BE Formazione

Agile Business Consortium

APMG International

Agile Business Consortium Scrum Master Course (v1.1)

Scrum Master Examination

Formazione

At the end of the course there is an exam!

- 50 simple, multiple choice questions
- 40 minutes
- Closed book
- Pass mark: 37 marks out of 50 (74%)

Course Overview

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Day 1

- Scrum Overview
- Self Organization
- Agile Fundamentals
- Empirical Product Development and Scrum Theory
- Scrum Events
- The Scrum Team and accountabilities
- Artifacts and Commitment

Day 2

- Day 1 Refresh
- Simulation – Practicalities of:
  - The Product Backlog Creation
  - Estimation
  - Sprint Planning & Done
  - Sprint Progress
  - Sprint Retrospectives and Review
- Scrum Master Exam

Day 2

Sample Paper Review

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Debrief

Any questions regarding the Sample Paper?

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Discuss on your tables

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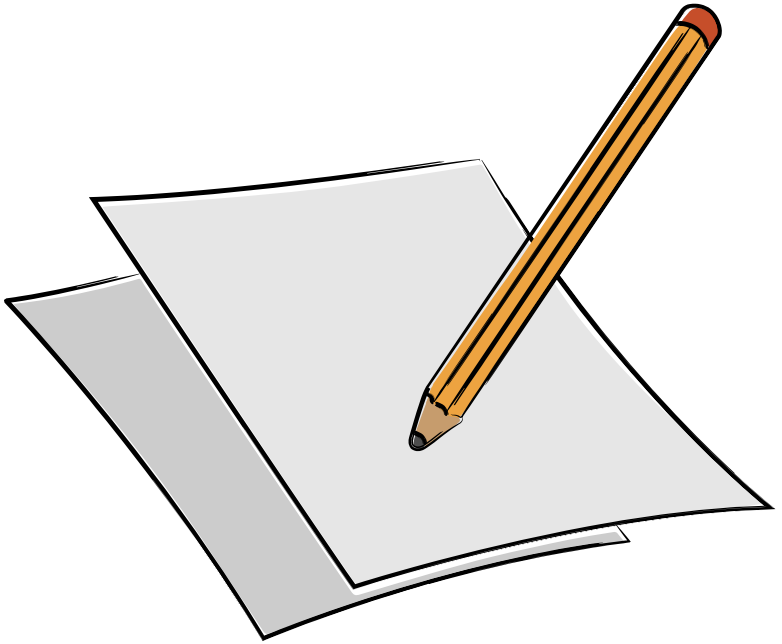
- 3 key takeaways from Day 1
- Is there anything we should change on the working agreement, based on behaviours you observed yesterday?
- Do you want to take the opportunity to learn from others and form a new team, or continue with the team members you have started to build relationships with?

Your Turn

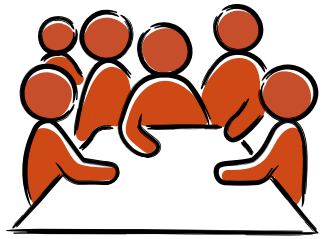
- Each table split into two groups.
- Each Group - Create a virtual Scrum poster
- Include on this:
  - The Scrum Team
  - All 5 Events
  - All 3 Artefacts & their purpose
  - Scrum Values



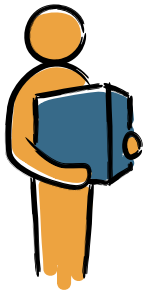
Scrum

Formazione

Development Team



Daily Scrum

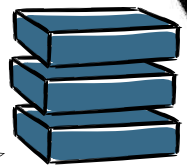


Product Owner

Scrum Master

Product Backlog

Sprint Goal



Sprint Backlog

Sprint 1-4 weeks

Potentially Shippable Product Increment

Sprint Planning

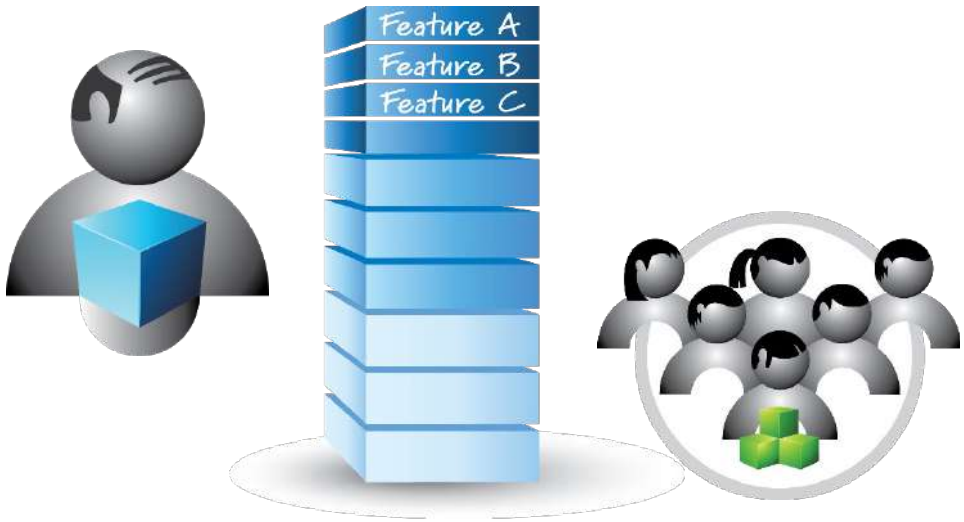
Sprint Review

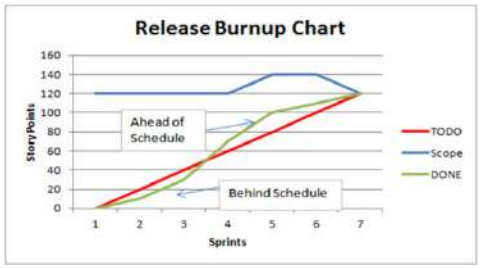
Sprint Retrospective

The Product Backlog

The Product Backlog Creation

Product Backlog





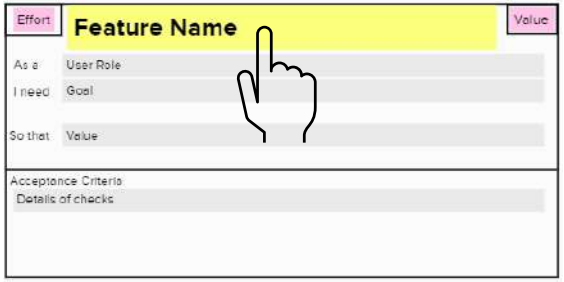
- The Product backlog is the plan, it's all the work the team need to do to create the product
- Ordered and prioritised list of work to do to create the team output
- PO decides on the order, but takes input from the development team
- Backlog items are ordered by value … determined by risk, uncertainty, learning, dependencies.
- Product Backlog is detailed appropriately, estimated, emergent and prioritised (DEEP)
- The development team estimate the product backlog

Brainstorming Feature

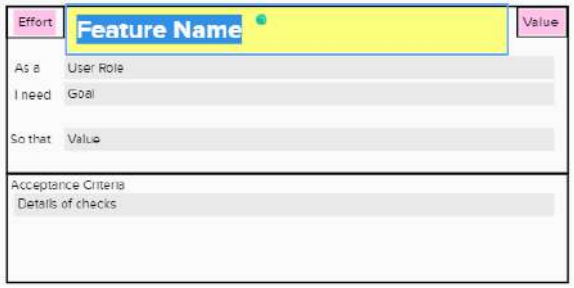
Follow general workshop rules

- One feature per card
- Shout out the feature/ goal you have in mind
- Don't debate – no bad ideas
- If you say it – you have to type it, in the yellow box….

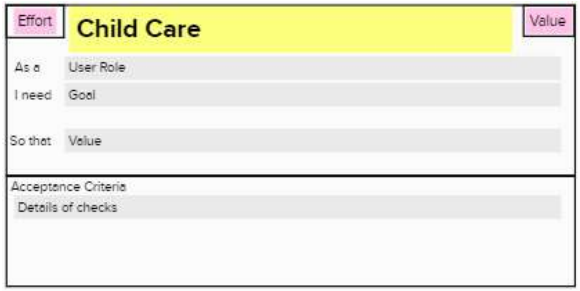
Double Click on the yellow box on a card to edit



When it's highlighted in blue, type your text

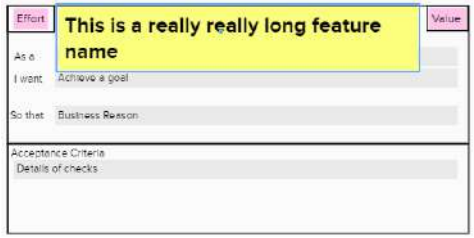


Click outside the box to save

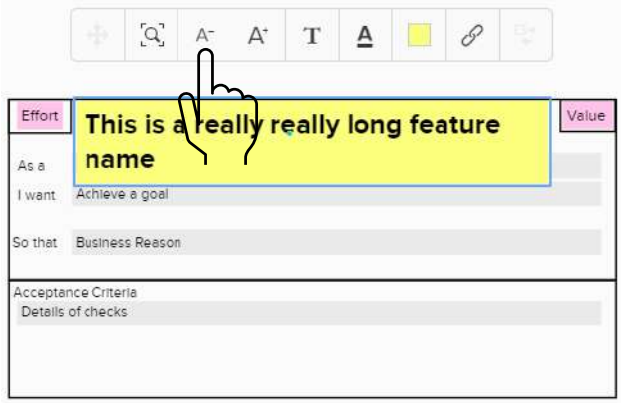


Long Feature Names

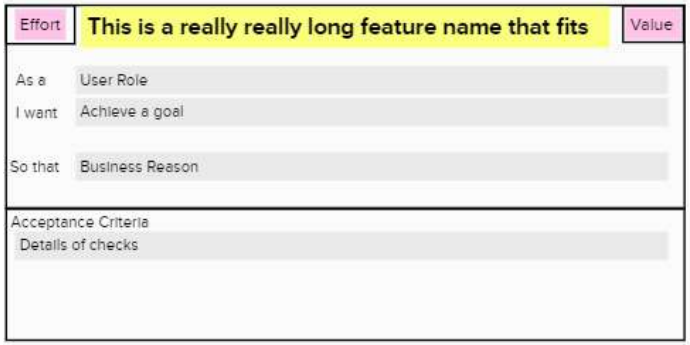
Try and keep feature names concise, but If your feature name goes over two lines …



Click once on decrease font size



It should now fit …



Adding More Cards

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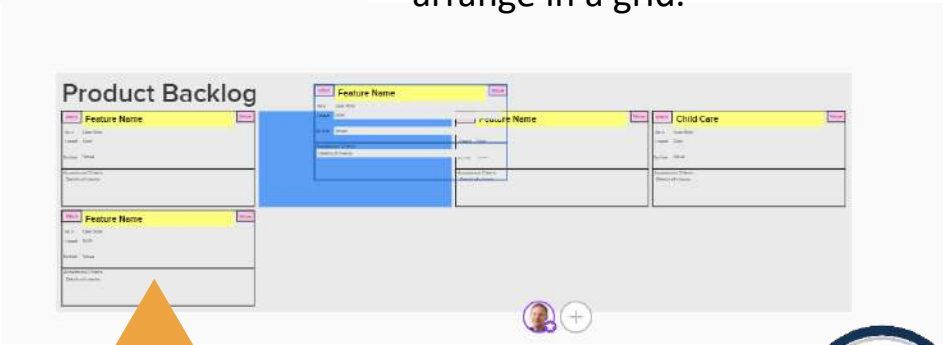
Click on the card in "Need another Card?"

Press CTRL-D to duplicate the card

The new card can be dragged into the Product Backlog which will re-arrange in a grid.



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Exercise Product Backlog Creation

- Create a product backlog for an Ultimate Resort marketing brochure. This is your dream resort for a holiday
- The product backlog will be a list of “features” you believe customers would like to see in the brochure
  - E.g. Cover Page, Child Care, Restaurants, Transfers
- We will use Mural to create the backlog items, you will brainstorm together in small groups, everyone inputs
- You have 15 mins

Estimating the product backlog using affinity estimation

Issues with Estimating

- In 1979 Kahneman and Tversky found that human judgment is generally optimistic due to overconfidence and insufficient consideration of distributional information about outcome
- There is a human tendency for us to want to please others and in so doing we bias our estimates optimistically in the name of pleasing our stakeholders
- External forces (budget, customer deadlines, completion, etc…) pressure us to complete things as quickly as possible and so adversely influence estimates
- Often, there is an irrational demand for very precise estimates in the face of a lack of clarity about outcome required and the inevitable changes to both the need and in the world in which the estimated endeavour will occur

Comparative Estimating

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- Comparative Estimating – especially where it involves collaborative techniques – is designed to avoid some of the issues described
- Rather than expressing effort in time-based units, Comparative Estimating requires us to express it as a multiple of that of a *baseline* item:
  - Either a *known*, low effort, job – known because it has been Done
  - Or a *well understood*, low effort – job one for which:
    - The outcome is clear and unambiguous
    - The work needed to achieve the outcome is known and straight-forward
    - the effort can be estimated with a high level of precision and confidence

Story Point Estimating

- The most widely used comparative estimating approach in Agile
- Uses a non-linear, Fibonacci-like sequence of Story Points
  0, ½, 1, 2, 3, 5, 8, 13, 20, 40, 100 plus ∞ (i.e.>100) and ? (“I don’t know”)
  - To deal with reduced precision associated with increasing size
  - To reduce low-value debate associated with unsustainable precision
  - That is translated to time/effort-based values ***after*** estimating is complete
- Supports
  - The *Planning Poker* technique combines:
    - Comparative Estimating using Story Points
    - The collaborative *Wideband Delphi* technique for gaining group consensus
  - *Affinity Based Estimating*
    - A faster, simpler alternative using Story Points
- May be used even if Product Backlog items are not expressed as User Stories

Planning Poker

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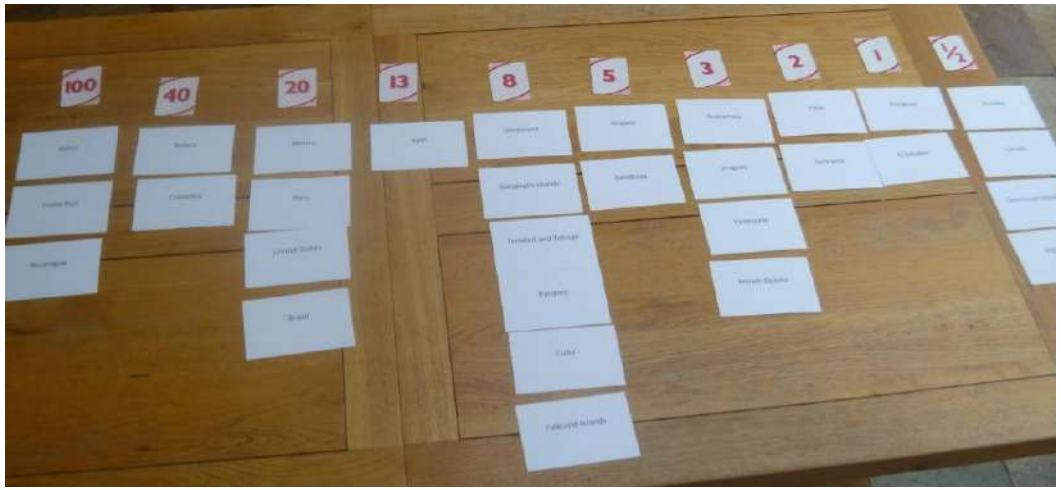
Typically, the Scrum Master will encourage estimators with a value higher or lower than the rest to explain their rationale.

e.g. all values displayed are either 5 or 8

Affinity Estimating

- Sometimes called ‘bucket’ estimating
- As with Planning Poker:
  - Fibonacci-like sequence is used to cluster items requiring similar effort
  - A low effort, known/well understood item is used as a *baseline*
- Various techniques are used to allocate backlog items to ’buckets’ or columns of items (see photo)
  - All involve discussion of stories where required to achieve consensus
  - Discussion is more limited than with Planning Poker
  - See accompanying guidance for examples



Reflection: Comparative Estimating

	Product backlog item	Estimate
1	Read (and understand) a high-level, 10-page overview of agile software development in a celebrity news magazine	
2	Write a 3-page summary of Agile for your boss	
3	Create a 60-minute presentation about Scrum for your coworkers	
4	Wash and wax the family car	
5	Read a 150-page book on Scrum	
6	Read (and understand) a densely written 5-page research paper on a shale rock physics model for analysis of brittleness index, mineralogy and porosity in the Barnett Shale	

Your Baseline :

	Read and understand the cover of the Times	**2**

How much work in a Sprint?

- Most Scrum practitioners estimate using Story Points also use the concept of Velocity to forecast what they can get Done in a Sprint
- Velocity is ideally based on past performance and refers to the number of Story Points associated with *Product* Backlog items Done by the end of each Sprint
- Notes:
  - Remember, Product Backlog items are what are taken into a Sprint and are the basis of Sprint Planning. During Sprint planning as tasks needed to get these items Done are identified, it is likely that they will be estimated in days or hours.
  - If Velocity is used, then a Story Point estimate for Product Backlog items must be part of what it means for a story to be 'ready'
- Velocity remains valid indefinitely provided the work estimated for the upcoming Sprint is estimated against the same baseline item – even if it is for a different Product Goal or even a different product

Commitment based planning

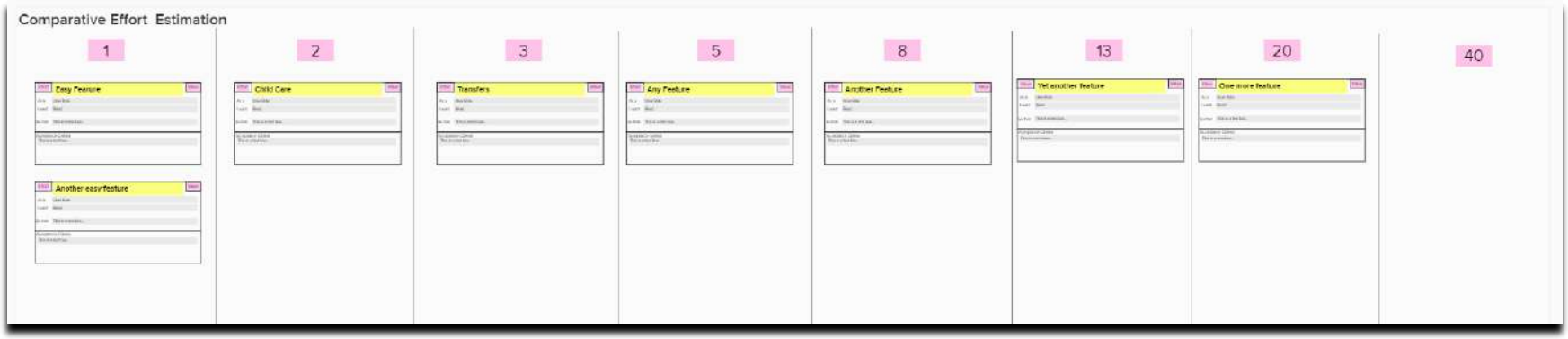
- Commitment Based Planning is a technique that can be used to estimate
  - How much work can be Done in a Sprint – even if the Product Backlog items have not been estimated
  - The Velocity for a Scrum Team where one has yet to be established
- At the beginning of a Sprint Planning event, when selecting work to pull into the Sprint, the Scrum Master can facilitate an activity where, in brief:
  - The first Product Backlog item is selected and discussed to confirm understanding
  - The question is asked of the Developers “if this was the only item to be Done in the Sprint could we commit to delivering it?”
  - If the answer is “yes” then the next Backlog item is selected, and the question is asked “if we added this to our Sprint, could we commit to delivering everything?”
  - The previous step is repeated until the answer to the question is “no” at which point that item is returned to the Product Backlog and the rest are accepted into the Sprint
- If backlog items have previously been estimated with Story Points, then the sum of the points for the committed items = the estimated velocity

Exercise – Estimate the Product Backlog

- Asa group choose an item on the lower end of the scale and place it under 1 or 2
- Round Robin, one person at a time going around the group – go for an item 2 or 3 times as large or ½ or 1/3 – don't go too far up the scale too quickly …
- Take an item off the product backlog and place it under an estimate (1,2,3,5,8,13,20,40,100)

- Do this in silence
- Once all the cards are out, as your turn comes around feel free to move a card to a larger or smaller estimate
- Go until items stop moving
- If a card keeps moving a lot – have a conversation about it

You have **10 minutes** to estimate everything



The Product Goal

Your Product Goal

- Choose a product Owner

- Medium Term Goal :
- Provide the ability for a potential customer to learn enough about your resort to want to call up your offices to find out further information or book a holiday
- Order your Backlog based on that goal

Order the Product Backlog

- Appoint a Product Owner
- Order your list of Features, most important to achieve your Release Goal:
- Provide the ability for a potential customer to assess our suitability for an off shore wind farm and select us to submit a proposal.
- The PO can take input from the team but the final decision on Ordering rests with them.

Product Owner

Takes the inputs of what the product should be and translates them into a product vision and a Product Backlog (a list of all the work for the team). The Product Backlog should be Ordered and Prioritised

The PO Proactively manages stakeholder and customer expectations.

Refining Product Backlog Items

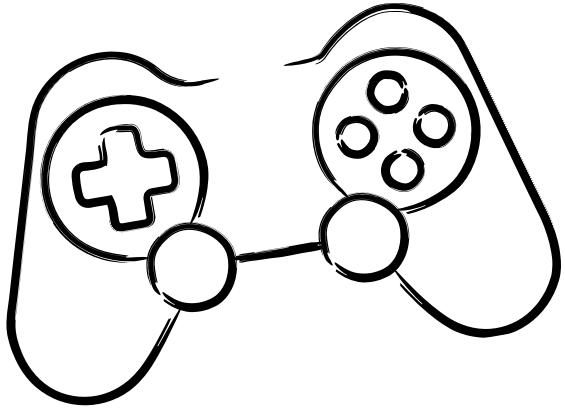
Sprint Planning & Done

Sprint Planning

Development Team control what they do for the next sprint

Outputs:

- Sprint Goal
- Sprint Backlog



Whole Scrum Team participates

Goals:

- To know what they are going to do
- Have a rough idea how to do it

Design discussion and articulate the design through tasks

Sprint Planning Meeting

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Product Backlog Item

Sprint Goal

Team Members

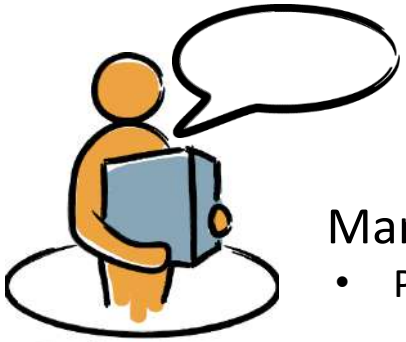
Done

A definition of "Potentially Shippable"

Scrum Master

Adherence to Scrum

- Values, Practices, Rules



Product Owner

Manages the backlog

- Priority, Definition

‘Done’ in an IT environment

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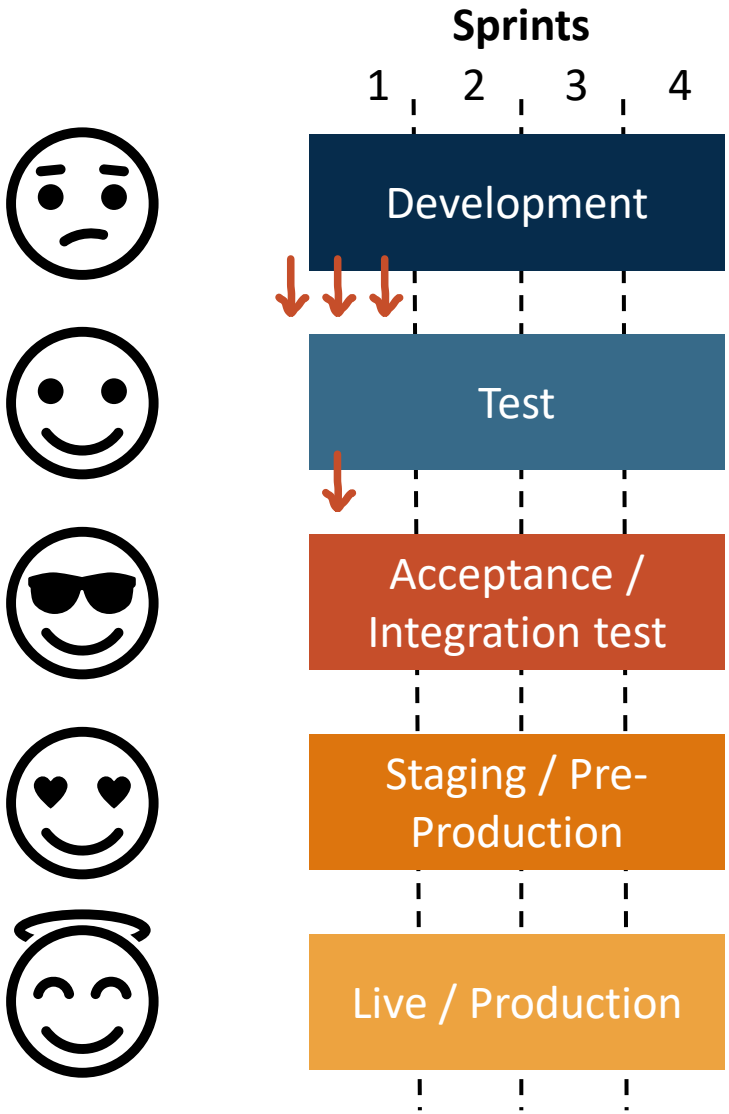


Unit Tested
Peer Review

Passes Acceptance Criteria
Business and UX review
PO Review

User Acceptance Tested
Integration Tested
Performance Tested

Operational Testing
Final security/penetration Testing

In use working towards desired outcomes

Sprint Part 2: How - Planning Approaches

1. Capacity Based

2. Velocity Based

Sprint Planning Meeting

What
then
How

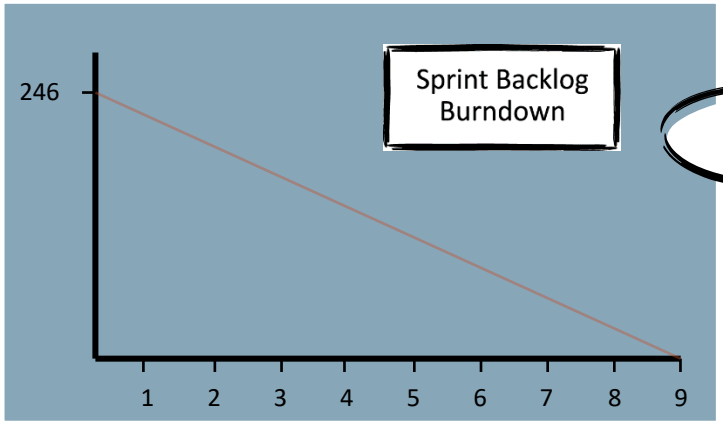
Formazione

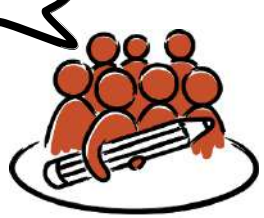
Product Backlog Item

Capacity
270 hrs

Sprint Backlog

6	8	10	8	3	5	40 hrs
						72 hrs ∑112hrs
						67 hrs ∑179hrs
						37 hrs ∑216hrs
						30 hrs ∑246hrs




Team Members


Scrum Master

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SCRUM
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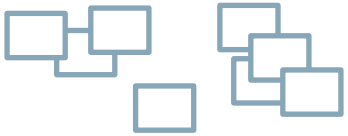
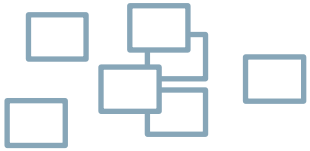
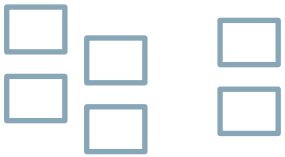
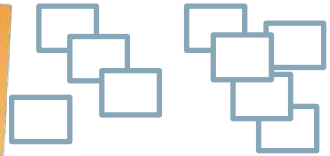
Sprint Planning

- Consider breaking down user stories to focus on adding very small increments, and get to test earlier
  - Aim for a days worth of work
  - Estimate in hours or days
  - Look for ways of getting everyone working together
- The goal is to know enough to make a team commitment and get started
  - Everyone should understand the scope of all the tasks
  - Not everything needs to be known perfectly and precisely
- Plan Product Backlog Items one by one
  - Stop when the Development Team can’t commit to any more
  - Calculate capacity vs demand as a guideline (time available vs time estimated)

The Sprint Backlog (on a task board)

Not started	In progress	Ready for review	Done
			
			
			
			

As a online customer, I need to be able to login so that I can securely access my account details

As a online customer, I need the ability to change my password, so that I can be confident my account

As a site administrator, I need to be able to disable accounts so that I can stop access on the clients request

As a prospective customer, I want to request an account so that I can become a client and manage my accounts

Stories (what)

Tasks (how)

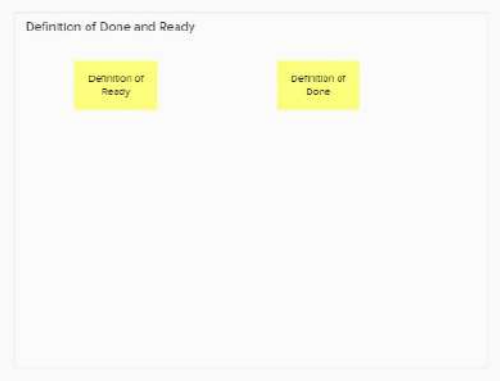
Sprint Planning

Part 1

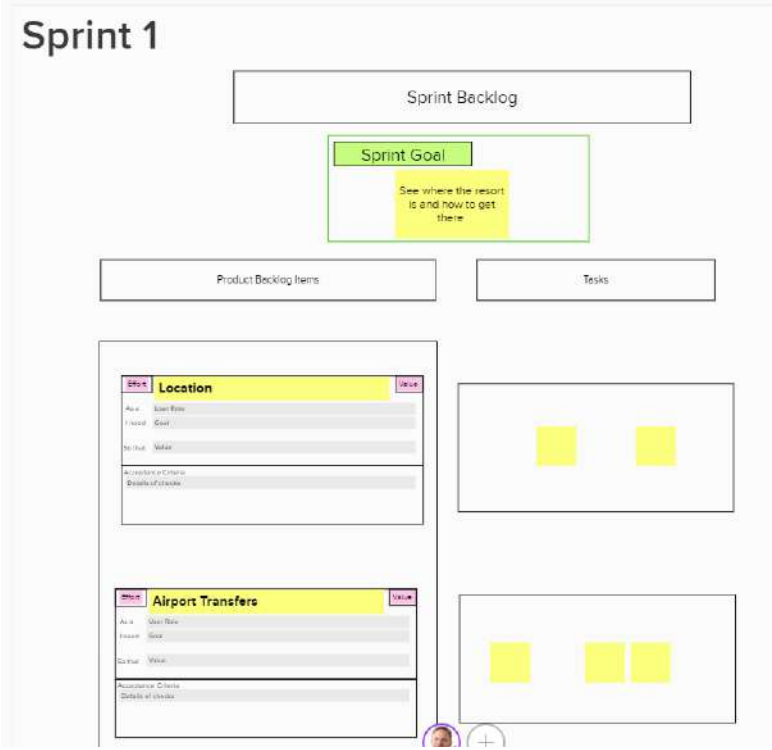
- Setting a definition of done And discussing the properties of a shared development environment and the importance of access of all team members

Exercise

- Plan Your Sprint
- Add your definition of DONE to the list



- Populate the Sprint Backlog



Sprint Planning – 10 min

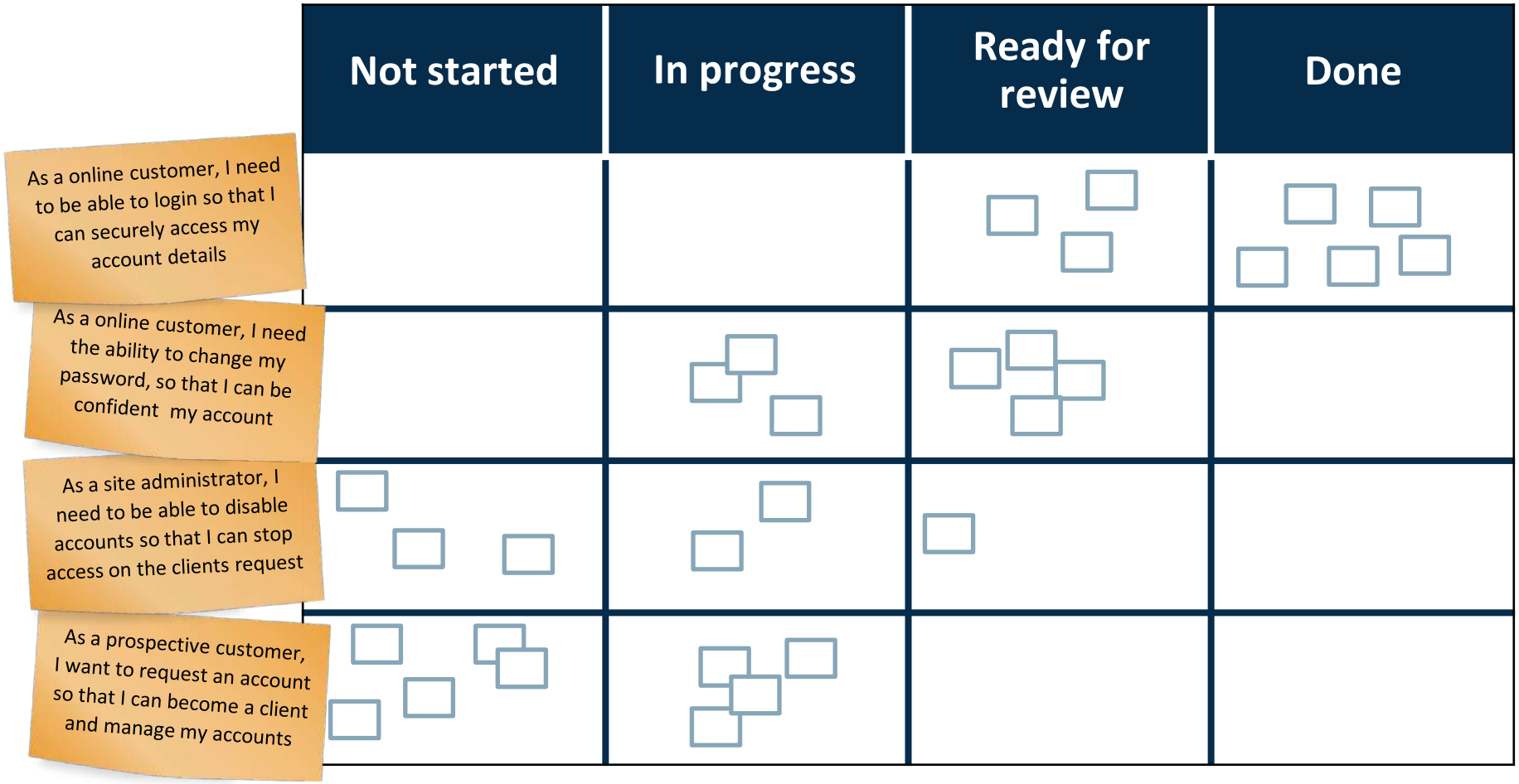
Sprint Length :
day 1 – 5 min
daily scrum – 1 min
day 2 – 5 min
daily scrum – 1 min
day 3 – 5 min

Part Two

- Setting a definition of done And discussing the properties of a shared development environment and the importance of access of all team members

Sprint Progress

The Sprint Backlog – PBI Summary view

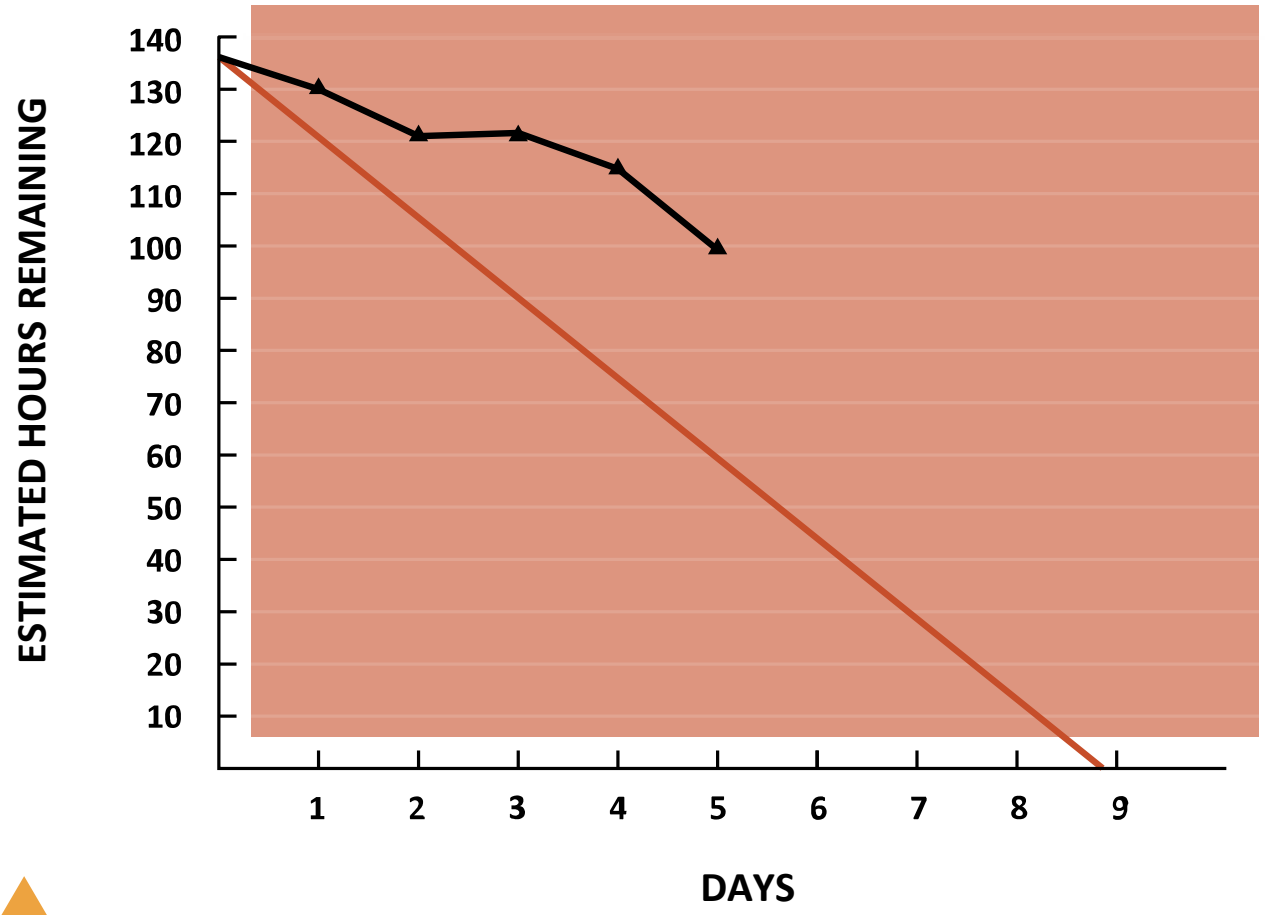


The best way to limit work in progress!

Sprint Backlog & Sprint Burndown Chart

- All tasks are estimated, estimates are the amount of **work remaining** and can go up as well as down
- The Development Team update the Sprint Backlog throughout the Sprint, they estimate the time remaining on each task through out the sprint, at least once a day (ideally immediately prior to the daily Scrum)
- A burndown chart shows how much estimated work is remaining
- Sprint Burndown Chart highlights impediments
- Is for the Development Team to judge if they will achieve the Sprint Goal

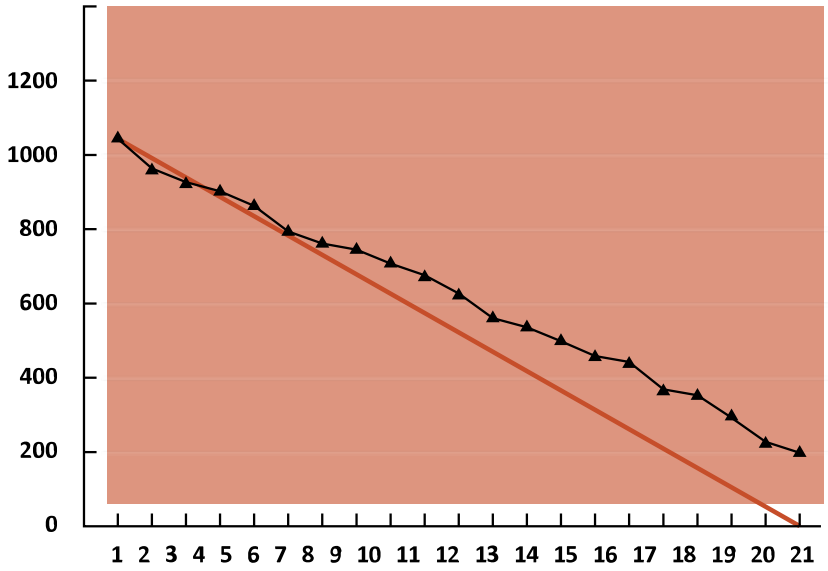
Is the team on target to meet their Sprint Goal?



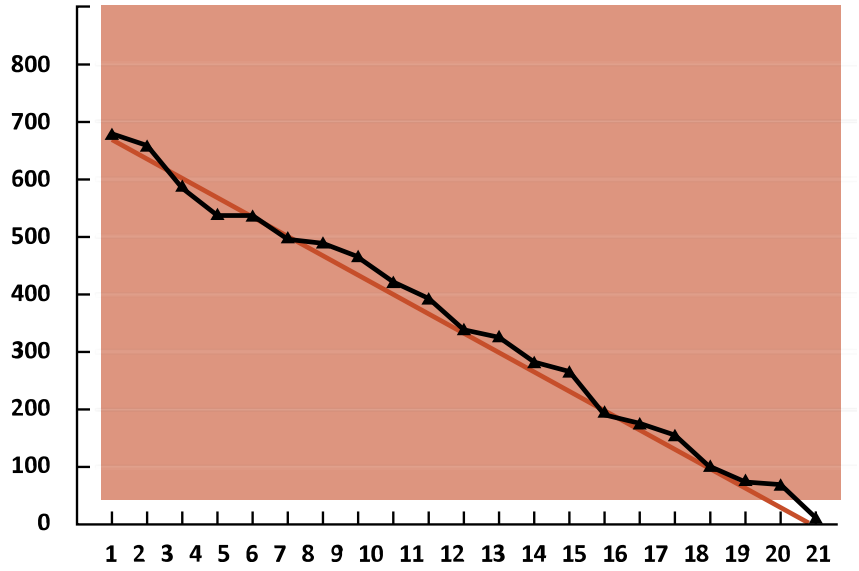
Teams Improve Over Time

This is the same Development Team over 16 sprints

Sprint 5 Burndown



Sprint 21 Burndown



Sprint Retrospective

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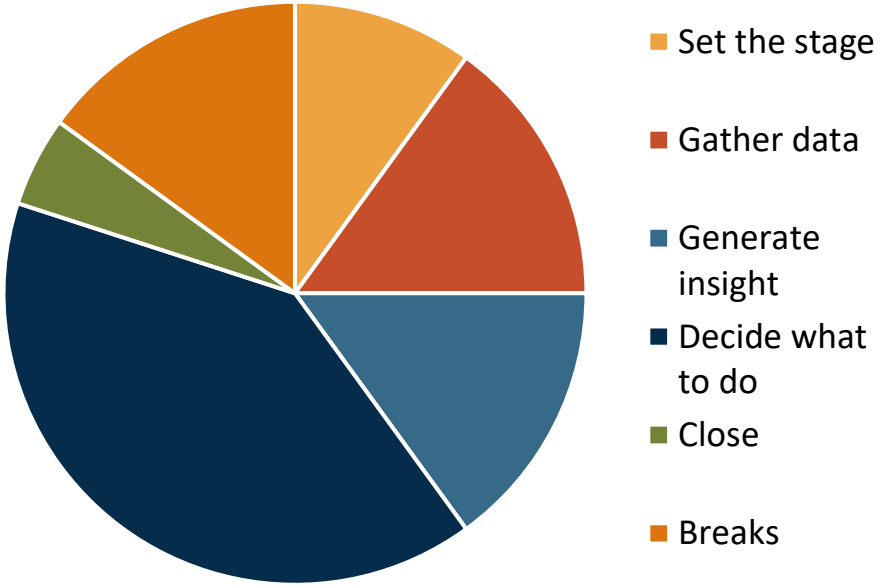
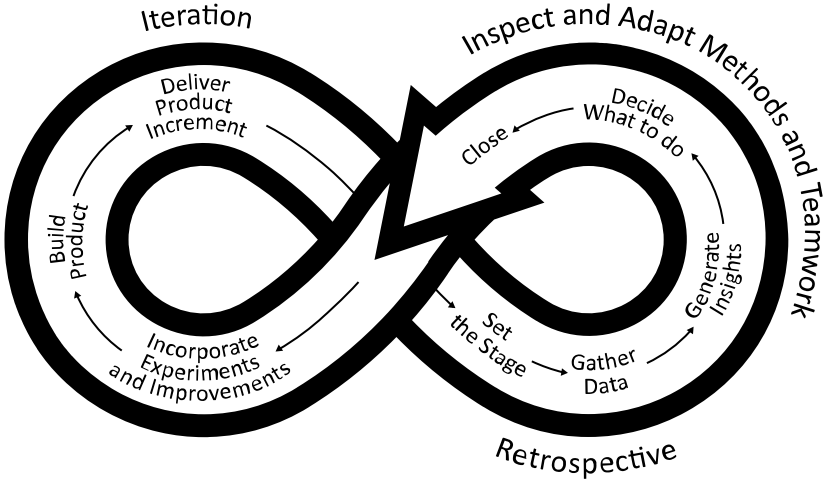
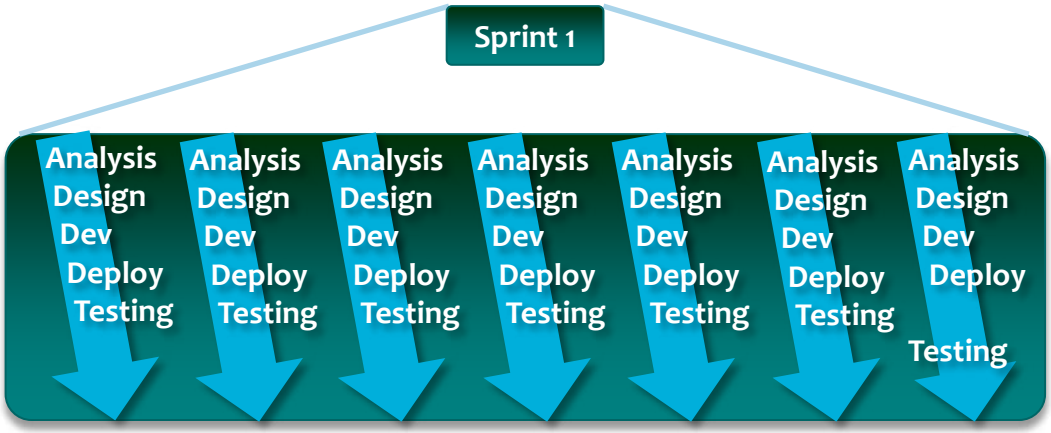
A good structure





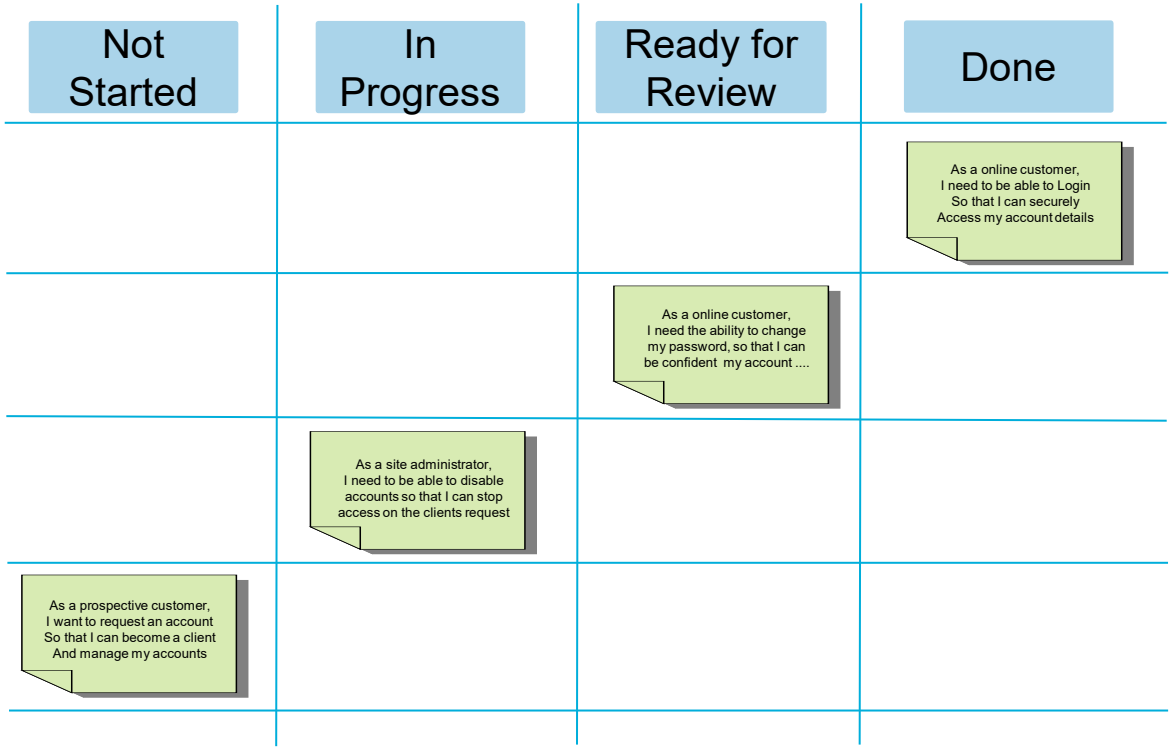
Working in the Sprint

Team Swarming



Rapid cycle – minimal testing lag

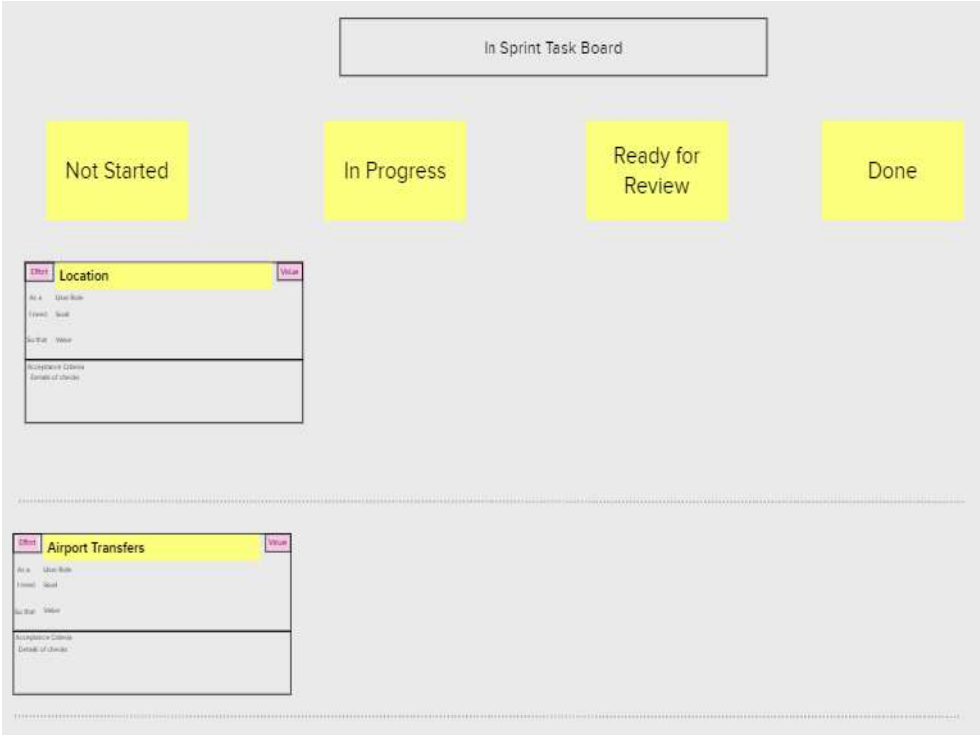
Team work together to complete Product Backlog Items



Exercise – Run your first Sprint

- **Build Sprint (19 Mins):**

- day 1 – 5 min
- daily scrum – 2 min
- day 2 – 5 min
- daily scrum – 2 min
- day 3 – 5 min
- Work in Priority Order
- Ensure your items are peer reviewed and with the PO before moving to Done



Brochure

- **Prep and Estimation**

- Intro – 5 min
- Estimation overview - 10 mins
- Estimate Product Backlog 20 mins
- prioritize backlog – 20 min
- Add conditions of satisfaction for Backlog items

Overall Sprint (50 Mins):

- Sprint Planning – 10 min

A 3 Day Sprint (20 Mins):

- day 1 – 5 min
- daily scrum – 2 min
- day 2 – 5 min
- daily scrum – 2 min
- day 3 – 5 min

- **Review and Retro**

- Sprint Review Overview
- Your **Sprint Review– 10 min**
- Retrospective Overview
- Your **Retrospective – 10 mins**

Sprint Review

Sprint Review

Demonstrate what was achieved in the Sprint and collect feedback

- The Development Team presents, not the Scrum Master
  - Demonstration of Product Backlog Items completed
  - DO NOT Demonstrate Product Backlog Items not **DONE**
- Informal
  - No more than 2 hours prep
  - Avoid slides
- Whole Scrum Team participates
- PO invites key stakeholders

Sprint Retrospective

Sprint Retrospective

An opportunity to explore what is and what isn't working

- Development Team and Product Owner participate
  - Usually facilitated by the ScrumMaster or and external facilitator

- Inspect how the last sprint went with regards to people, relationships, process and tools
- Create a plan for implementing improvements

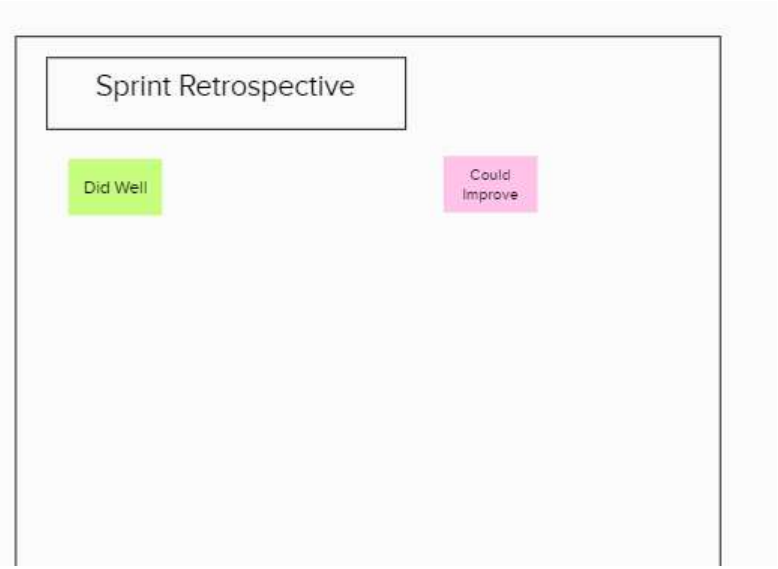
Exercise

- Facilitate your own retrospective

- What did you do well ?
- What could you improve on?

- What one or two changes do you want to take into next sprint?

- You have 10 Minutes



Thank you

Scrum Master Examination

Formazione

At the end of the course there is an exam!

- 50 simple, multiple choice questions
- 40 minutes
- Closed book
- Pass mark: 37 marks out of 50 (74%)