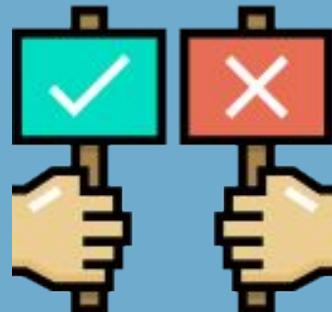




# Agile Session 2



Did you finish  
the Agile (Scrum & Kanban)  
pre-class activity?



Students choose an option



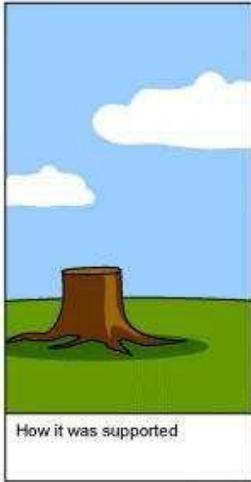
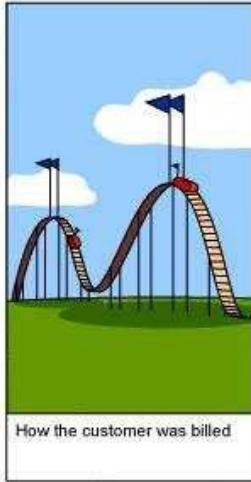
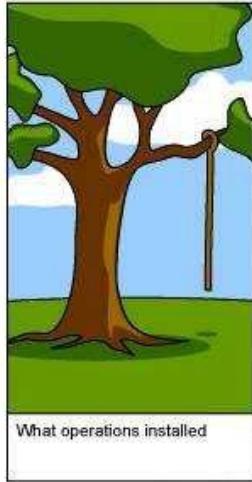
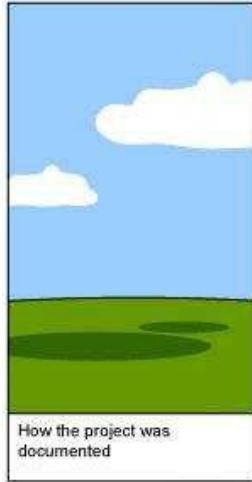
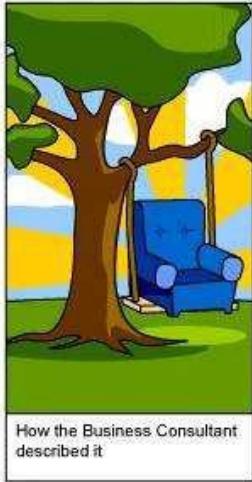
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## ► SCRUM

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- ▷ Scrum Roles 
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- ▷ Scrum Ceremonies

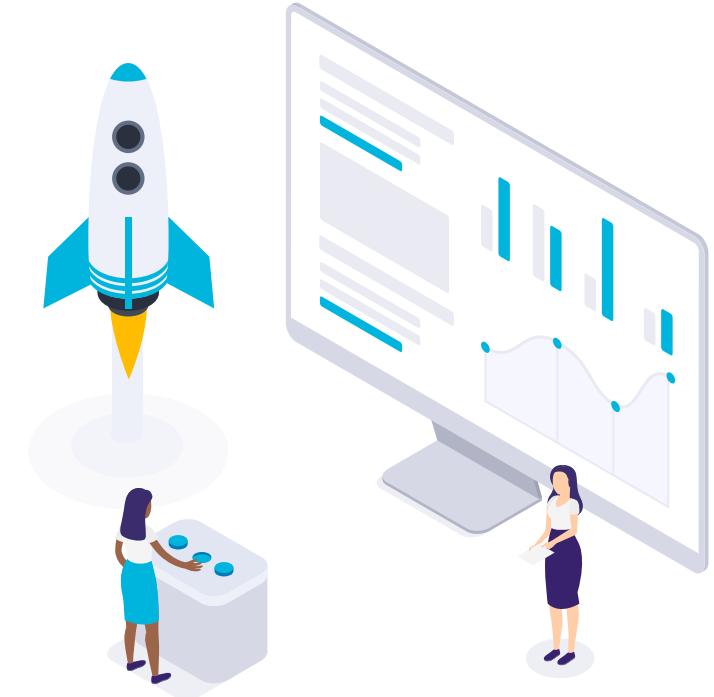
## ► KANBAN

- ▷ Kanban Overview
- ▷ Kanban Board
- ▷ Principles of Kanban
- ▷ Practices of Kanban
- ▷ Kanban vs Scrum





# SCRUM



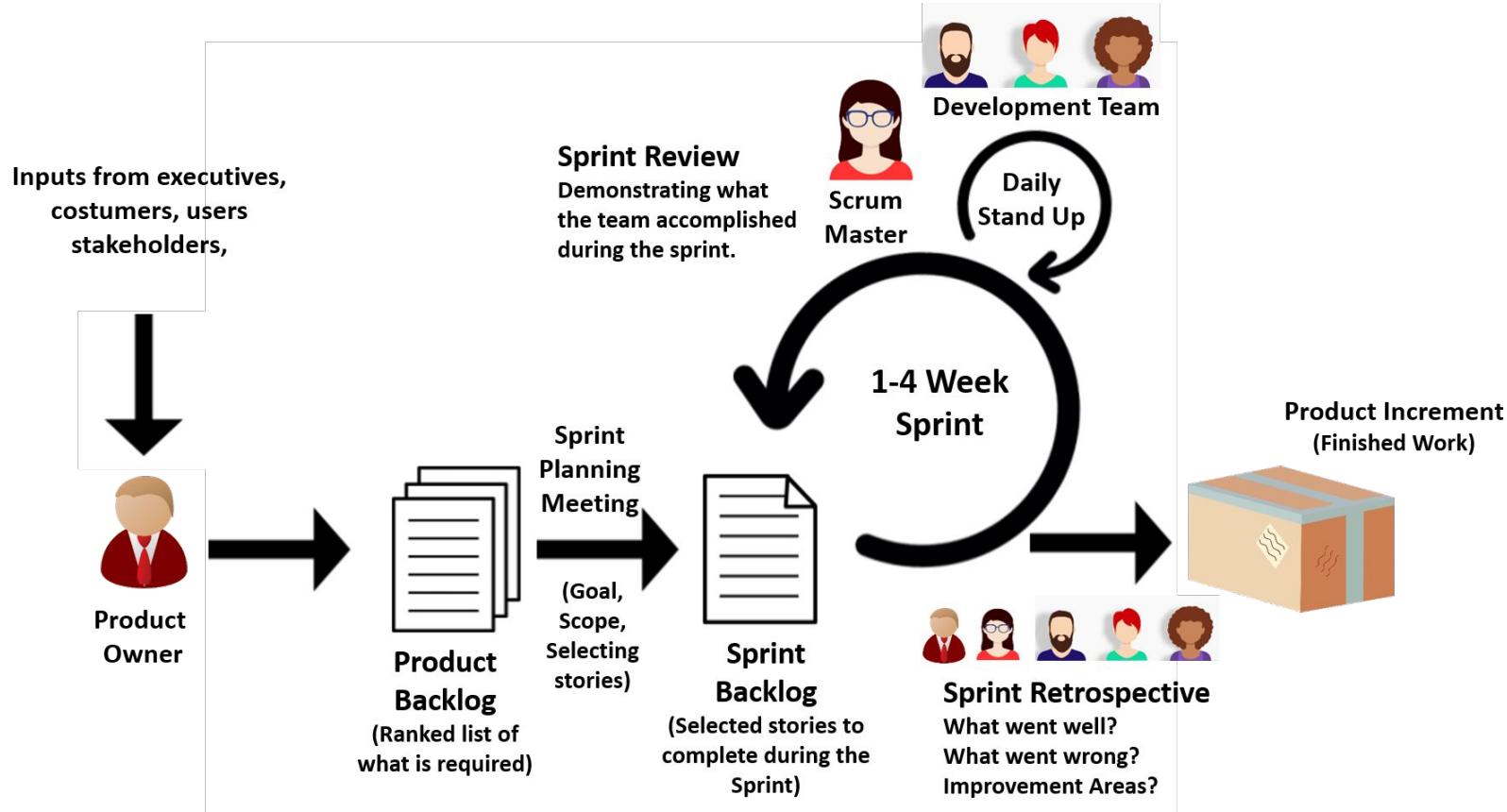


1

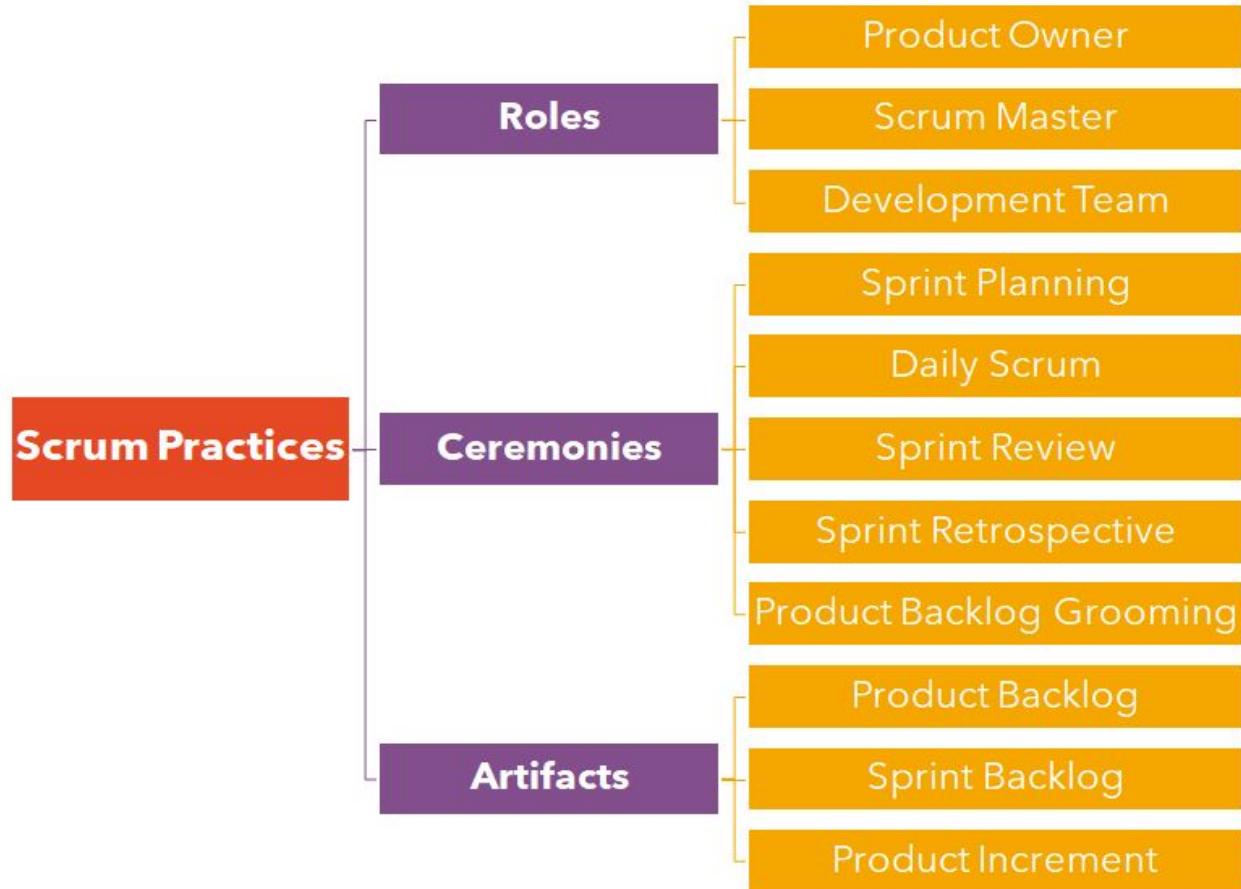
# Scrum Overview

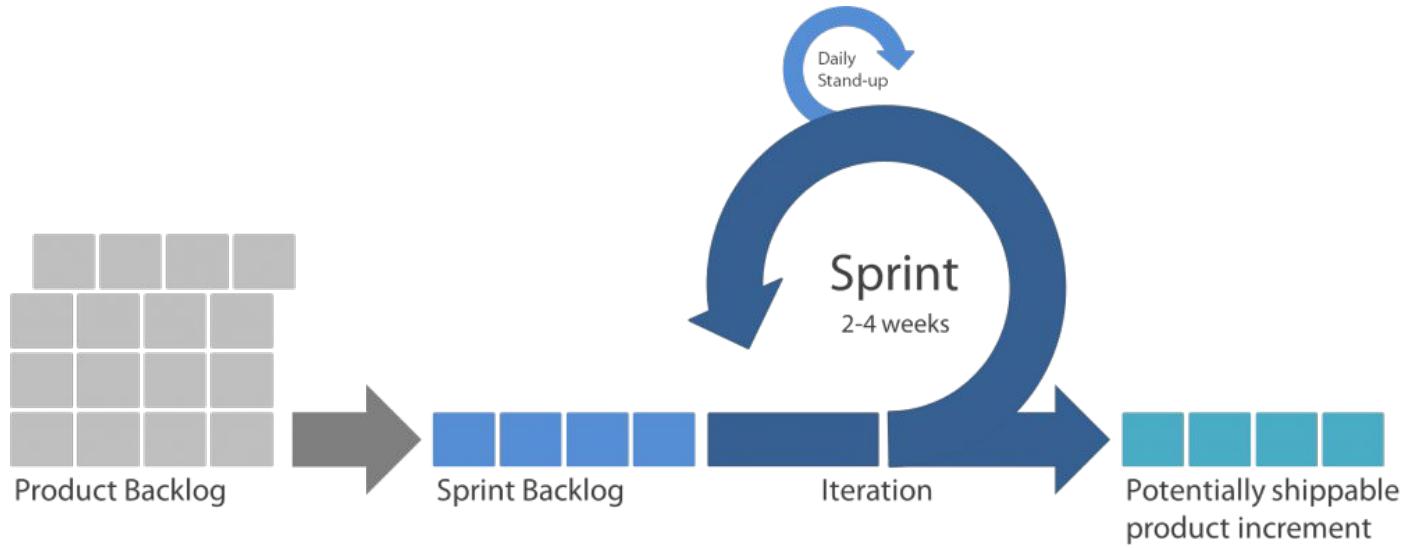


# Scrum Framework



# Scrum Practices





**Scrum projects are divided into:**

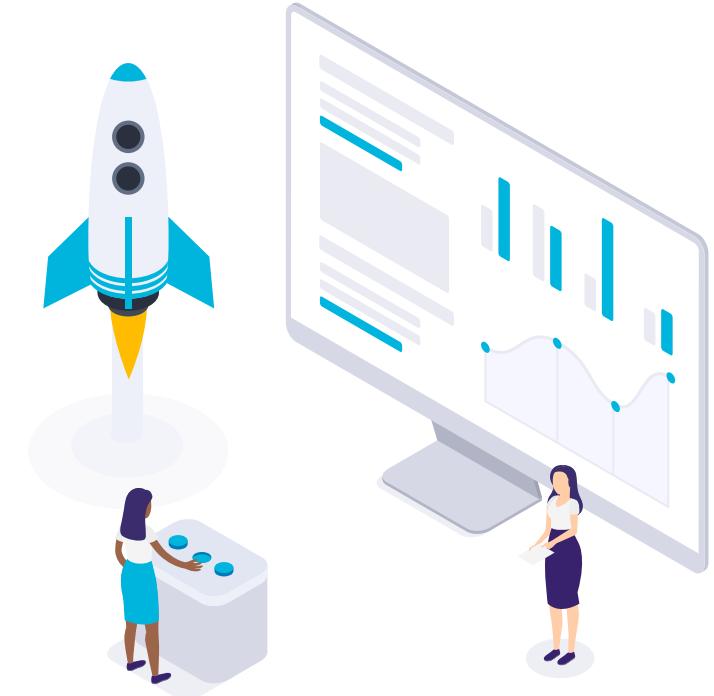


Students choose an option



2

# Scrum Roles



# Scrum Roles

## Product Owner



Responsible for the project's success by defining the project vision, requirements, and priorities

## Scrum Master



Accountable to the team to remove impediments that will prevent them from achieving the goals of the Product Owner

## Development Team



Team comprises 3-9 people, with a mix of roles, and self-organizes to determine how to best meet the goals of the Product Owner



# What is the role of the Scrum Master?

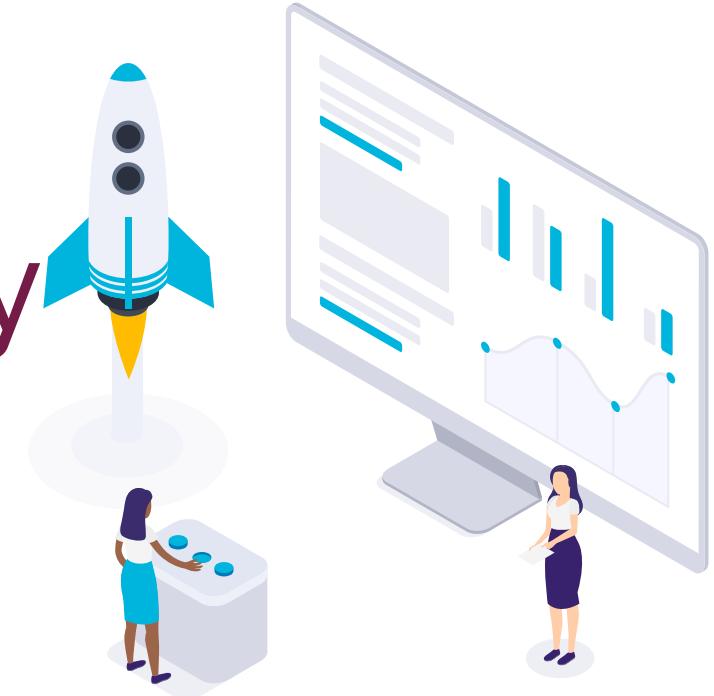


Students choose an option



3

# Epic, User Story and Task

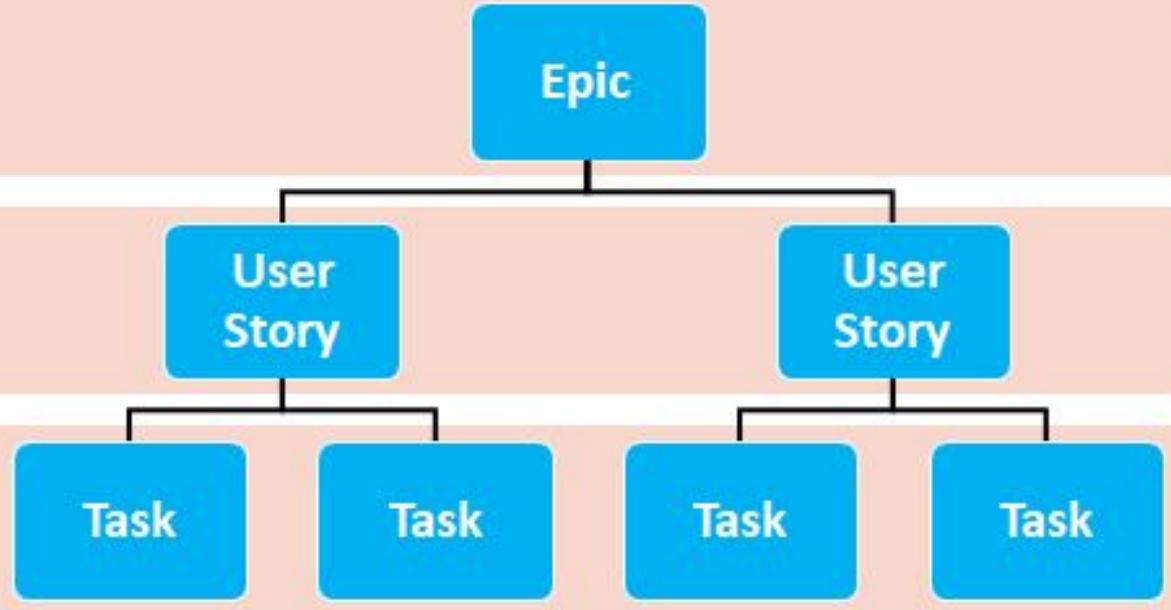


# Epic, User Story and Task

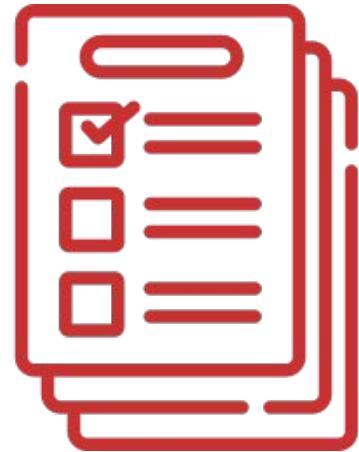
Defines the business needs.

Defines the customer needs.

Defines the solution.



# Epic



- Big chunk of work.
- Few lines of description.
- More than one sprint to complete.

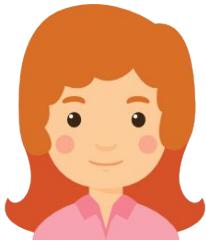
## *Examples of Epics:*

- As a bank, we want a facial recognition system in our branches.
- As the marketing department, we want a mobile application and a website to reach more customers.

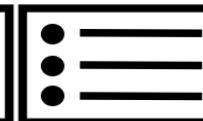
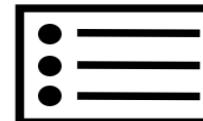
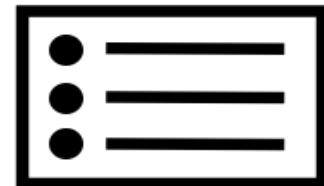
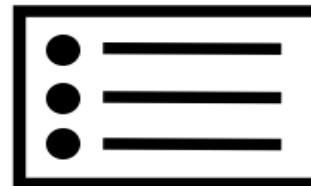
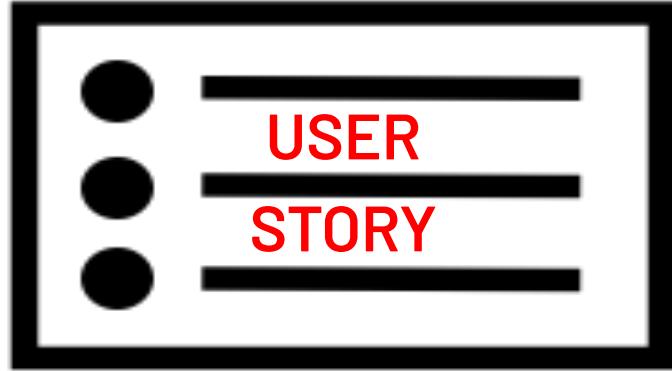
# User Story



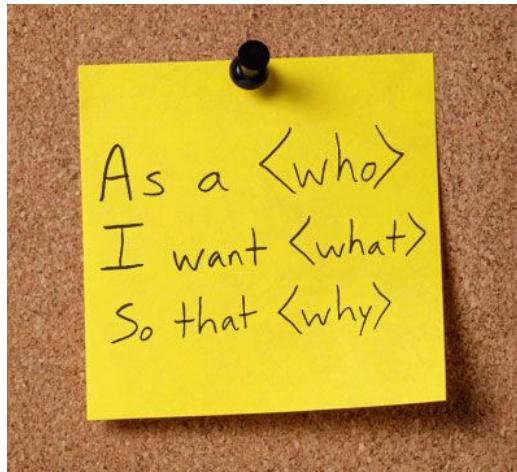
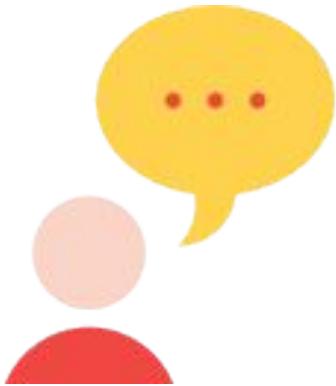
**Customers**



**Users**



# User Story

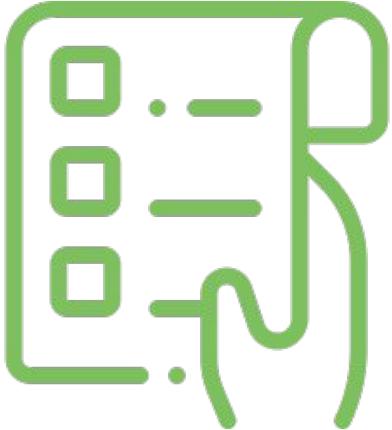


- User Needs.
- Few lines of description.
- Deliver during a sprint.

## *Examples of User Stories:*

- As a registered user, I want to add items to the cart so that I can purchase multiple items at once.
- As a student, I want to apply for the exam online so that I can save time.

# Task

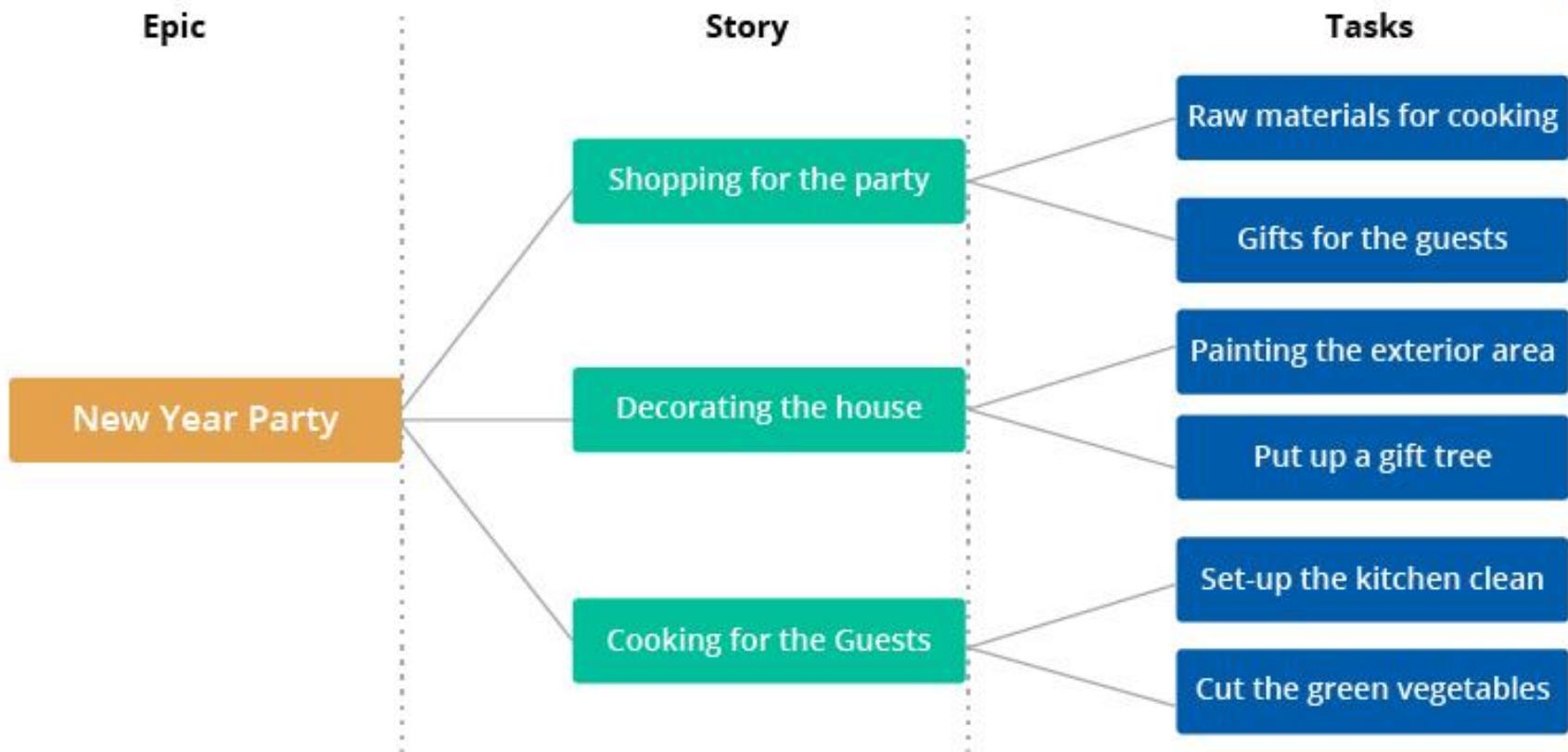


- Represents a technical activity
- Description of individual work item
- Created by anyone

## ***Examples of Tasks:***

- Redesign a single web page
- Create a new logo
- Perform usability testing

# Epic, User Story and Task





Which project management tool are you familiar with?



Students choose an option

# Estimation



**T-Shirt Sizing**



**Story Points**

**1, 2, 3, 5, 8, 13, 21**

# Estimation

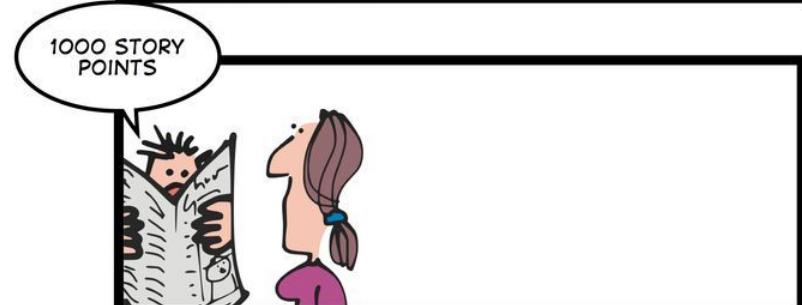
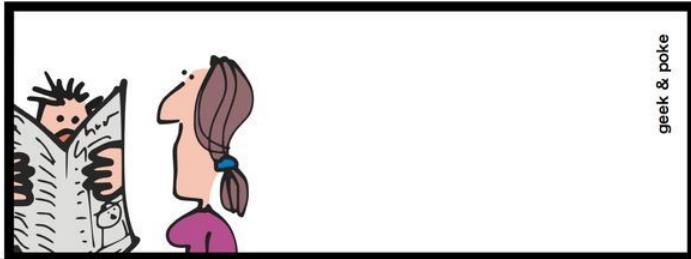


## Story Points Estimation Cheat Sheet

<b>How much is known about the task</b>	Everything	Almost everything	Something	Almost nothing	Nothing	Nothing
<b>Dependencies</b>	None	Almost none	Some	Few	More than few	Unknown
<b>How much work effort</b>	Less than 2 hours	Half a day	Up to two days	Few days	Around a week	More than one week
<b>Story Points</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>5</b>	<b>8</b> Should be split into smaller items	<b>13</b> Must be split into smaller items



# Which one is NOT relative estimation of story?

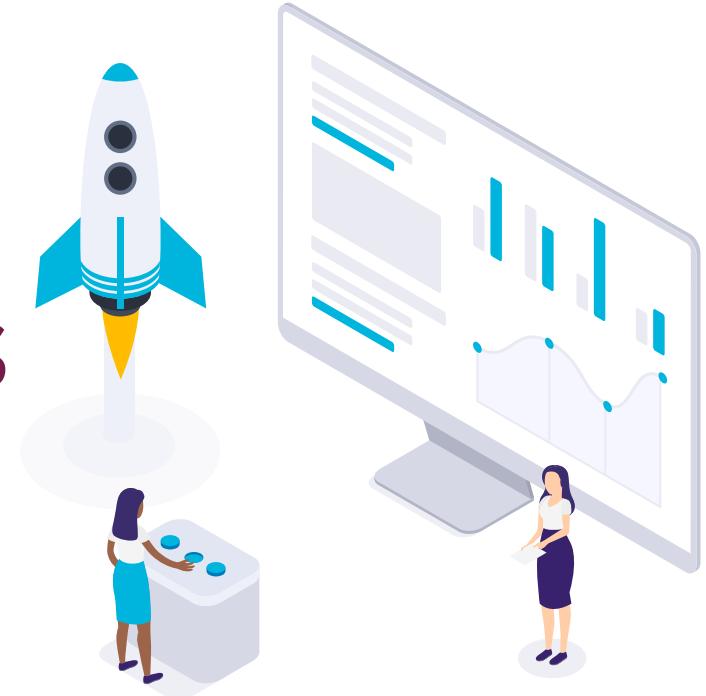


Students choose an option

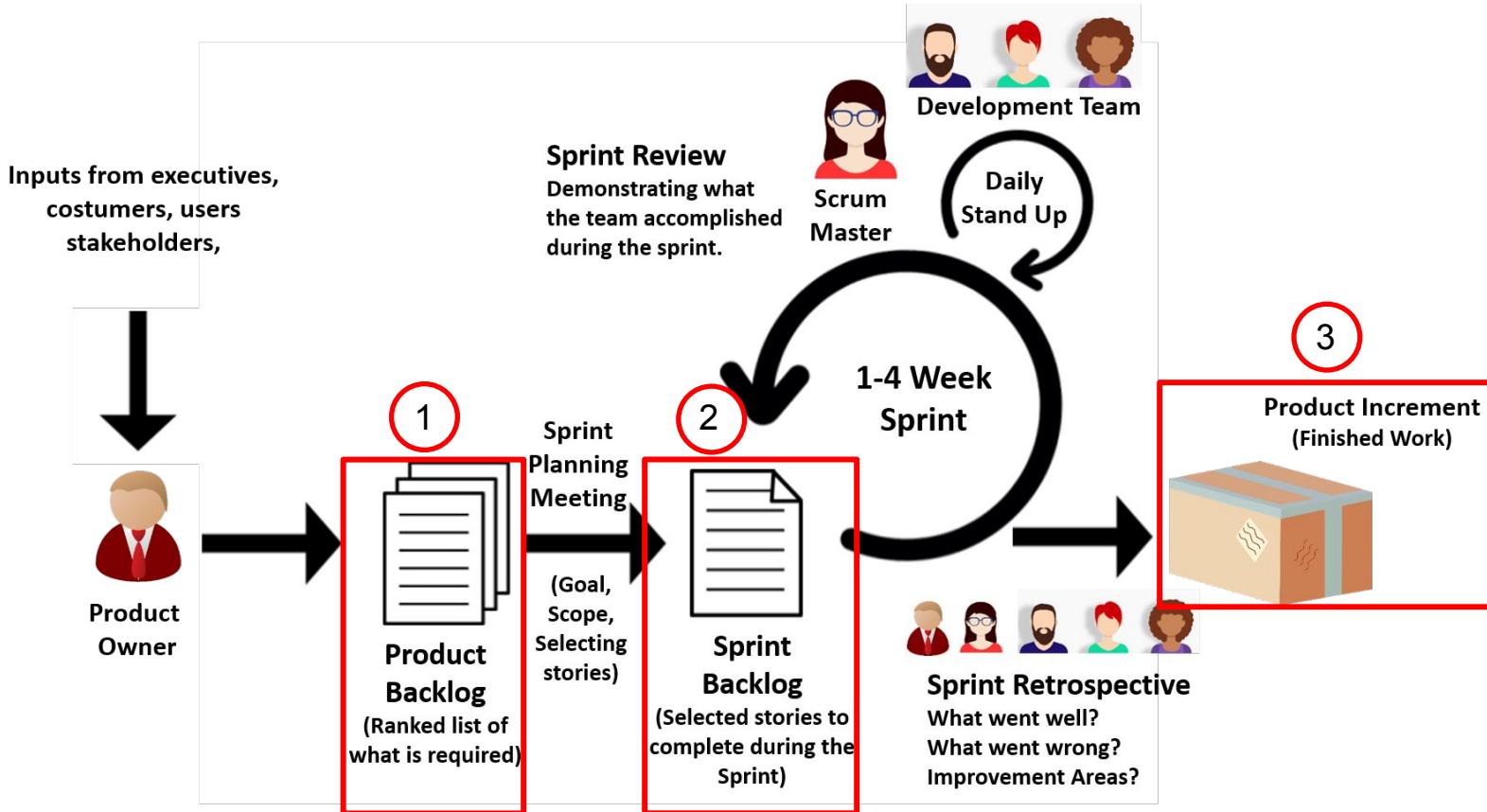


4

# Scrum Artifacts



# Main Scrum Artifacts



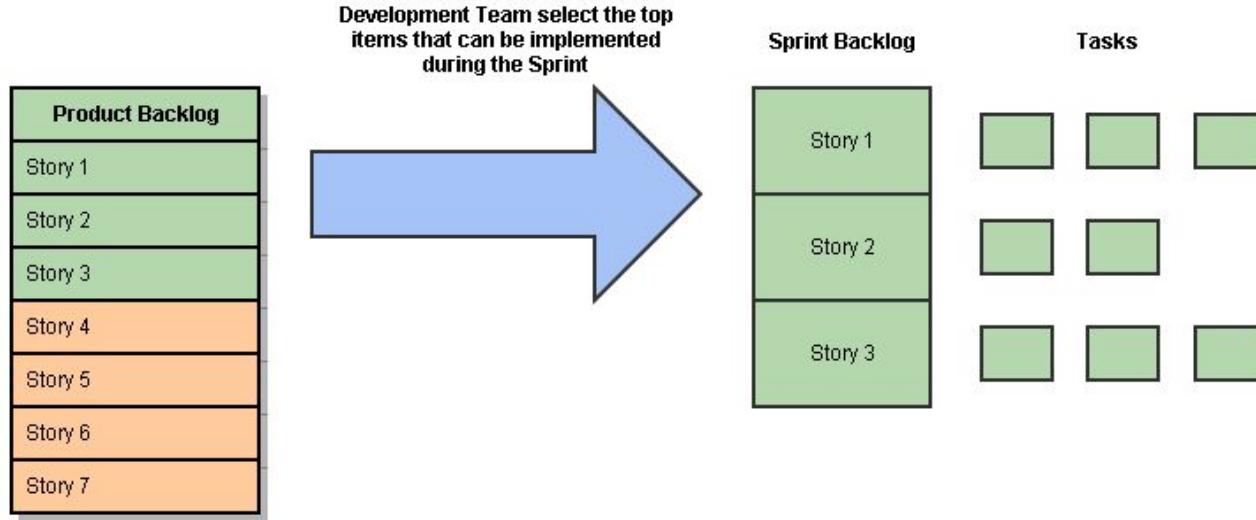
# Product Backlog



User story	Story point(s)	Priority
As a user, I am able to search for documents so I can find them more easily	2	1
As a site visitor, I can compare different types of accounts to see which account type suites me best	1	2
As a user, I can submit questions through the website so I know how to better use the product	1	3
As a site visitor, I am shown what I can do in the product so I know whether or not this product will fill my needs	2	4
As a user, I want to be able to retrieve documents that were deleted so I can reclaim documents that were deleted on accident	3	5
As a site visitor and user, I can sign up for newsletters to remain up to date on the product	2	6
As a user, I am notified when a new feature is released so I know what is possible	1	7
As a user, I can change my user name if desired	3	8
As an admin, I need the ability to update which team a user belongs to so I can make sure all teams are up to date	3	9
As a user, I can enable spell check so I can be confident my final document has no spelling errors	4	10

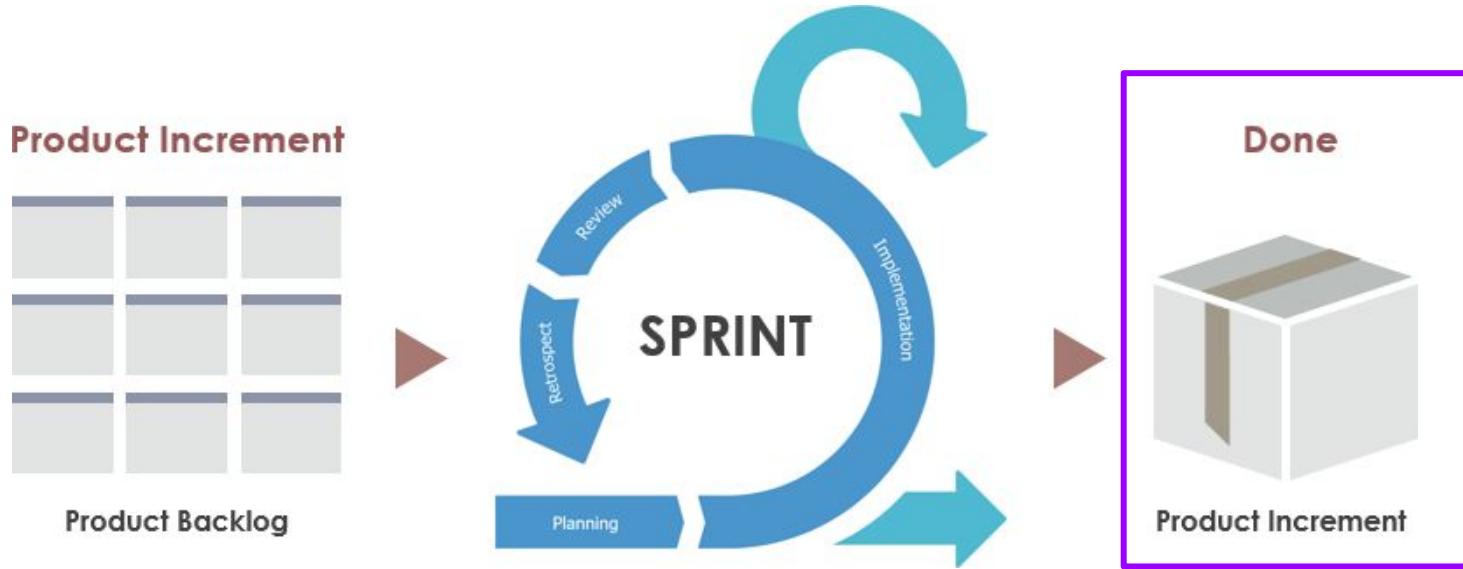
- Ordered list of everything
- List of prioritized items
- Product Owner is responsible
- Dynamic
- Should be refined regularly

# Sprint Backlog



- The set of Product Backlog items selected for the Sprint
- A plan for delivering the product Increment and realizing Sprint Goal
- Highly visible, real-time picture of the work

# Product Increment



- The sum of all the Product Backlog items completed during a Sprint and the value of the increments of all previous Sprints.
- At the end of a Sprint, the new Increment must be “Done”.
- The increment must be in useable condition regardless of whether the Product Owner decides to release it.



# Who prioritizes the product backlog items?



Students choose an option



5

# Scrum Ceremonies



# Scrum Meetings



## Sprint Planning

Determine what work will be completed in the upcoming sprint based on the backlog.

## Daily Standup

A 15-minute meeting for team to share what they did yesterday, what they'll do today, and blockers.

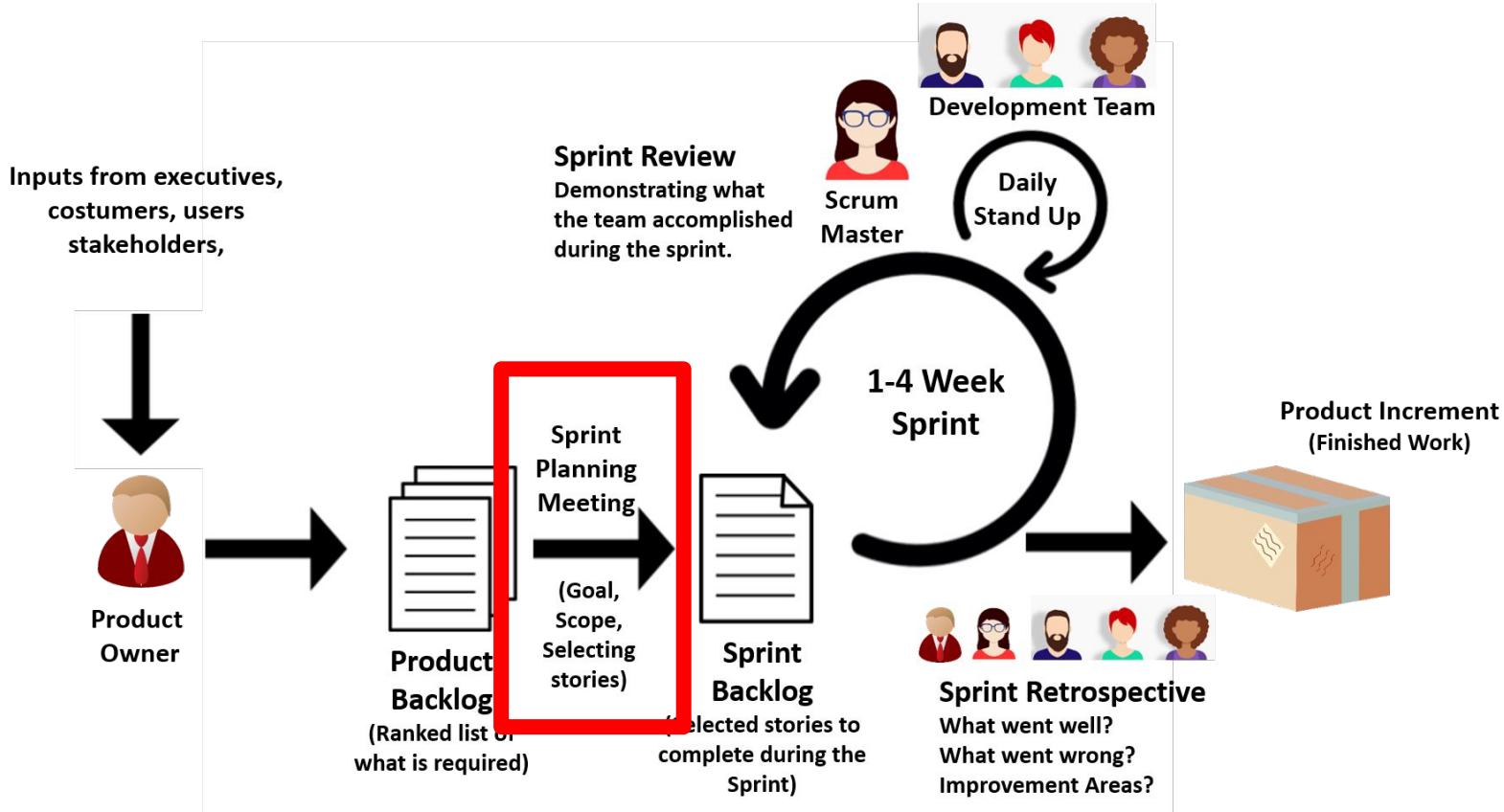
## Sprint Review

Share work completed in the sprint and get feedback from stakeholders.

## Retrospective

Reflect on what did/did not go well in the previous sprint and identify improvements.

# Sprint Planning



# Sprint Planning

Determine what work will be completed in the upcoming sprint based on the backlog.

- Ensure all user stories in the backlog are ready for development.
- Assign points to user stories to indicate the level of effort.
- Agree on what work will be done and by whom.

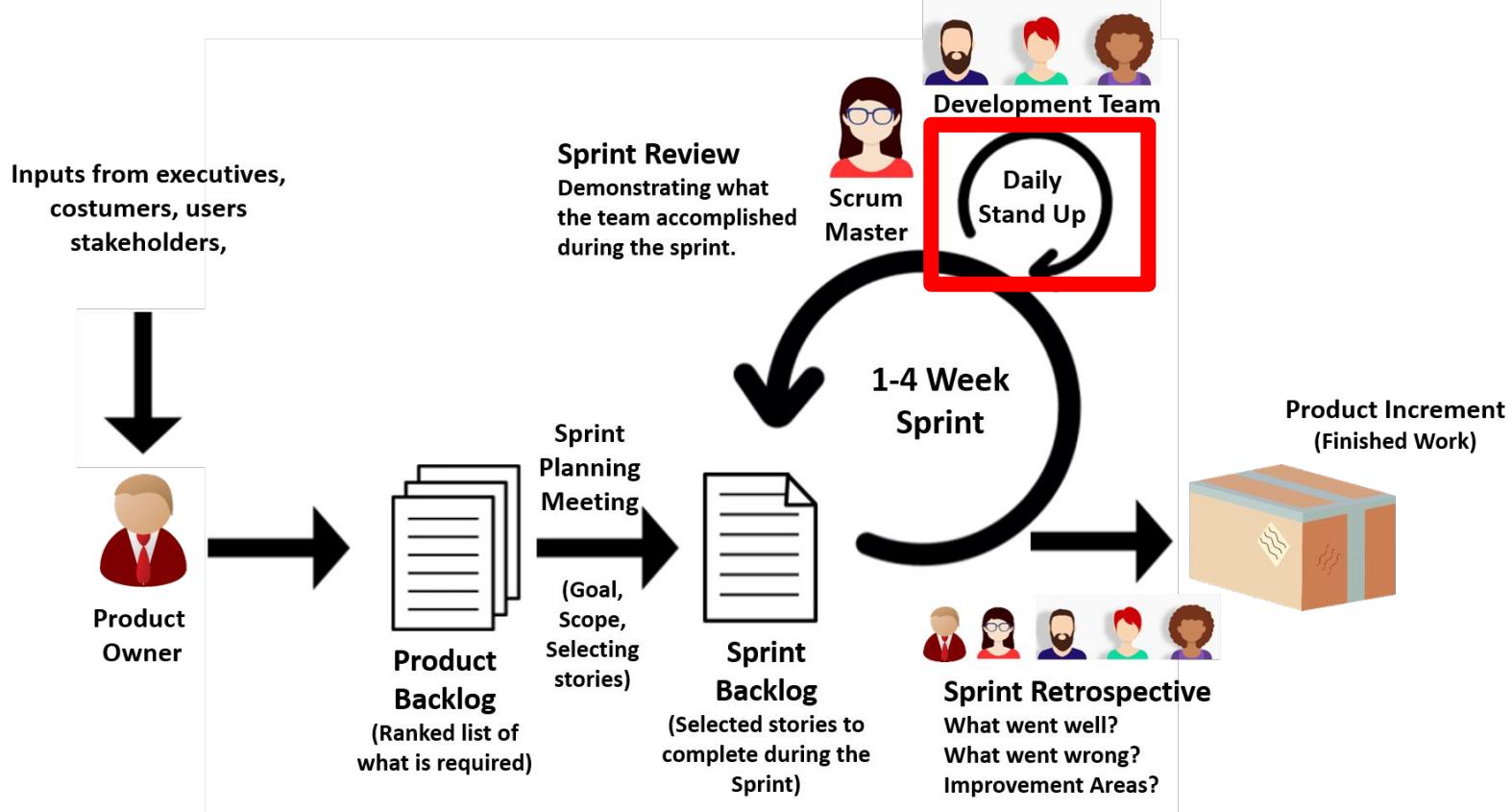
The screenshot shows a Jira interface with two main sections: 'Sprint 2' and 'Backlog'.

**Sprint 2**: 0 issues. A placeholder message says "Plan a sprint by dragging the sprint footer down below some issues, or by dragging issues here." Below it are buttons for "Start Sprint" and "Create Sprint".

**Backlog**: 36 issues. A list of user stories is shown, each with a priority icon (green for highest), a key (TIS-XX), a summary, a point value (e.g., 3.0), a team support label (e.g., Large Team Support), and a progress bar. The stories include:

- TIS-45 Update LocalTransportController to handle...
- TIS-42 Extend booking experience in UI to includ...
- TIS-43 Extend booking experience in UI to includ...
- TIS-40 Update FlightController to handle multiple...
- TIS-44 Reward Customers an extra 5-10% when...
- TIS-39 Update UI controls on travel booking page...
- TIS-25 Engage Jupiter Express for outer solar...
- TIS-27 Add Phobos and Delmos Tours as a Pr...
- TIS-21 Create Email Campaign for Saturn Sum...

# Daily Standup



# Daily Standup



A 15-minute meeting for team to share what they did yesterday, what they'll do today, and blockers.

- 15 minutes max: Additional conversations can happen after standup.
- Happen on a daily basis during a sprint.
- Everyone answers three questions.

1. What did I do yesterday?
2. What will I do today?
3. What blockers do I have?



# Daily Standup



A 15-minute meeting for team to share what they did yesterday, what they'll do today, and blockers.

- 15 minutes max: Additional conversations can happen after standup.
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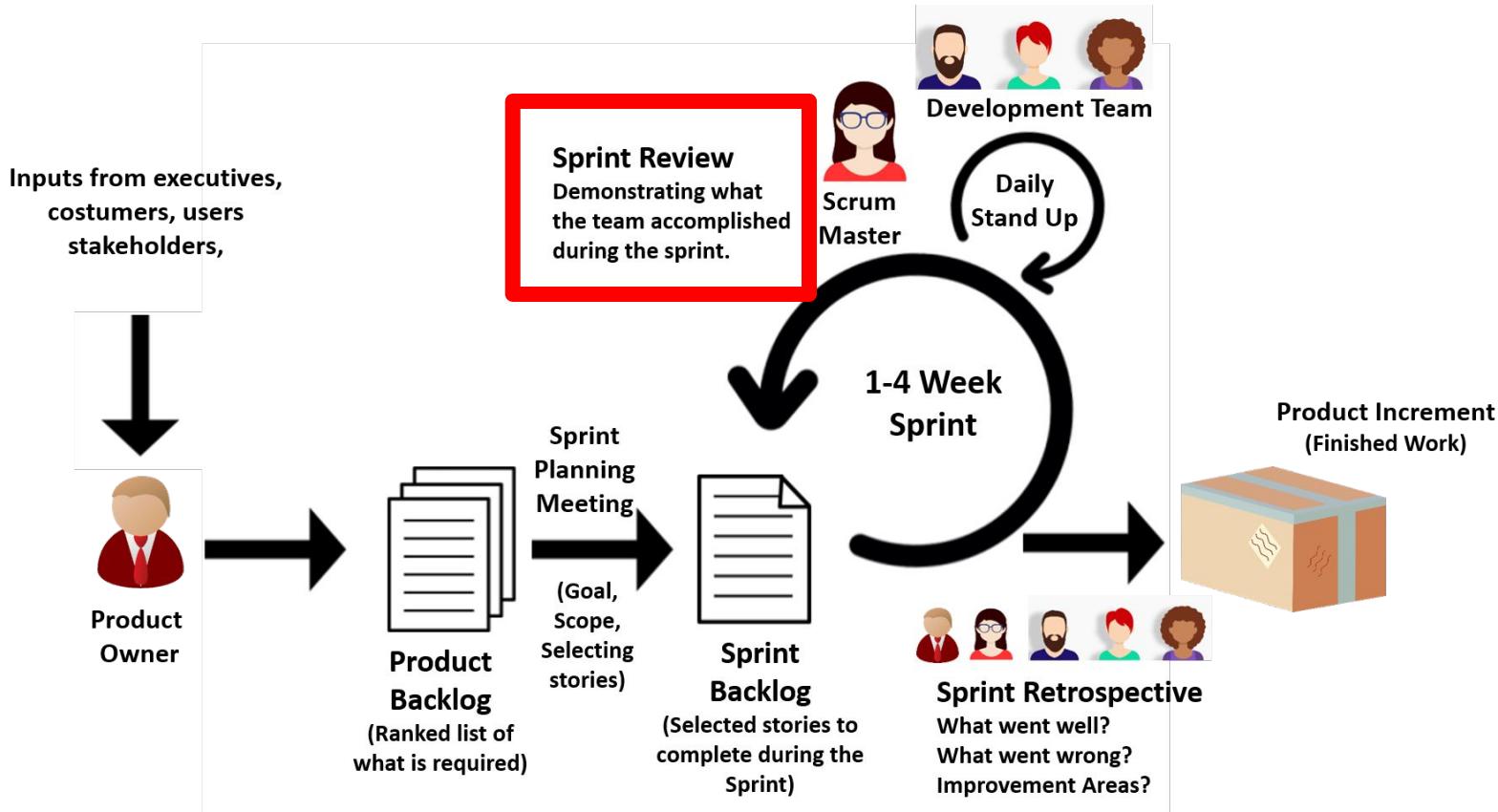


Who should necessarily attend the Daily Standup meeting?



Students choose an option

# Sprint Review



# Sprint Review



Share work completed in the sprint and get feedback from stakeholders.

- Team members share the work that they completed in the sprint.
- Stakeholders share feedback that's incorporated into future sprints.
- Celebrate progress and achievements.



# Sprint Review

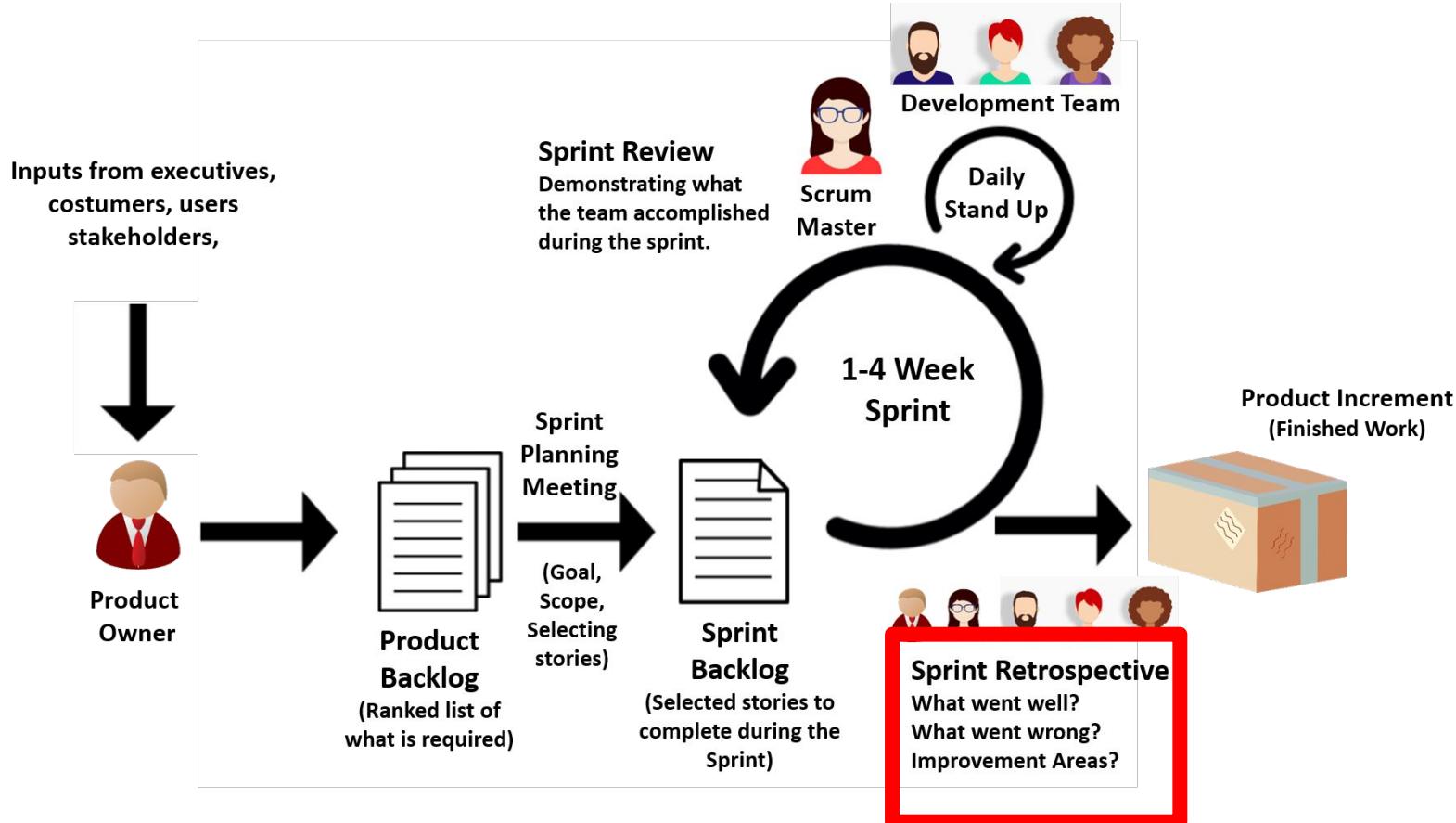


Share work completed in the sprint and get feedback from stakeholders.

- Team members share the work that they completed in the sprint.
- Stakeholders share feedback that's incorporated into future sprints.
- Celebrate progress and achievements.



# Sprint Retrospective



# Sprint Retrospective



Reflect on what did/did not go well in the previous sprint and identify improvements.

- Opportunity for the Scrum Team to inspect itself.
- Learnings are incorporated into future sprints.
- Make it more effective and enjoyable for the next Sprint.

1. What went well?
2. What didn't go well?
3. What can we do differently?



# Sprint Retrospective



Reflect on what did/did not go well in the previous sprint and identify improvements.

- Opportunity for the Scrum Team to inspect itself.
- Learnings are incorporated into future sprints.
- Make it more effective and enjoyable for the next Sprint.

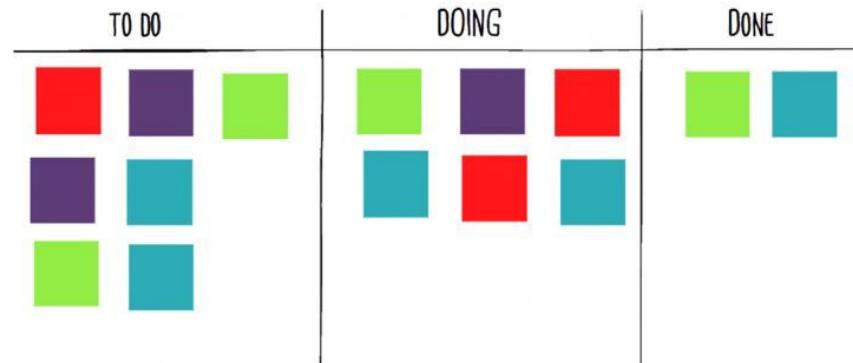
1. What went well?
2. What didn't go well?
3. What can we do differently?





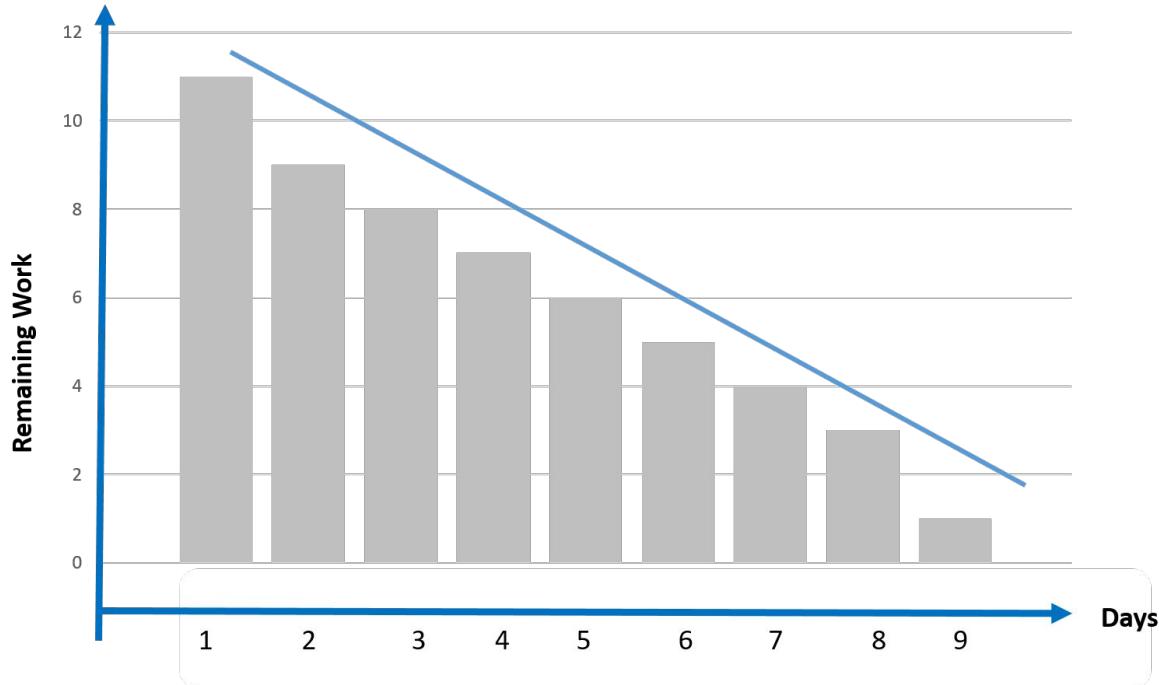
What happens when  
all the Sprint Items  
cannot be completed?

### Sprint Backlog



Students choose an option

# Burndown Chart

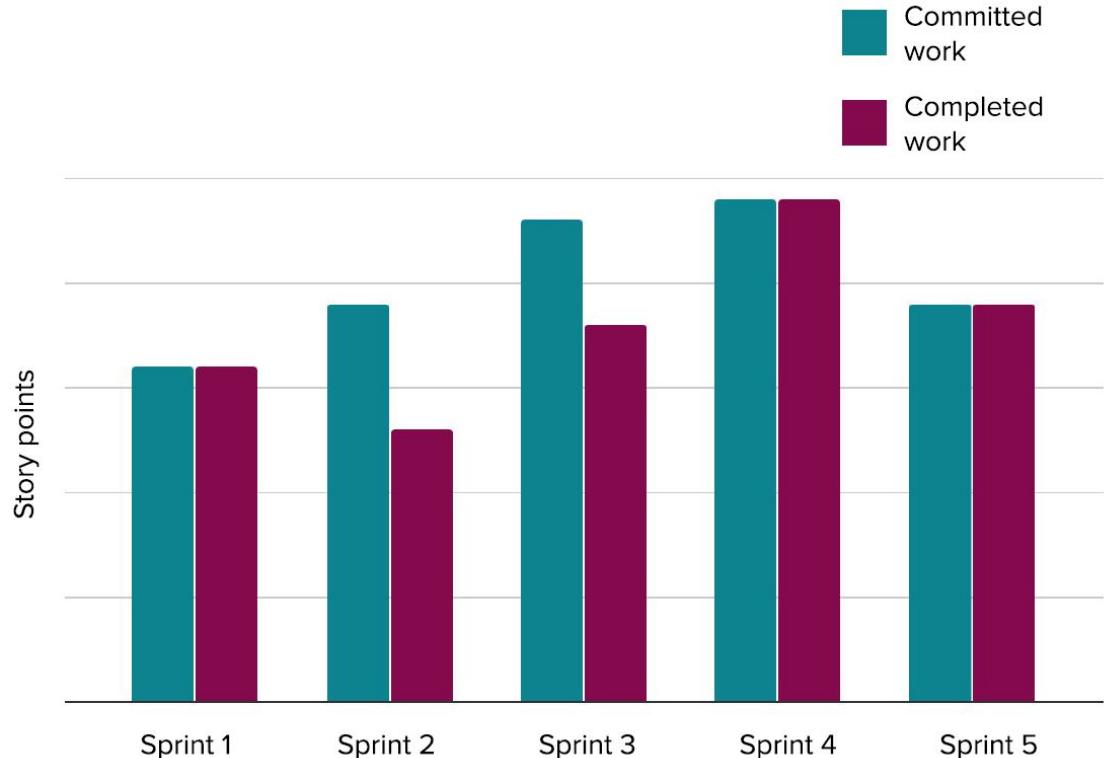


- Graphical demonstration of remaining work versus time.

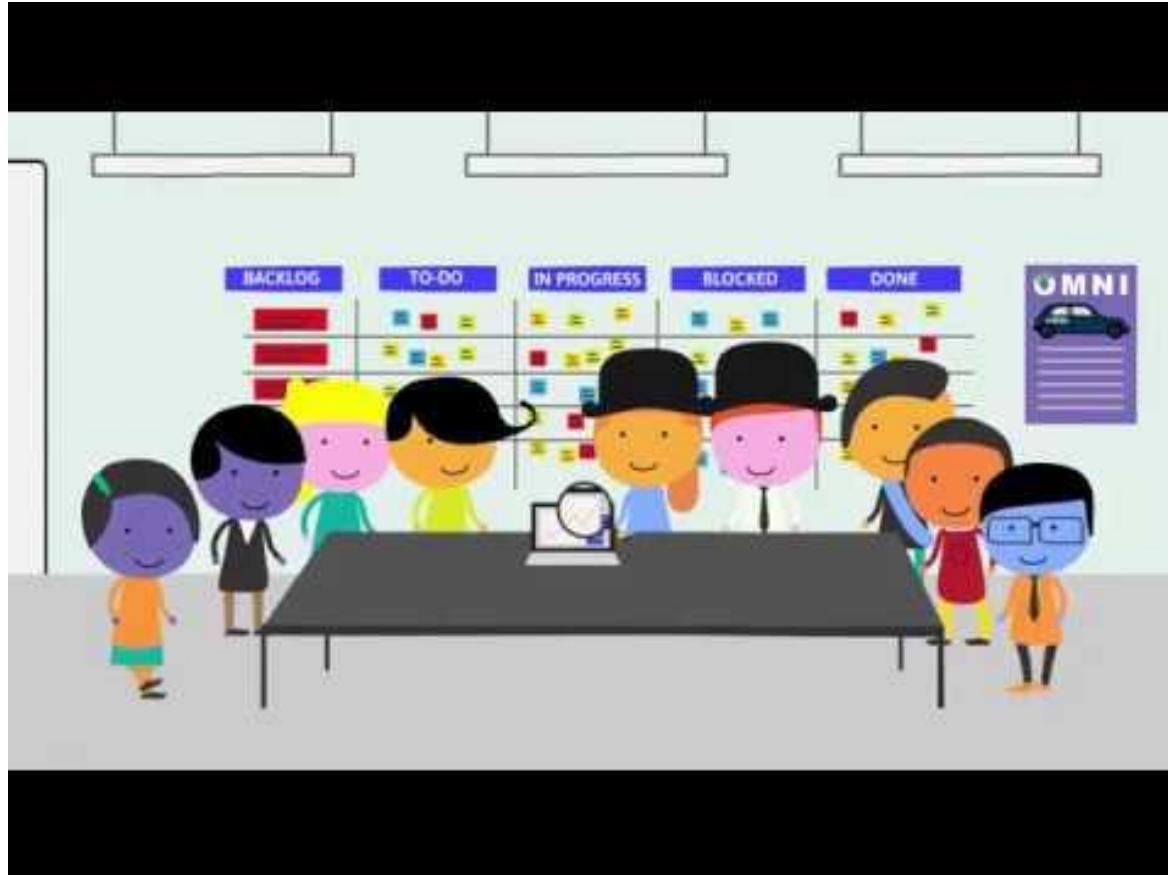
# Velocity Chart



- How much work is completed in each sprint.



# A Brief Overview

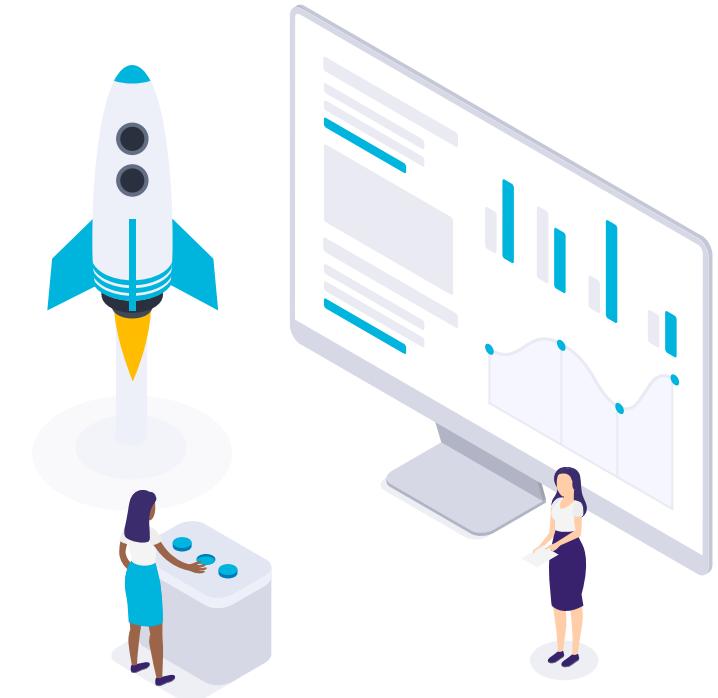


# Kahoot!





# KANBAN





# ► KANBAN

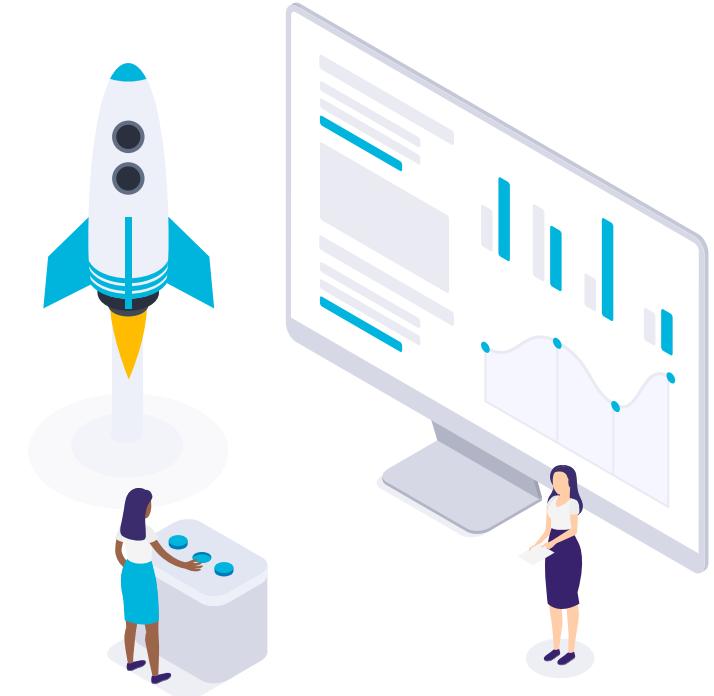
- ▷ Kanban Overview
- ▷ Kanban Board
- ▷ Principles of Kanban
- ▷ Practices of Kanban
- ▷ Kanban vs Scrum





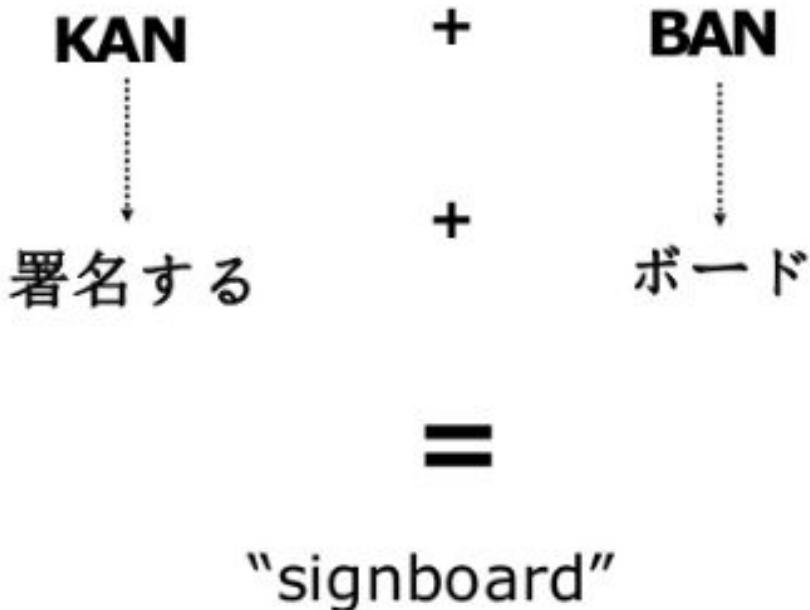
1

# Kanban Overview



# What is Kanban?

Kanban is a fusion word with Japanese roots. The word “kan” means visual, and the meaning of the word “ban” is card.





The word kanban is Japanese and roughly translated means “card you can see.”



Students choose an option

# What is Kanban?

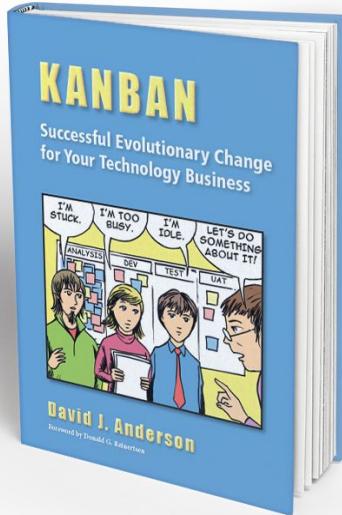


# A Brief History on Kanban



- ▶ Dates back to the 1940s
- ▶ Toyota updated its production method based on the model that supermarkets use to manage stocks on shelves
- ▶ To monitor capacity levels in real-time, the company started using a card called "kanban" between different production teams

# Kanban in Software Development



- ▶ In 2004, David J. Anderson introduced the idea of using the kanban concept for software development
- ▶ In 2010 he wrote a book named "Kanban: Successfully Evolutionary Change for your Technology Business "
- ▶ Kanban's use in software development begins after these attempts by David J. Anderson.



2

# Kanban Board



# Kanban Board



To Do

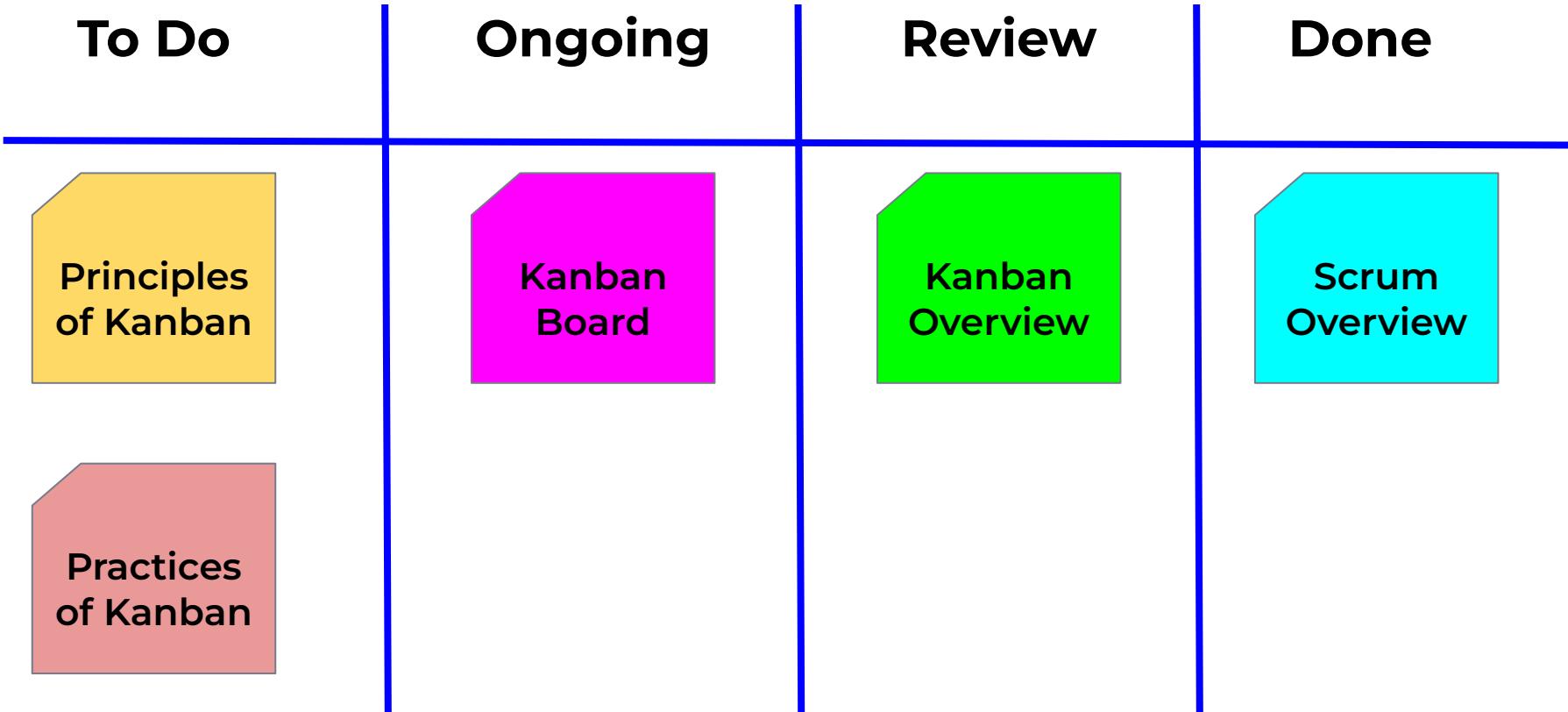
Ongoing

Review

Done

To Do	Ongoing	Review	Done

# Kanban Board





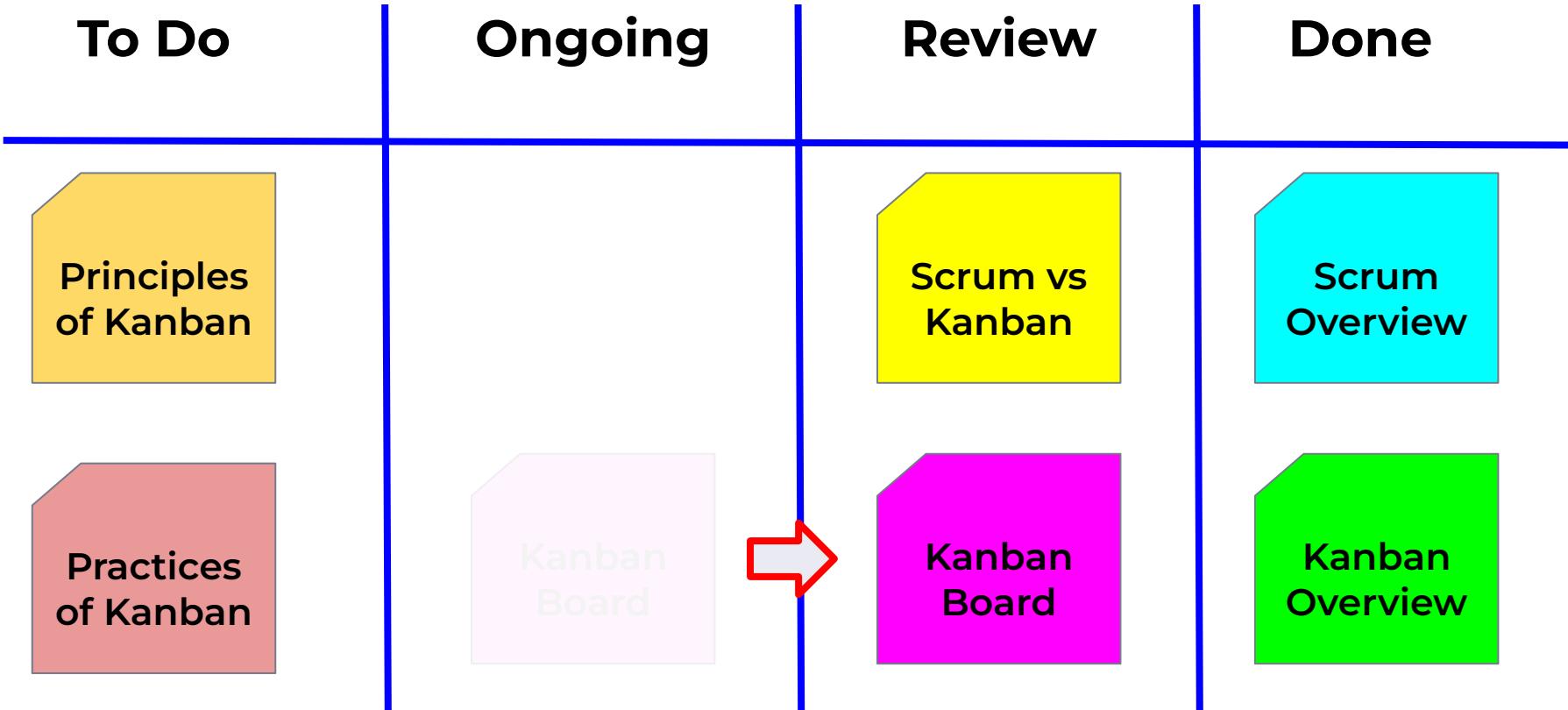
In kanban, each stage of  
a project is  
demonstrated with a  
*what?*



Students choose an option

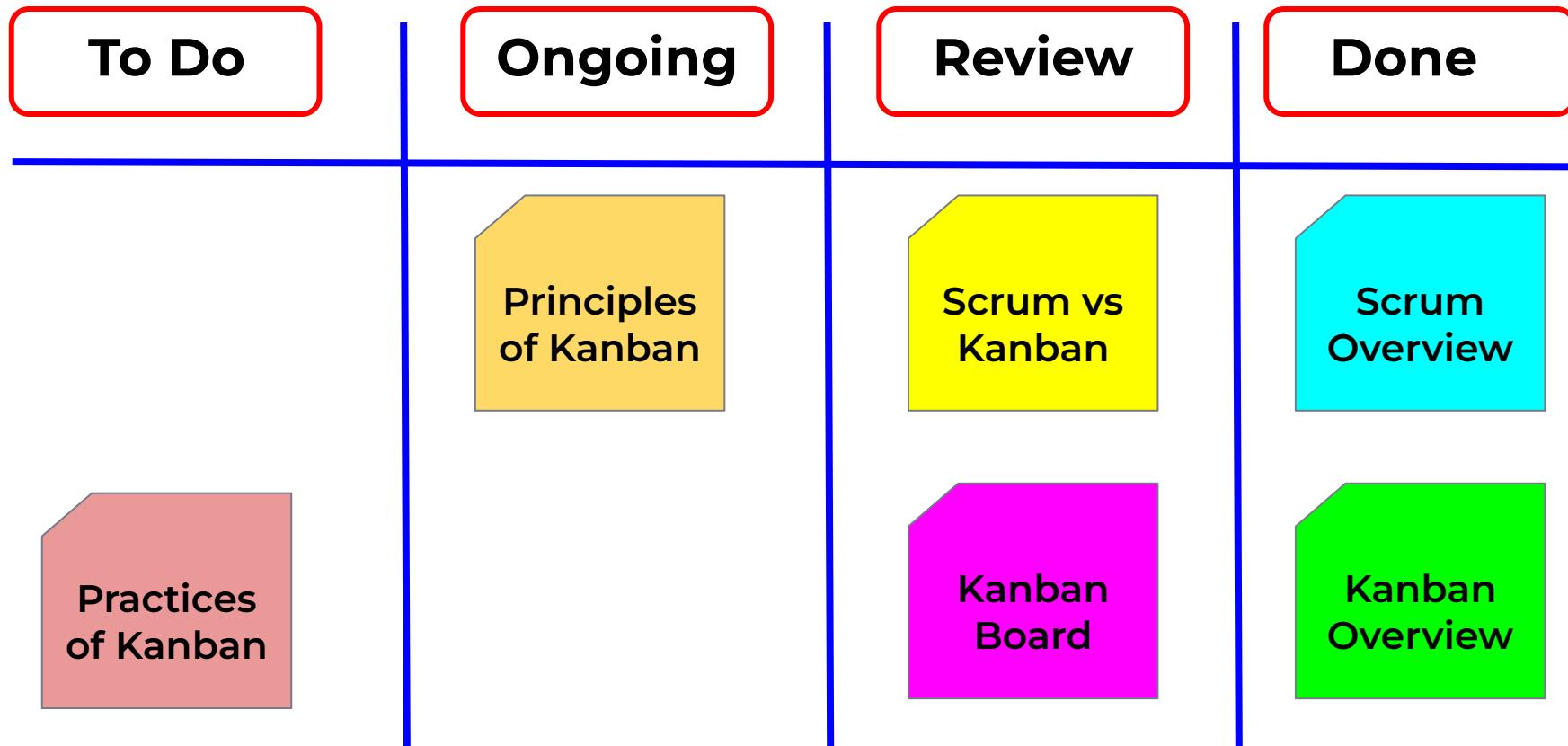
# Kanban Board

PULL SYSTEM



# Kanban Board

WORKFLOW



# Kanban Board

CARDS

**Whiteboard**

Status	Total Hours Remaining	Filter	Reset Board	Add Action
Planned (37)	In Progress (32)	On Hold (3)	Complete (27)	Cancelled (1)
306	108	18	0	0
<div style="border: 1px solid #ccc; padding: 5px;"> <span>PAN:5791</span> <span>⚠️</span>            A: Build Framework            M: Build            P: NGP: Website Build            27/11/2017            27/11/2017            6.00            0.00            0.00% <span>📝</span> </div> <div style="border: 1px solid #ccc; padding: 5px;"> <span>PAN:5819</span> <span>⚠️</span>            A: Build Framework            M: Build            P: NIIMBL: Website B...            27/11/2017            27/11/2017            6.00            0.00            0.00% <span>📝</span> </div> <div style="border: 1px solid #ccc; padding: 5px;"> <span>PAN:5792</span> <span>⚠️</span>            A: Build Page content            M: Build            P: NGP: Website Build            27/11/2017            29/11/2017            6.00            0.00            0.00% <span>📝</span> </div> <div style="border: 1px solid #ccc; padding: 5px;"> <span>PAN:5981</span> <span>⚠️</span>            A: Design UI            M: Design            P: Time Point: Websit...            28/11/2017            29/11/2017            R: nn <span>📝</span> </div>	<div style="border: 1px solid #ccc; padding: 5px;"> <span>PAN:5641</span> <span>⚠️</span> <span>0/3</span>            A: (1) Design Wireframes            M: Design            P: Nitro: Website Build            23/10/2017            23/10/2017            6.00            0.00            0.00% <span>📝</span> </div> <div style="border: 1px solid #ccc; padding: 5px;"> <span>PAN:6068</span> <span>⚠️</span>            A: Build Framework            M: Build            P: Site Seeker: Websit...            4/12/2017            6/12/2017            6.00            0.00            0.00% <span>📝</span> </div> <div style="border: 1px solid #ccc; padding: 5px;"> <span>PAN:6218</span>            A: Design UI            M: Design            P: CI Event: Website B...            18/12/2017            19/12/2017            8.00            0.00            0.00% <span>📝</span> </div> <div style="border: 1px solid #ccc; padding: 5px;"> <span>PAN:5640</span> <span>⚠️</span>            A: Design UI            M: Design            P: Nitro: Website Build            23/10/2017            23/10/2017            6.00            0.00            0.00% <span>📝</span> </div>	<div style="border: 1px solid #ccc; padding: 5px;"> <span>PAN:5642</span> <span>⚠️</span> <span>0/3</span>            A: (2) Design Wireframes            M: Design            P: Nitro: Website Build            23/10/2017            23/10/2017            6.00            0.00            0.00% <span>📝</span> </div> <div style="border: 1px solid #ccc; padding: 5px;"> <span>PAN:5951</span> <span>⚠️</span>            A: Build Page Content            M: Build            P: Law In Order: Webs...            5/12/2017            5/12/2017            6.00            0.00            0.00% <span>📝</span> </div> <div style="border: 1px solid #ccc; padding: 5px;"> <span>PAN:6100</span> <span>⚠️</span>            A: Build Framework            M: Build            P: Sympli: Website Bu...            7/12/2017            8/12/2017            6.00            0.00            0.00% <span>📝</span> </div>	<div style="border: 1px solid #ccc; padding: 5px;"> <span>PAN:4437</span>            A: Deliver Training            M: Backlog            P: Agile Project Templ...            18/05/2017            18/05/2017            4.00            0.00            100.00% <span>📝</span> </div> <div style="border: 1px solid #ccc; padding: 5px;"> <span>PAN:5794</span> <span>⚠️</span>            A: Deliver Training            M: Deliver            P: NGP: Website Build            8/12/2017            8/12/2017            4.00            0.00            100.00% <span>📝</span> </div> <div style="border: 1px solid #ccc; padding: 5px;"> <span>PAN:4433</span>            A: Design UI            M: Sprint 1            P: Agile Project Templ...            18/05/2017            18/05/2017            8.00            0.00            100.00% <span>📝</span> </div> <div style="border: 1px solid #ccc; padding: 5px;"> <span>PAN:4432</span> <span>3/3</span>            A: Design Wireframes            M: Sprint 1            P: Agile Project Templ...            18/05/2017            18/05/2017            R: nn <span>📝</span> </div>	<div style="border: 1px solid #ccc; padding: 5px;"> <span>PAN:5983</span> <span>⚠️</span>            A: Build Page Content            M: Build            P: Time Point: Websit...            5/12/2017            5/12/2017            6.00            0.00            0.00% <span>📝</span> </div>

**Roles**

- Agata Norris
- Amy Lee
- Andrea Flott
- Blake Johnston
- Carey Bonn
- Chris Woolcott
- Colin Johnson

**SMS Inbox**

# Kanban Board

WIP

Practices  
of Kanban

Principles  
of Kanban

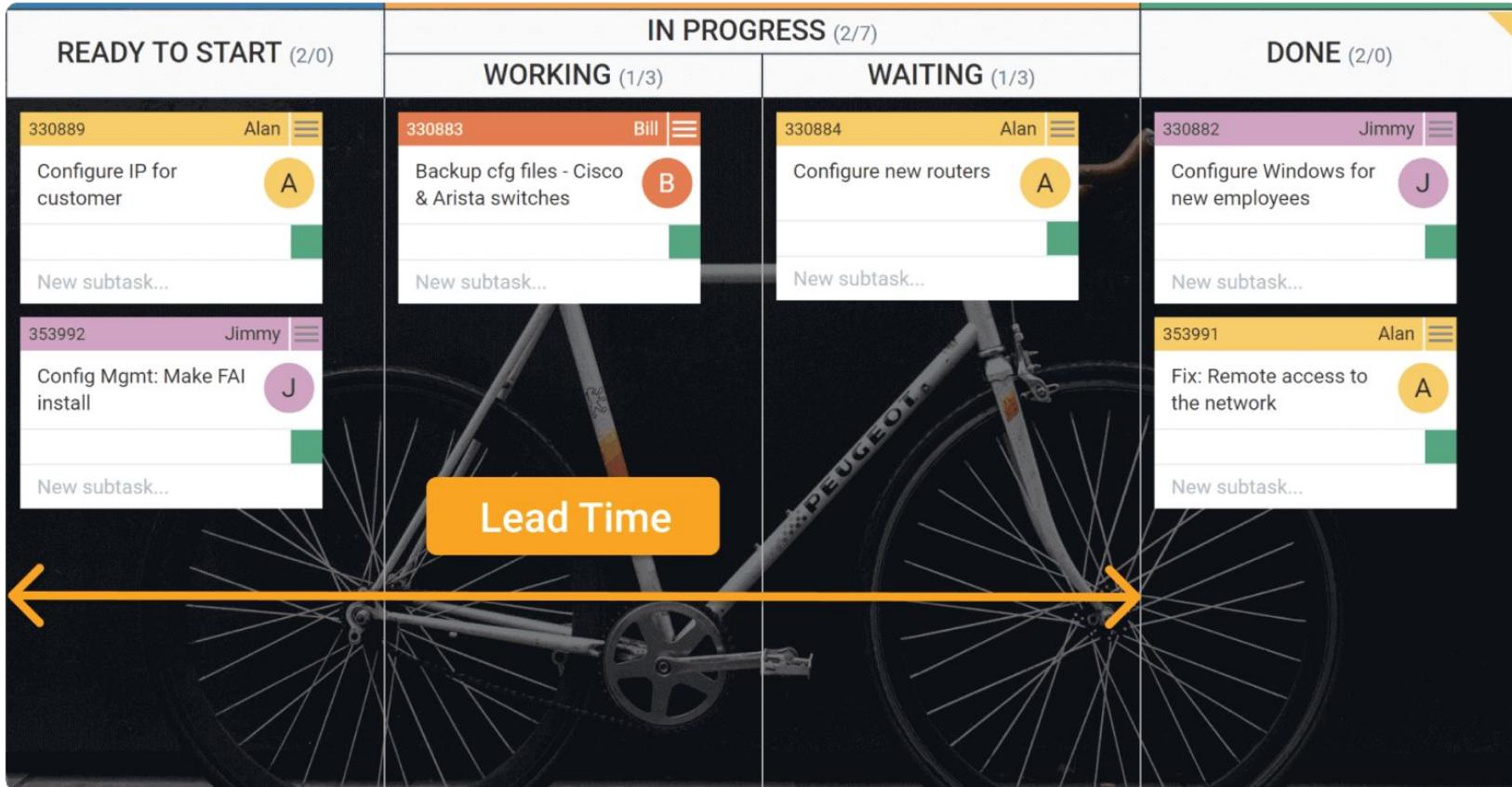
Scrum vs  
Kanban

Scrum  
Overview

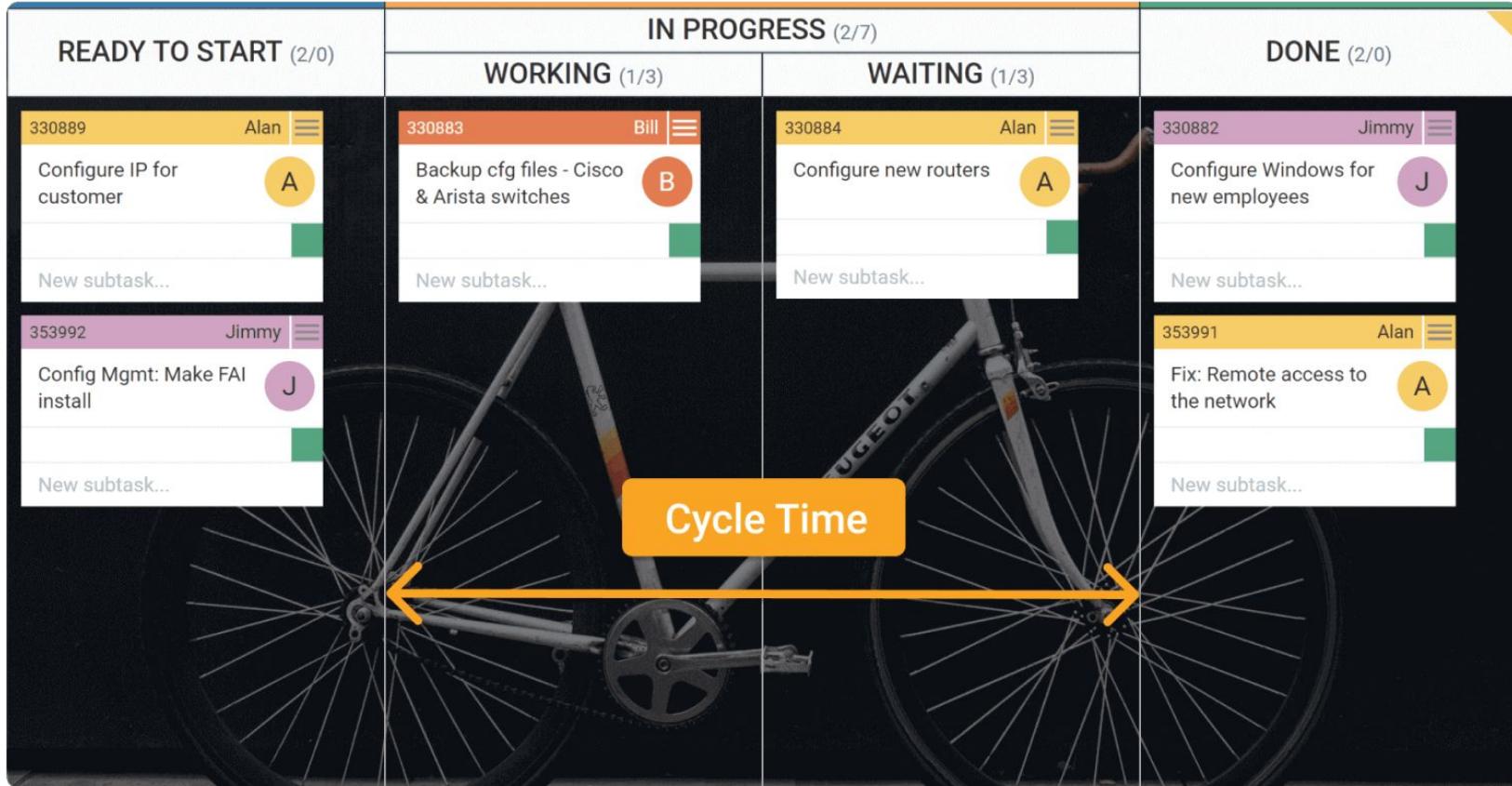
Kanban  
Board

Kanban  
Overview

# Lead Time



# Cycle Time





**It is the period between creating  
a task in your workflow and its  
final departure from the kanban  
board.**

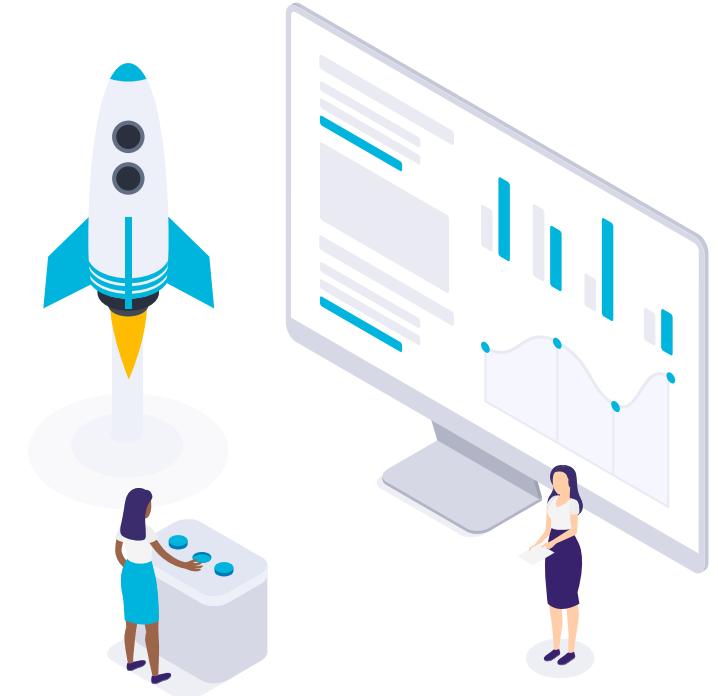


Students choose an option

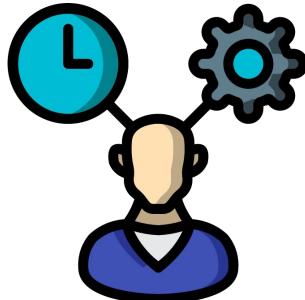
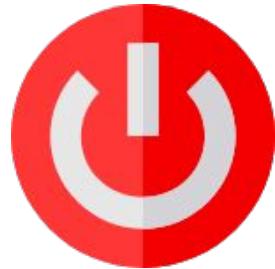


3

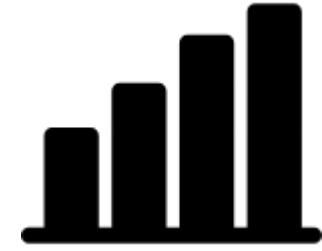
# Principles of Kanban



# Principles of Kanban



Start with what you are doing now	Agree to pursue incremental
Initially respect current roles	Encourage leadership at all levels



# Start With What You Are Doing Now



- First Principle

- Do not make instant changes to the existing setup or process
- Kanban must be directly applied to the existing workflow
- Necessary changes should be made slowly and gradually

# Agree to Pursue Incremental

- Second Principle



- Make minor incremental changes rather than major changes
- Major changes lead to resistance within the team

# Initially Respect Current Roles

- Third Principle



- You do not need to modify your existing roles and functions that perform well
- The team will coordinate and implement the necessary changes to the roles and titles

# Encourage Leadership At All Levels

- **Fourth Principle**

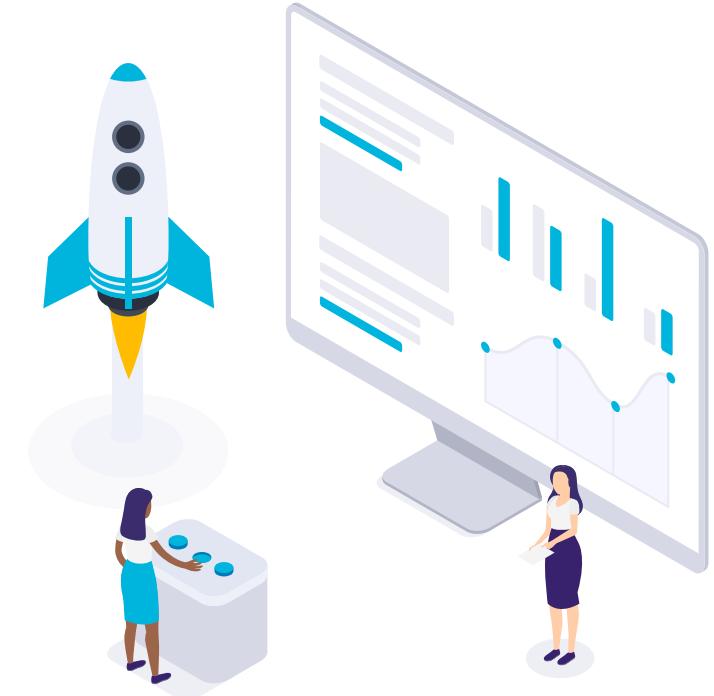


- Constant improvement at all levels of the organization is encouraged
- It is desirable that all team members produce ideas and show leadership

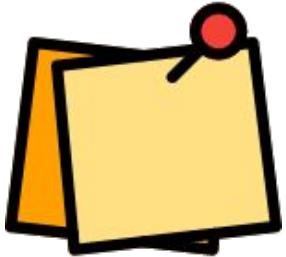


4

# Practices of Kanban



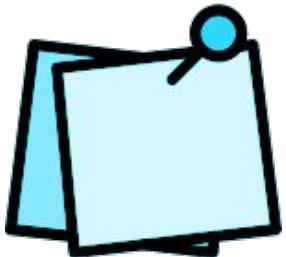
# Practices of Kanban



Visualizing  
the Workflow

Limit Work  
in Progress  
(WIP)

Managing Flow



Making Process  
Policies Explicit

Implementing  
Feedback Loops

Evolving  
Experimentally



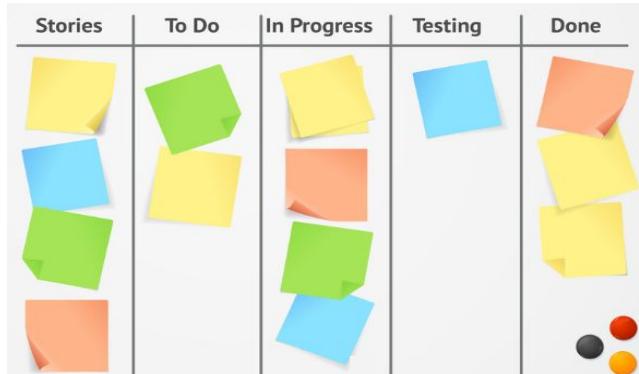
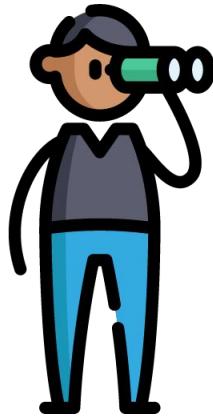


Kanban has 4 principles and  
6 core practices.



Students choose an option

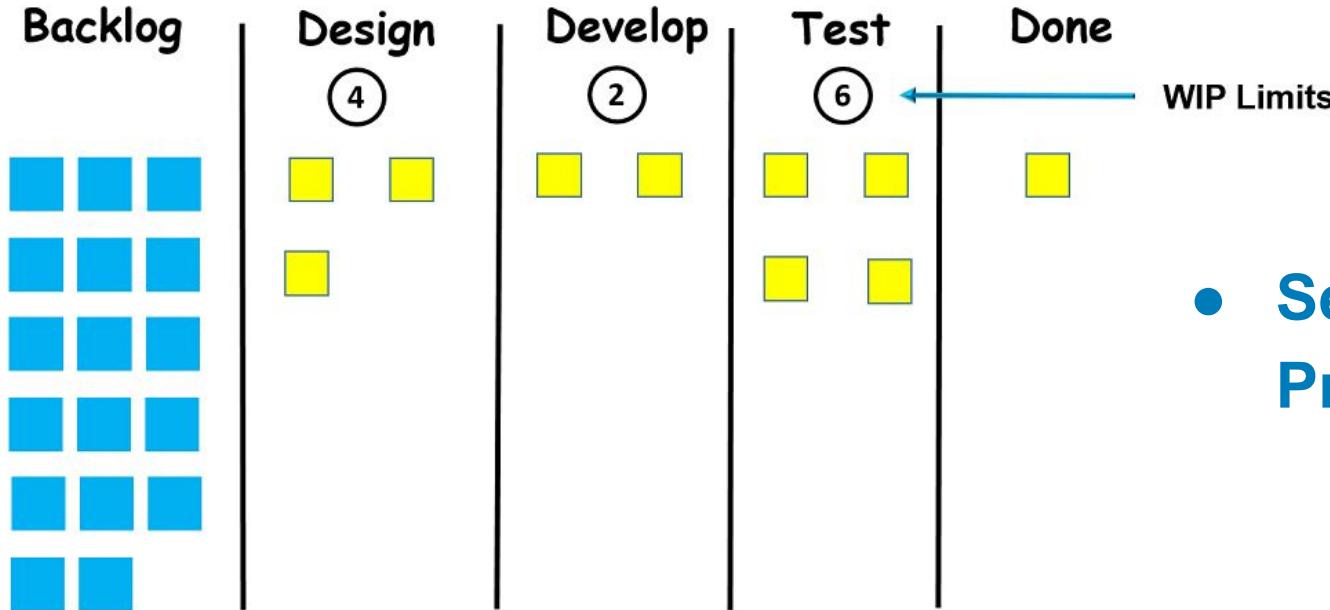
# Visualizing the Workflow



- **First Practice**

- Visualization is the first step to start with Kanban
- When you visualize the process, it can be seen what you and your team are currently doing

# Limit Work in Progress (WIP)



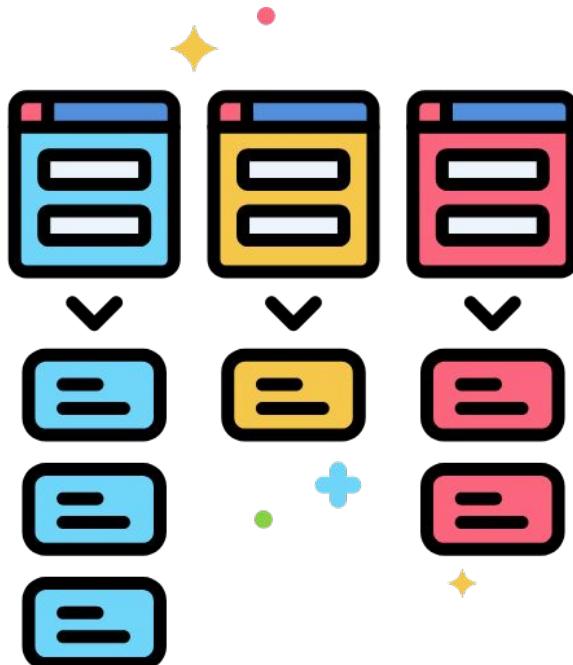
- Second Practice

- When you assign a limit to each column, your team doesn't work more than they can handle

# Managing Flow



- **Third Practice**

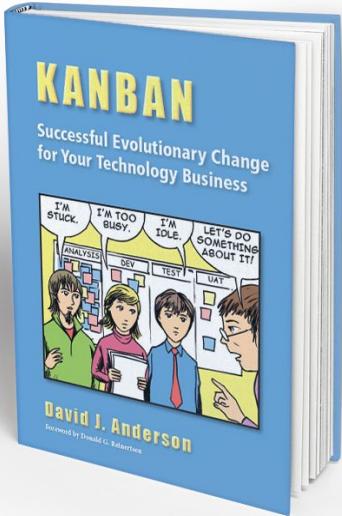


- As you manage the flow and improve it, your team's pace becomes more predictable
- This makes it easy for you to make commitments to your customers

# Making Process Policies Explicit

- Fourth Practice

- Being explicit allows the team to follow the process easily and make proposals for the improvements
- Team members who are not clear about the existing process can not improve the system



# Implementing Feedback Loops

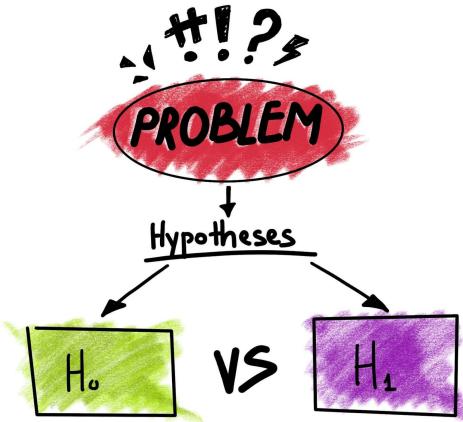


- **Fifth Practice**

- You should know what your customers and the end-users think.
- Automated continuously running tests are preferred as they shorten feedback loops.

# Evolving Experimentally

## ● Sixth Practice

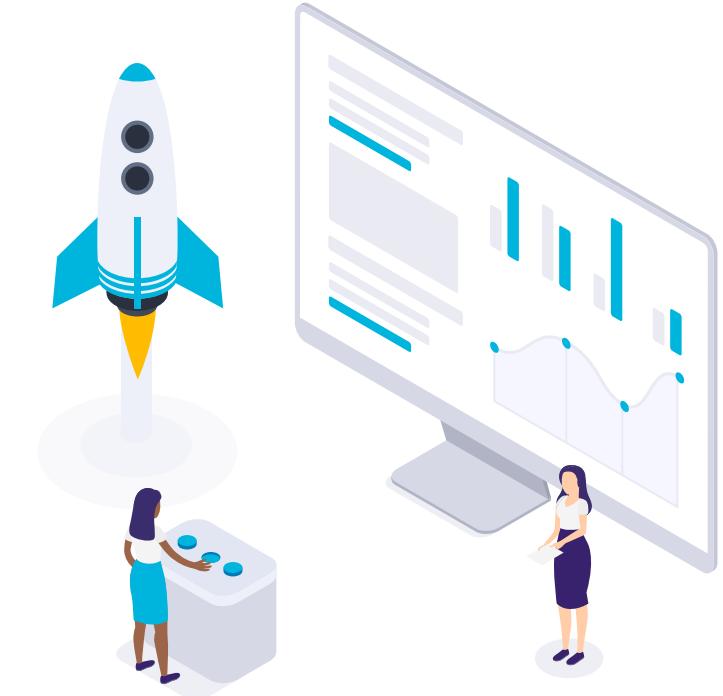


- Kanban encourages you to use scientific methods like you form a hypothesis and test it
- By using hypothesis testing, you can assess whether a change helps you improve or not
- Then you make a decision about whether to try some other solutions or to keep the current status



5

# Kanban vs. Scrum



# Comparing Kanban with Scrum

SCRUM	KANBAN
 Work is done within time-boxed sprints, generally of 2-4 weeks. The goal is to produce a potentially shippable product after each sprint.	 There are no fixed-length sprints. Instead teams pull tasks from a prioritized backlog of things that need to be done.
 Product is released on a particular cadence, which is determined by the sprints' length. So a team may release after 3 sprints, or every 6 weeks.	 Releases occur continuously, or whenever there is a shippable product created.
 There's a heavy focus on cross-functionality. Teams have no specified roles; everyone is a "marketer."	 Team members can specialize and pull tasks related to their area of expertise, but too much specialization will reduce a team's effectiveness.
 Sprint kickoffs, daily standups, sprint reviews, and sprint retrospectives are vital rituals within the Scrum process.	 There is an emphasis on continually improving processes, but no standardized regular meetings or rituals.

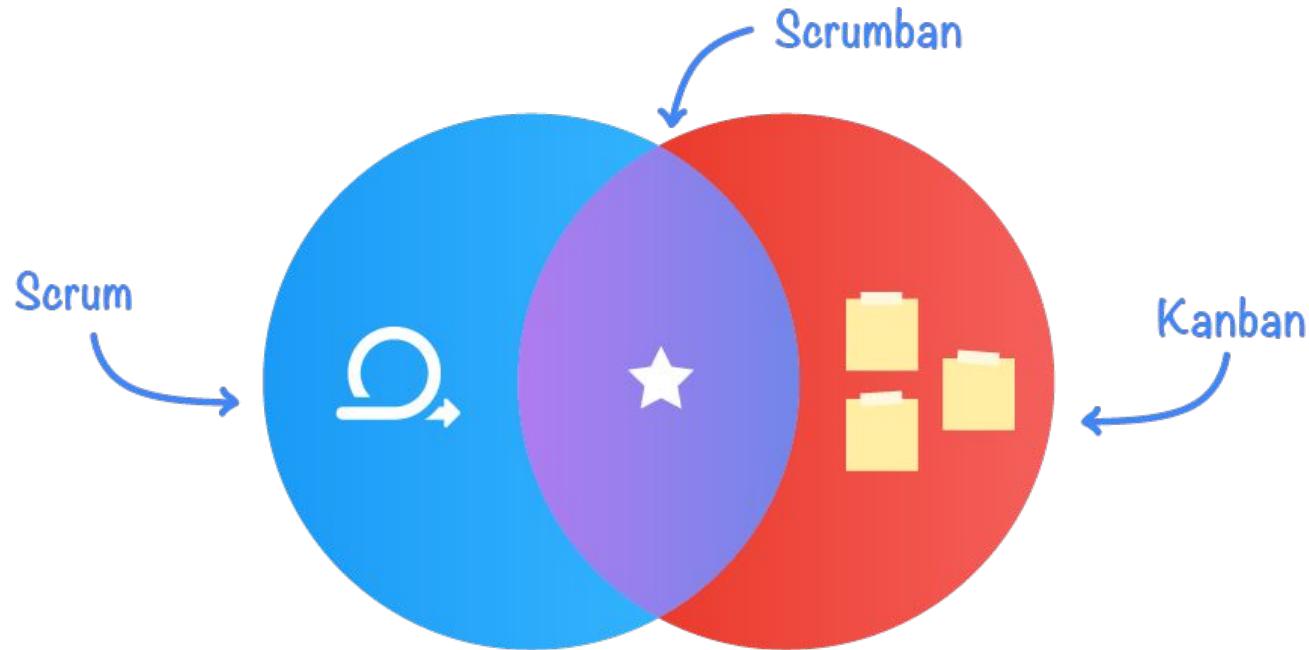


**Which statement cannot  
be said while comparing  
Kanban with Scrum?**



Students choose an option

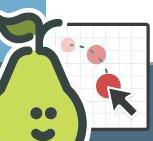
# Scrumban



# Kahoot!



# How well did you like this lesson?



Students, drag the icon!





# THANKS!

## Any questions?

You can find me at:

- ▶ @Martin - Instructor
- ▶ martin@clarusway.com

