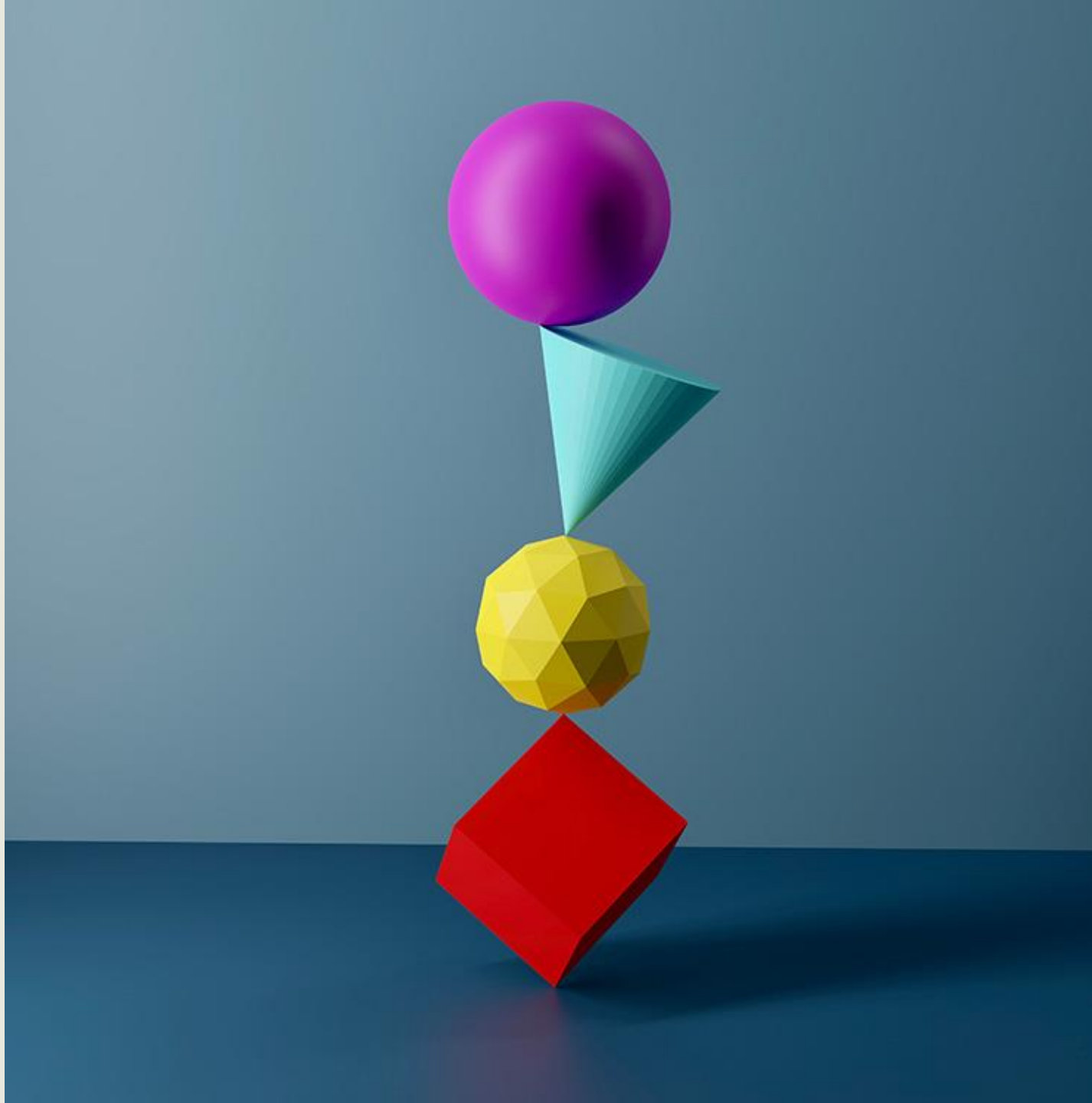
Task Boards

- ✓ Visualize work and enable the team and stakeholders to track progress as work is performed.
- ✓ Promote visibility and maximize efficiency and accountability.
- ✓ Examples: Kanban boards, to-do lists, procedure checklists, and Scrum boards.

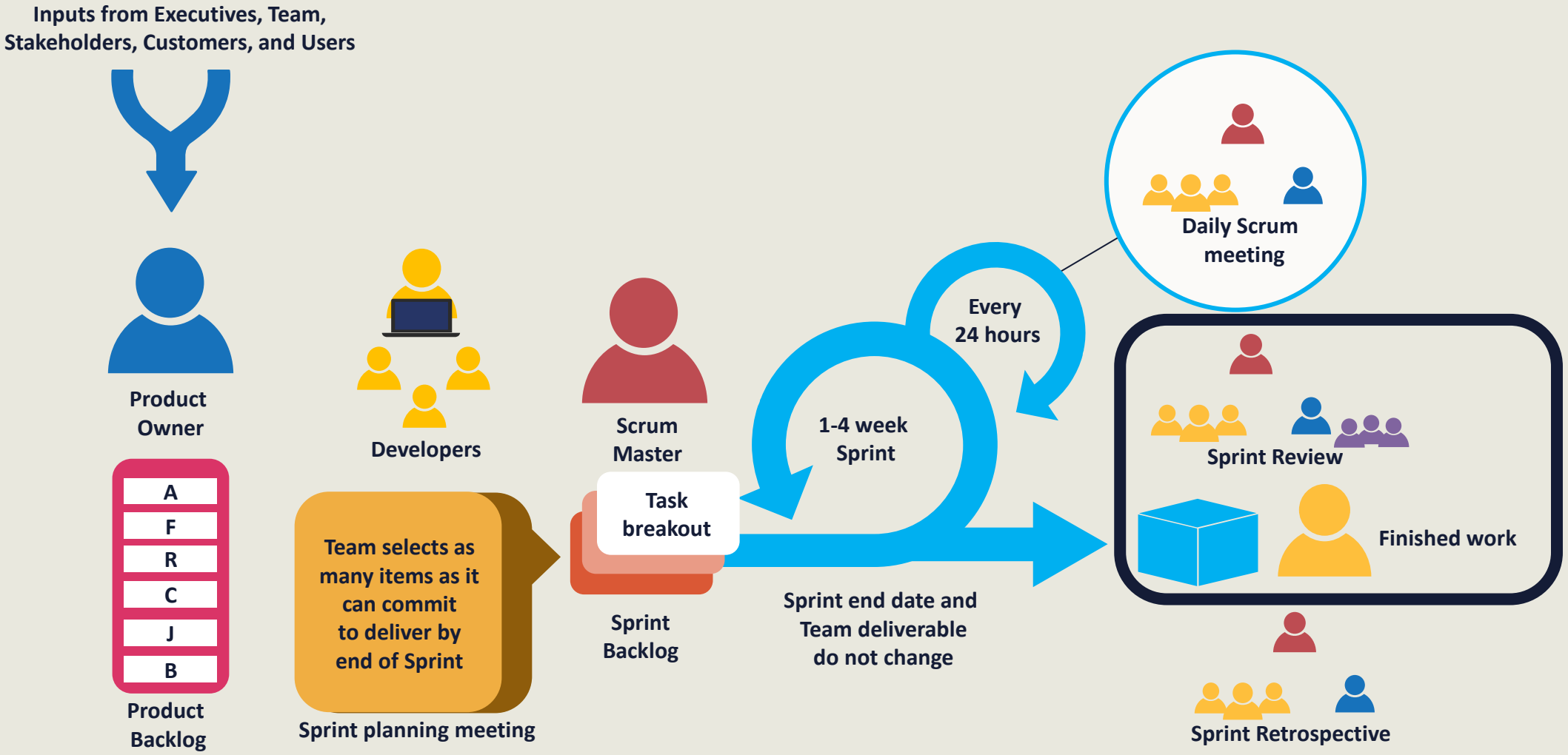


CROSS-FUNCTIONAL DEVELOPMENT TEAM

- There is a balance of skills among the developers
- Every necessary skill and competency is represented
- “Developer” is a generic term. It includes every person who contributes to the “Done” product increment
- Borrowing team members can be disruptive
- Teams are organized around the project
- Team members may change
  - Consider the impact on productivity
  - More of an exception

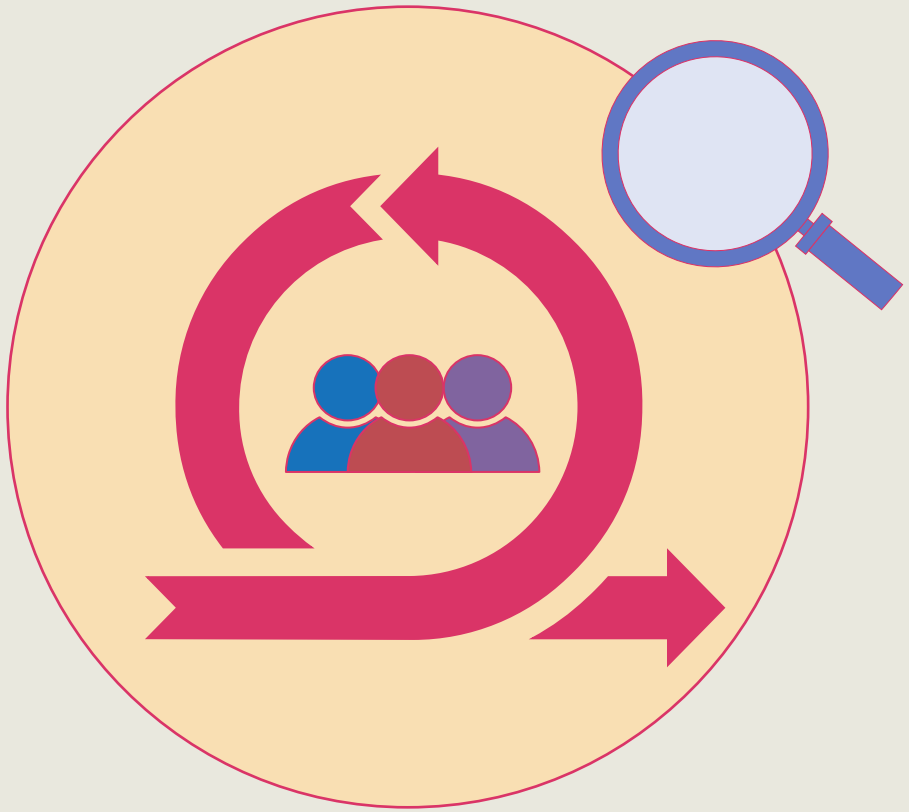


SPRINT REVIEW



SPRINT REVIEW

- Occurs at the end of a Sprint
- Participants
  - Developers
  - Scrum Master
  - Product Owner
  - Stakeholders (invited by Product Owner)
- Developers demos the product to product owner and possibly stakeholders
- Scrum Team and stakeholders inspect deliverables
- Elicit feedback and foster collaboration
- Team and product owner adapt product backlog if necessary
- Typically 1 hour per week of Sprint



ROLES DURING SPRINT REVIEW

Product Owner

- Presents the product backlog
- Explains progress
  - What was completed
  - Planned items that were not done
- Lead discussion of what to work on next

Developers

- Demonstrates new product increment
- Answers questions about the product
- Discuss challenges

Scrum Master

- Facilitates the event
- Promotes adherence to the time box
- Clarify roles and responsibilities

Stakeholders

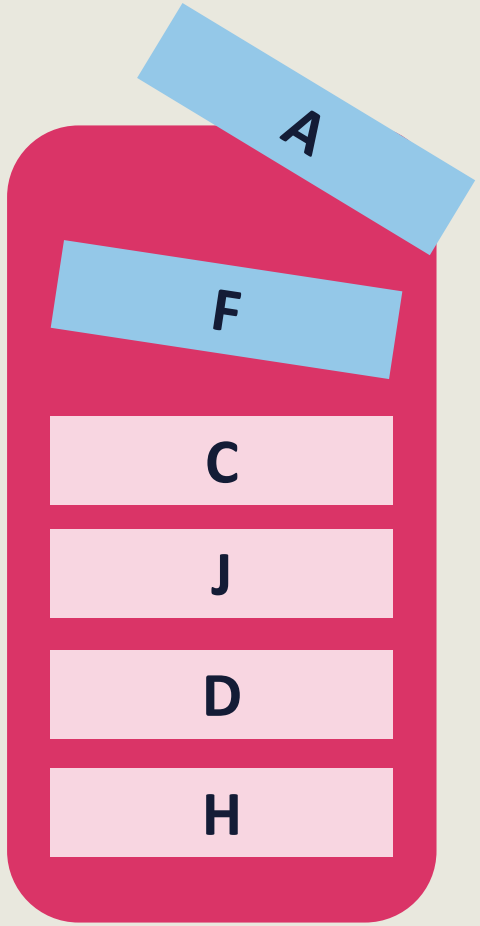
- Invited by Product Owner
- Try the new product increment
- Provide feedback

Tools and Techniques for Verifying Scope

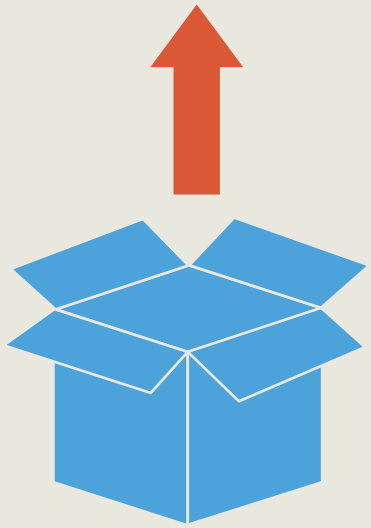
Tool and Technique	Description
Definition of Done	Checklist of required criteria for a deliverable to be considered ready for customer use.
Definition of Ready	Checklist for a user-centric requirement with all required information to begin work.
Acceptance Criteria	A set of conditions to meet before acceptance of deliverables.
Iteration Reviews	Interval at or near the conclusion of a timeboxed iteration when the project team shares and demonstrates the work produced during the iteration with stakeholders.
Variance Analysis	A technique for determining the cause and degree of difference between the baseline and actual performance.
Trend Analysis	An analytical technique that uses mathematical models to forecast future outcomes based on historical results.

PRODUCT INCREMENT

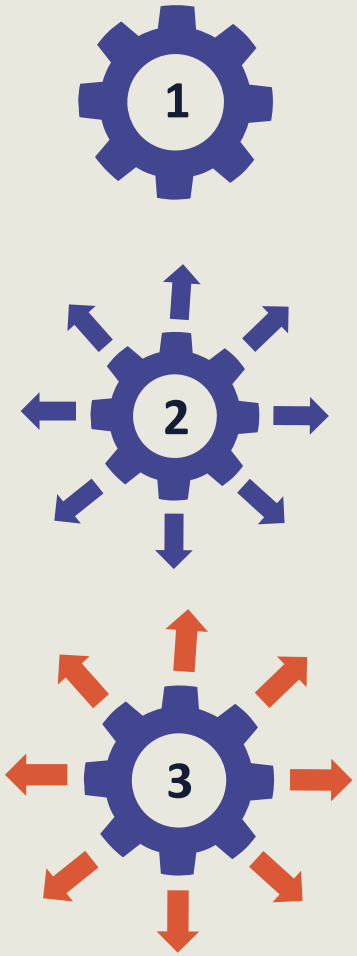
- The result of the latest Sprint
- Demo during Sprint Review
- Must meet the “Definition of Done” established during planning



PRODUCT SCOPE EVOLVES



With each release, the product becomes more robust



SPRINT REVIEW

- Informal gathering
- Elicit feedback
- Does it solve a problem?
- Does it serve a purpose?
- Is it user friendly?

“POTENTIALLY” RELEASABLE PRODUCT INCREMENT

Complete

Acceptance Criteria

Definition of Done

Tested

Avoid escaped defects

Deliverable Now

No remaining work, including user instructions, etc.

Reasons the Product Owner might delay release

Costs associated with release

- **Marketing expenses**
- **Additional customer support**
- **Customer’s willingness to adapt**
- **Inadequate Definition of Done**

CANCELING A SPRINT

Only the Product Owner can make the decision

- Sprint goal becomes obsolete
- New constraint in the project environment
- Decision is based on value
- Something else is more urgent

Done Work

- Determine if there is enough for a Sprint Review

Work in Progress (WIP)

- Re-estimate incomplete work and return it to the product backlog

SPRINT CADENCE

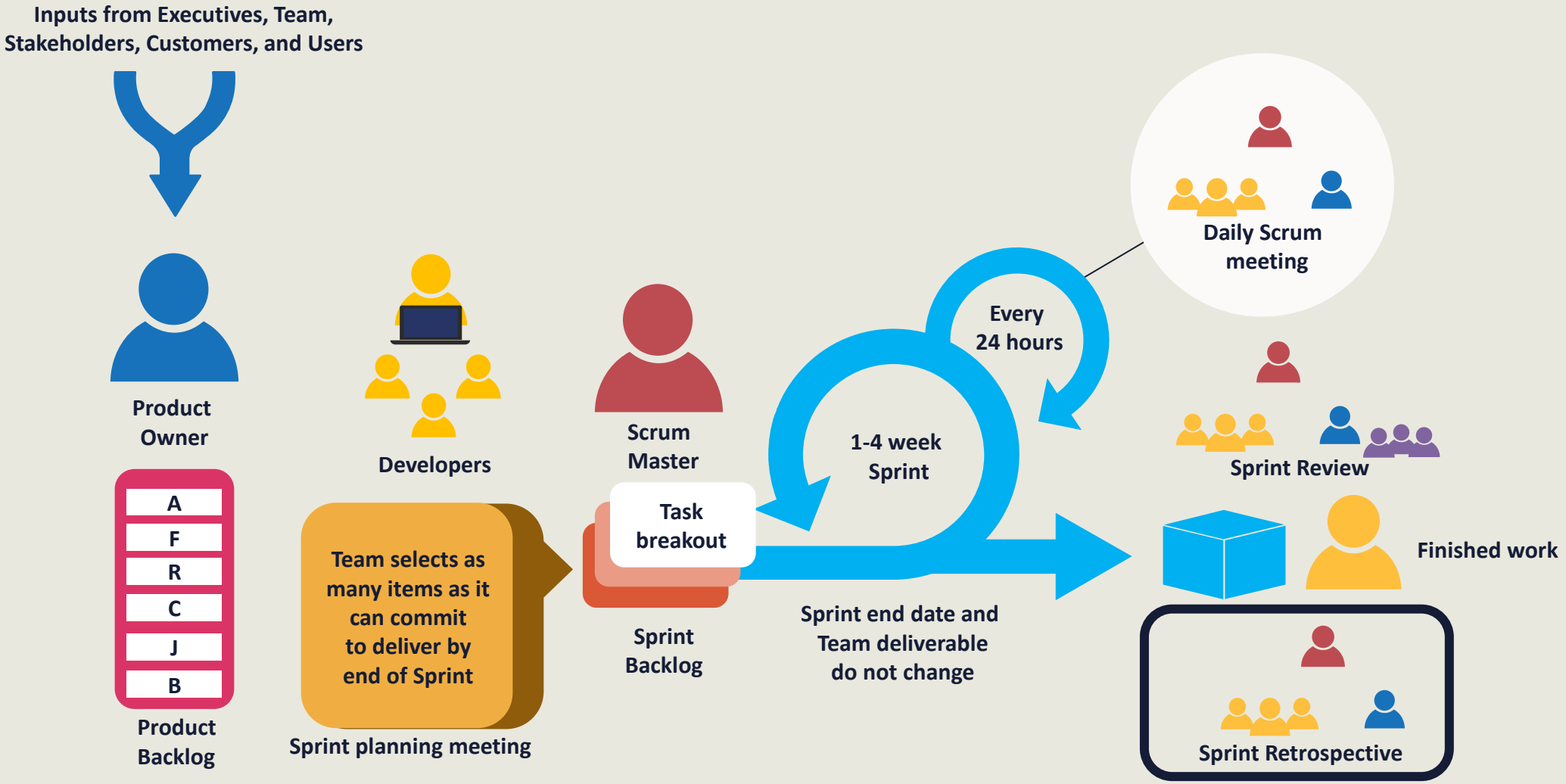
Maintain consistency

- **Cadence is like a regular heartbeat**
- **Sprint durations should be equal**
- **Sprints shouldn’t exceed one month**
- **Determines frequency of stakeholder interaction**

Considerations for a canceled Sprint

- **Changing the cadence can disrupt the rhythm**
- **Shorten the Sprint by moving up the Sprint Review (if any) and the Retrospective**
- **Easier with shorter Sprints**
- **Product Owner will decide how cancelation impacts the cadence**

SPRINT RETROSPECTIVE



SPRINT RETROSPECTIVE

Participants

- The Scrum Team
  - Developers
  - Scrum Master
  - Product Owner

Evaluate the last Sprint

- People
- Processes
- Tools

Plan improvements for next iteration

Examples:

Do we need to change our Definition of Done?

Are we communicating well?

Do we need to build any of our skills?

Typically .75 hours per week of Sprint

ROLES DURING THE RETROSPECTIVE

What about upper management and stakeholders outside of the Scrum Team?

Scrum Master

- Promotes Scrum best practices
  - Stick to the time box
  - Reminder of team values
- Facilitates the meeting
- Introduces team-building exercises
- Guides problem solving and goal setting
- Participates in the discussion
- Commits to continuous improvements

Product Owner

- Attends as a member of the Scrum Team
- Participates in the discussion
- Commits to continuous improvements

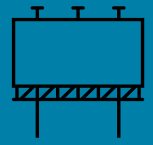
Developers

- Attend as a members of the Scrum Team
- Participates in the discussion
- Commits to continuous improvements

Retrospective

- ✓ A regular check on the effectiveness of quality processes
- ✓ Look for the root cause of issues then suggest trials of new approaches to improve quality.
- ✓ Evaluate any trial processes to determine if they are working and should be continued, need adjusting or discontinued.

Retrospective



Set the Stage

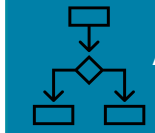
Check-in activities to engage the team

Gather and Share Data

- ✓ Team Performance metrics
- ✓ Earned Value Analysis

Generate Insights

- ✓ What's working?
- ✓ Where are challenges?
- ✓ Problem analysis



Make Decisions

Agree on a few improvements or changes to try in the subsequent iteration

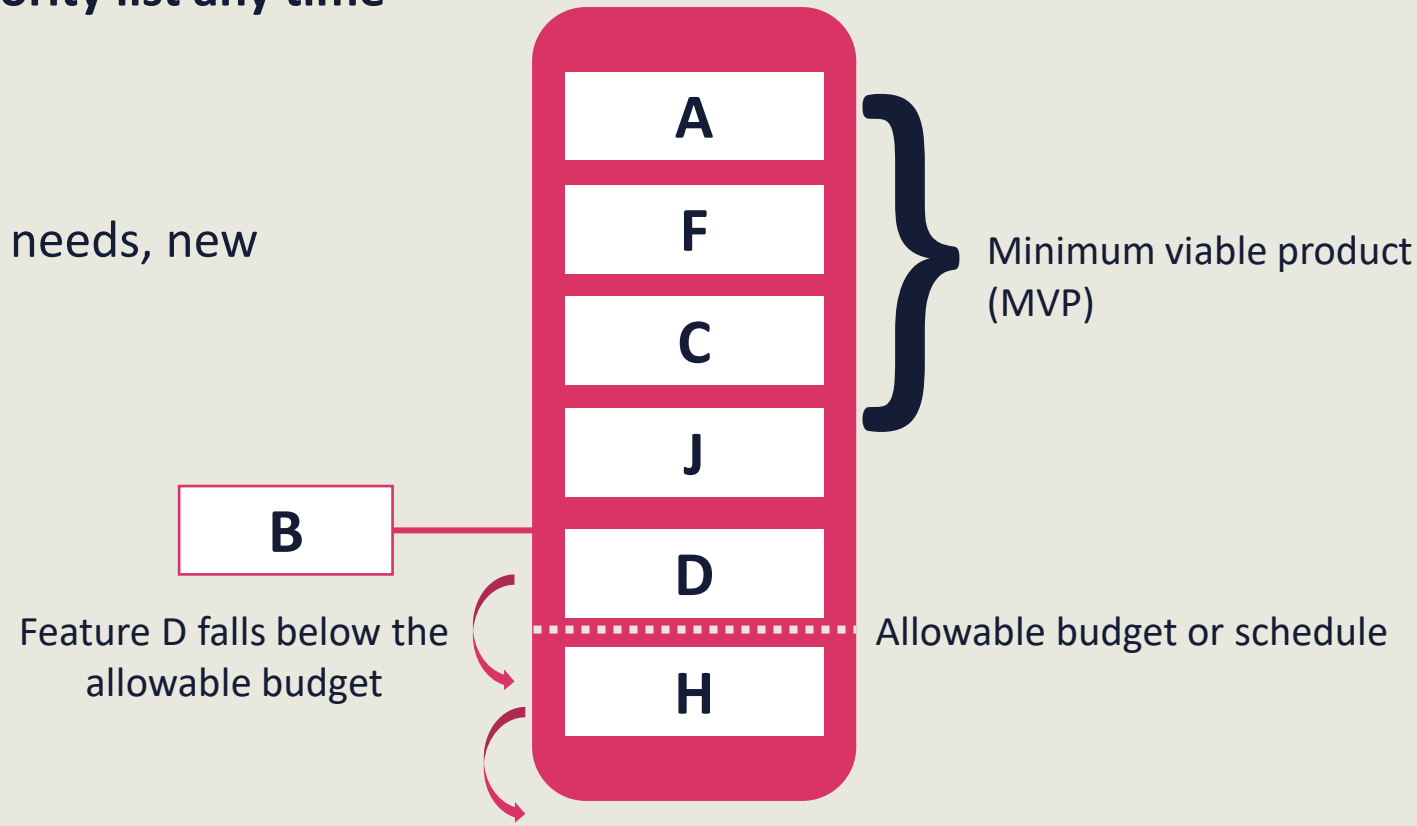
Close

- ✓ New information
- ✓ Appreciation
- ✓ Thanks

BACKLOG REFINEMENT

New features can be inserted into the priority list any time

- Not a Scrum meeting
- Product owner decides priority
- Constantly changes based on customer needs, new learning, and value

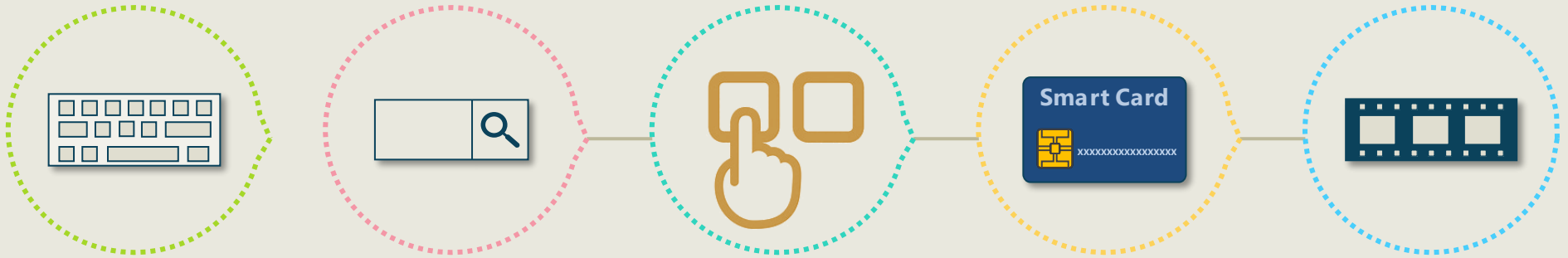


Assess Product Backlog

- ✓ Work to be done is also called a product backlog.
- ✓ Use backlog assessments and refinements to explore alternatives to overcome or avoid risks, such as removing work items or blockages.

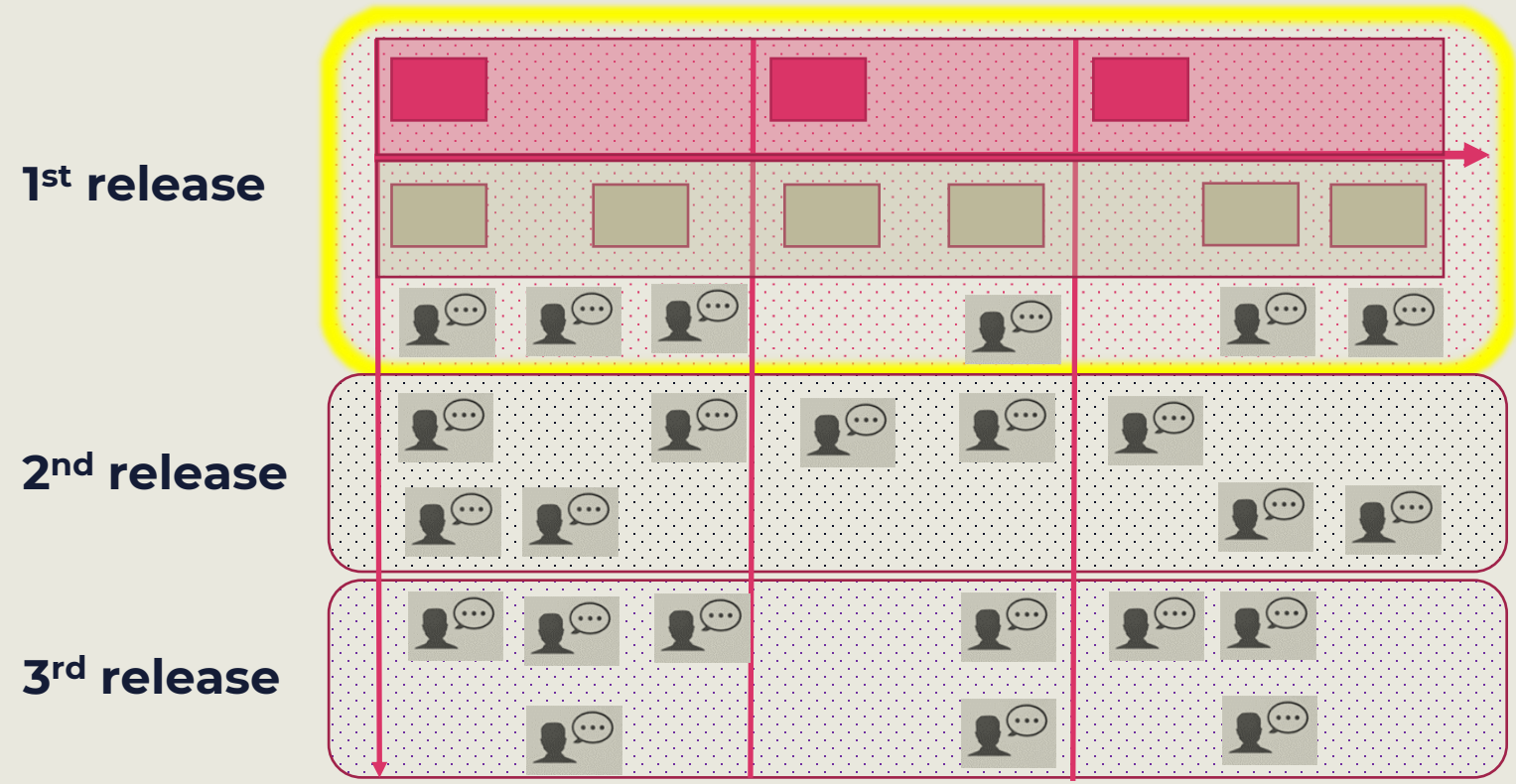
MINIMUM VIABLE PRODUCT

- Customer Journey
- Story Map
- End-to-end functionality
- Example: video streaming service



PRODUCT ROADMAP

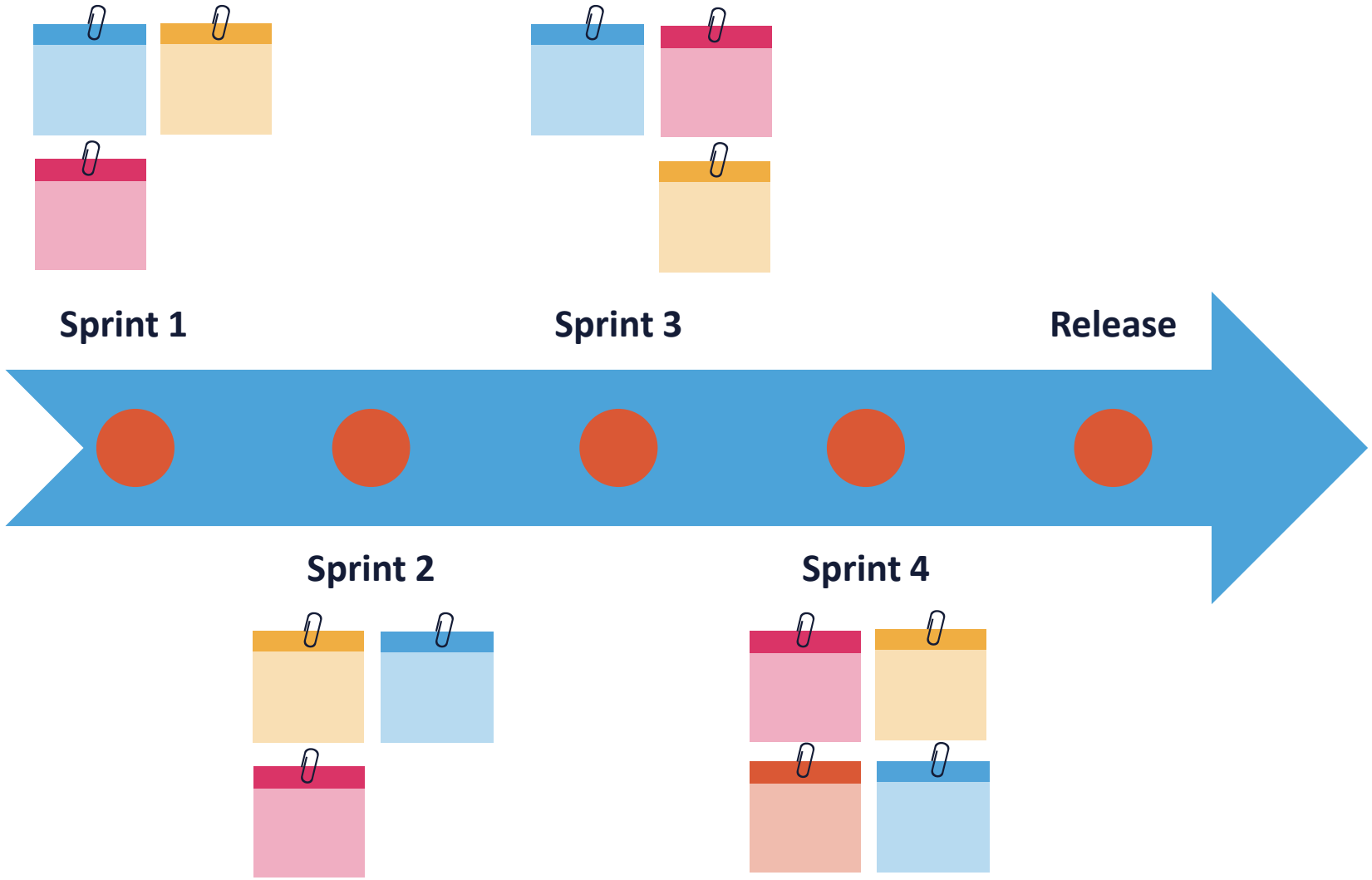
- Story map with timing of deliverables
- Considers priorities against Developers velocity
- Subject to change as backlog is refined
- With each release the product becomes more robust



Product Roadmaps

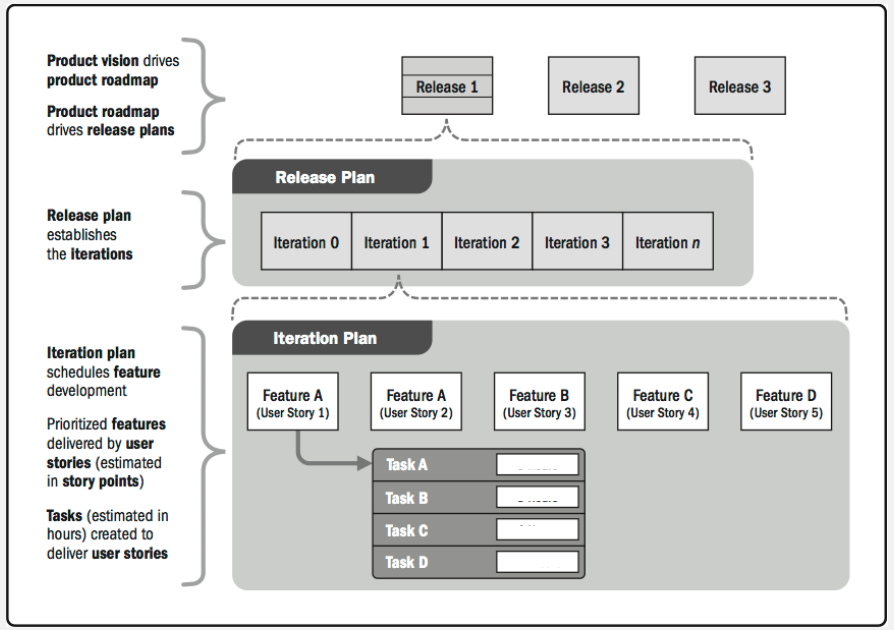
- ✓ Vary in appearance and presentation.
- ✓ Display the **strategy** and **direction** of the product and the **value** it will deliver.
- ✓ Lead with the overarching vision of the product.
- ✓ Are progressively **elaborated over time** with information and work inputs and refinement of vision.
- ✓ Use themes (goals) to **provide structure and associations.**
- ✓ Provide **short-term** and **long-term** visualization of the product.

SAMPLE RELEASE PLAN



Agile Release Planning

- ✓ High-level summary timeline of the release schedule based on product roadmap and vision for the product's evolution.
- ✓ Determines the number of iterations or sprints in the release
- ✓ Allows product owner and team to decide:
  - how much needs to be developed
  - how long it will take to have a releasable product based on business goals, dependencies, and impediments.



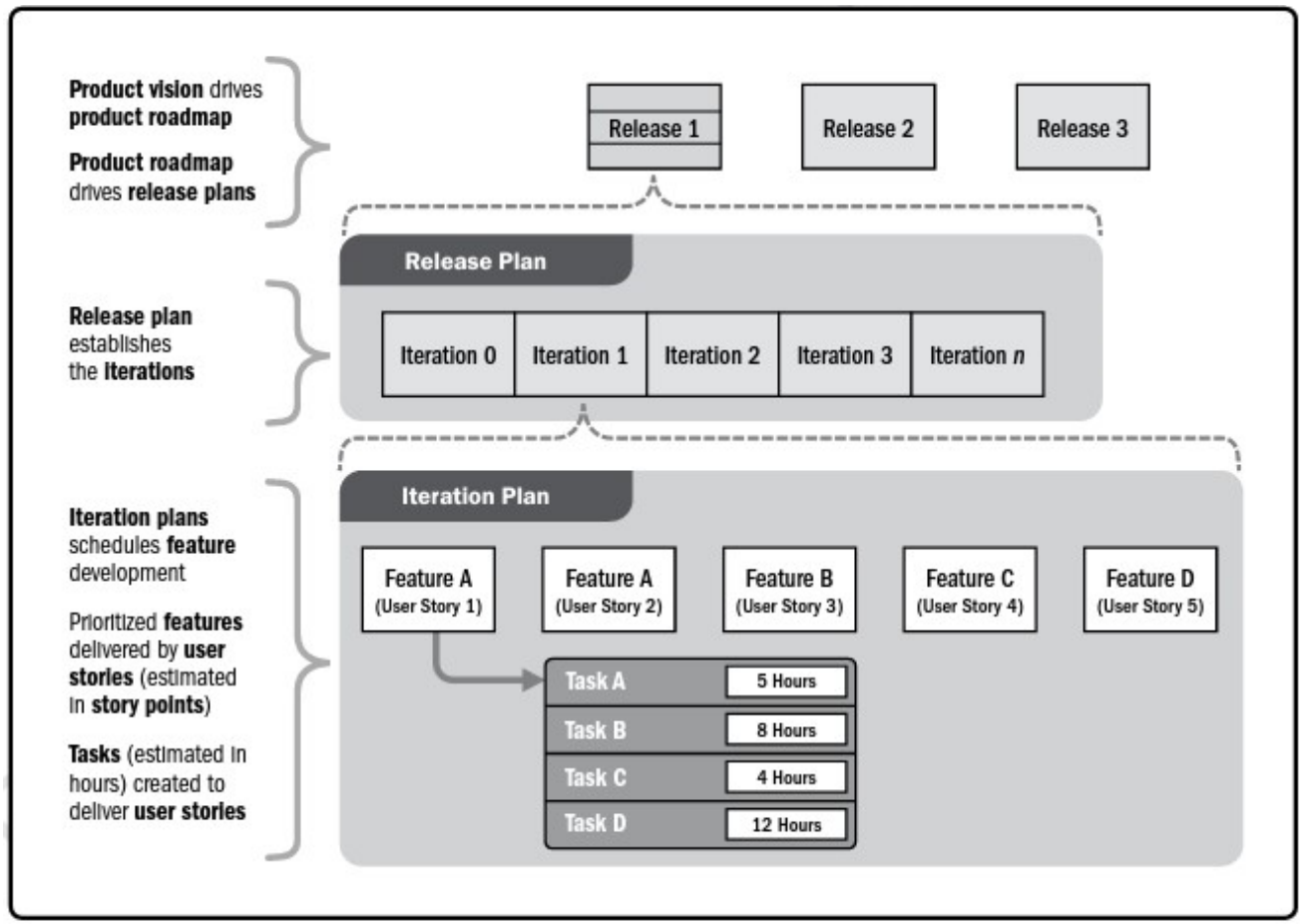
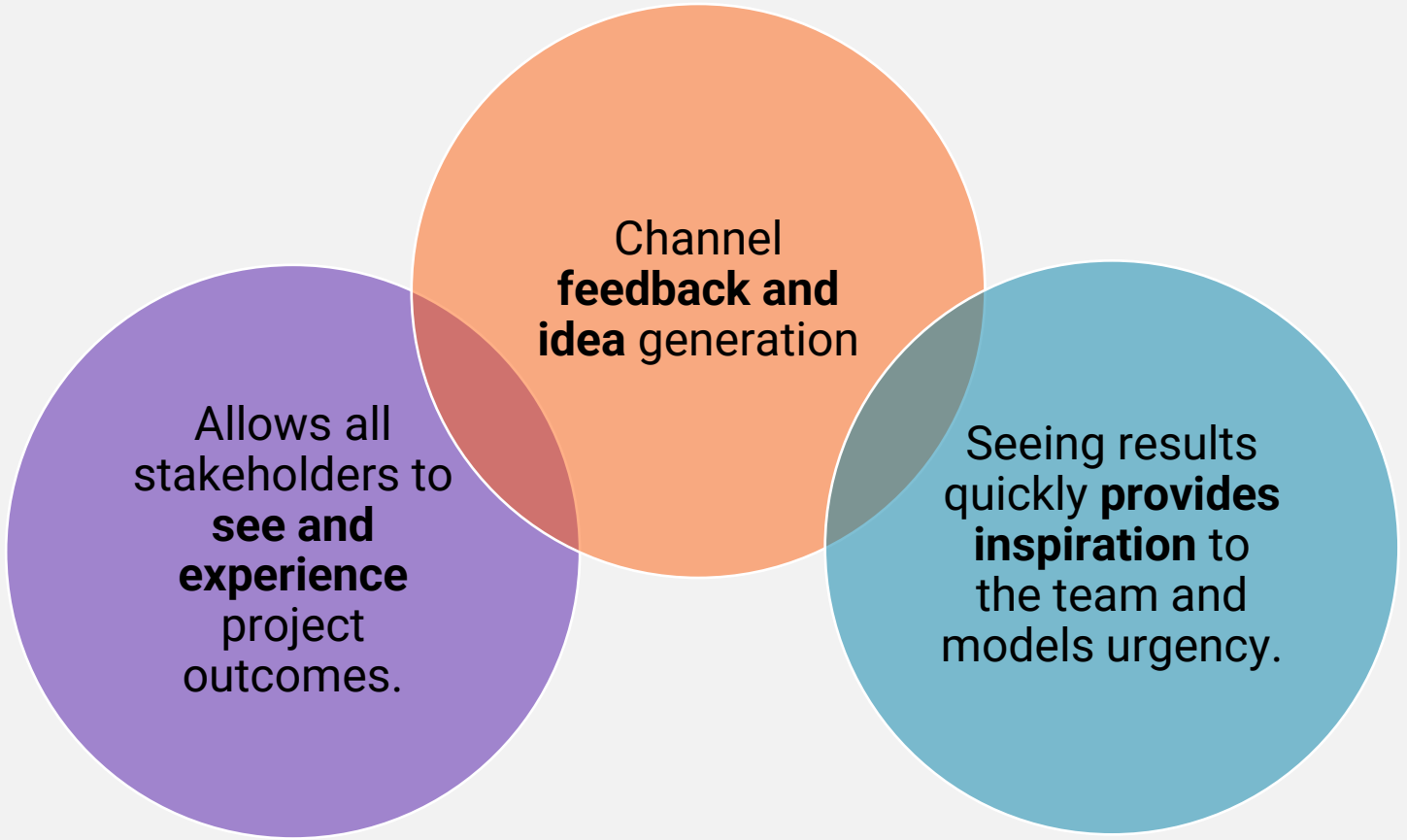


Figure 6-20. Relationship Between Product Vision, Release Planning, and Iteration Planning

Incremental Delivery

- ✓ Enables value delivery sooner.
- ✓ Get higher customer value and increased market share.
- ✓ Allows partial delivery (or previews) to customers.
- ✓ Enables early feedback for the project team allowing for adjustments to the direction, priorities, and quality of the product.

Minimum Viable Product (MVP)



Minimum Business Increment (MBI)

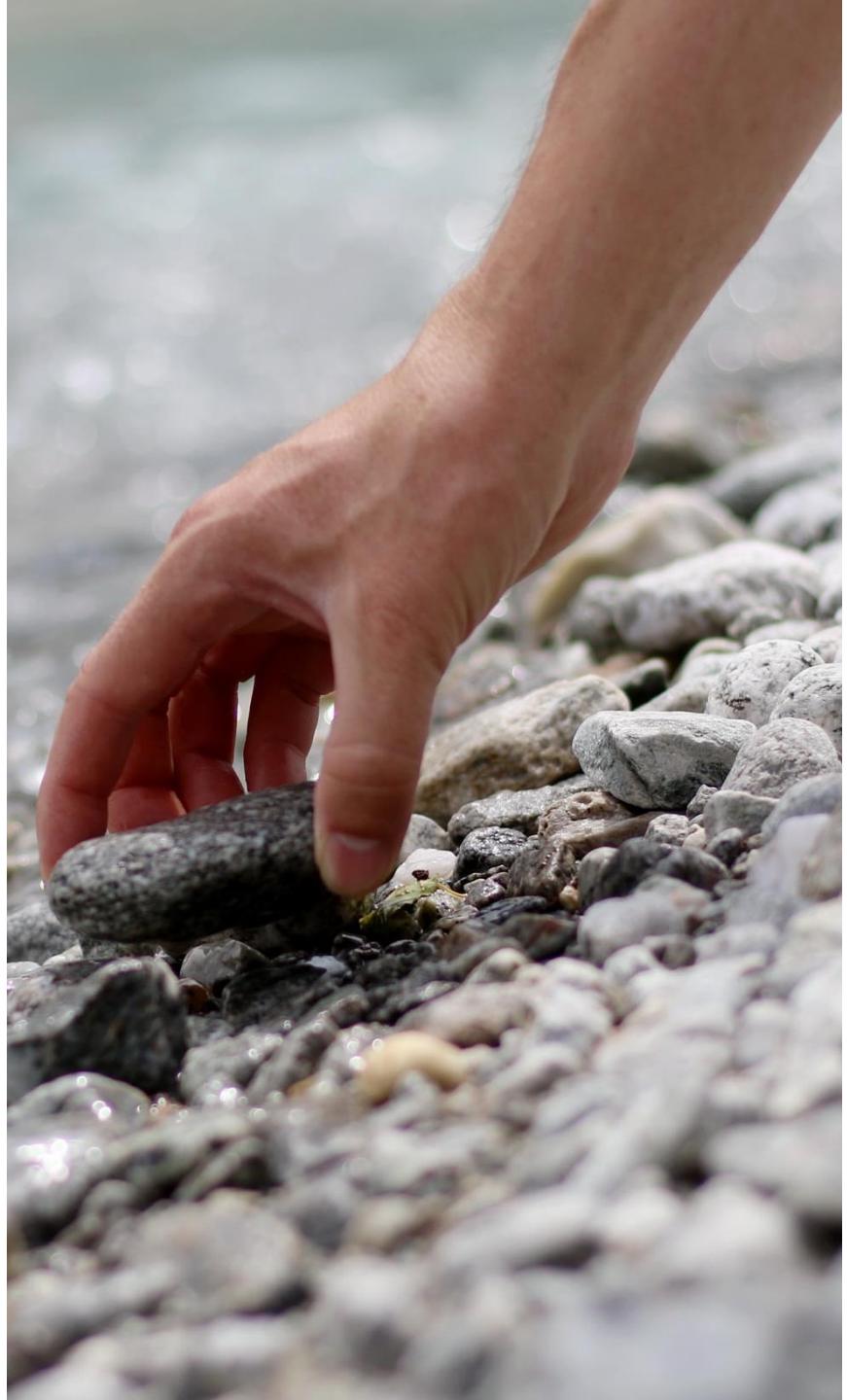
MBI is more viable when an MVP might disrupt the users and business, especially when a basic preliminary product, to gauge interest, is not necessary.

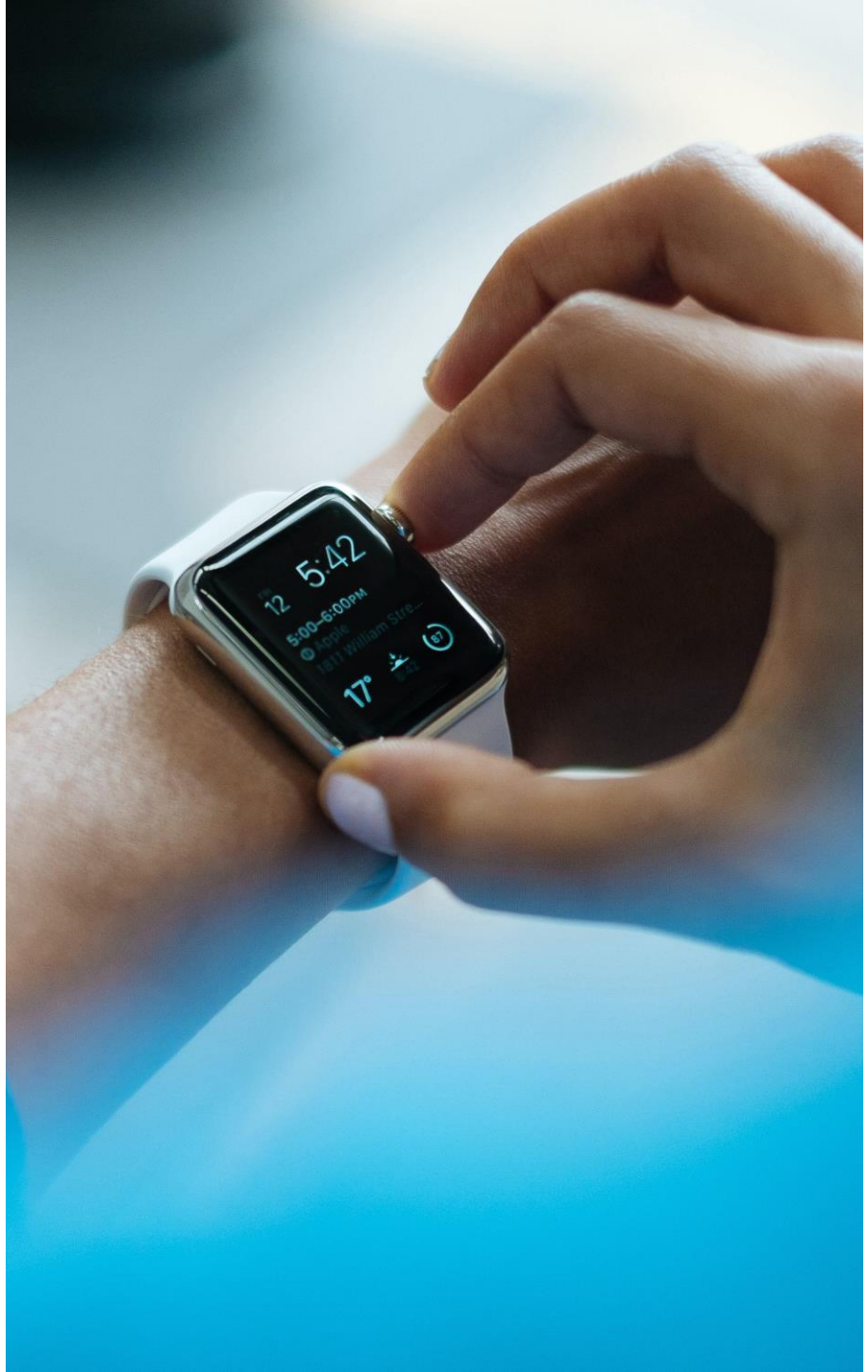
Optimize use of MBIs by:

- ✓ Ensuring the product and functions are understood.
- ✓ Pinpointing an incremental value increase.

Advantages of MBIs:

- ✓ Enable project team to deliver value sooner.
- ✓ Help team validate improvements.
- ✓ Enables team to incrementally build on success or pivot as needed.



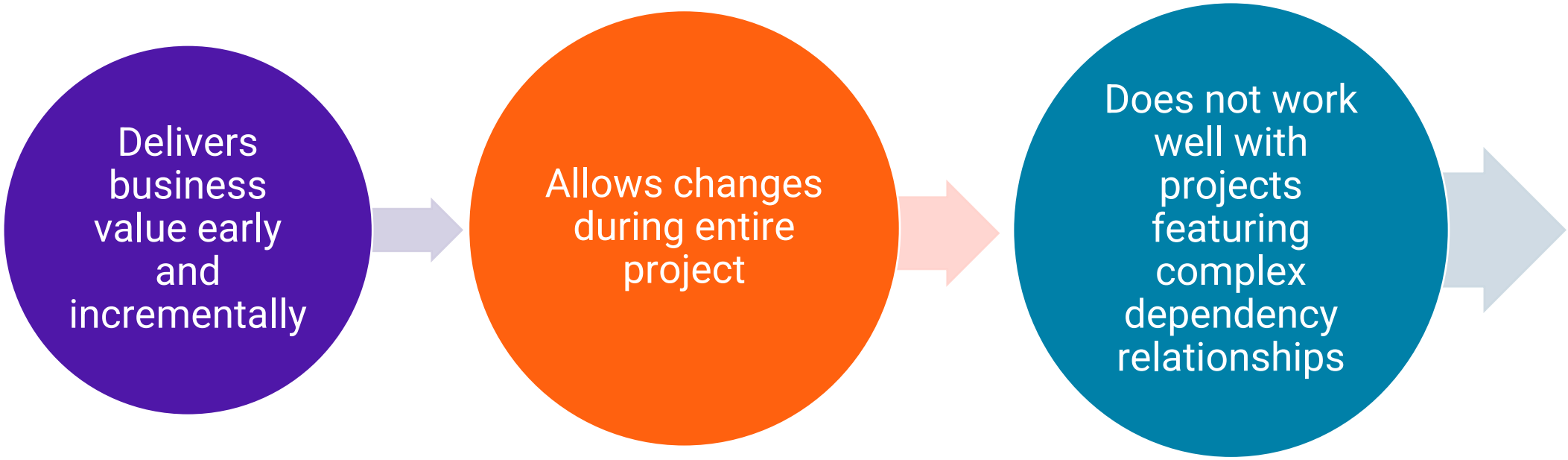


Cycles and Timeboxes

Benefits:

- ✓ Timeboxes allow for **better telemetry** over time.
- ✓ Timeboxes create a **sense of urgency**.
- ✓ Cycling the project through similar timeboxes provides **progress measurements** from one timebox to the next.
- ✓ Teams gain more **predictable measurements** that can communicate expectations of cycle times, throughput, and velocity.
- ✓ Organize work into **release cycles** and working **time blocks.**

Iterative Scheduling with Backlog



Iterative Scheduling with a Backlog Process

- ✓ Use progressive elaboration (rolling wave) to schedule activities
- ✓ Use a specific time window e.g. two weeks
- ✓ Define requirements in user stories
- ✓ Prioritize stories
- ✓ Select based on priority and time box
- ✓ Add remaining stories to backlog
- ✓ Construct later based on their priority

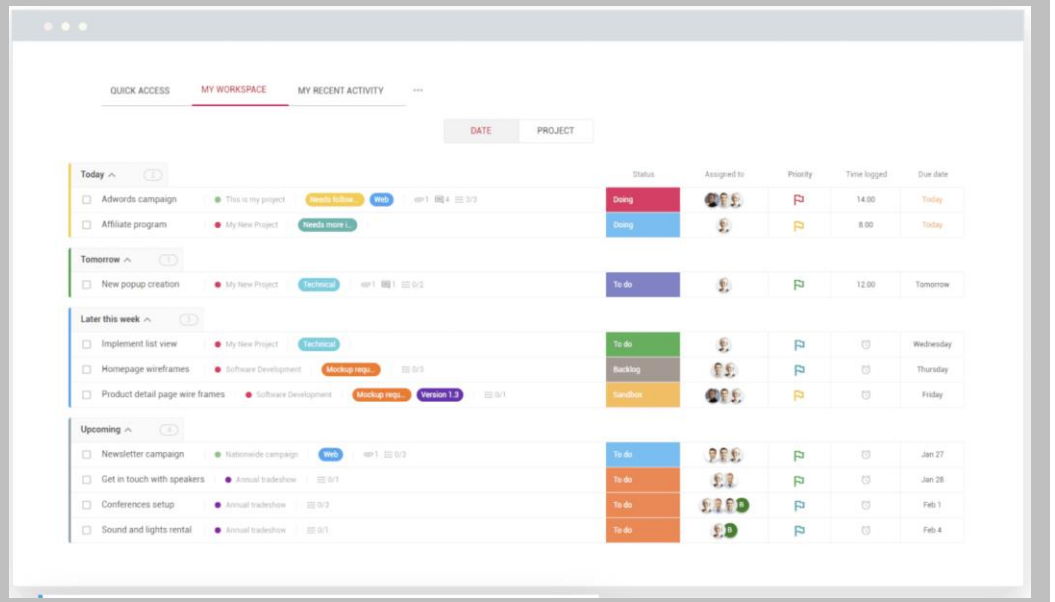
On-Demand Scheduling

- ✓ Does not use traditional schedules
- ✓ Team members “pull” work from a queue when available
- ✓ Based on Kanban and Lean methodologies
- ✓ Provides incremental business value
- ✓ Levels out work of team members
- ✓ Works best when activities can be divided into equal amounts
- ✓ Does not work well with projects comprised of complex dependency relationships

Project Artifact Examples

Artifacts unique to agile projects:

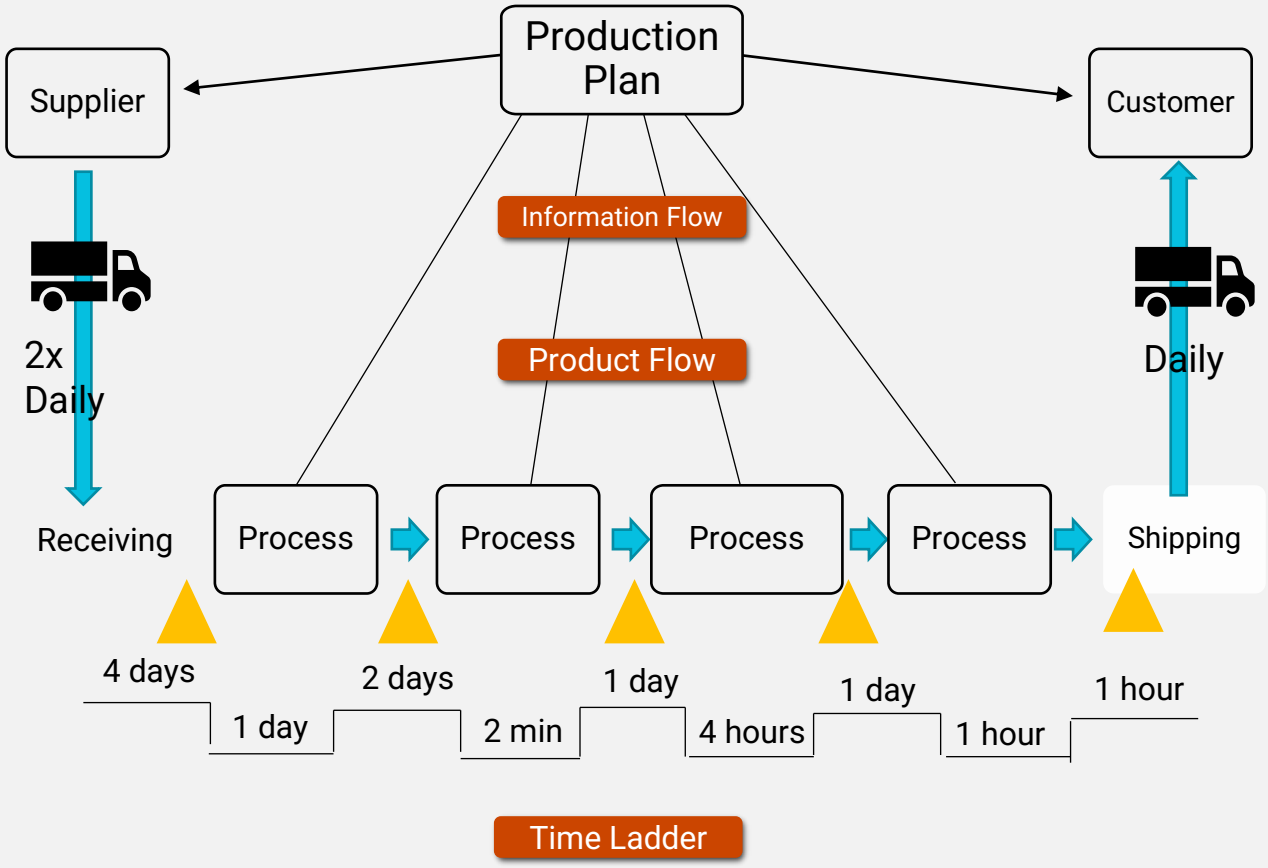
- ✓ Product Backlog
- ✓ Product Increment
- ✓ Product Roadmap
- ✓ Product Vision Statement
- ✓ Release Plan
- ✓ Sprint Backlog



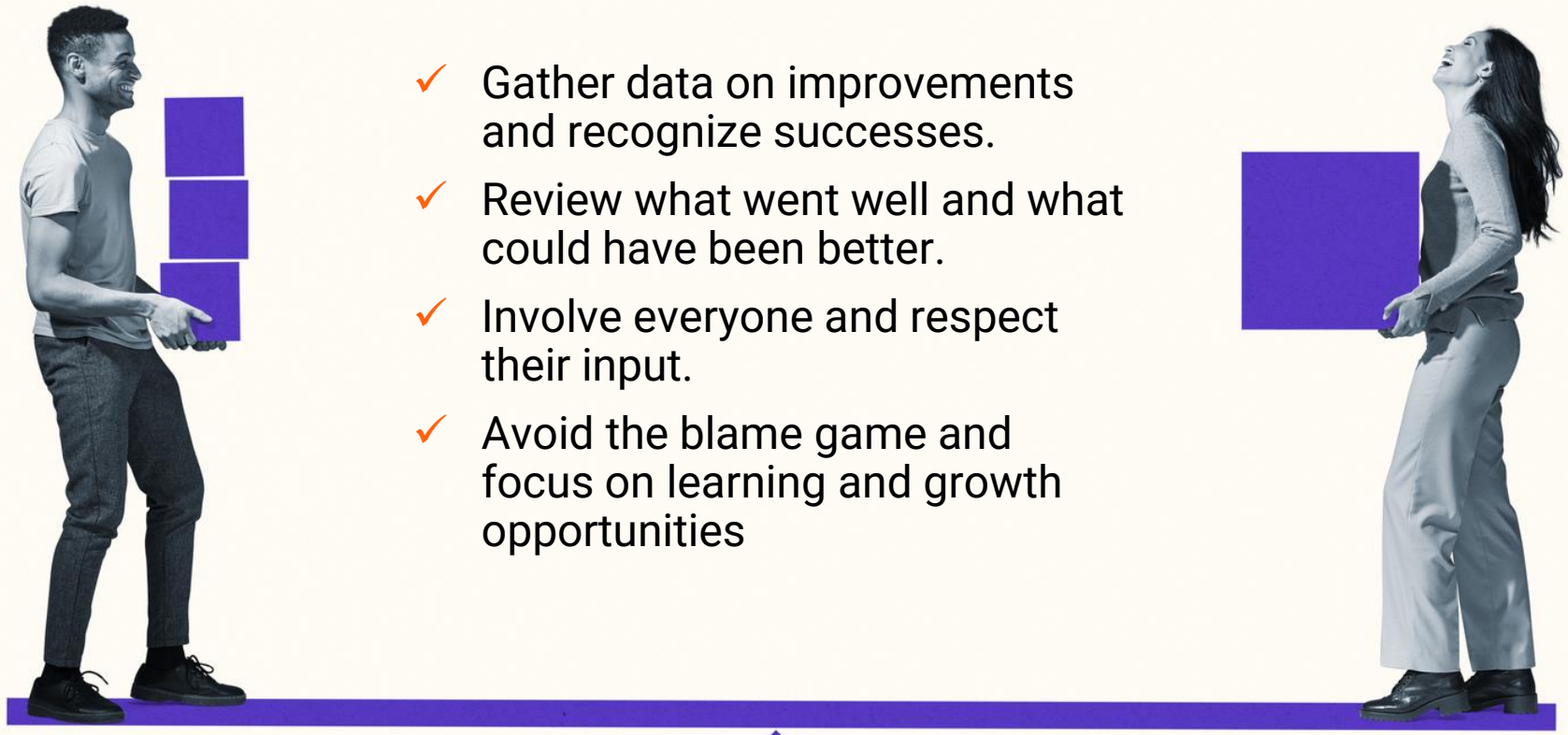
Performance Report Types

Type	Description
Information Radiators	Big visual boards to display in high traffic public locations about the project and the advancement of the project. The aim is to radiate information to all about the project work.
Burndown Chart	A graph to show the progress by plotting the burning down of work during an iteration or other time period.
Burnup Chart	A graph to show the progress and gains made by the project team over time.
Earned Value Management Reports	Graphs and values based on the earned value management (EVM) equations.
Variance Analysis Reports	Graphs and their analysis comparing actual results to expected results.
Work Performance Reports	The physical or electronic representation of work performance information compiled in project documents, intended to generate decisions, actions, or awareness.
Quality Reports	Charts and reports based on the quality metrics collected.
Dashboards	Physical or electronic summaries of the progress, usually with visuals or graphics to represent the larger data set
Task Boards	Physical or electronic depictions of the work that must be done and their current state.

Value Stream Map



Retrospectives and Lessons Learned



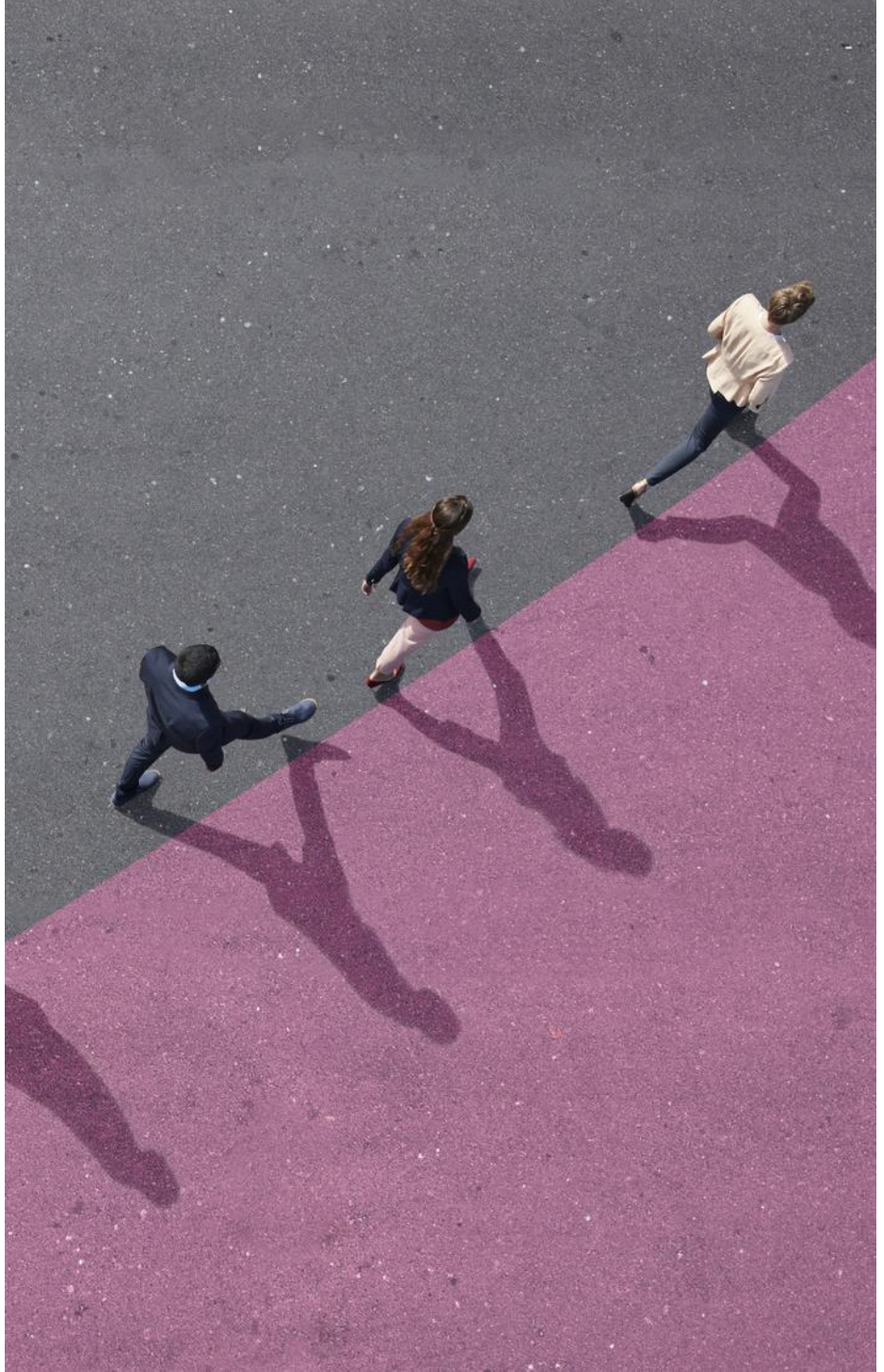
- ✓ Gather data on improvements and recognize successes.
- ✓ Review what went well and what could have been better.
- ✓ Involve everyone and respect their input.
- ✓ Avoid the blame game and focus on learning and growth opportunities

Agile Retrospectives – held as necessary throughout the project

Lessons Learned – at the end of projects

Implement Results of Retrospectives/Lessons Learned

- ✓ **Rank** the opportunities by importance and urgency.
- ✓ **Incorporate tasks necessary** to realize the improvements.
- ✓ **Apply ideas** to the team environment.

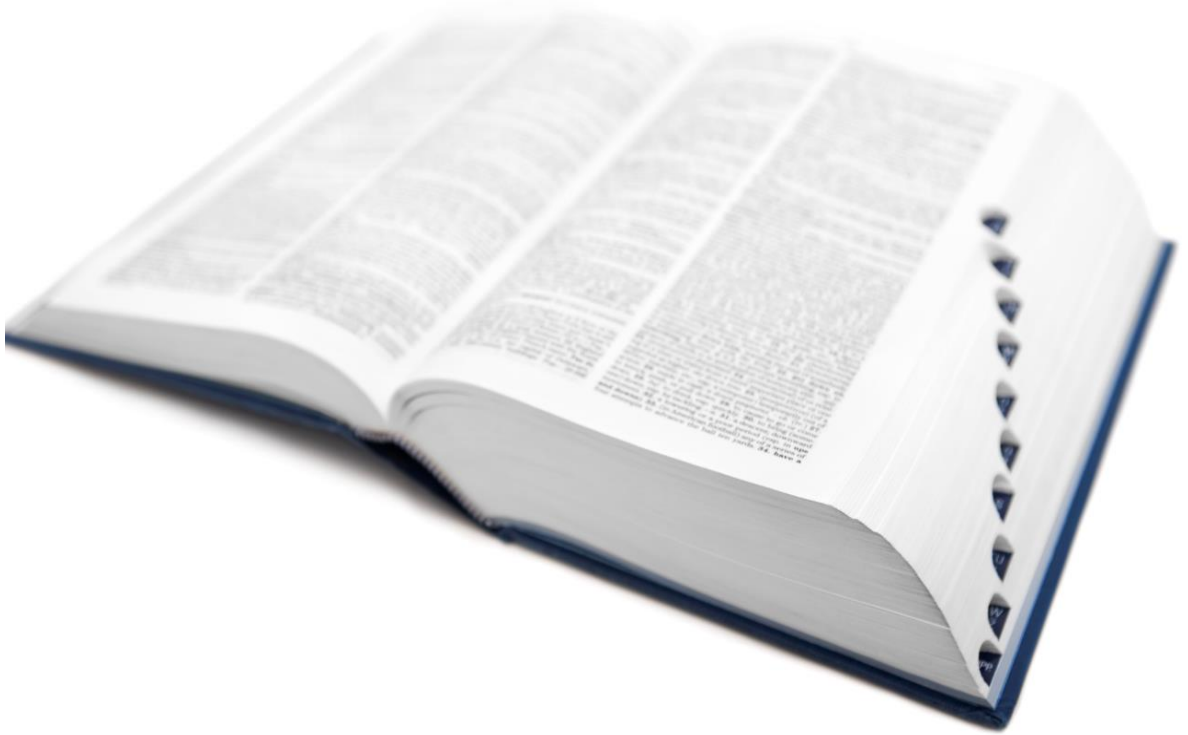


GUIDELINES

Conduct a Retrospective

- Prepare some ideas or areas of focus in case the team needs inspiration or ideas.
- Make two columns on a board: “What Went Well” and “What Could Be Improved”.
- Ask attendees to identify items that went well in the iteration and add them to the first column.
- Ask them to identify items that could be improved and add them to the second list.
- Allow each participant to identify the reason for the improvement.
- Moderate a conversation about common items that need improvement and mark those.
- Narrow the list down to a few areas for improvement that will bring value in the next Sprint.
- Get team consensus on the plan improvement.
- Update these tasks to the Product Backlog after a discussion with the Product Owner.
- Implement changes.

VOCABULARY
FROM TODAY'S SESSION



Product Roadmap

DEFINITION

A strategic document and plan which guides why the product will be delivered and how the product will meet objectives and the product vision.

Minimum Viable Product (MVP)

DEFINITION

The smallest collection of features that can be included in a product for customers to consider it functional ("bare bones" or "no frills" functionality in Lean).

Minimum Business Increment (MBI)

DEFINITION

In Disciplined Agile - the smallest amount of value that can be added to a product or service that benefits the business.

Value Stream Map

DEFINITION

A lean enterprise technique used to document, analyze, and improve the flow of information or materials required to produce a product or service for a customer.

Daily Standup (Daily Scrum)

DEFINITION

A brief, daily collaboration meeting in which the team reviews progress from the previous day, declares intentions for the current day, and highlights any obstacles encountered or anticipated.

DAILY BOOTCAMP SURVEY

Please share your thoughts.

At the end of each Bootcamp session please let us know how we are doing. Your feedback helps us to offer the best possible Bootcamp experience.

Thank you for attending Session 8!