WISSEN

Agile Project Management with Scrum

Resource links

- http://www.agilealliance.org/
- http://www.agilemanifesto.org/
- http://www.scrum-master.com/

Manifesto for Agile Software Development

WISSEN

- Individuals and interactions over processes and tools
- Working software over comprehensive documentation
- Customer collaboration over contract negotiation
- Responding to change over following a plan

12 Principles behind the Agile Manifesto (1)

- Our highest priority is to satisfy the customer through early and continuous delivery of valuable software
- Welcome changing requirements, even late in development. Agile processes harness change for the customer's competitive advantage
- Deliver working software frequently, from a couple of weeks to a couple of months, with a preference to the shorter timescale
- Business people and developers must work together daily throughout the project

12 Principles behind the Agile Manifesto (2)

- Build projects around motivated individuals. Give them the environment and support they need, and trust them to get the job done
- The most efficient and effective method of conveying information to and within a development team is face-to-face conversation
- Working software is the primary measure of progress
- Agile processes promote sustainable development. The sponsors, developers, and users should be able to maintain a constant pace indefinitely

12 Principles behind the Agile Manifesto (3)

- Continuous attention to technical excellence and good design enhances agility
- Simplicity--the art of maximizing the amount of work not needed--is essential
- The best architectures, requirements, and designs emerge from self-organizing teams
- At regular intervals, the team reflects on how to become more effective, then tunes and adjusts its behavior accordingly

WISSEN

Introduction of Scrum

- What is Scrum
- Scrum Pillars
- Scrum flow
- Scrum roles
- Scrum artifacts

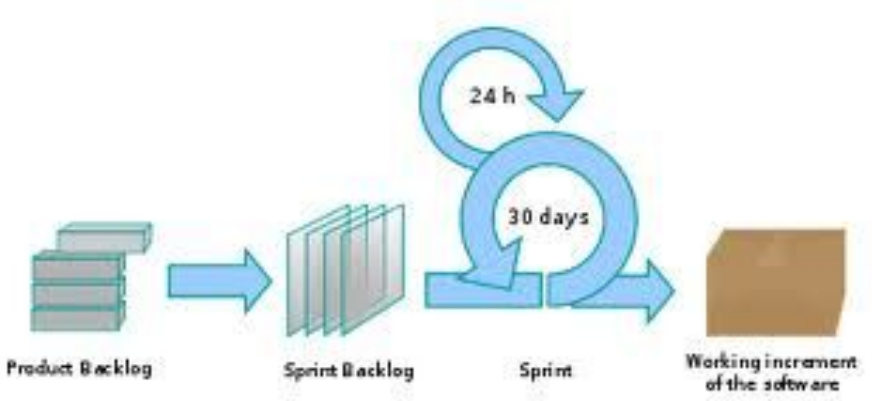
What is Scrum

- A framework to become agile
- A sustainable way of software development
- Based on Empiricism; meaning learning from mistakes

Scrum Pillars

- Transparency
- Inspection
- Adaptation

Scrum flow


24 h
30 days
Product Backlog
Sprint Backlog
Sprint
Working increment of the software

Roles

- Product owner
  - Responsible for the backlog management
- Scrum master
  - Responsible for the scrum process
    - Teaching
    - Implementing
    - Ensuring
- Developers (includes everyone working in the project except the above two roles)

Scrum Artifacts

- Product Backlog
- Sprint Backlog
- Product Increment

Product backlog

- Ever changing
- Prioritized list
- Owned by product owner

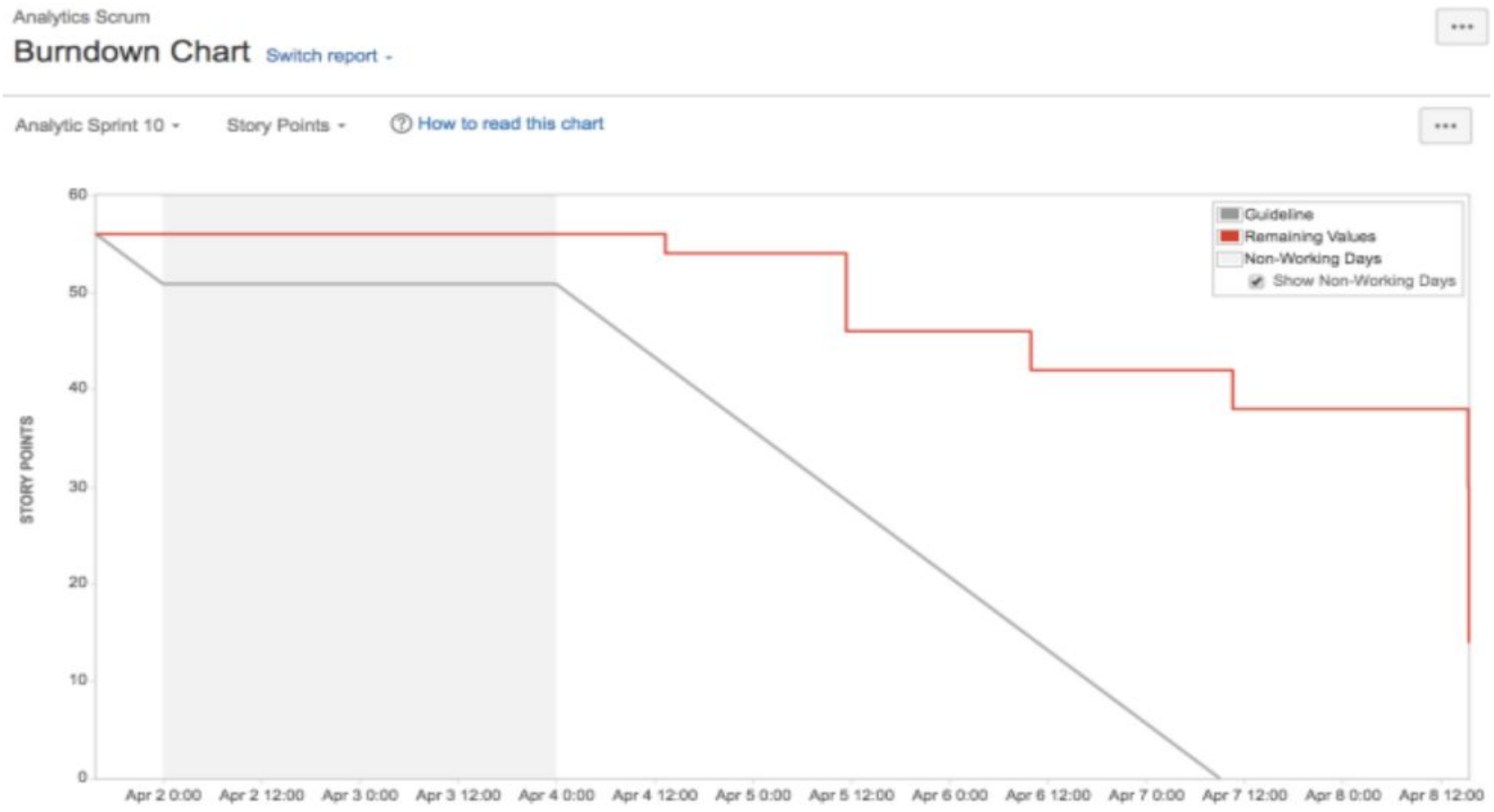
Sprint Backlog

- The sprint backlog defines the work, or tasks, that a team defines for turning the Product backlog it selects for that Spring into an increment of potentially shippable product functionality
- Task should be 4-16 hours each
- Highly visible, real-time picture of the work
- Owned by the team

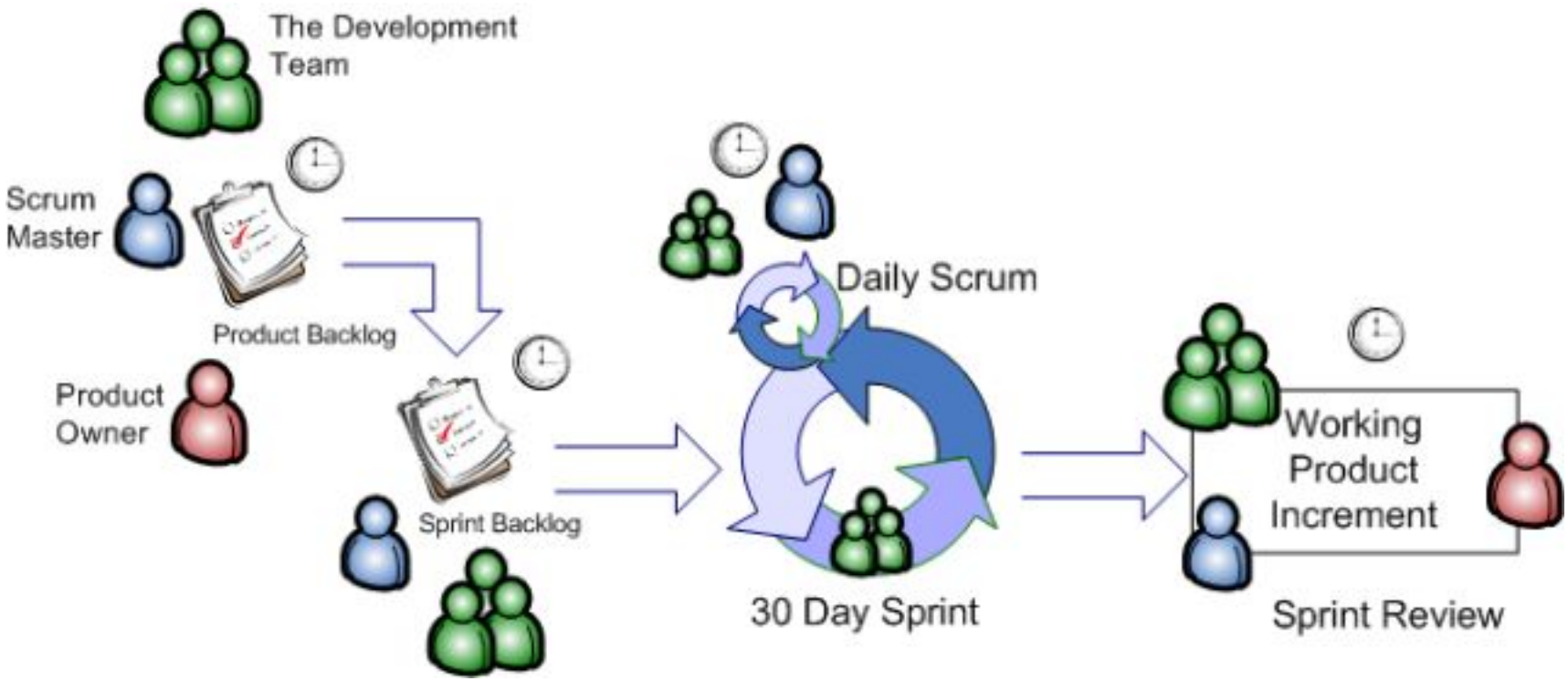
Burndown chart

- Visualize the correlation between the amount of work remaining and the progress in reducing the work
  - X: date
  - Y: hours of work remaining
- Updated according the Sprint backlog

Burndown Chart Example



Scrum roles and artifacts



Scrum Ceremonies/Meetings

- The Sprint
- Sprint Planning Meeting
- Daily Scrum Meeting
- Sprint Review Meeting
- Sprint Retrospective Meeting

Not a formal scrum ceremony but practiced

- Backlog Refinement Meeting aka Grooming Meeting

The Sprint

- Everything happens within the sprint
- Sprint is the duration of the iteration typically 2 weeks but can be between 1 to 4 weeks
- Sprint cannot be more than 30 days
- Sprint is success when an increment is delivered by the end of it

Sprint Planning Meeting

- Product owner to refine and re-prioritize the Product Backlog and to choose the goals for the next iteration in agreement with the team, usually driven by the highest business value, effort required and risk involved
- Scrum team and Product Owner meet to consider how to achieve the requests, and to create a sprint backlog of tasks to meet the goals

Daily Scrum Meeting

- Three things to talk in 5-10 minutes
  - What did I accomplish yesterday?
  - What will I do today?
  - What obstacles are heindering my progress?
- Why standup meeting?
  - Promote individual's commitment to the team
  - Promote close working relationship
  - Identify issues in timely fashion

Sprint Review Meeting

- Demo time
  - Informal
  - Anybody can attend if invited or requested
- Did the team achieve sprint goal?
- Also, a chance to adjust the backlog

Sprint Retrospective Meeting

- Find the ways to improve team's performance
  - Start doing (Improvements needed)
  - Stop doing (Things didn't go well)
  - Continue doing (Things went well; worked)
- Who can attend?
  - Team, product owner, scrum master

Backlog Refinement Meeting

- To keep the backlog clean and orderly, held as needed
- During a product backlog refinement meeting, the team and product owner discuss the top items on the product backlog. The team is given a chance to ask the questions that would normally arise during sprint planning
- A checkpoint for readiness
- Anybody can participate or only few people can participate; no obligation

Scrum Values

- Commitment
- Courage
- Focus
- Openness
- Respect

What will we do?

- Assign the Role
  - Product owner
    - One from each team (pretending)
  - Scrum Master
    - Team coordinator
  - Scrum team
    - Everyone in your team
  - Others stakeholders
    - Instructor, business, client
    - End users

What will we do?

- Artifacts
  - Product Backlog
    - Created and maintained by product owner
      - Do not change it if you are not the product owner
    - Available to the public to see
  - Spring backlog
    - Created and maintained by the team
    - Updated daily by developers
    - Available to the public
  - Burndown chart
    - Turns up automatically and keeps updating/progressing as issues are completed and time goes by

What will we do?

- Sprint Planning meeting
- Sprint duration
  - 2-3 weeks for each sprint to fit our schedule (not more than 30 days)
  - 3 sprints
- Daily Scrum meeting
  - What have you done since last meeting?
  - What will you do before the next meeting?
  - What is blocking you?
- Demo at the end of each sprint
- Grooming meeting, as needed
- Sprint retrospective meeting

What will we do?

- So what about requirement analysis and Design and deliverables/documentation?
  - Before the first sprint, do high level requirement and design
  - In each sprint, do detailed requirement and design for the features that are being implemented in that sprint
    - It is likely we need to adjust previous design, source code in later sprint. Be prepared for changes

What will we do?

- So you still do them, but incrementally
  - Start from the big picture
    - Requirement analysis
    - architecture design
    - high level class design
    - storage design
    - interface design
  - Then focus on the requirements that will be implemented in each sprint
    - Use case
    - GUI design
    - Detailed class design
    - Collaboration Design (UML diagram)
  - Then implementation the feature
    - Write the code
    - Test
    - Write User documentation

Heads-up

- You will get first hand experience about the complex working of a software project in a team
- Hopefully You will be convinced that software engineering is critical to your professional development
- You will enjoy the professional collaboration with your team mates
- You may feel some documentation are not necessary for the project that you are working on.
  - But it’s better that you and your team faithfully to take the time to do the exercises

Important Dates

- The first sprint timed-box (2 weeks/3 weeks)
  - starts Monday
  - ends Friday
- Sprint Review
  - Friday

WISSEN

Resource and Tools

- All team member: Read Scrum FAQ and read online resource that FAQ referenced
- Scum Basics
- The team coordinator is the scrum master
  - Scrum master to provide the team capacity, velocity
  - Team to identify the best estimation technique for now and evolve over time
  - Team to come up with the sprint backlog in coordination with the PO
  - Team to update JIRA daily without fail

Fun Question?

- Do we have to standup for standup meeting?

Questions?