



BruteForce Solutions Inc.
creating path for success...

Development Methodology

Development Model



Development Model



Requirement

Design

Build

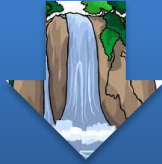
Testing

Deploy

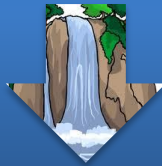




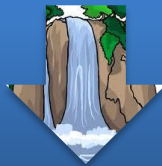
Waterfall



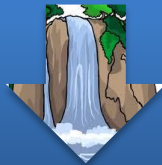
Requirement Analysis



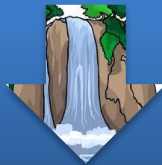
Design



Coding/ Build



Testing



Deployment

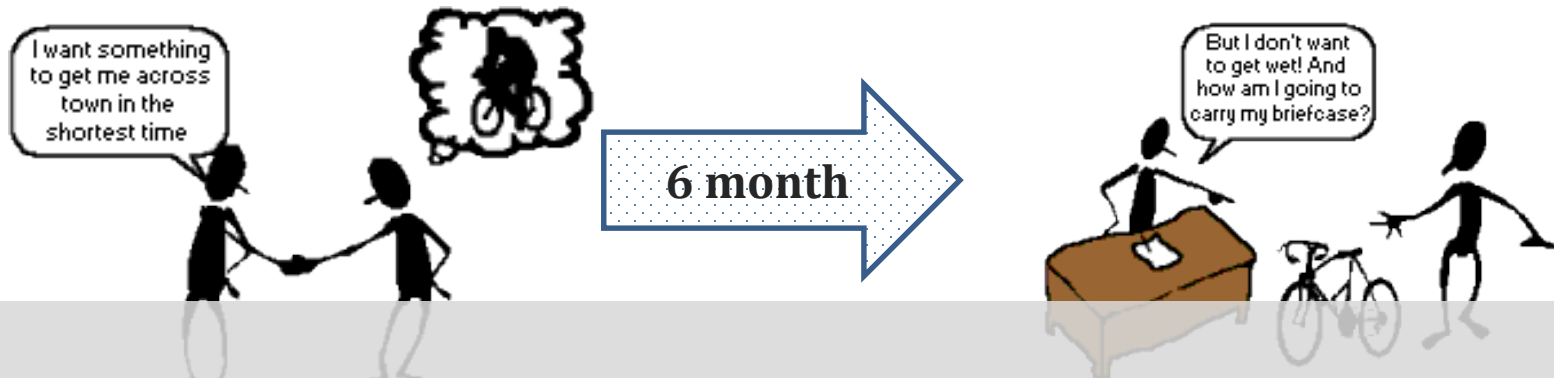


What could be possible benefits in waterfall Model?

What are the disadvantage of waterfall Model?



Problem with Waterfall



Waterfall is not compatible with requirement change

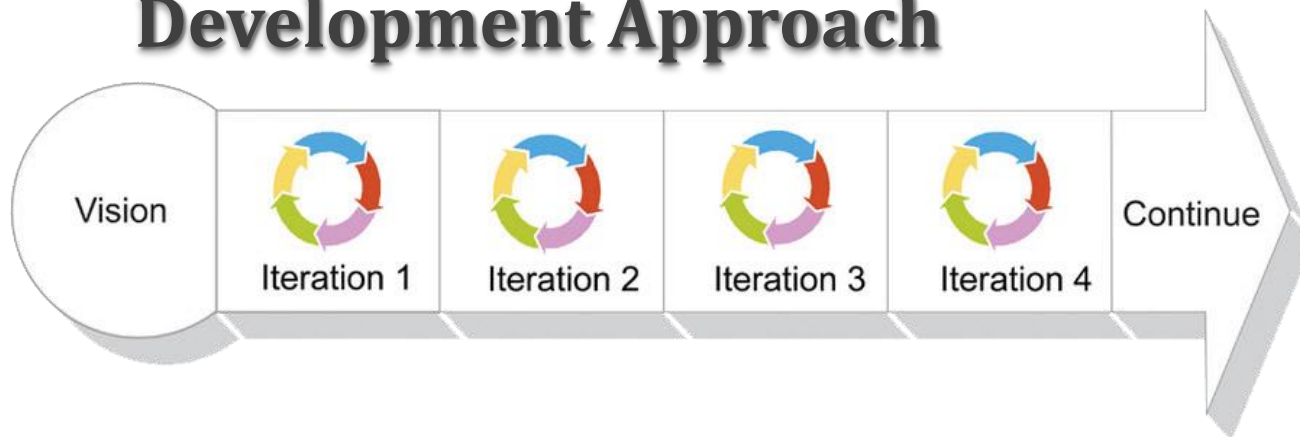




Requirement	Design	Build	Testing	Deploy
Requirement	Design	Build	Testing	Deploy
Requirement	Design	Build	Testing	Deploy
Requirement	Design	Build	Testing	Deploy
Requirement	Design	Build	Testing	Deploy



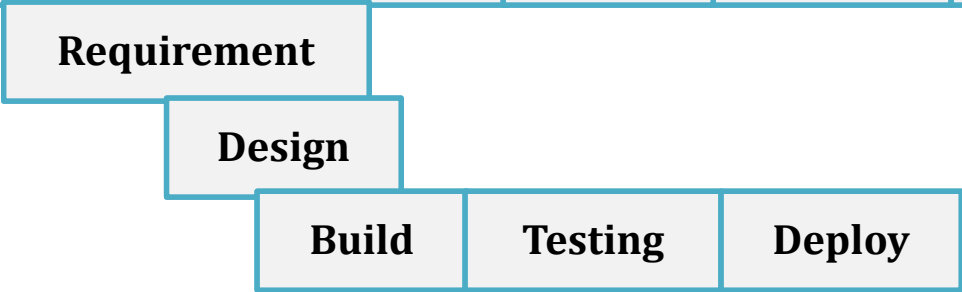
Iterative Development Approach

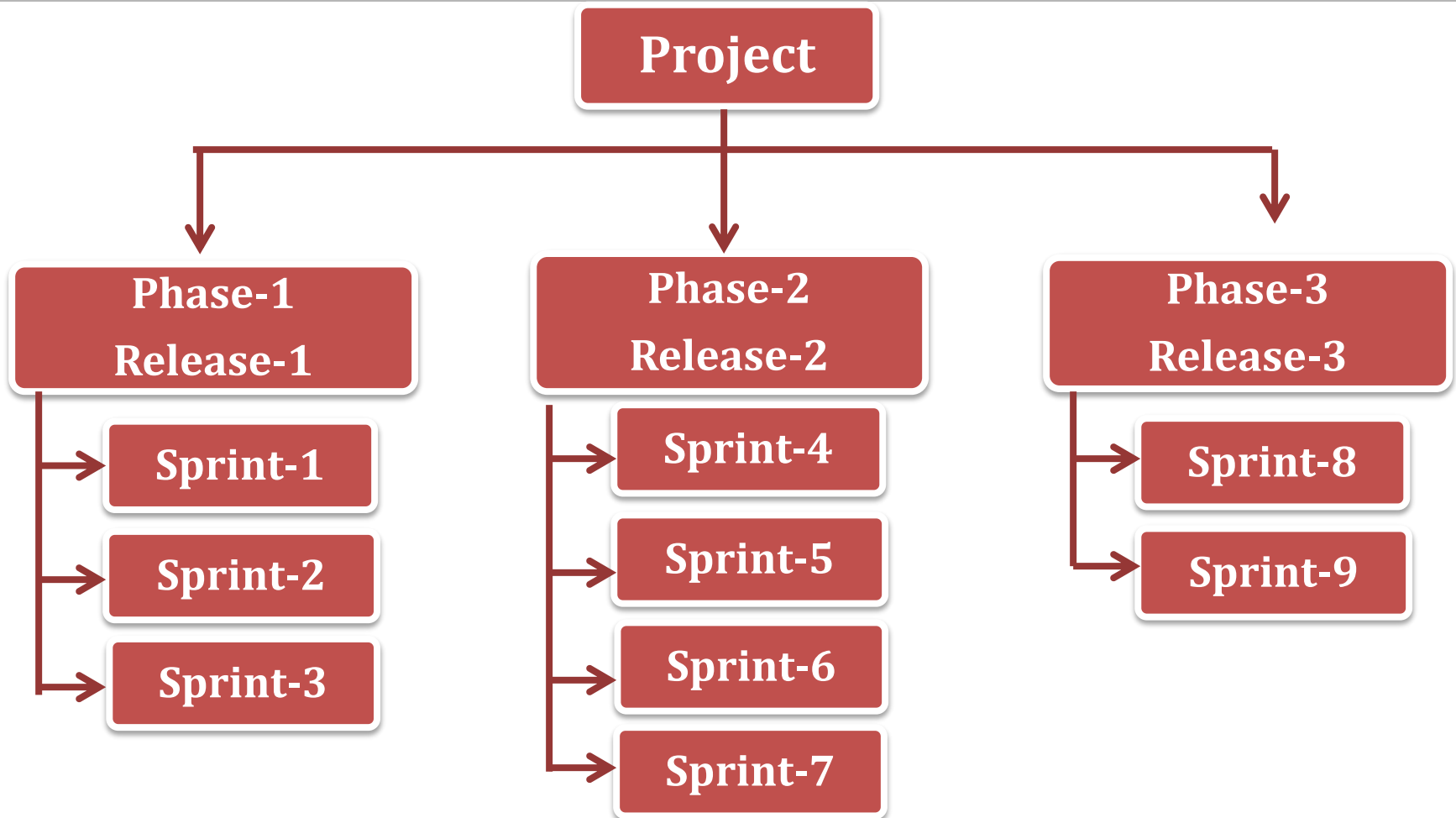


Development Model










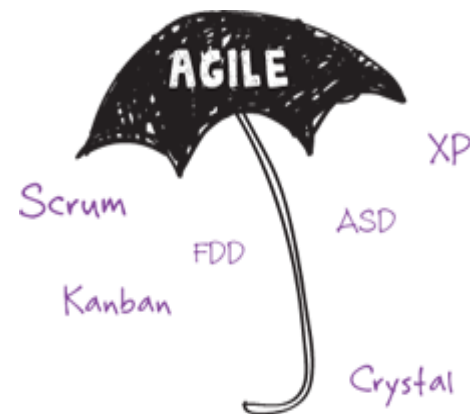
Requirement	Design	Build	Testing	Deploy
Requirement	Design	Build	Testing	Deploy
Requirement	Design	Build	Agile Development Approach	Deploy
Requirement	Design	Build		Deploy
Requirement	Design	Build	Testing	Deploy





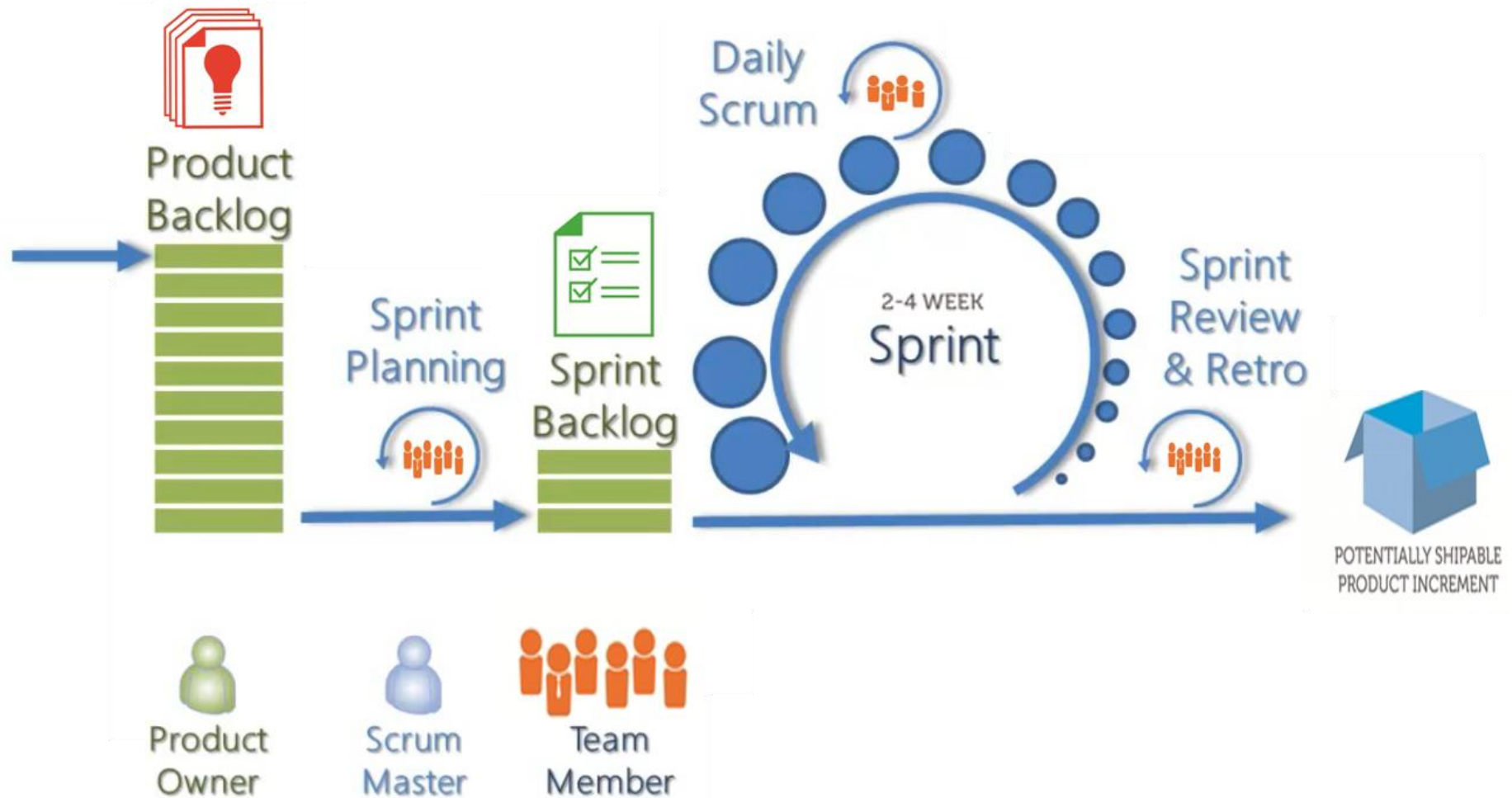
Different Agile Models:

-  **Scrum**
-  Adaptive Software Development (ASD)
-  Agile Unified Process (AUP)
-  Crystal Clear Methods (Crystal Clear)
-  Extreme Programming (XP)
-  Feature Driven Development (FDD)
-  Kanban



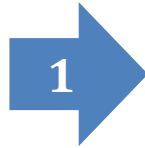
Why Scrum is Popular?

Scrum is a lightweight agile project management framework with broad applicability for managing and controlling iterative and incremental projects of all types





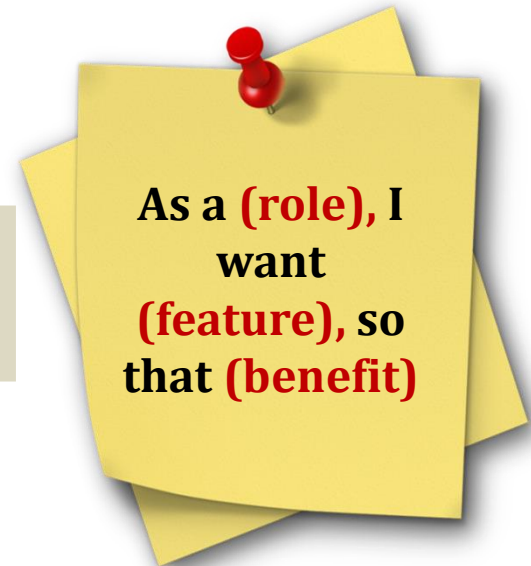
Product want to build



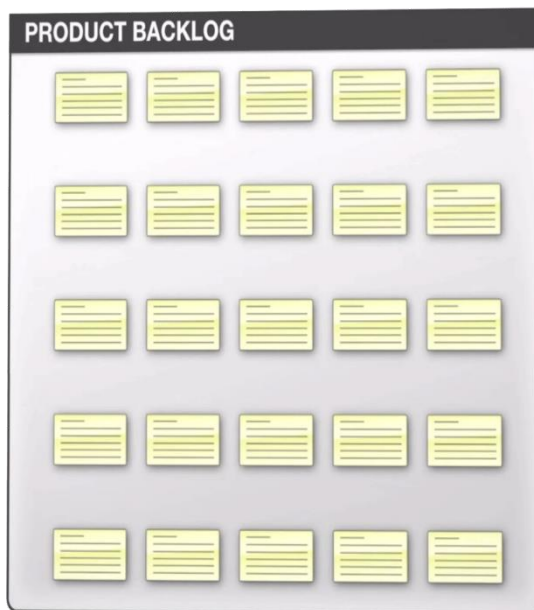
You have great idea/vision

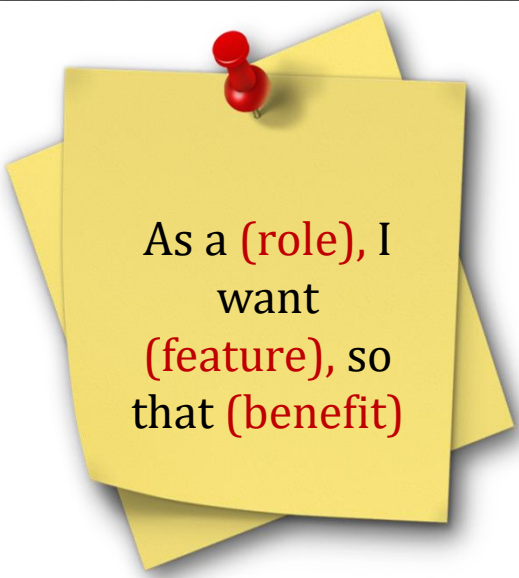


In Scrum
features/Requirements
written from the
perspective of end
users which is known
as **Story**



The collection of the all
stories is known as Product
Backlog







As a (role), I
want
(feature), so
that (benefit)

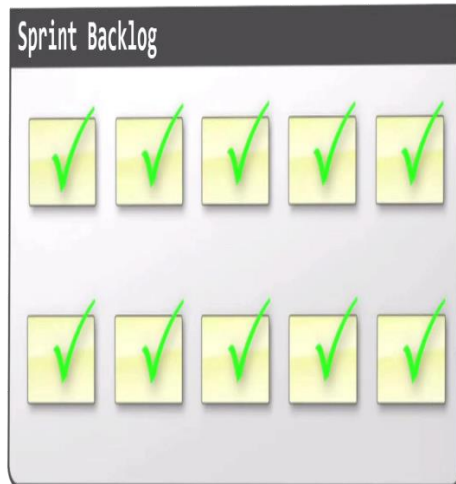
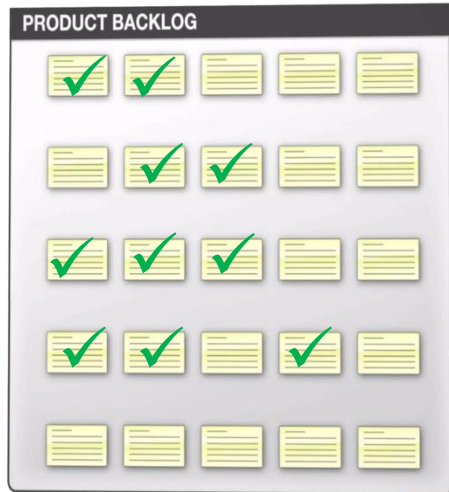


As a Facebook
User I want to
upload my
picture so that
its visible to my
friends

-  Story is nothing but Business Requirements.
-  The structure of a story is: "As a <user type> I want to <do some action> so that <desired result>"



Product Backlog vs Sprint Backlog

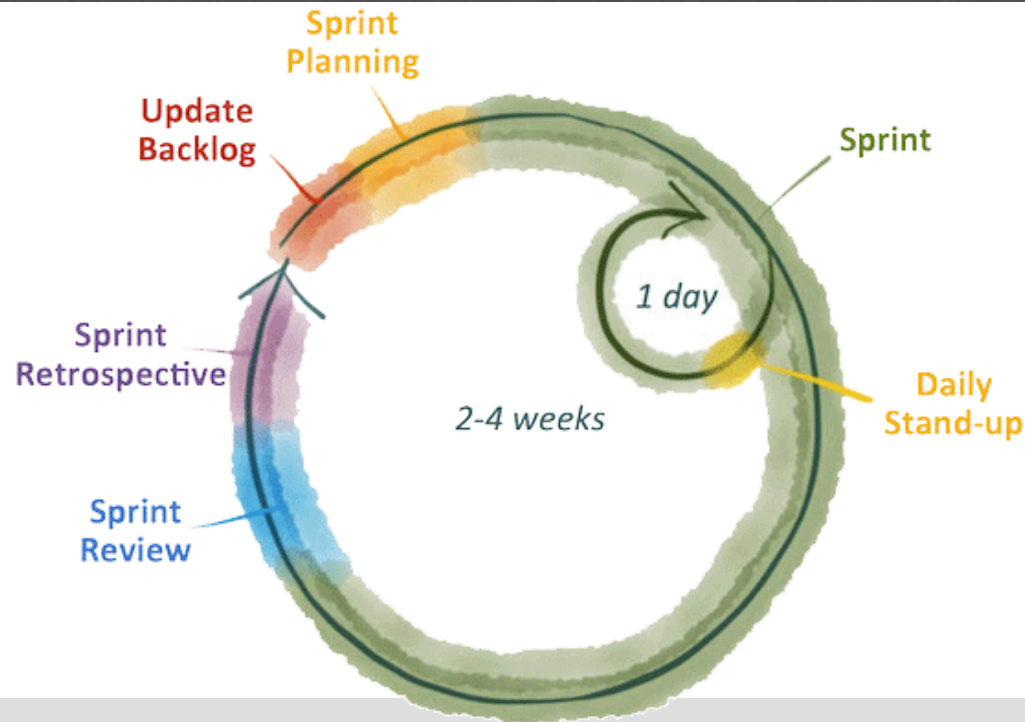


Product Backlog

- ❏ The collection of all stories is known as Product Backlog.
- ❏ Product Backlog contains the stories on what scrum team will work on at some point in the future

Sprint Backlog

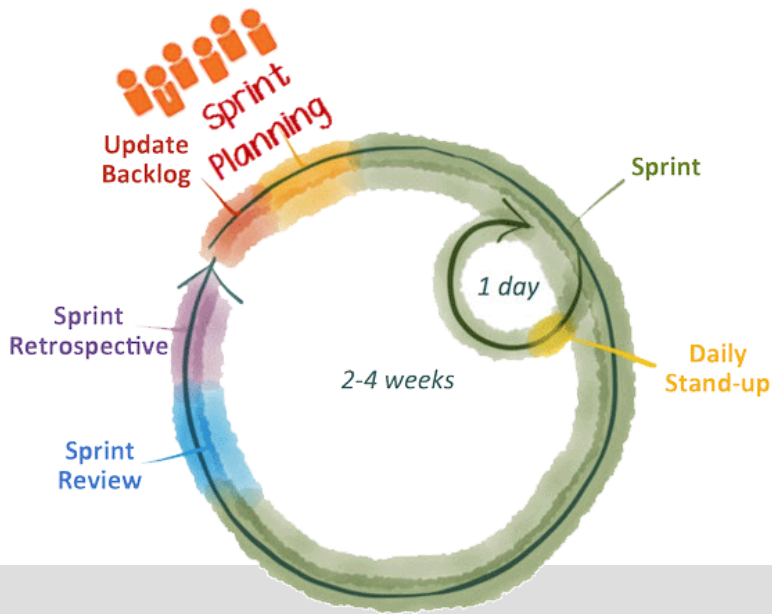
- ❏ The sprint backlog is the list of stories on which scrum team is going to complete in current Sprint



- ❑ A sprint and iteration is basically the same thing!
- ❑ It's a time boxed period of work – generally 2-4 weeks
- ❑ The output is “potentially” shippable software
- ❑ The team themselves must agree on the scope of the sprint
- ❑ The scope is locked-down once the sprint begins



Sprint Planning Meeting



- At the beginning of the sprint cycle (every 3 weeks), a “Sprint Planning/Analysis Meeting” is held.
- Select what work needs to be done(Define Scope)
- Resource Allocation
- Identify and communicate how much of the work is likely to be done during the current sprint
- Team review all Sprint Backlog stories which known as grooming.

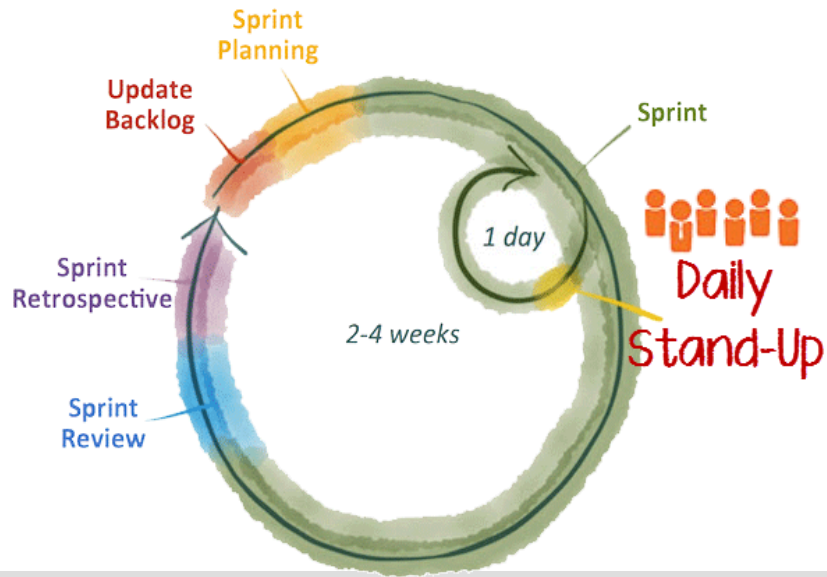


War Room

1. Even when the team is at the same location, sending e-mails for each small detail and then waiting for the reply is time consuming
2. It's the easiest way to see EVERYONE related to project in one room
3. Asking a question is as simple as waving at someone.
4. Everyone can see the Project Wall
5. Product Owner or Scrum Master is available when ever needed
6. Everyone can see the Current Stories running and also see the Cards



Daily Stand-up

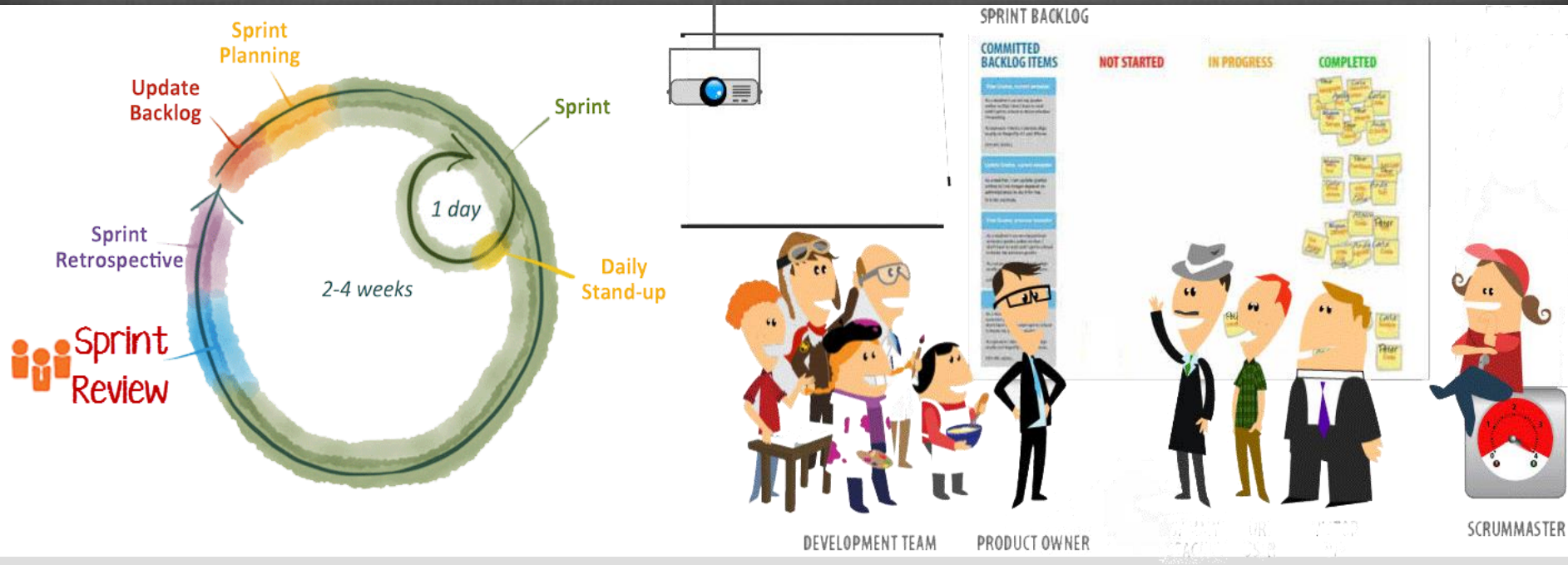


Its a daily meeting where the Scrum Development Team members spend approximately 15 minutes reporting to each other. Each team member summarizes :

- 📦 What did you do since last daily scrum
- 📦 What will you do until the next one
- 📦 What impediments/Obstacle you faces



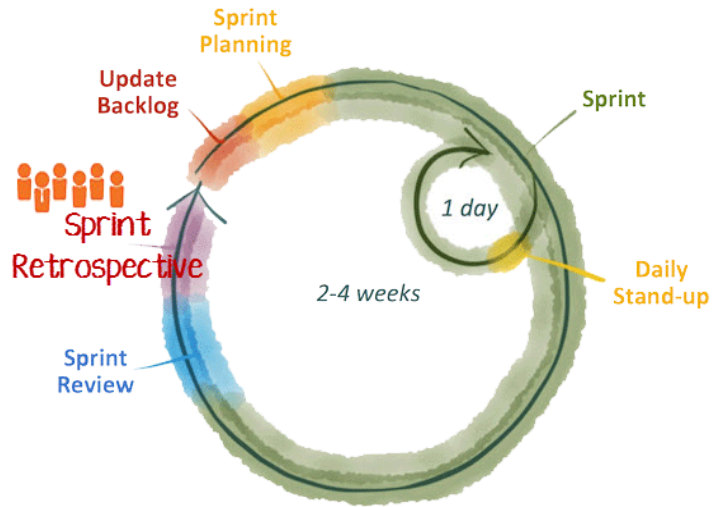
Sprint Review/ Showcase







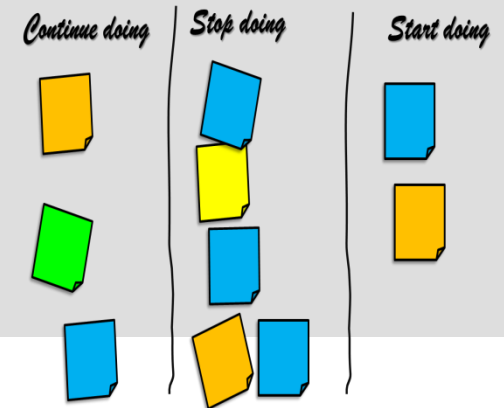
- Review the work that was completed and not completed
- Present the completed Sprint work to the Stakeholder
- Take early feedback and reduce the last minute surprises.
- It's also done to find out if the product development team is building the right product



Sprint Retrospective

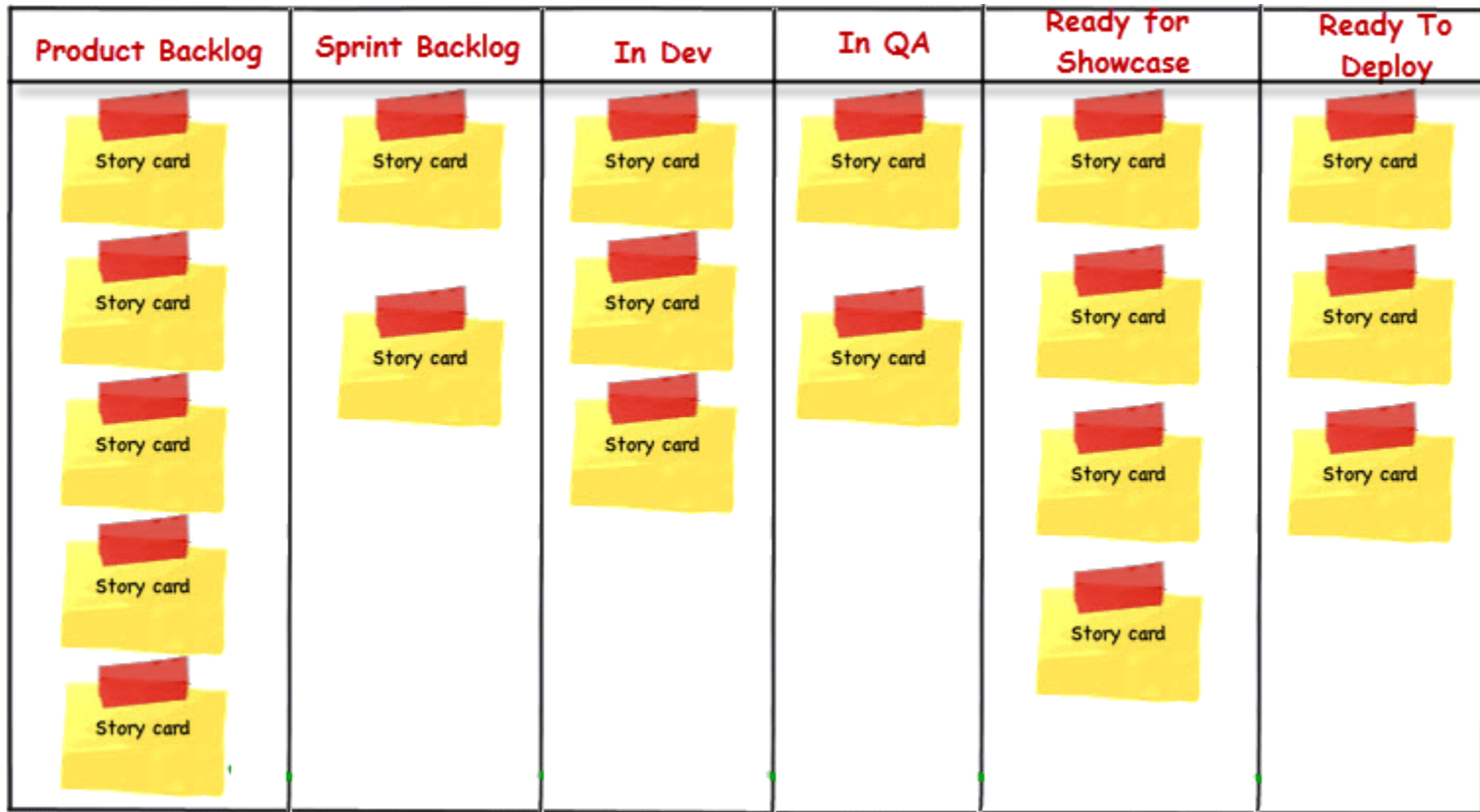


-  To keep improving, each sprint ends with a retrospective.
-  What worked well for us?
-  What did not work well for us?
-  What actions can we take to improve our process?





Project Wall



 Agile Project Wall is big visible chart which shows the progress of the project status

Project Wall/Agile Wall



Agile Project Wall is big visible chart which shows the progress of the project status



BruteForce Solutions Inc.



Project Wall



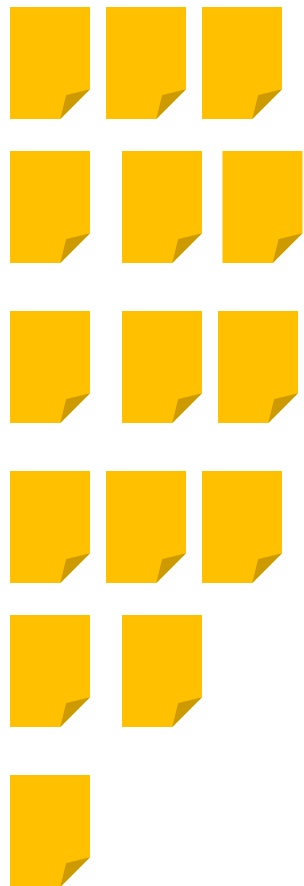
**Sprint
Backlog**

In Dev

In QA

**Ready for
Showcase**

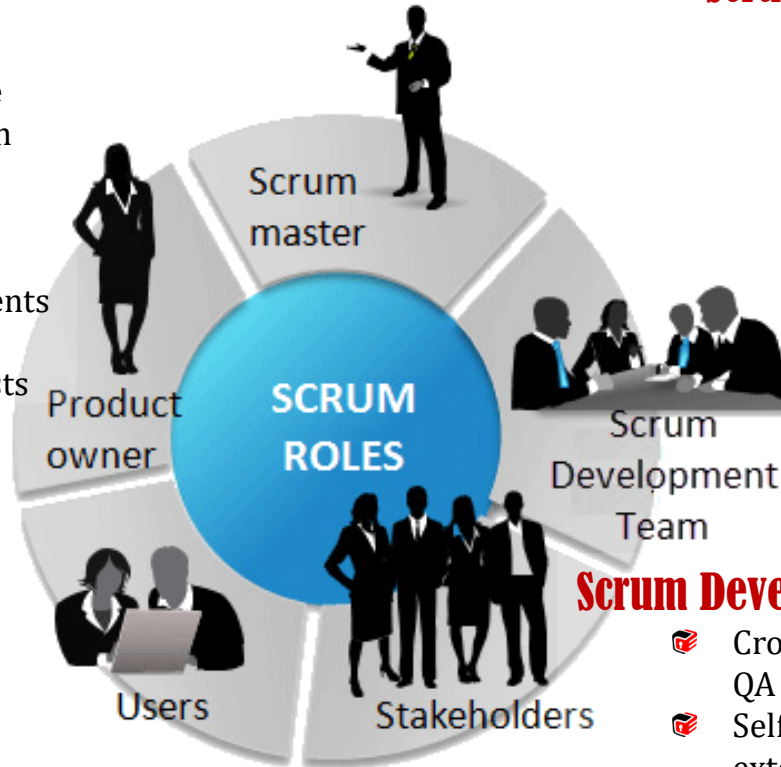
**Ready To
Deploy**





Product Owner:

- Team Leader
- Sets direction, goals, guidance
- Responsible for product vision
- Constantly re-prioritizes the Product Backlog, adjusting release plans
- Point of contact for requirements questions
- Considers stakeholder interests
- Decides whether to deploy



Scrum Master:

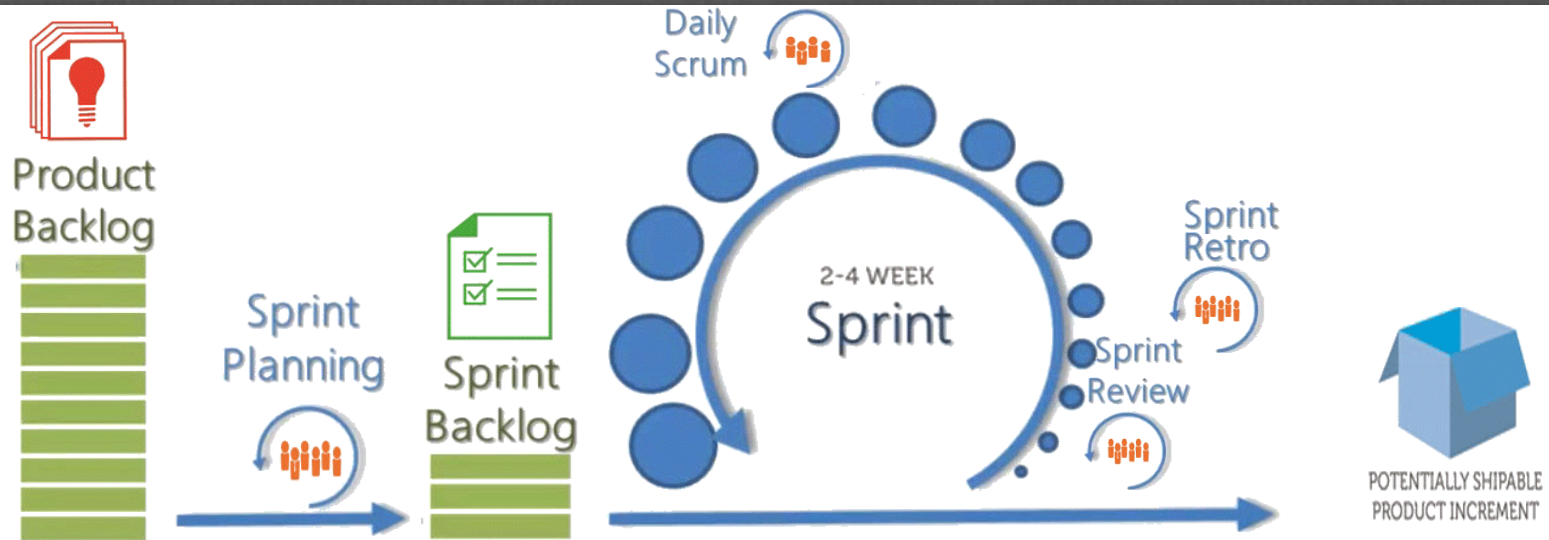
- Facilitates the Scrum process
- Helps to resolve impediments
- Captures empirical data to adjust forecasts
- Keeps Scrum artifacts visible
- Has no management authority over the team

Scrum Development Team:

- Cross-functional (includes BA, Programmer, QA etc.)
- Self-organizing / self-managing, without externally assigned roles
- Negotiates commitments with the Product Owner, one Sprint at a time
- Collaborative
- Most successful when located in one team room known as War Room
- 7 ± 2 members



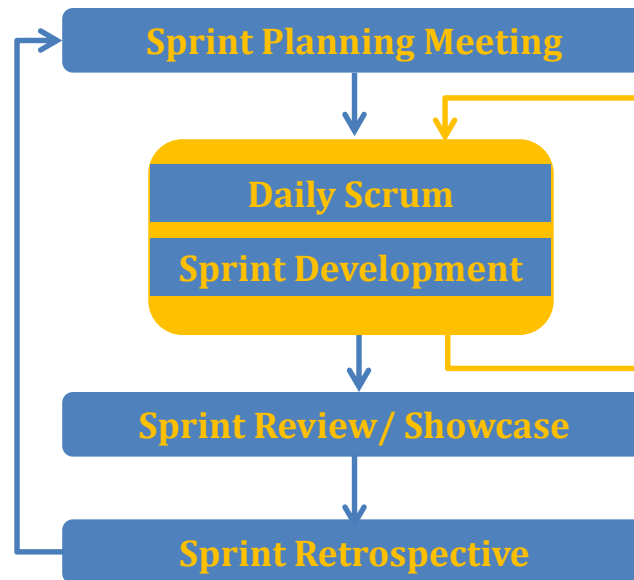
Scrum Overview



Scrum Team



Scrum Meetings



QA Involvements





Summary of Key Concept



- ❏ There are many Software Development Methodologies exist, few of them are: Waterfall, Iterative, V-Model, Agile and TDD(Test Driven Development).
- ❏ Agile is a time boxed, iterative approach to software delivery that builds software incrementally from the start of the project, instead of trying to deliver it all at once near the end
- ❏ Waterfall is top down approach which start from requirement analysis, design, coding, testing, deployment and maintenance.
- ❏ There are many advantages and disadvantages in waterfall method, few of them are
 - ❏ **Advantages:**
 - Being a linear model, it is very simple to implement.
 - Documentation is produced at every stage of the software's development.
 - The amount of resources required to implement this model are minimal.
 - Requirements are remain static.
 - ❏ **Disadvantages:**
 - Cannot go back a step; if the design phase has gone wrong, things can get very complicated in the implementation phase
 - Time consuming.
 - Until previous phase is complete, cannot proceed to next phase.
 - Doesn't support Requirement change.
- ❏ **Iterative:** Iterative development models , where development is carried in phases , with each phase adding a functionality to the software. Each phase goes through a complete SDLC.



Summary of Key Concept



- Agile: Agile methods break tasks into small pieces (Sprint) with minimal planning. Sprints are short time frames (timeboxes) that typically last from one to four weeks. Each sprint goes through a full software development cycle. This minimizes overall risk and allows the project to adapt to changes quickly.
- A sprint and iteration is basically the same thing. It's a time boxed period of work – generally 2-4 weeks. The output is “potentially” shippable software. The team themselves must agree on the scope of the sprint. The scope is locked-down once the sprint begins.
- War room is needed when the team is at the same location, sending e-mails for each small detail and then waiting for the reply is time consuming, it's the easiest way to see EVERYONE related to project in one room. Asking a question is as simple as waving at someone. Everyone can see the Project Wall. Product Owner or Scrum Master is available when ever needed. Everyone can see the Current Stories running and also see the Cards.
- Agile Project Wall is big visible chart which shows the progress of the project status.
- Project Wall is Story holder which represents the current status of the project .
- Story is nothing but Business Requirements.
- Scrum is an agile framework for completing complex projects.



Summary of Key Concept



- ❑ Scrum Master responsible for making sure the team follows and practices of Scrum. Keep Process Moving. Also, the Scrum Master does anything possible to help the team perform at their highest level. This involves removing any impediments to progress, facilitating meetings.
- ❑ Product Owner is a team leader who collects stories from Stakeholders, Sets Direction, goals, priorities & guidance. Also he/she ensures the Team is building the right product.
- ❑ In Agile, Dev team includes Designer, Architect, Developer and QA.



Summary of Key Concept








- 📌 Sprint cycle starts with Sprint Planning meeting followed by Daily Scrum/Standup, Sprint Development, Sprint Review/Showcase and Sprint Retrospective.
- 📌 At the beginning of the sprint cycle (every 3 weeks), a “Sprint Planning/Analysis Meeting” is held. Select what work needs to be done(Define Scope),Resource Allocation, Identify and communicate how much of the work is likely to be done during the current sprint.
- 📌 In Sprint Planning Meeting QA Analyst review the Stories, provide feedback, ask question if stories are ambiguous and ensure the stories are testable.
- 📌 A stand-up meeting (or simply stand-up) is a daily team meeting held to provide a status update to the team members.
- 📌 In Stand-up generally three questions asked: What did you do since last daily scrum, What will you do until the next one, What obstacles do you have.
- 📌 In Sprint Development, Development Team (Software Architect/ Programmer/ QA) work together to build the application.
- 📌 In Sprint Development QA Analyst create test cases, execute test cases, log defects/bugs, retest fixed defects, provide signoff.
- 📌 Sprint showcase/review is present the completed Sprint work to the Stakeholder & get feedback.



Summary of Key Concept



- Product Owner conduct the Sprint review/showcase meeting and record the requirement change from stakeholders.
- Stakeholders approve /disapprove completed task in Sprint showcase meeting.
- Stakeholder review the work that was completed and not completed.
- Product Owner present the completed Sprint work to the Stakeholder, take early feedback and reduce the last minute surprises. It's also done to find out if the product development team is building the right product
- QA Analyst attend the Sprint showcase meeting and understand if there is any requirement changes.
- The sprint retrospective meeting is held at the end of every sprint after the sprint showcase/review meeting. The team and Scrum Master meet to discuss what went well and what to improve in the next sprint. The product owner does not attend this meeting.
- The scrum master writes down the team's answers in summary form in Sprint Retrospective meeting. The team prioritizes in which order it wants to talk about the potential improvements.
- In Sprint Retrospective generally three questions asked: what worked well in the sprint ,what went wrong in the sprint and how to improve in next sprint.

-  What is your involvement in Agile Process?
-  As an Automation Engineer please describe your role in Agile Process?
-  What challenges you have faced as a QA in an agile environment and how would you deal with them?
-  What was the duration of your sprint
-  What is product back log?

