Executing a Sprint
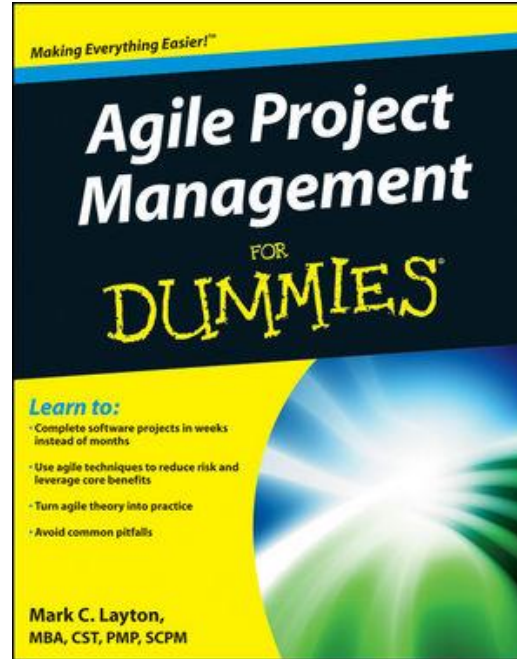
- Prof K G Krishna

Text/Reference Books
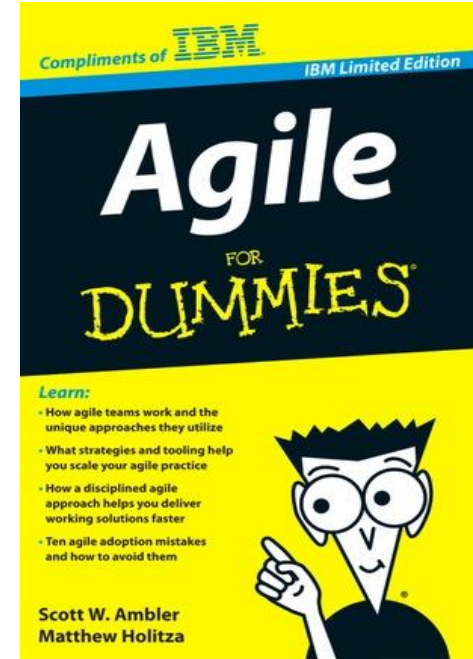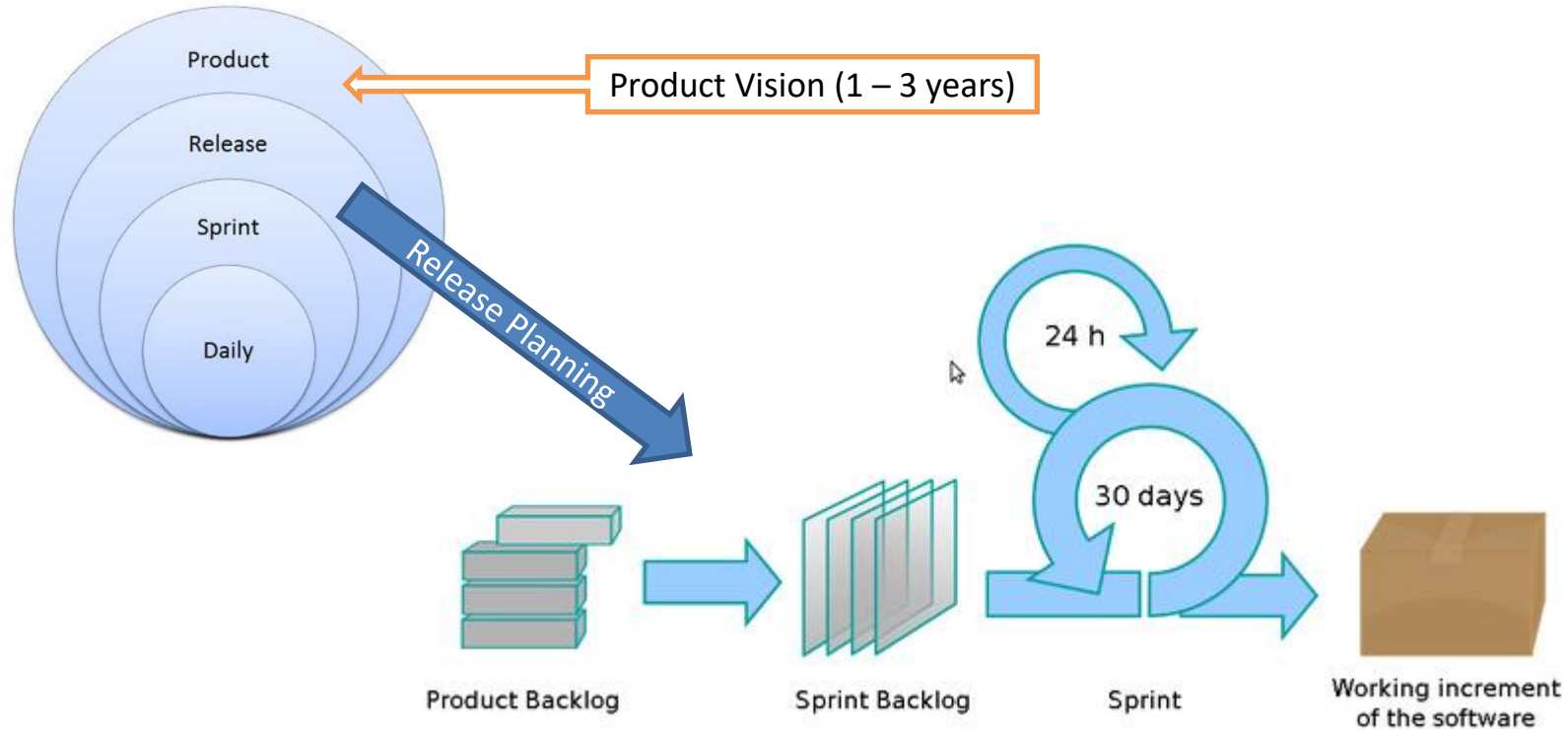
➔ As this field is evolutionary, the student is advised to stay tuned to the current and emerging practices by referring to their own organization's documentation as well as Net sources

Topics

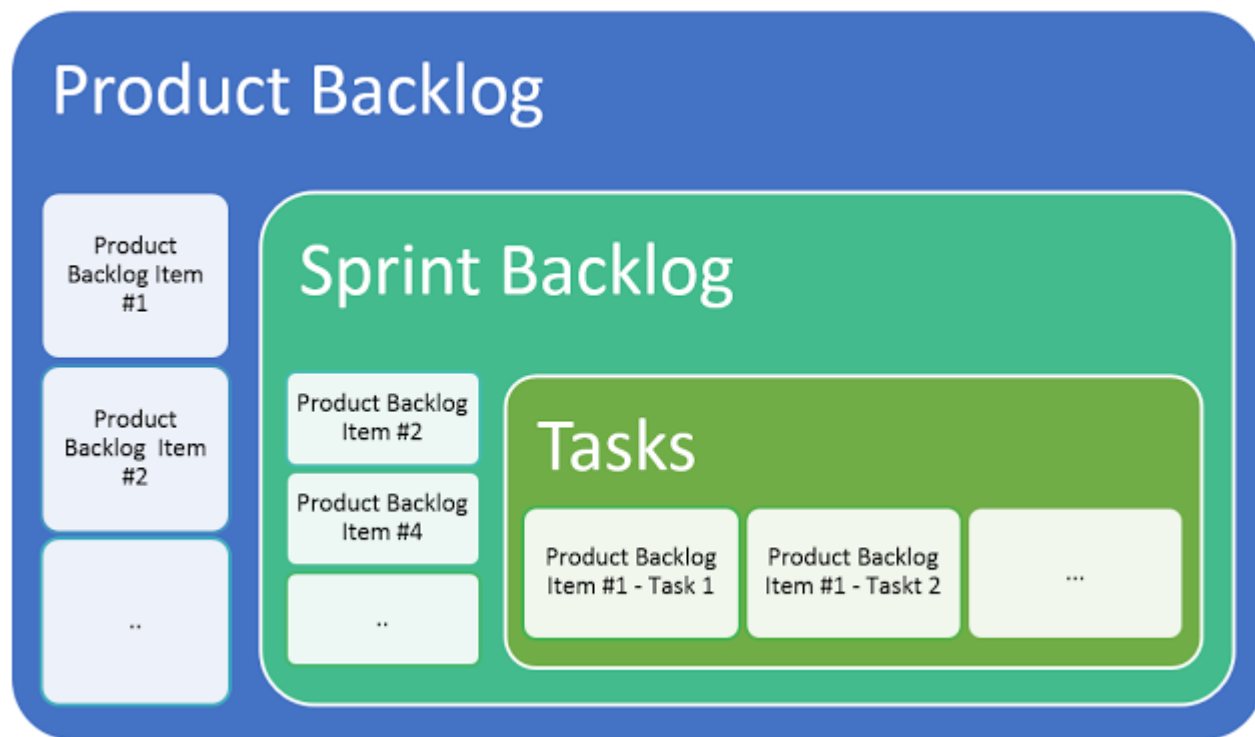## Executing a Sprint

- Sprint Ceremonies.
- Daily Scrums, Scrum of Scrums
- Sprint Review
- Sprint Retrospective

Levels of Planning in Agile

Product

Release

Sprint

Daily

Product Vision (1 – 3 years)

Release Planning

Product Backlog

Sprint Backlog

24 h

30 days

Sprint

Working increment of the software

Product-backlog vs. Sprint-backlog vs. Tasks/User Stories

Scrum: Roles – Artifacts - Ceremonies

Roles

Product Owner
- What should we work on and Why? (Vision)

Team Members
- Who will do it and how?

ScrumMaster
- Who will help us do it? (Process Facilitator)

Artifacts

Product Backlog
- What are we doing and in what order?

Sprint Backlog
- What are we doing right now? How will we do it?

Burndown Chart
- How are we doing this sprint? How we are doing this release?

Ceremonies

Sprint Planning
- What are we doing next?

Daily Scrum
- How are we doing today?

Sprint Review
- How did we do?

Sprint Retrospective
- How do we get better?

Sprint Ceremonies (Meetings) – A Snapshot

Event	4 Week	3 Week	2 Week	1 Week
Sprint Planning	8 hr	6 hr	4 hr	2 hr
Daily Scrums	15 min daily	15 min daily	15 min daily	15 min daily
Sprint Review	4 hr	3 hr	2 hr	1 hr
Sprint Retrospective	3 hr	2.25 hr	1.5 hr	.75 hr

Sprint-backlog – an Overview

- Within an agile development project, a *sprint backlog* is a list of the tasks and requirements to be completed within the sprint. The sprint backlog includes
- The list of user stories within the sprint in order of priority.
- The relative effort estimate for each user story.
- The tasks necessary to develop each user story.
- The effort, in hours, to complete each task (Each task should take one day or less for the development team to complete)
- A *burndown chart* that shows the status of the work the development team has completed.
- The development team collaborates to create and maintain the sprint backlog, and only the development team can modify the sprint backlog. The sprint backlog should reflect an up-to-the-day snapshot of the sprint's progress

Ref: (T2-Chap9)

Daily Scrum Meeting

24 hours
1 - 4 Weeks
Sprint

Stage 5: DAILY SCRUM
Description: To establish and coordinate priorities of the day
Owner: Development Team
Frequency: Daily

- Scrum meeting is a Stand-up meeting lasting not more than 15-20 minutes

- Anyone may attend a daily scrum, but only the development team, the scrum master, and the product owner may talk. Stakeholders can discuss questions with the scrum master or product owner afterward, but stakeholders should not approach the development team.

- Focus on immediate priorities. The scrum team should review only completed tasks, tasks to be done, and roadblocks.

- Use the meeting for coordination, not problem-solving. The development team and the scrum master are responsible for removing roadblocks during the day. To keep meetings from drifting into problem-solving sessions, scrum teams can Keep a list on a white board to keep track of issues that need immediate attention, and then address those issues directly after the meeting.

- Hold a meeting, called an after-party, to solve problems when the daily scrum is finished. Some scrum teams schedule time for an after-party every day; others only meet as needed.

- The daily scrum is for peer-to-peer coordination. Save status reports for the sprint backlog.

- The scrum team may request that daily scrum attendees stand up — rather than sit down — during the meeting. Standing up makes people eager to finish the meeting and get on with the day's work

Ref: (T2-Chap9)

Executing Sprint

- Creating Shippable Functionality
- The objective of the day-to-day work of a sprint is to create shippable functionality for the product in a form that can be delivered to a customer or user.
- To create shippable functionality, the development team and the product owner are involved in following major activities:
  - Elaborating (responding to clarifications, detailing of new features)
  - Developing the Stories/Tasks (the actual work by team)
  - Verifying (automated testing, peer review, and product owner review)
  - Identifying Roadblocks (using organizational cloud, Scrum Master removes roadblocks related to resources, shields team from extra-project activities)
  - Update Sprint Burndown chart and Sprint-backlog at the end of the day

Ref: (T2-Chap9)

As an existing customer, I want to enter my user information and enter my account securely so I can be confident transacting there.

Acceptance Criteria
- Accepts all existing user security information as required by IT user management standards
- Allows access to Alternate product login
- Authenticates per existing security rules
- Provides username forgiveness
- Provides password contact number forgiveness
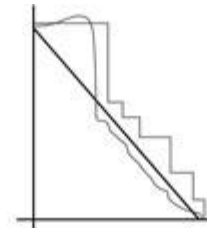
Design: See wireframes
Development: See workflows and architectural diagrams
Content: All messages must be approved by Compliance and routed through Legal in context with disclaimers.
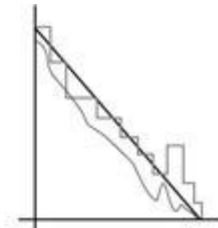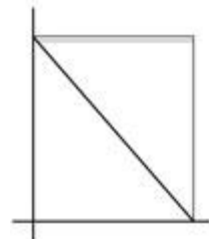
Tracking Progress: Sprint Burndown Chart
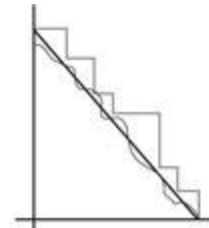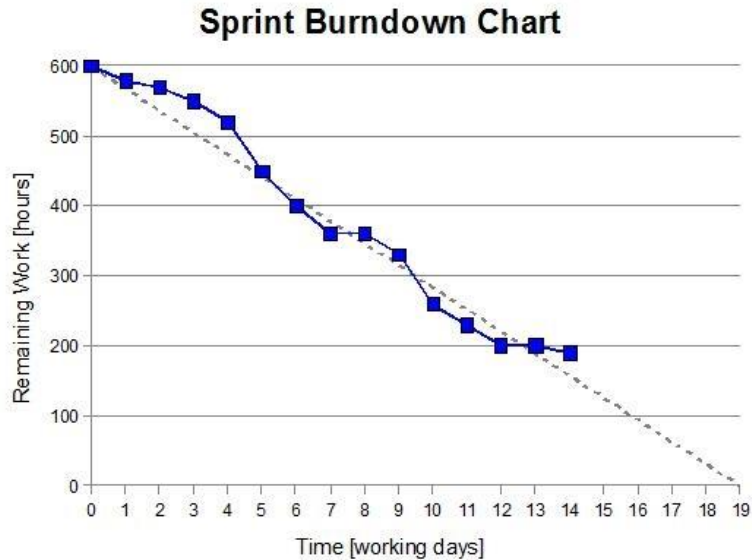
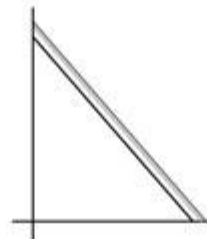Ref: (T2-Chap9)
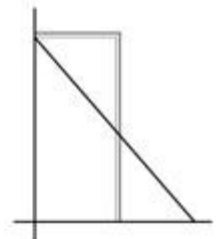
Tracking Progress: Sprint *Task-board*

- Task board — in conjunction with the sprint backlog (which is an electronic version) — gives a quick, easy view of status of the items within the sprint to the development team

- The task board can be made up of sticky notes on a white board.

- Task board to be always visible and accessible to members – they can physically move a user story card through its completion

- The task board encourages thought and action just by existing in the scrum team's work area, where everyone can see the board.

Ref: (T2-Chap9)

Progress Tracking through Burndown Charts

- **Expected:** This chart shows a normal sprint pattern. The remaining work hours rise and fall as the development team completes tasks, ferrets out details,

- **More complicated:** In this sprint, the work increased beyond the point in which the development team felt it could accomplish everything. The team identified this issue early, worked with the product owner to remove some user stories, and still achieved the sprint goal. The key to scope changes within a sprint is that they are always initiated by the development team — no one else.

- **Less complicated:** In this sprint, the development team completed some critical user stories faster than anticipated and worked with the product owner to identify additional user stories it could add to the sprint.

- **Not participating:** A straight line in a burndown means that the team didn't update the burndown or made zero progress that day. Either case is a red flag for future problems.

- **Lying (or conforming):** This burndown pattern is common for new agile development teams used to reporting the hours management expects instead of the time the work really takes. A team with this chart likely adjusted its work estimates to the exact number of remaining hours. This pattern often reflects a fear-based environment, where the managers lead by intimidation.

- **Failing fast:** One of the strongest benefits of agile is the immediate proof of progress, or lack thereof. This pattern shows an example of a team that wasn't participating or progressing. Halfway through the sprint, the product owners cut their losses and killed the sprint. Only product owners can end a sprint early.

Ref: (T2-Chap9)

Sprint-backlog Example
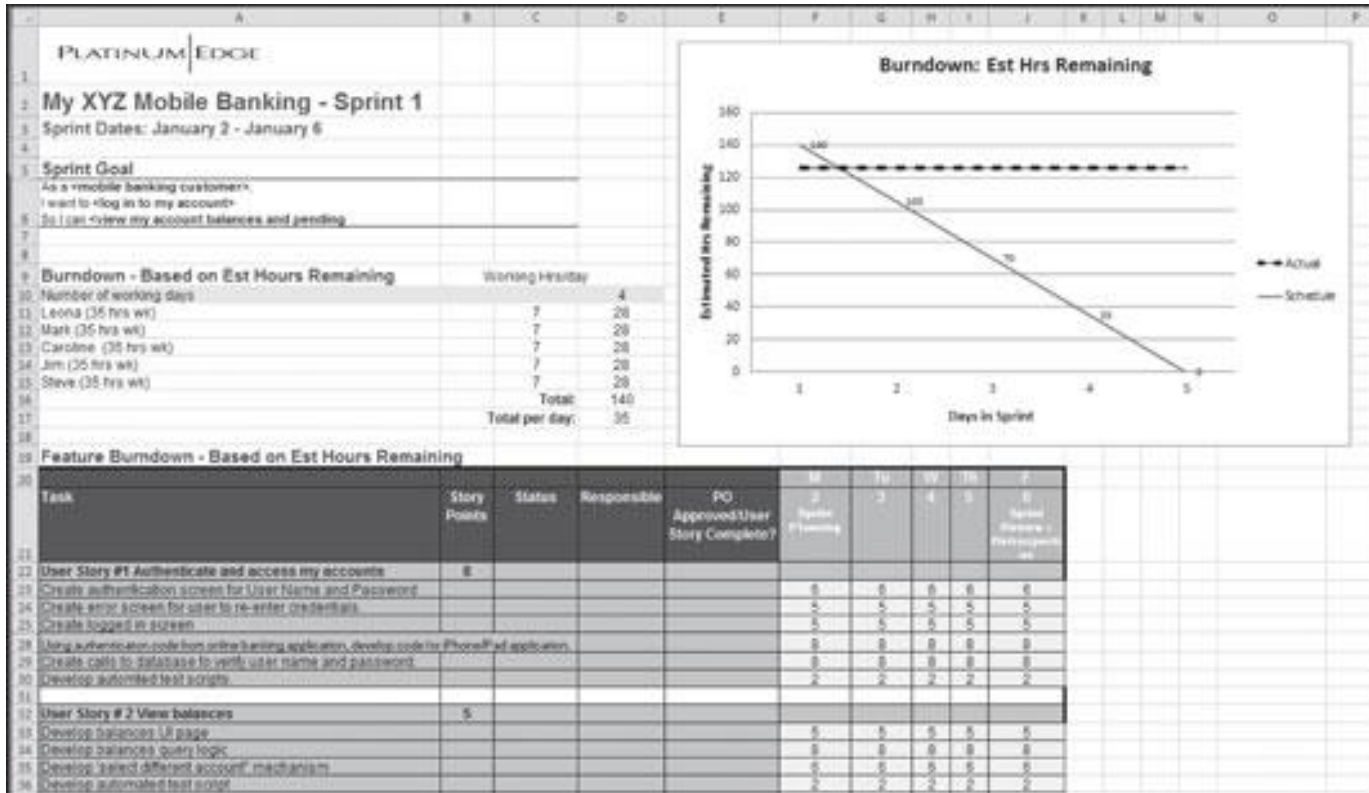
Source: (T2-Chap9)

Sprint-backlog – An Example

| ID	Story	Type	Status	Value
121	As an Administrator, I want to link accounts to profiles, so that customers can access new accounts.	Feature	Not started	5
113	As a Customer, I want to view my account balances, so that I know how much money is currently in each account.	Feature	Not started	3
403	As a Customer, I want to transfer money between my active accounts, so that I can adjust each account's balance.	Feature	Not started	1
97	As a Site Visitor, I want to contact the bank, so that I can ask questions and raise issues.	Feature	Not started	2
68	As a Site Visitor, I want to find locations, so that I can use bank services.	Feature	Not started	8

Scaling Agile: Scrum of Scrums

- To Scale Teams beyond 7 members to large Groups

- Divide the Group into Scrum Groups of 5 – 7 each

- A technique to scale Scrum up to large groups (over a dozen people), consisting of dividing the groups into Agile teams of 5-10. Each daily scrum within a sub-team ends by designating one member as "ambassador" to participate in a daily meeting with ambassadors from other teams

- The Scrum of Scrums proceeds otherwise as a normal daily meeting, with ambassadors reporting completions, next steps and impediments on behalf of the teams they represent. Resolution of impediments is expected to focus on the challenges of coordination between the teams; solutions may entail agreeing to interfaces between teams, negotiating responsibility boundaries, etc.

- The Scrum of Scrum will track these items via a backlog of its own, where each item contributes to improving between-team coordination.

Ref: (T2-Chap9)

Scrum of Scrums (contd.,)

- The scrum of scrums meetings can be <u>scaled up in a recursive manner</u> – more scrum of scrums meetings. Each contains a representative from each of the teams. The work of scrum of scrums meetings can be coordinated through an even higher level meeting ("scrum of scrum of scrums")

- Scrum of scrums meetings <u>may not be daily</u>

- Agenda - similar to the standard agenda for the daily scrum except the team member represents his own scrum team.

| 15 minutes | Each participant answers four questions:
1. What has your team done since we last met?
2. What will your team do before we meet again?
3. Is anything slowing your team down on in their way?
4. Are you about to put anything in another team's way? | No personal names |
| As needed | Resolve problems and discuss issues on the team backlog. | |

Ref: (T2-Chap9)

# Sprint Reviews & Sprint Retrospectives

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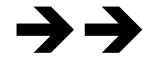
Every Stage in the SCRUM is a Review Stage!
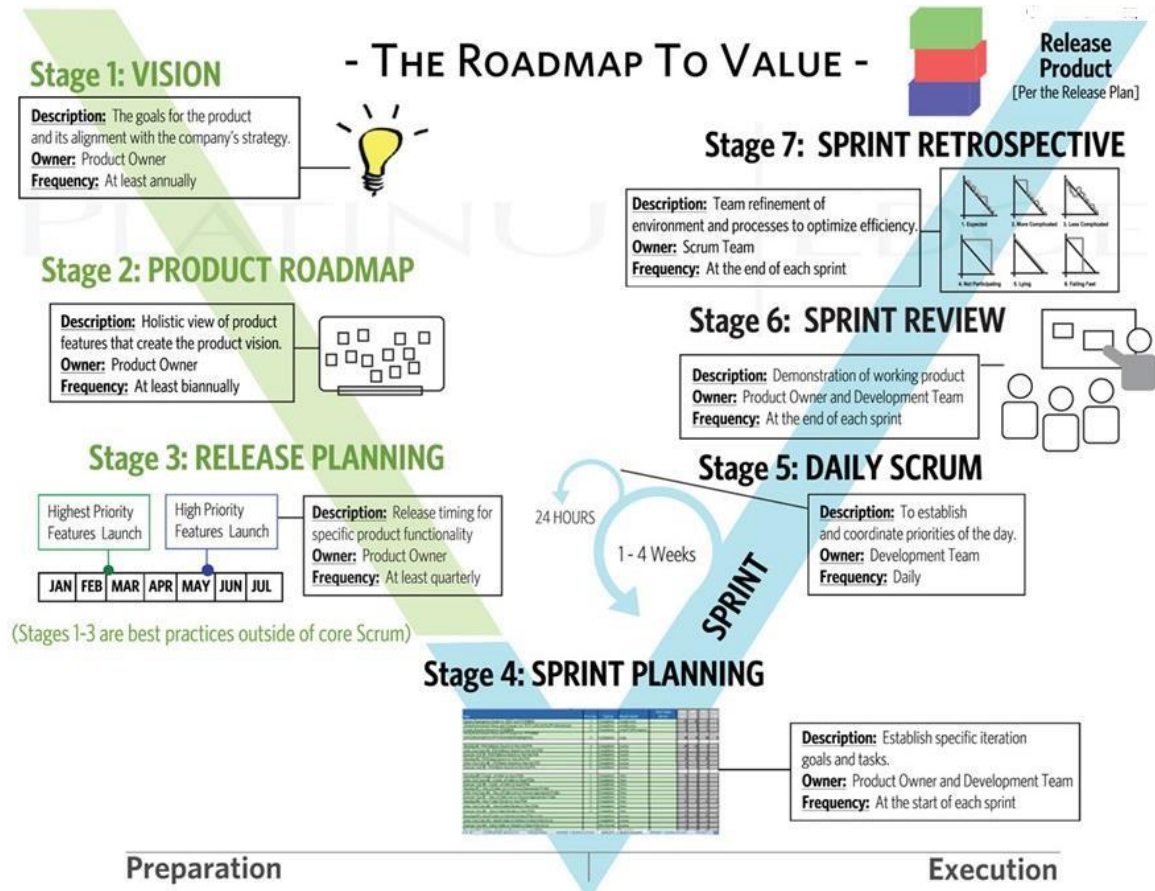
Source: (T2)

Sprint Review

- Apart from demonstration of product, sprint review meeting enables stakeholders to provide continuous feedback

- Each day, team members work together in a collaborative environment that encourages feedback through peer reviews and informal communication.

- In each sprint, as the team completes each requirement, the product owner provides feedback by reviewing the working functionality for acceptance.

- With each release, customers who use the product provide feedback about new working functionality.

- Gathering feedback during the sprint review is an <u>informal process</u>. The product owner or scrum master can take notes on behalf of the development team, as team members are often engaged in presentations/conversations

- New user stories may come out of the sprint review. The new user stories may be new features altogether, or they may be changes to the existing product or code.

- After the review, the product owner has several tasks: Add any new user stories to the product backlog after prioritizing; Add stories that were scheduled for the current sprint but weren't completed back into the product backlog and reorder/reprioritize based on the most recent priorities; Complete updates to the product backlog in time for the next sprint.

Ref: (T2-Chap9)
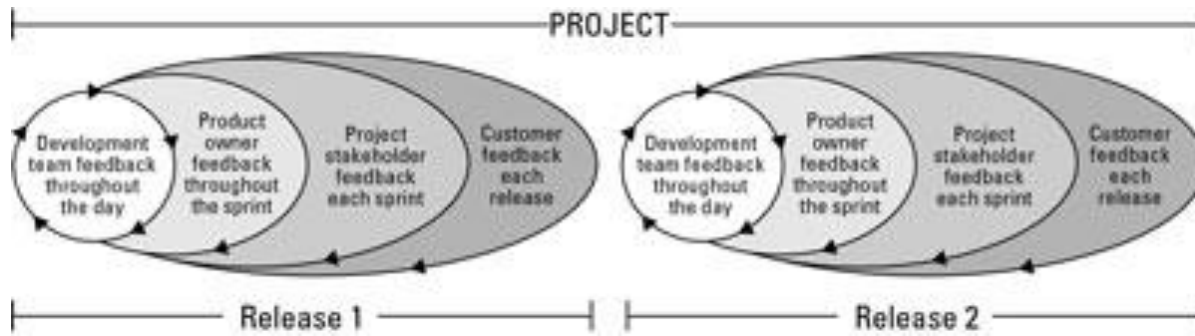
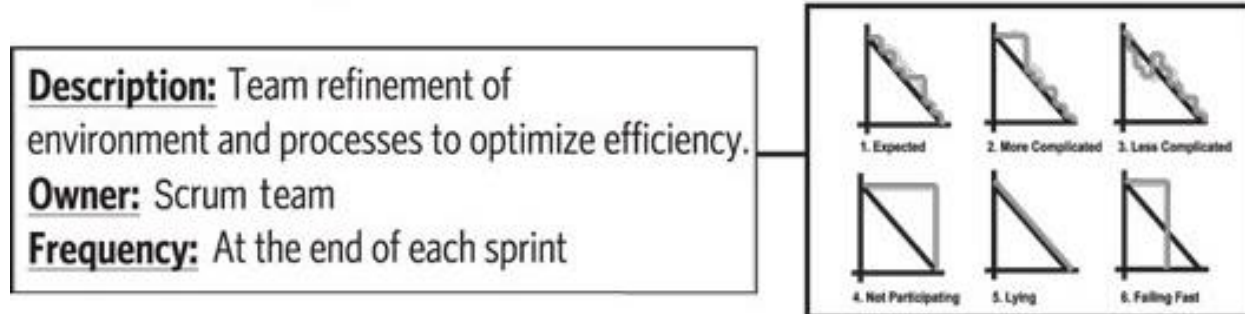# Sprint Review Meeting: Guidelines

If my sprint is this long...	My sprint review meeting should last no more than...
One week	45 minutes
Two weeks	1.5 hours
Three weeks	2.25 hours
Four weeks	Three hours

Ref: (T2-Chap9)

Sprint Retrospective (for Process Improvement)

- SET THE STAGE
  - Establish the goals (specific areas of improvement) for the retrospective up front.

- GATHER DATA
  - Discuss the facts about what went well in the last sprint and what needed improvement. Create an overall picture of the sprint; consider using a white board to write down the input from meeting attendees.

- GENERATE INSIGHTS
  - Gather insights/ideas about how to make improvements for the next sprint.

- DECIDE WHAT TO DO
  - Determine — as a team — identify ideas and specific actions to make them a reality

- CLOSE THE RETROSPECTIVE
  - Reiterate your plan of action for the next sprint.

Description: Team refinement of environment and processes to optimize efficiency.
Owner: Scrum team
Frequency: At the end of each sprint

1. Expected
2. More Complicated
3. Less Complicated
4. Not Participating
5. Lying
6. Failing Fast

Ref: (T2-Chap9)

Summary: Executing a Sprint

- Daily Scrum – where "action" happens (actual development)
- Daily Scrum Meetings (standup meetings ~15 mins) are key to project progress and continuous improvement
- All Team members work on One Story/Task at a time (to ensure *swarming*—collaboration & knowledge-sharing)
- Each Sprint must deliver Working / Demonstrable Product
- Burndown Charts & Task-boards are common tools for Project Status communication
- For larger Agile Teams, Scrum-of-Scrums approach is followed (nesting of Scrum within larger Scrum)
- Sprint Review Meeting is where issues/challenges faced in the last Sprint discussed, working product demonstrated and product-backlog gets updated
- All improvements related to Scrum Process and Team collaboration and communication are addressed in Sprint Retrospective Meeting

Thank You