PMI®—Agile Certified Practitioner (PMI-ACP)®

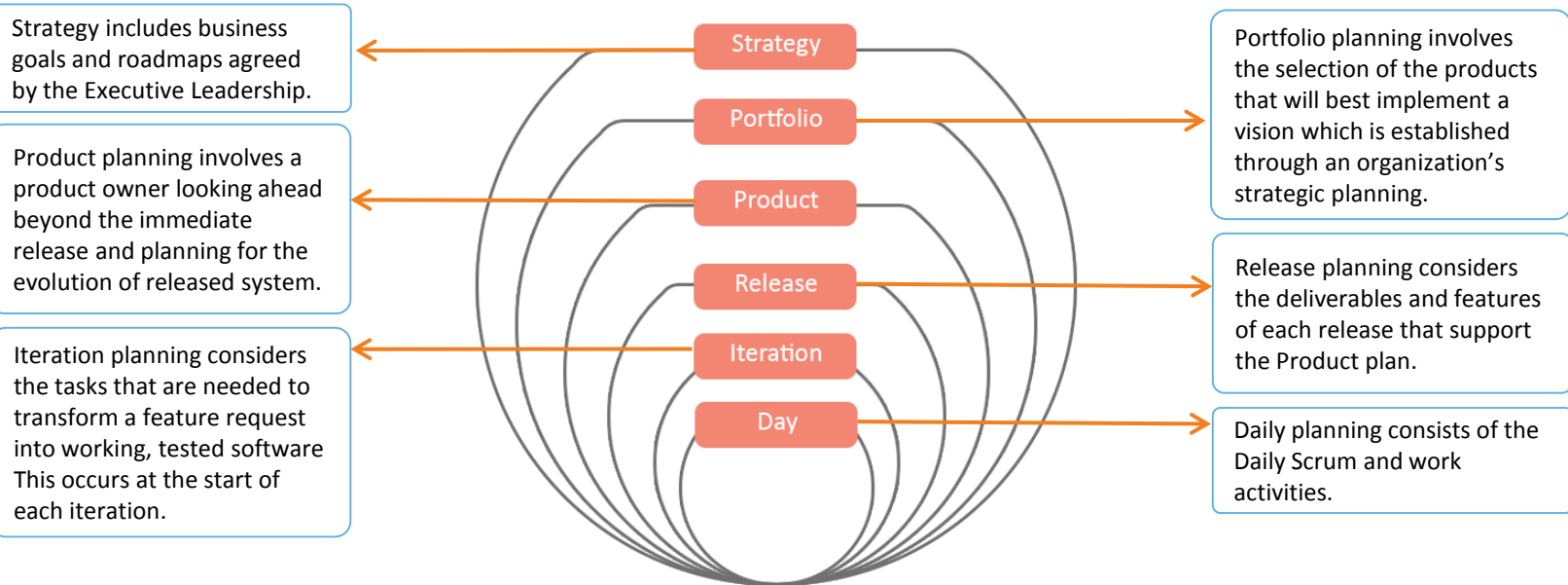Agile Planning, Monitoring, and Adopting: Part 1

After completing this lesson, you will be able to:

- Identify the multiple levels of planning in Agile projects

- Explain the principle of timeboxing

- Explain MoSCoW prioritization

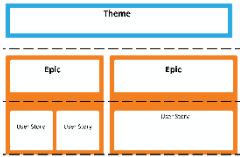- Describe the steps involved in release planning

Multiple Levels of Planning

Multiple levels of planning in Agile projects are represented using a 'planning onion'.

Strategy includes business goals and roadmaps agreed by the Executive Leadership.

Product planning involves a product owner looking ahead beyond the immediate release and planning for the evolution of released system.

Iteration planning considers the tasks that are needed to transform a feature request into working, tested software This occurs at the start of each iteration.

Strategy

Portfolio

Product

Release

Iteration

Day

Portfolio planning involves the selection of the products that will best implement a vision which is established through an organization's strategic planning.

Release planning considers the deliverables and features of each release that support the Product plan.

Daily planning consists of the Daily Scrum and work activities.

Agile projects support the vision and goals of the product or portfolio that can extend for years.

Themes and Epics are used to support longer term vision of Portfolio/Product Roadmaps

Releases are used to support product roadmaps

Iterations and sprints support releases

User stories define the content of an iteration

User Story

A user story is a lightweight mechanism to quickly capture requirements. It acts as an agreement between customers and team members to discuss detailed requirements during an iteration.

User story provides a medium for the following:

- Gathering basic information about stories
- Recording high-level requirements
- Developing work estimates
- Defining acceptance tests

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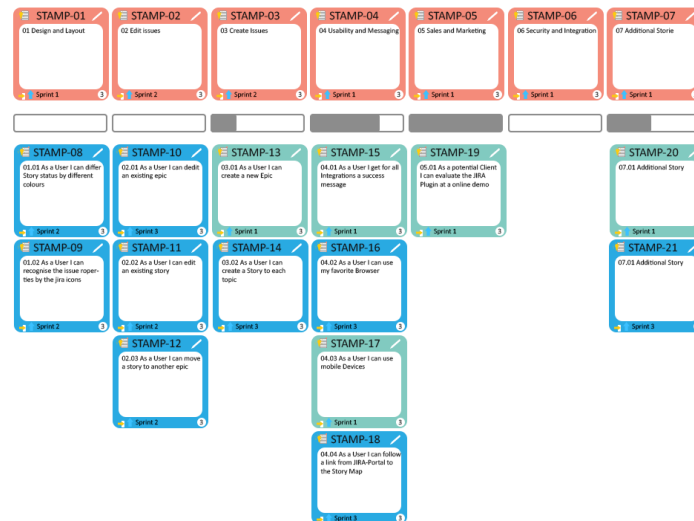
The three components (CCCs) of a user story are as follows:

Card
An index card of about 4 X 6 inches in size on which a story is written.

Conversation
User story should be the starting point of a conversation between the team and the product owner.

Confirmation
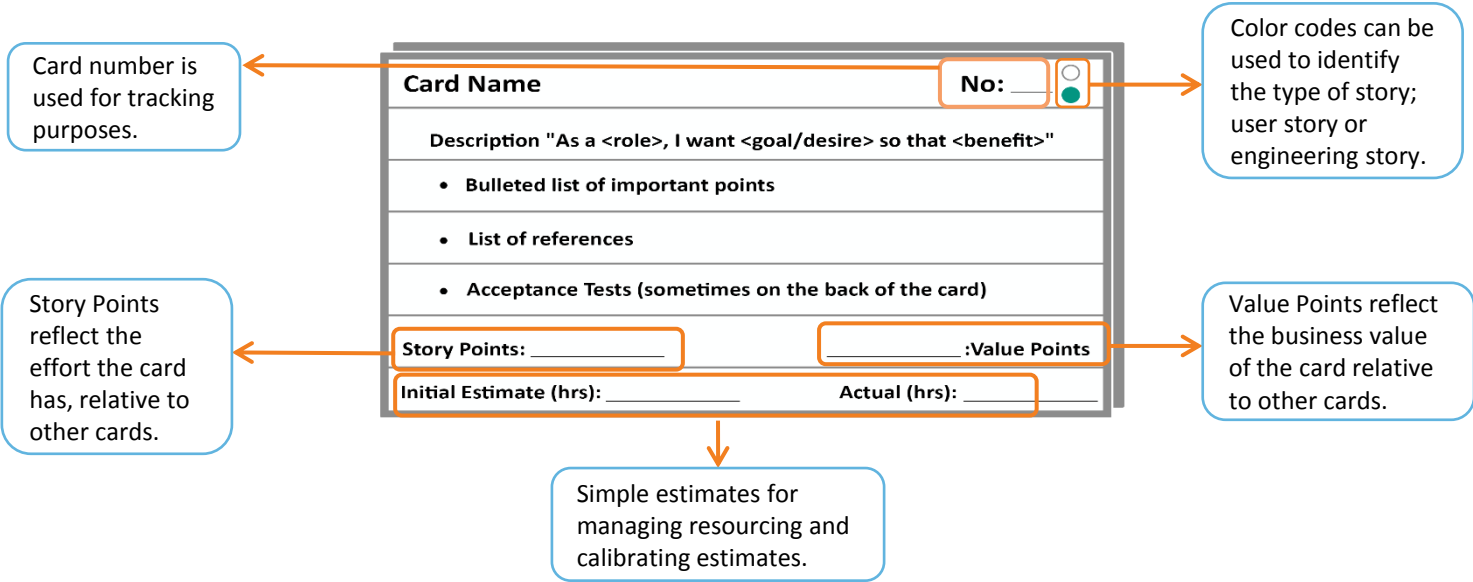User story must provide acceptance criteria for the story to help the team understand the requirement.

The attributes of a user story can be represented using the following acronym:

I	Independent
N	Negotiable
V	Valuable
E	Estimable
S	Small
T	Testable

Story Card Information

Information that can be captured on a story card are as follows:

- Story identifier and name: A short name and unique identifier.

- Story description: A sentence or two that describes the feature in customer terms.

- Story type: C=customer domain, T=technology domain or others.

- Estimated work effort: The estimated work effort needed to deliver the story, including time for requirements gathering, design, coding, testing, and documentation.

- Estimated Value Points: The relative Value Points for the user story.

- Requirements uncertainty (erratic, fluctuating, routine, stable): An "exploration factor" for a specific story.

- Story dependencies: Dependencies that could influence implementation sequencing.

- Acceptance tests: Criteria the customer team will use to accept or reject the story.

A sample user story card is given below:

Card number is used for tracking purposes.

Color codes can be used to identify the type of story; user story or engineering story.

Card Name   **No:** ___

Description "As a <role>, I want <goal/desire> so that <benefit>"

- **Bulleted list of important points**
- **List of references**
- **Acceptance Tests (sometimes on the back of the card)**

Story Points: _____   _____ **:Value Points**

Initial Estimate (hrs): _____   **Actual (hrs):** _____

Story Points reflect the effort the card has, relative to other cards.

Value Points reflect the business value of the card relative to other cards.

Simple estimates for managing resourcing and calibrating estimates.

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User Story—Examples

Card Name   No:_24_ ○ ●

Description "As a call center agent, I would want to see the broadband connection type which the customer holds in the CRM, so I can offer better options to choose."

Story Points:_3____   _____: Value Points

Initial Estimate (hrs):___5____   Actual (hrs):_____

Card Name   No:_13_ ○ ●

Description "As a Customer, I would want to get periodic updates on the schedule of the booked flight, so I can plan my travel to aerodrome accordingly."

Story Points:_5____   _____: Value Points

Initial Estimate (hrs):___8___   Actual (hrs):_____

Card Name   No:_45_ ○ ●

Description "As a frontline associate, I would want to validate the credit worthiness of the customer online, so I can provide overdraft limits."

Story Points:_3___   _____: Value Points

Initial Estimate (hrs):__6___   Actual (hrs):_____

Theme and Epic

Theme is a set of related user stories that can be combined and treated as a single entity for either estimating or release planning.

Epics are large user stories with lower priority. They are too big to implement in a single iteration and therefore they need to be disaggregated into smaller user stories at some point.
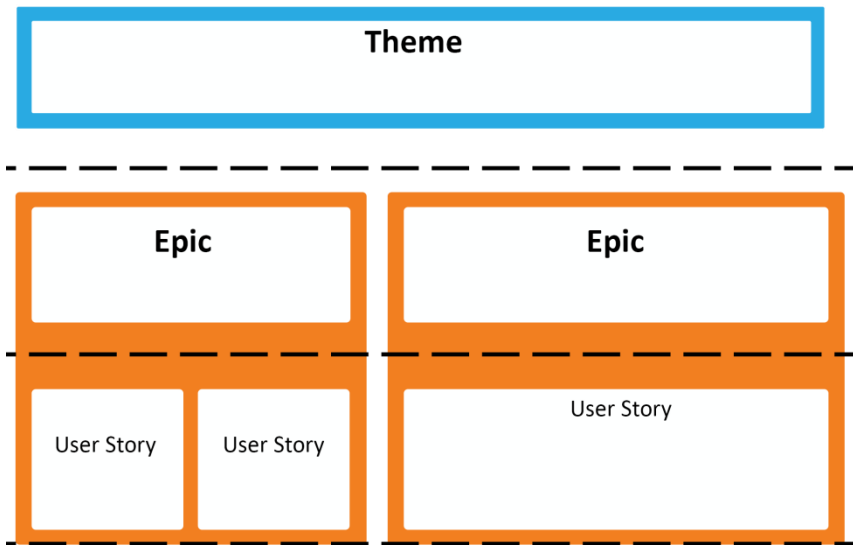
A travel company wants to launch its e-travel site with features that will enable a customer to login and book bus, train, and flight tickets. Dicksen, the Product Owner, has written all the user stories. He is facing the challenge of categorizing the following into themes and epics each.

Customer Registration	Landing Page	Selecting a particular route
Login Activation	Payments	Booking
Customer Login	Searching for flights on specific routes	Single sign on to both e-portal and email-id

Theme and epic are explained in context of the example:

Theme

Theme is a set of related user stories that can be combined and treated as a single entity for either estimating or release planning.

Customer registration, login activation, customer login landing page, search for flights on specific routes, select a particular route, and booking are user stories following a logical order. Hence it eases the planning and estimation related to them.

Epic

Epics are large user stories. They are too big to implement in a single iteration and therefore they need to be disaggregated into smaller user stories at some point.

Payments and single sign on to both e-portal and email-id are huge. They need to be further broken for detailing. There are a number of channels like debit card, credit card, and online payments. Without breaking the stories further into finer details it is not possible to deliver them in a single iteration.

Timeboxing

Timeboxing is setting a fixed time limit to activities.

- It lets other characteristics, such as scope, vary.

- If something cannot be accomplished in a
  timeboxed period, it is deferred to the next period.

- Timeboxing allows velocity to be determined
  between iterations and sprints.

- Timeboxing is often applied to meetings like
  Scrums, Sprint planning, Sprints and iterations.

Timeboxing—Best Practices
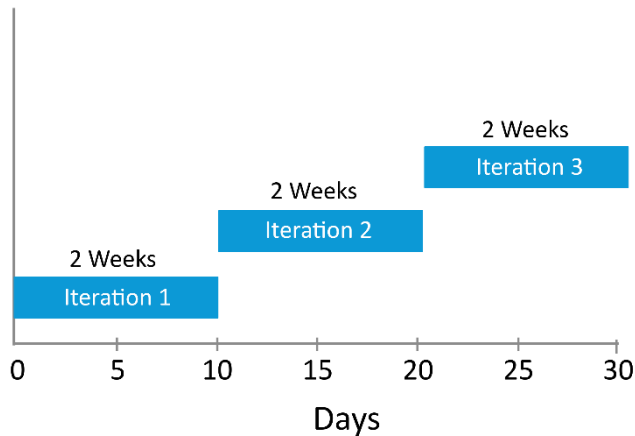
The best practices followed under the timeboxing technique are given below:

- Timebox can be of any duration, 1 year, 1 month, 1 day, 4 hours, or 15 minutes.

- Control is achieved at the lowest level of timeboxing.

- If a task is running behind the schedule, it is deferred to the next timebox.

- It fixes the length of the iteration and the team determines how much functionality can be delivered in that fixed length of time.

Following are the advantages of using timebox technique:

|	
Focus	Timeboxing helps to focus attention on the job at hand for the specified period of time.
Increased productivity	Defining a fixed time period, and working diligently in a focused manner on the identified task helps to work smarter and harder and get more work done. It helps to get away with 'Parkinson's Law' and 'Student Syndrome'.
Realization of time spent	Defining a fixed time period helps in identifying how much work is done in the specific time and reduces the idle time.
Time available	It helps to be consciously aware of the time available to perform the task at hand.

Prioritizing Requirements—MoSCoW

It is important to continuously prioritize the backlog and this is called 'pruning the backlog'. A method to prioritize requirements popularized in the DSDM community is **MoSCoW.**
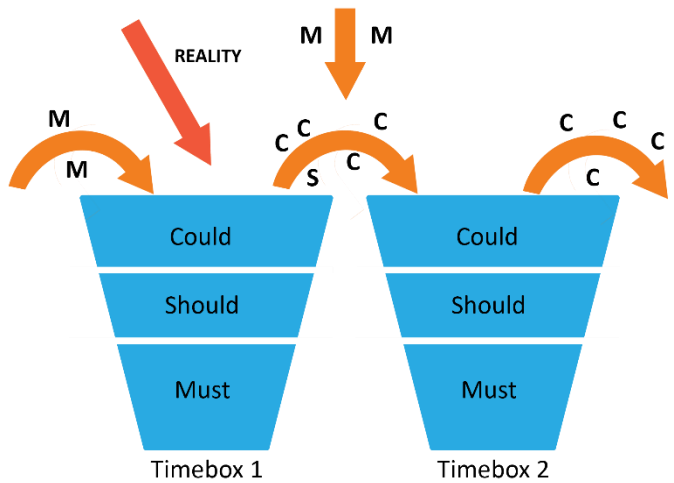

M – Must
S – Should
C – Could
W – Won't

Timebox 1   Timebox 2

A release plan indicates how the team intends to achieve the product vision within the project objectives and constraints identified in the project data sheet.

- A release plan helps the product owner and the team decide the time required to create or develop a releasable product.

- A release plan conveys the expectations such as what is likely to be developed and in what timeframe.

- A release plan serves as a guidepost toward which the project team can progress.

The flow of activities during a release plan can be represented as follows:
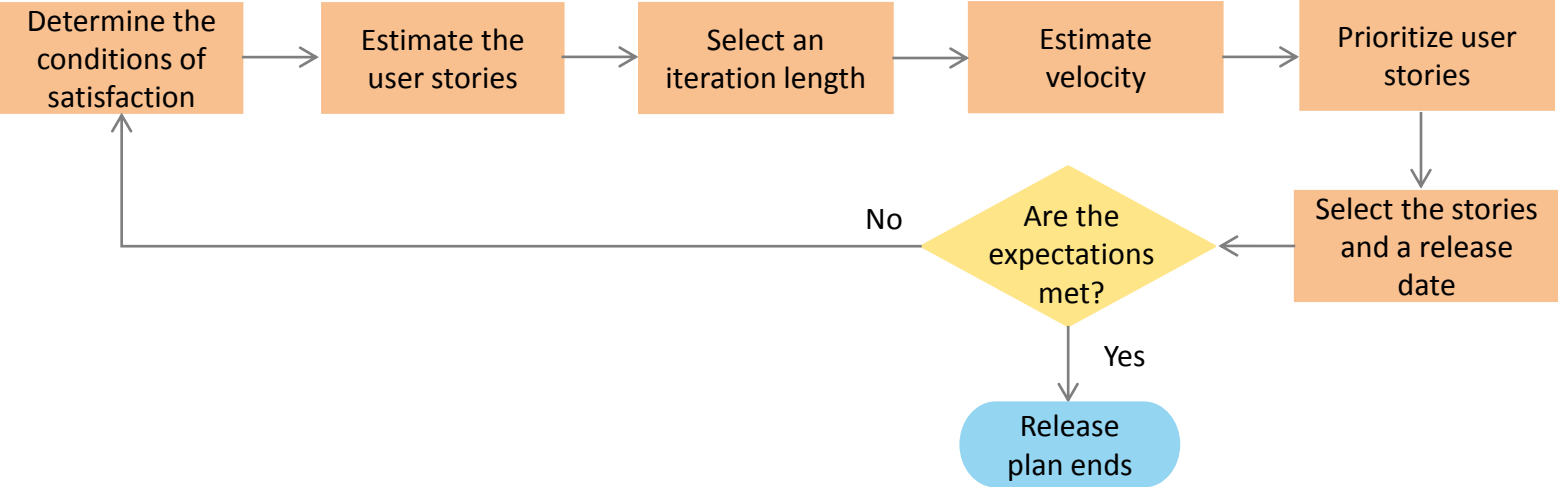
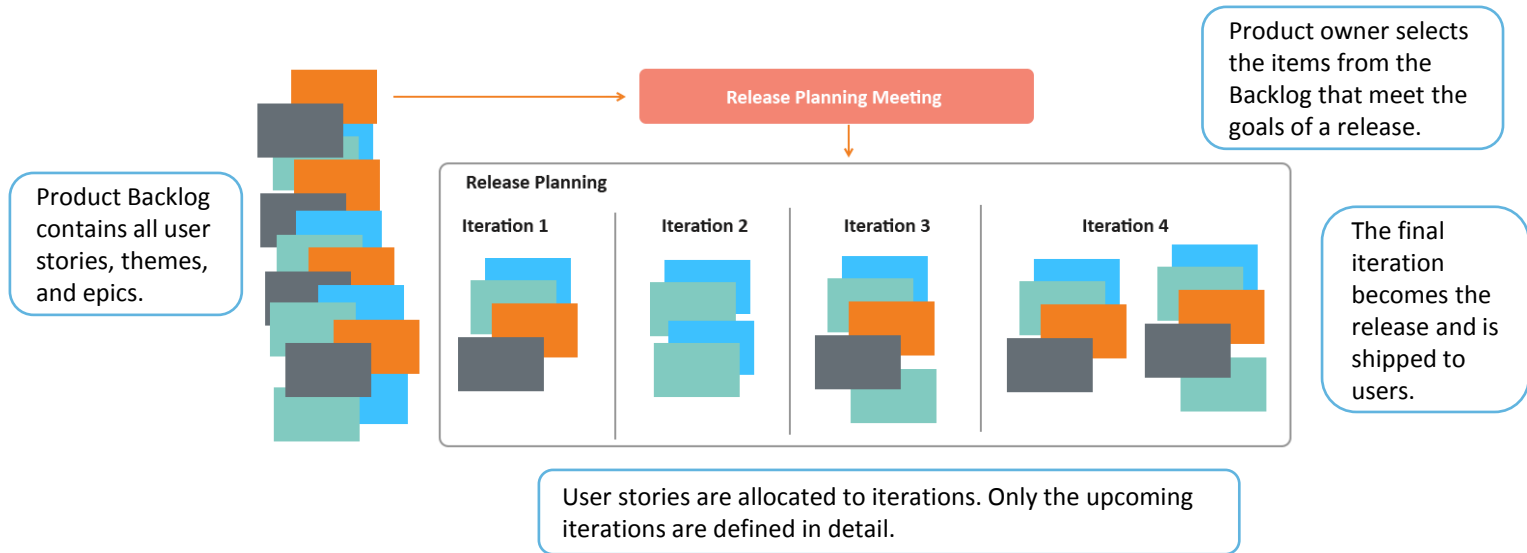The purpose of release planning is to define the contents of a release or a specific shippable product increment.

Release Planning Meeting

Release Planning

| Iteration 1 | Iteration 2 | Iteration 3 | Iteration 4 |

Product owner selects the items from the Backlog that meet the goals of a release.

Product Backlog contains all user stories, themes, and epics.

The final iteration becomes the release and is shipped to users.

User stories are allocated to iterations. Only the upcoming iterations are defined in detail.

Quiz

QUIZ 1

Which of the following is a useful technique for pruning a backlog?

a. Sprint review

b. MoSCoW

c. DSDM

d. Brainstorming

QUIZ 1

Which of the following is a useful technique for pruning a backlog?

a. Sprint review

b. MoSCoW

c. DSDM

d. Brainstorming

Answer: b.

Explanation: Must, Could, Should, Won't is a technique developed in DSDM for prioritizing requirements in a backlog.

QUIZ 2

What do the three C's stand for in user stories?

a. Card, Classification, Conversation

b. Card, Conversation, Classification

c. Card, Conversation, Confirmation

d. Card, Communication, Confirmation

QUIZ 2

What do the three C's stand for in user stories?

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b. Card, Conversation, Classification

c. Card, Conversation, Confirmation

d. Card, Communication, Confirmation

Answer: c.

Explanation: Card, Conversation, Confirmation. The card is used to drive the conversation from which the acceptance tests or Confirmation is determined.

QUIZ 3

What kind of a user story is an Epic?

a.   A collection of user stories that are similar in nature

b.   A very large user story with high priority

c.   A very large user story with low priority

d.   A user story that will have a significant positive effect on the project

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d. A user story that will have a significant positive effect on the project

Answer: c.

Explanation: Epics are large user stories that have not yet been decomposed into smaller parts as they are have lower priority.

QUIZ 4

Which of the following is not a benefit of timeboxing?

a. Focus

b. Realization of time spent

c. Increased productivity

d. Guaranteeing deliverables occur within the specified timeframe

QUIZ 4

Which of the following is not a benefit of timeboxing?

a. Focus

b. Realization of time spent

c. Increased productivity

d. Guaranteeing deliverables occur within the specified timeframe

Answer: d.

Explanation: In timeboxing, deliverables that cannot be completed are deferred to the next timeboxed period.

QUIZ 5

Which of the following is not a characteristic of a user story?

a. I: Independent, N: Negotiable, V: Valuable, E: Estimable, S: Small, T: Testable

b. Lightweight user requirements

c. Visual representation of a requirement

d. Typically a 4x6" index card

QUIZ 5

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b. Lightweight user requirements

c. Visual representation of a requirement

d. Typically a 4x6" index card

Answer: c.

Explanation: A story board is a visual representation of a requirement.

Here is a quick recap of what was covered in this lesson:

- Planning onion is used to represent the multiple levels of planning in Agile projects; day, iteration, release, product, portfolio, and strategy.

- User stories are lightweight mechanism used to capture requirements effectively.

- Timeboxing technique defines the duration for each activity. Incomplete activities are deferred to the next timeboxed period.

- While planning for a timeboxed iteration, 'must' requirements should be prioritized followed by the 'should' and 'could' requirements (MoSCow).

- Release plan is an artifact used by the product owner to communicate with the stakeholders on what they can expect from a given project.

THANK YOU