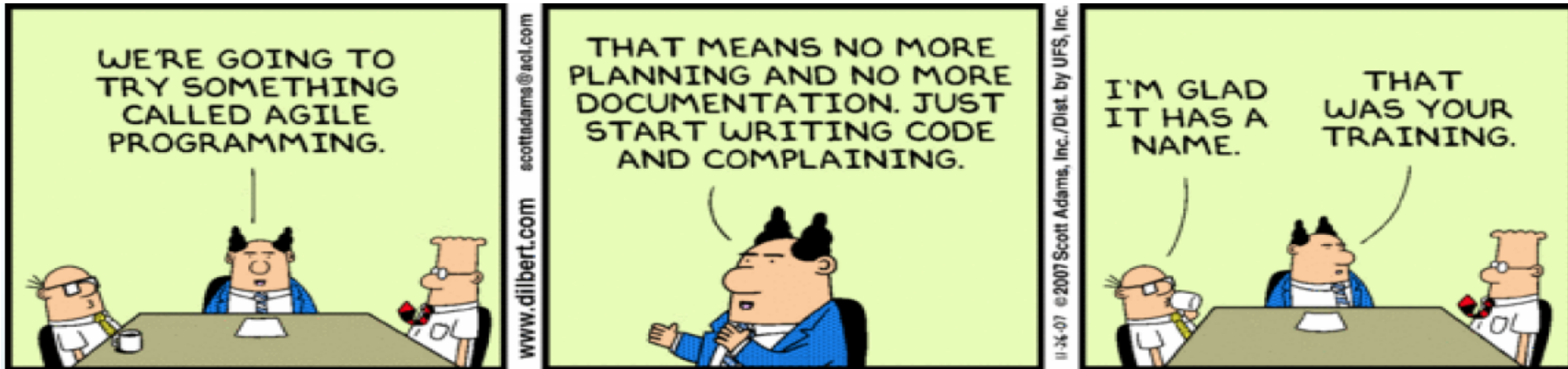




Scrum

Agile Software Development



S. Adams. *Dilbert*. Available: <http://dilbert.com>

Typical Job Ad

Utviklingsjobb i programvarehus

Vi har for tiden stor etterspørsel etter dyktige .Net utviklere.
Er genuint opptatt av programmering og har relevant erfaring ber vi deg kontakte oss.

Kvalifikasjoner:
Minimum Bachelor med vekt på programvareutvikling
Ønskelig med noen års relant erfaring - solid relevant praksis og konkret erfaring kan kompensere for utdanning

Det er ønskelig at du har god kjennskap til:
C#, .Net-rammeverk og ASP.Net
Javascript
HTML5,
SQL databaser

Smidige utviklingsprosesser (scrum etc)

Gode ferdigheter i norsk og engelsk skriftlig og muntlig er nødvendig

Søknadsfrist: Snarest

Agile methods and especially Scrum have become very popular these days!!

<http://www.digi.no/919886/atle-42-staar-bak-amazon-skyen>

amazon.com[®]



Atle Jørgensen er del av et lite utviklerteam i Sør-Afrika, som de siste 7 årene har utviklet skytjenester for Amazon. (Foto: Marius Jørgenrud)

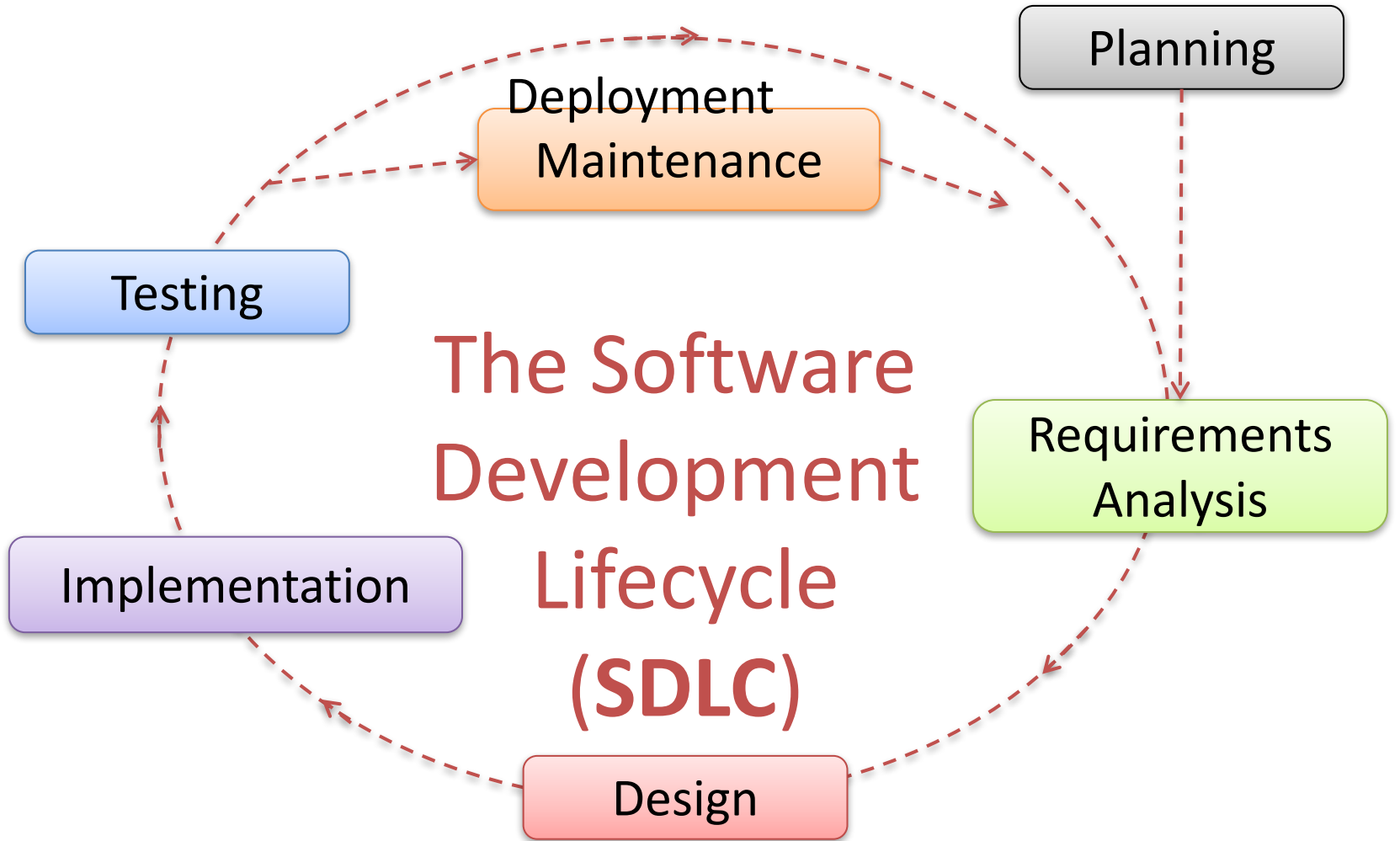


Atle (42) står bak Amazon-skyen

INTERVJUET: Fikk drømmejobben på surfetur i Sør-Afrika.

“Hvordan ser en typisk arbeidsdag ut for deg, når du ikke har fri eller surfer med barna i Sør-Afrika?”

“Det kommer an på fasen i et prosjekt. Tidlig i utviklings- eller konseptfasen er det mye møter. **Vi jobber i Scrum-prosess med daglige møter.** Senere mot leveringstid er det mye utvikling og koding. Noe som er spesielt for Amazon, som jeg ikke tror mange andre opplever, er at når du leverer et system så eier du det også operasjonelt i hele dets levetid. Å holde løsningene i drift er også noe vi bruker mye energi på.”



Traditional Plan-driven vs. Agile Software Development Processes

Traditional

Waterfall

Spiral

V-model

"Cannot" go to next phase
before previous phase is finished

Agile

Scrum

eXtreme
Programming

Lean

Kanban

TDD

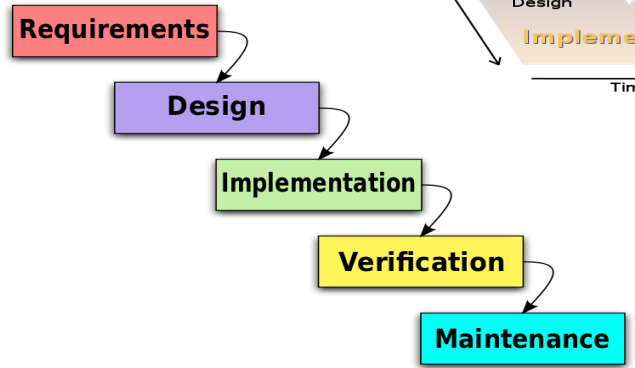
FDD

More flexible, Iterative and
Incremental Approach

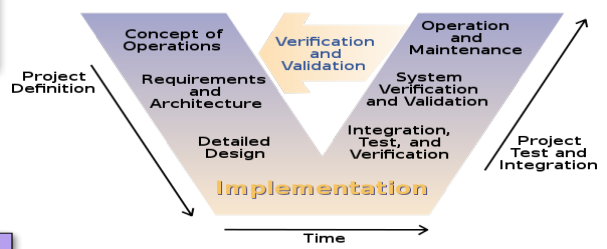
Software Development Methods

Traditional Methods

Waterfall Method

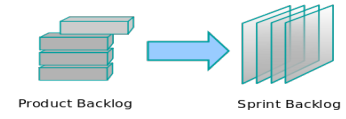


V-Model



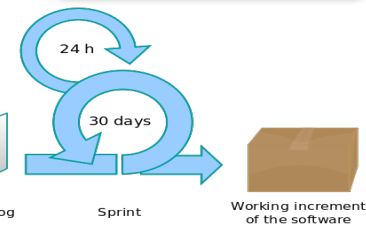
Agile Methods

eXtreme Programming (XP)



Scrum

Kanban



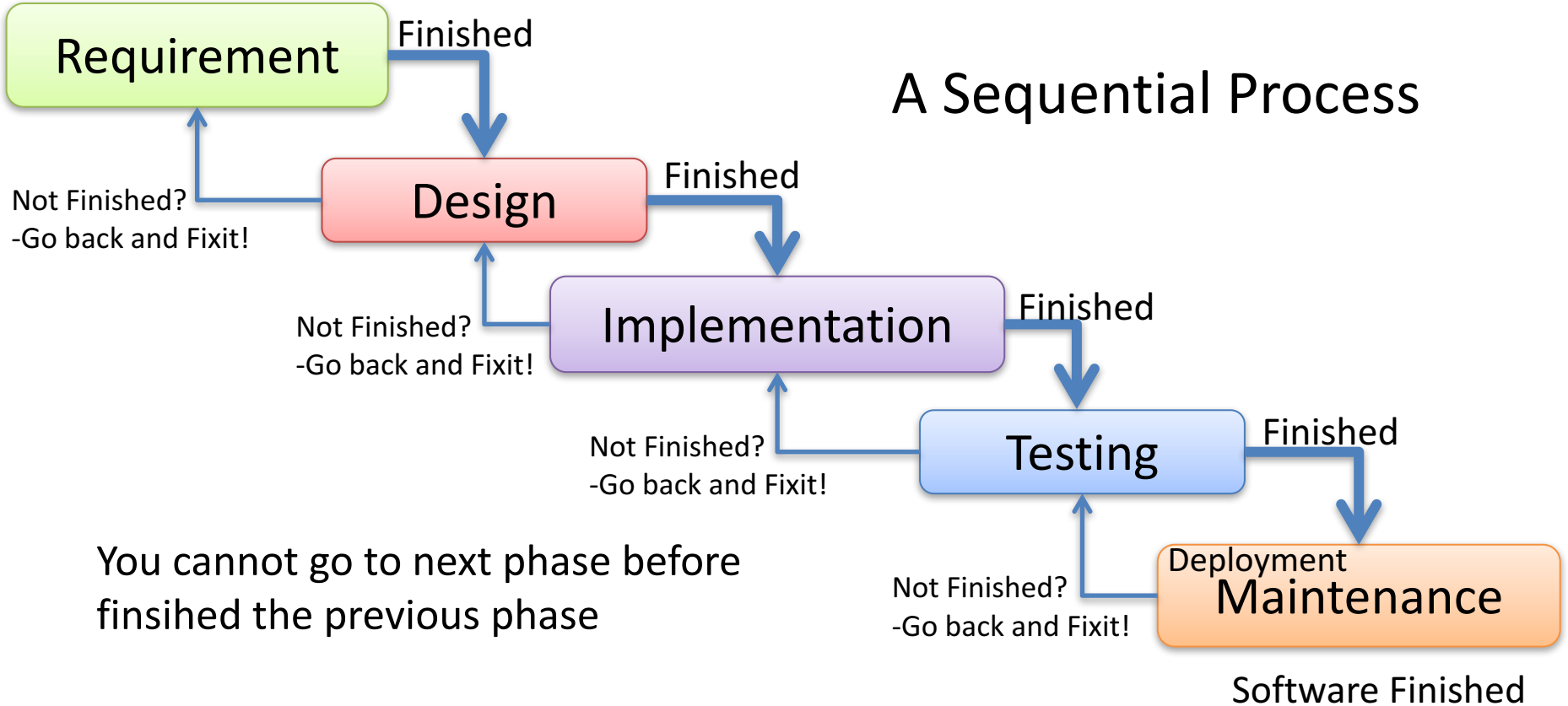
Lean Software Development

Test Driven Development (TDD)

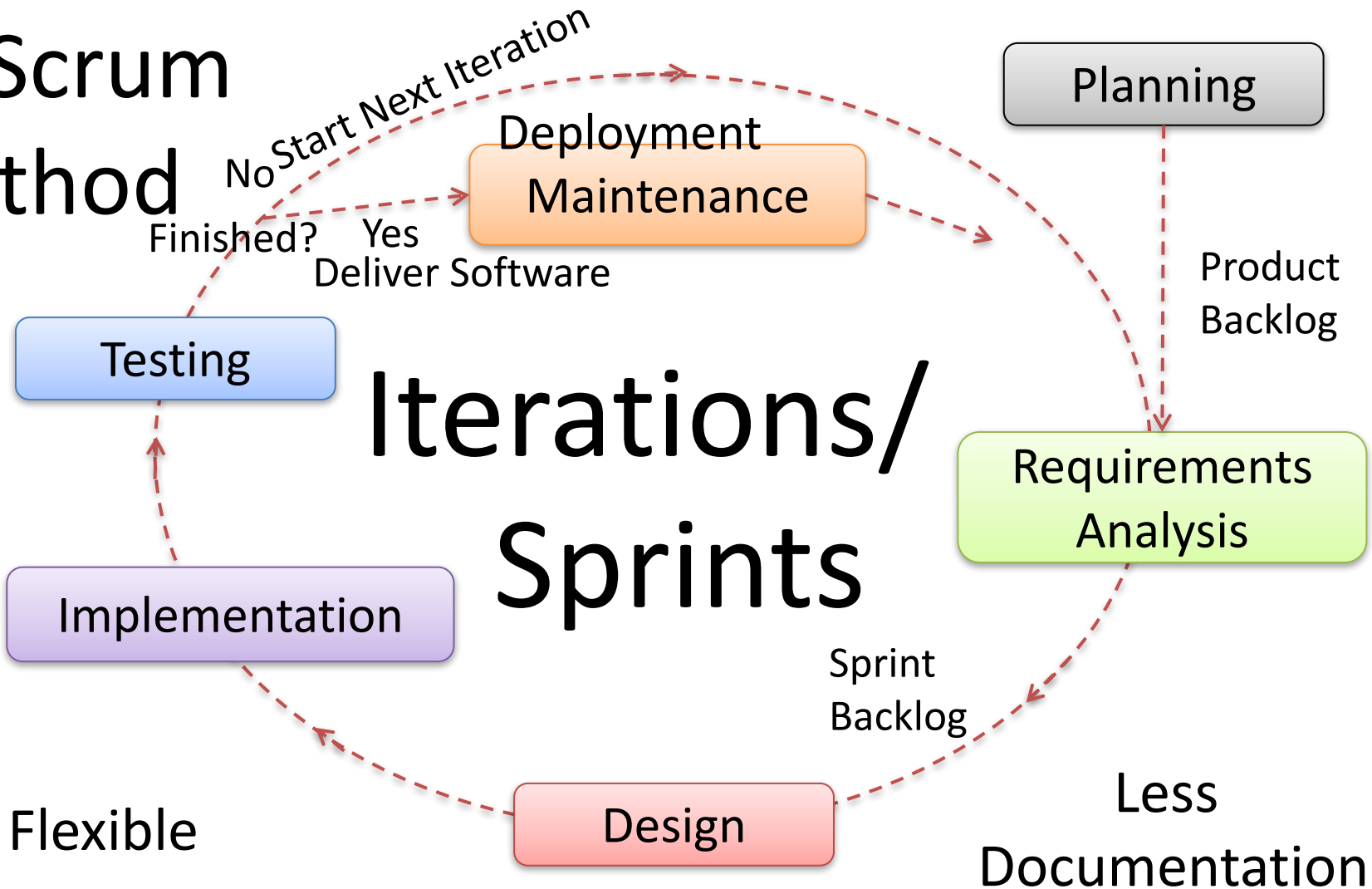
Feature Driven Development (FDD)

The Waterfall Model

Planning to create a new Software



The Scrum Method



More Flexible

Less Documentation

Agile Software Development

Iterative and Incremental Approach for Software Development

Self-organizing and cross-functional Teams



Incremental: Software available to Customers every 2-4 weeks

Working Software at all times!

Agile and Scrum, which we will test out in this course, are modern approaches for developing software.

What is Scrum?

- Scrum - a term used in Rugby football
- A Framework for Software Development
- An Agile Software Development method
- Simple to understand
- Flexible
- Extremely difficult to master!
- Self-organizing Teams (3-9 persons)
- Scrum Team:
 - Product Owner
 - Scrum Master
 - Development Team



Scrum

Scrum Members:



Stakeholders



Product Backlog



Product Owner



Scrum Master



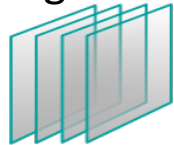
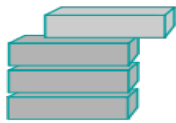
Sprint Backlog

Development Team
3-9 persons

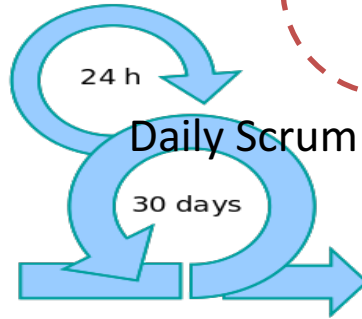
Scrum Team

Scrum Process:

Sprint Planning



Sprint Backlog



Daily Scrum Meetings. Max 15 min.

Sprint



Working increment
of the software

Sprint Review

Scrum Videos



Scrum 101 - Part 1 - <http://www.youtube.com/watch?v=aQrsVfjbQZ4>

Scrum at Microsoft (Short) – <http://youtu.be/YR84qH6d7QE>

Scrum at Microsoft (Long) - http://www.youtube.com/watch?v=-UUrLxNBK_g

Daily Scrum Meeting (Bad vs. Good Example):

http://www.youtube.com/watch?v=q_R9wQY4G5I

Daily Scrum Meeting

3 Questions:

- What did you do yesterday?
- What shall you do today?
- Any Problems?

While answering these questions the person updates the Task Board

Daily Scrum Meeting

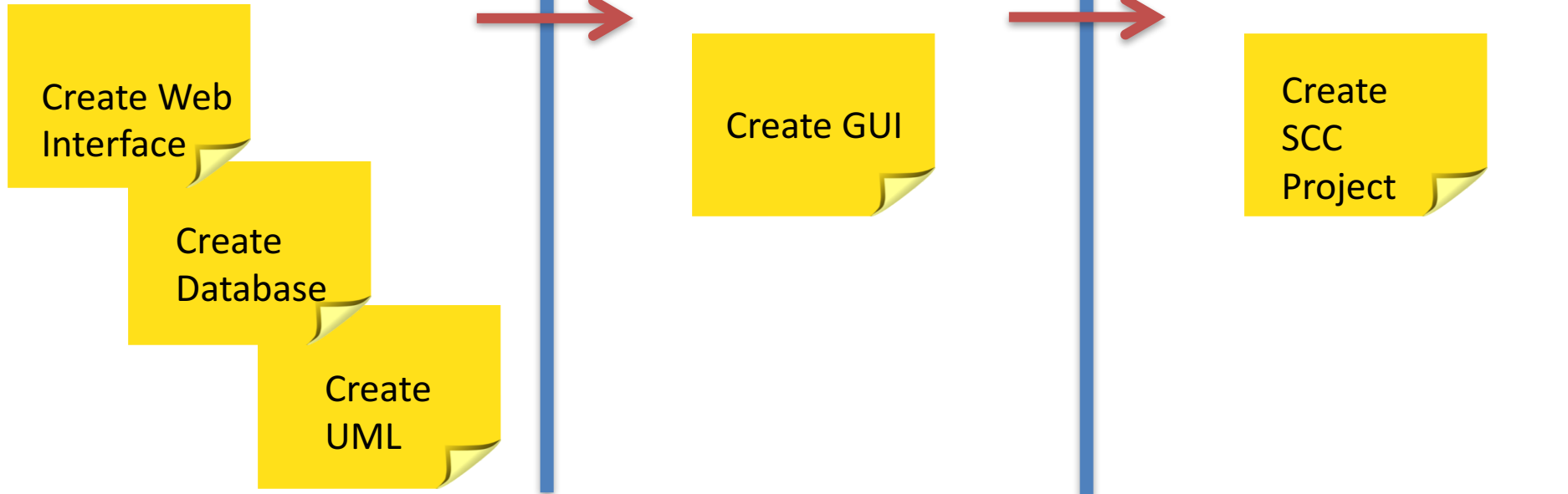
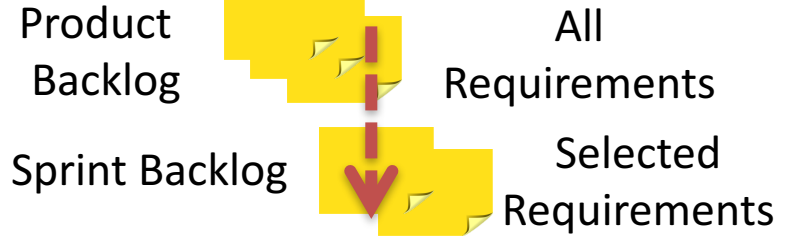


They are short (max 15 min) - and usually stand up meetings in the hallway

You Tube <https://www.youtube.com/watch?v=YR84qH6d7QE&feature=youtu.be>

Task Board

Today we can use tools like TFS, but many still use a whiteboard with sticky notes



Scrum Task Board Example

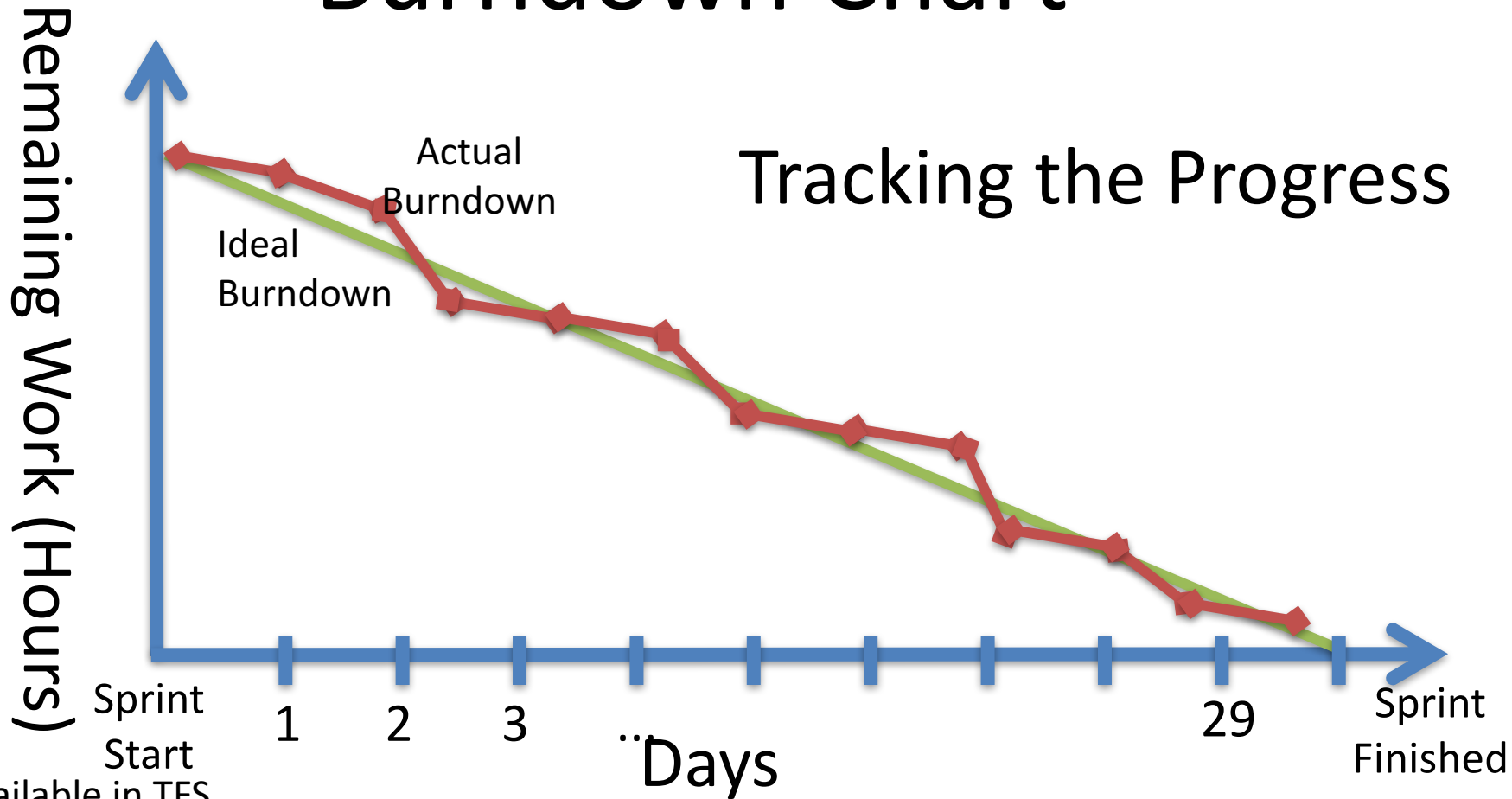
RED TEAM

DAILY SCRUM 9:30

NOT STARTED	IN PROGRESS	FINISHED
	<p>137-2302 ON HOLD IN HOLD</p> <p>135B-04 TOE APR DONE BUILT DELETED PRESENT NOT APPROVED SCHEDULE PS KGA</p>	<p>137A-2853 MTR. Connect need the 700 Barcode LTRA TOE</p>
<p>LAT and Production Tickets 4000 0</p> <p>Employment Status and Legacy Status 3000 0</p> <p>Support old PDT's 336 336</p> <p>Minor Live Blocked instance 32 2.5</p> <p>Taxipart Has check on weight 322 0.5</p>	<p>DBZ Prod PST code check in by 20/8 TFS</p> <p>STL (CASH - INVESTMENT) INVESTMENT REBASE HF Data (Account) Done</p> <p>REMOVE CONTROL FROM CTS PAGE TO ACFT</p> <p>WORKING CHECK FOR THE ISSUE ON HOLD</p> <p>PROB WORKING CONSTANTLY IN PROGRESS DONE</p>	<p>REMOVE CD From Common from PSB TOE</p> <p>SQL / OUT LARGE OR RL (SL) DUE</p> <p>LEGISLATION ANALYSIS TABLES TERRAIN TOE</p> <p>INTEGRATE + TAG + REBASE SIZ 6.00.02 (HPS)</p> <p>WRITE TICE LES IN 1.6 FORMAT</p> <p>NEW BURN CARD OUP</p> <p>FILE LES INTO BUFFER MESSAGES</p> <p>ANALYSIS COMPATIBILITY BETWEEN OLD & NEW PDT MESSAGES</p> <p>SETUP OF NEW RESOURCE</p> <p>CREATE CALL NUMBER CHECKSUM CHECKSUM</p> <p>SETUP OF NEW RESOURCE</p> <p>CREATE CALL NUMBER CHECKSUM CHECKSUM</p>
		<p>ToDo's <input type="checkbox"/> Release notes <input type="checkbox"/> Com 2 Objects <input type="checkbox"/> Gp Personal</p>
		<h3>Parking lot</h3> <p>ORB Order confs: Learn program in jboss, java mobile? EN</p> <p>PMG Use WS for getting order order info EN</p> <p>ORB Release = Complex and Data EN</p> <p>CURVES FOR LOCAL DEV (can set the value year) EN</p> <p>How/STC - up Routing Message Disc.</p> <p>ORB'S Archiving</p> <p>STZ Archiving 1 Year</p> <p>ORB/MWS Create and check for auto update deploy on code server EN</p> <p>ORB Speed up some tasks EN</p> <p>Separate unit/inte- gration tests EN</p> <p>New TFS in the jira environment EN</p>



Burndown Chart



Waterfall vs. Agile



- Agile is more flexible than traditional methods (like the waterfall)
- Agile and Scrum is based on Iterations while Waterfall is Sequential
- Agile and Scrum focus on less documentation
- Agile is good for small projects – not so good for larger projects?
- If the Customer dont know what he wants in detail – Scrum is a good approach

Daily Scrum Meeting

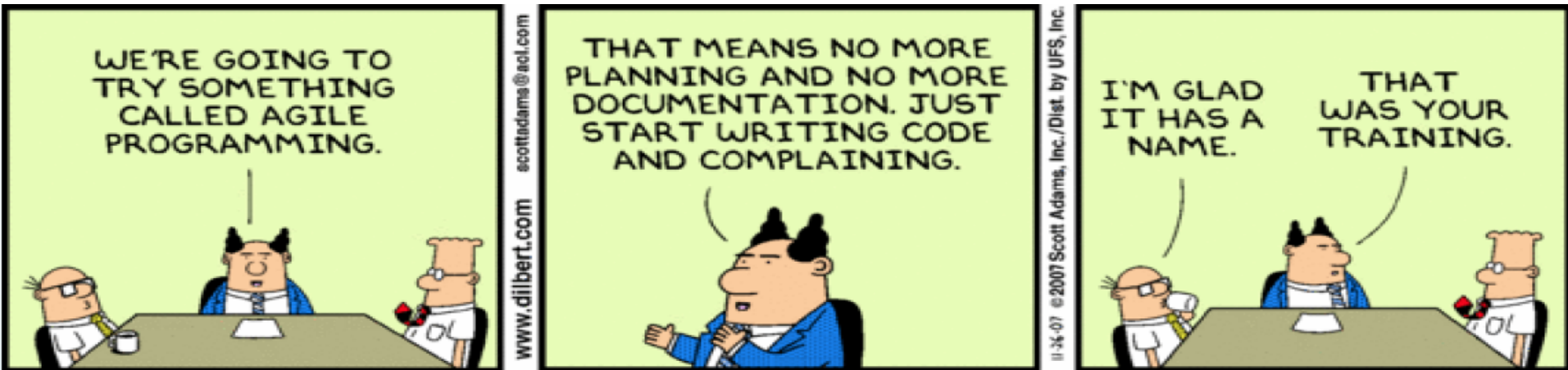


- Max 15 min.
- Same Time and Place every day
- Dont be late
- No phones, no checking E-mails, etc. (No distractions)
- Each answer 3 queations (Dont go into details!).
- No others can talk.
- Update your Tasks and the Electronic Task Board before the meeting (if sticky notes, you can update the Task Board while answering the 3 questions)
- Stand up (dont sit down) during the whole meeting
- Show the Burddown Chart at the end of the meeting



Scrum

More Information & Details



S. Adams. *Dilbert*. Available: <http://dilbert.com>

Hans-Petter Halvorsen, M.Sc.

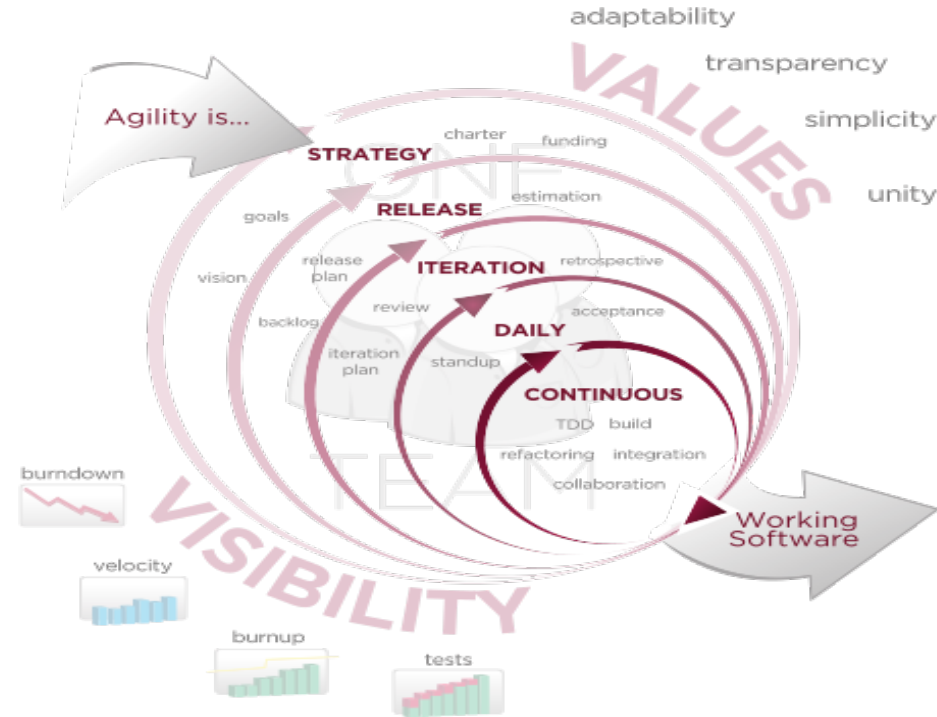
Agile Software Development

AGILE DEVELOPMENT

- A group of software Development methods
- **Iterative** approach
- **Self-organizing** and **cross-functional** Teams

Examples:

- Scrum
- eXtreme Programming (XP)



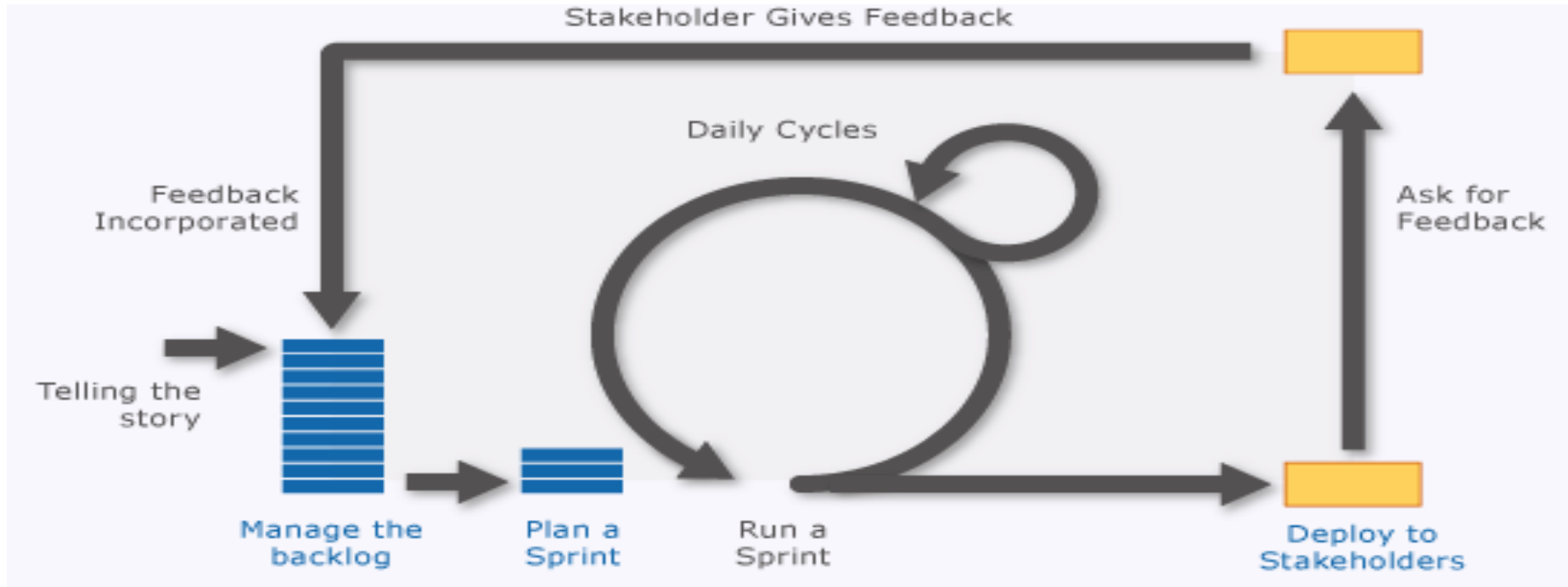
ACCELERATE DELIVERY

Agile (Scrum) Documentation



Scrum (and Agile methods) has less focus on Documentation

Scrum



Scrum Members



Stakeholders



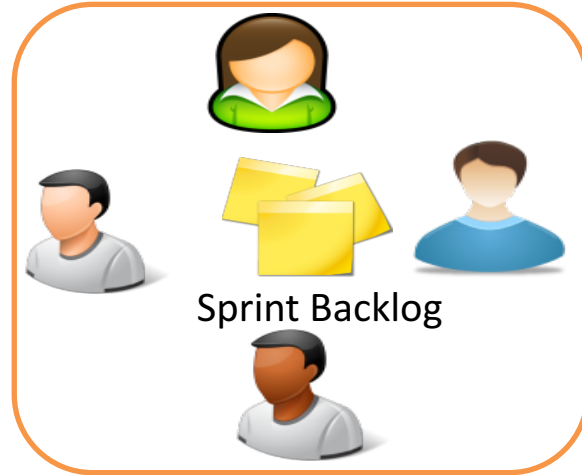
Product Backlog



Product Owner



Scrum Master

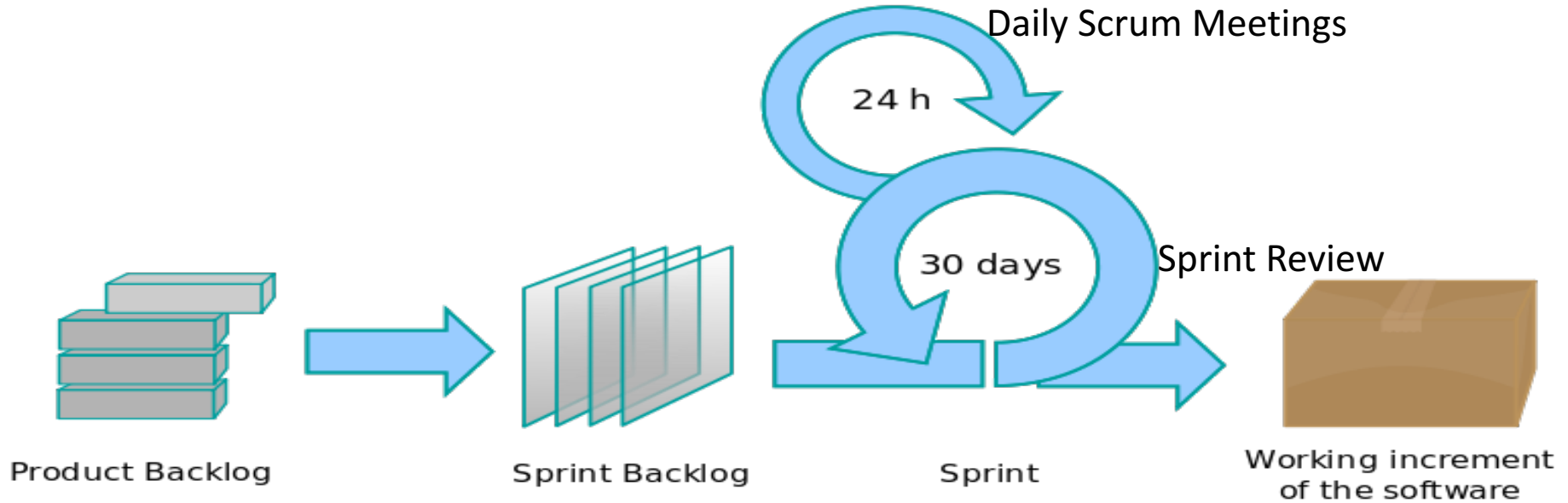


Sprint Backlog

Development Team

Scrum Process

While Loop



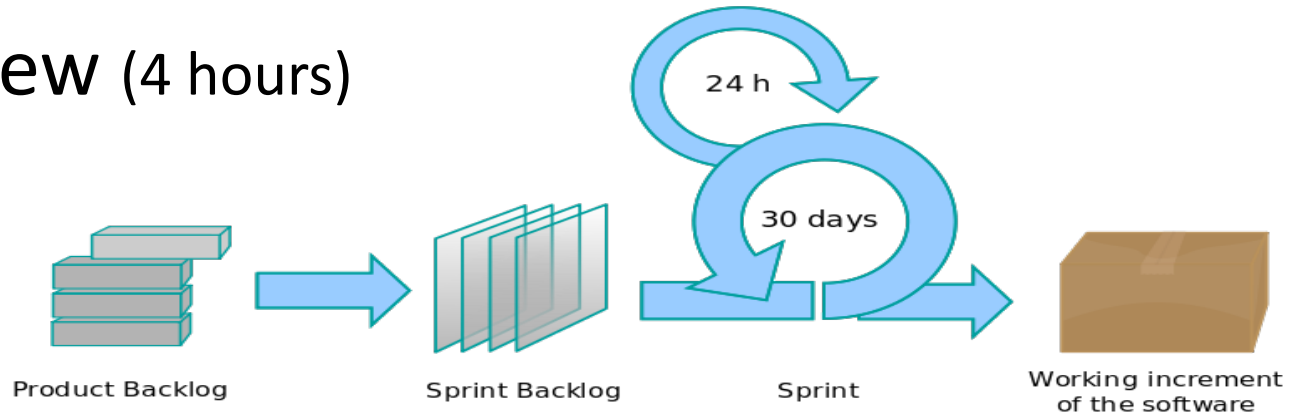
I

Software Finished?
[TF] [R]

This Loop is running until Software is finished

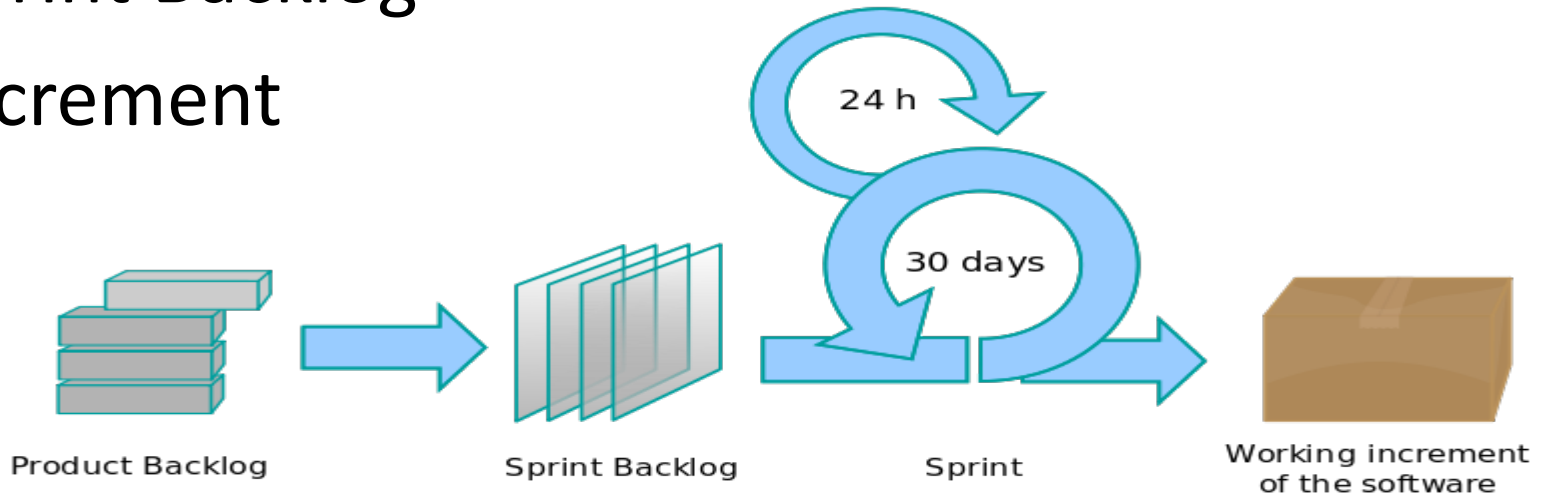
Scrum Events

- The Sprint (30 days)
- Sprint Planning Meeting (8 hours)
- Daily Scrum Meeting (Max 15 min, Every day at the same time) (also called Standup Meeting)
- Sprint Review (4 hours)



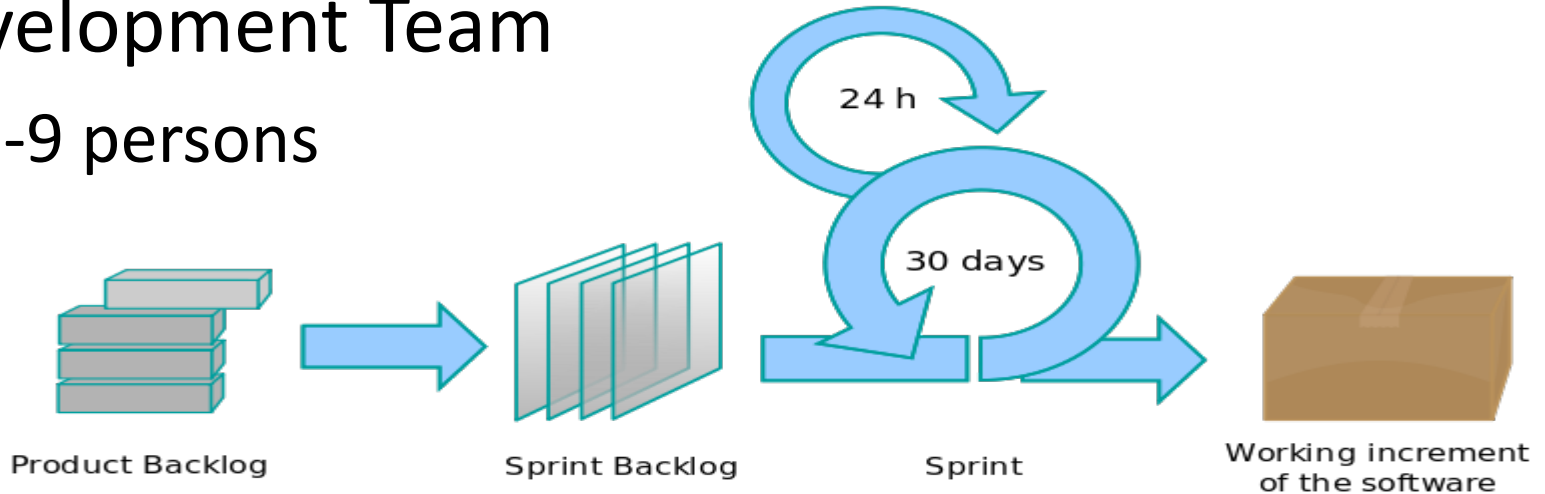
Scrum Artifacts

- Product Backlog
- Sprint Backlog
- Increment

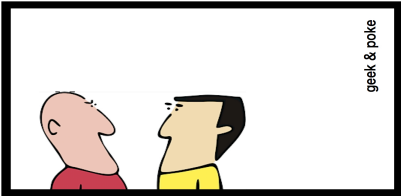
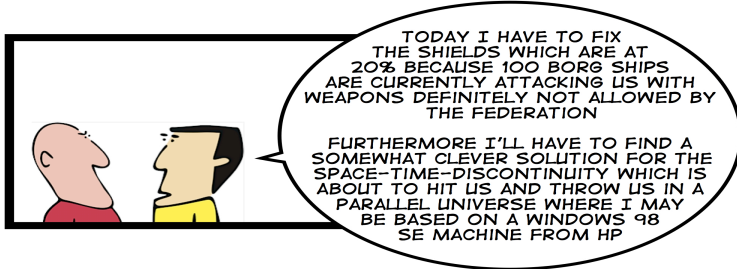
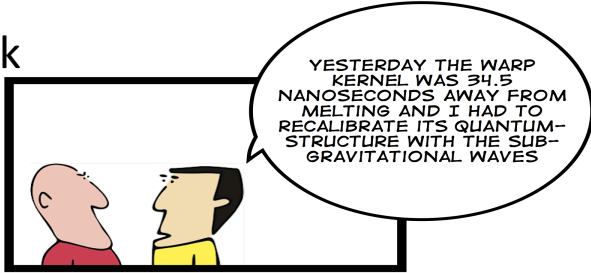


The Scrum Team

- Product Owner
- Scrum Master
- Development Team
 - 3-9 persons



Star Trek

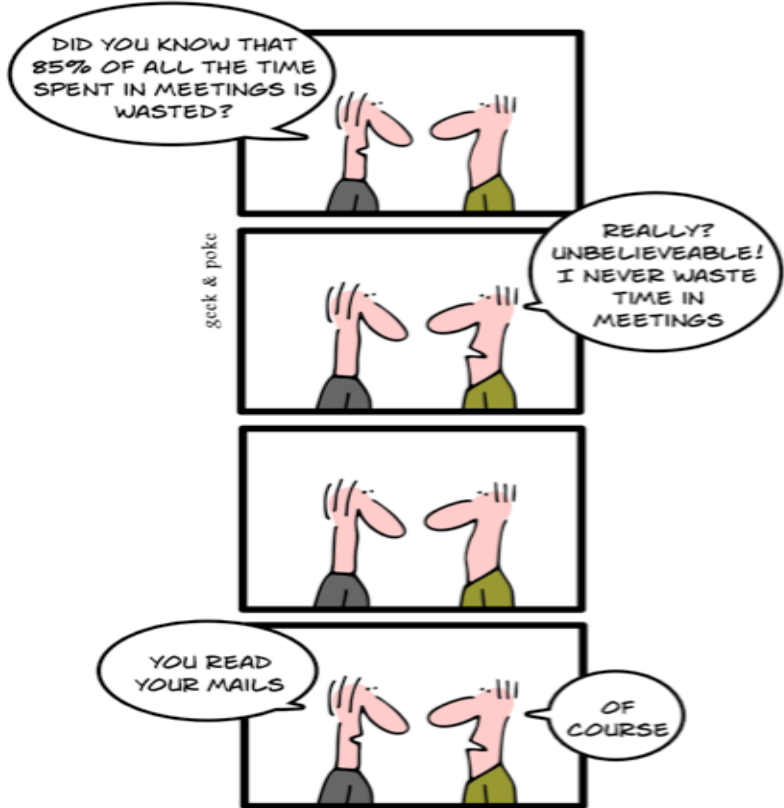


O. Widder. (2013). geek&poke. Available: <http://geek-and-poke.com>

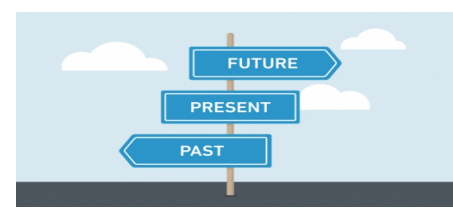
10:00 AM: DAILY SCRUM

Daily Scrum Meeting

HOW TO MEET EFFICIENTLY



Daily Scrum Meeting



- Max 15 min.
- The meeting is held at the same time and place every day
- “Stand Up” Meeting
- Purpose:
 - Synchronize activities and create a plan for next 24 hours.
 - Track Progress
- Agenda – Each Team member answer **3 Questions**:
 1. What has been accomplished since last meeting?
 2. What will be done before the next meeting?
 3. What obstacles are in the way?

Scrum Videos



Scrum 101 - Part 1 - <http://www.youtube.com/watch?v=aQrsVfjbQZ4>

Scrum at Microsoft (Short) – <http://youtu.be/YR84qH6d7QE>

Scrum at Microsoft (Long) - http://www.youtube.com/watch?v=-UUrLxNBK_g

Daily Scrum Meeting (Bad vs. Good Example):

http://www.youtube.com/watch?v=q_R9wQY4G5I



Scrum Meetings



Scrum Meetings

- The meeting **agenda** should be clear.
- If team members start a discussion that does not address the purpose of the meeting, the members should take the discussion offline, to be completed later. The Scrum Master should identify and indicate when team members should take a discussion offline.
- All meetings should follow the basic structure that is described for that meeting.
- Meetings should **start on time**, even if some team members are late.
- Team members should be on time except in rare, unavoidable cases. If your schedule prevents you from being on time regularly, the conflict should be resolved as soon as possible. If necessary, the Scrum Master should adjust the meeting time to resolve the conflict if the change does not unfairly inconvenience another member of the team.
- Each team member should come to the meeting prepared.
- Meetings should finish on time. In most cases, the length of the meeting is determined by the length of the sprint. For example, take two hours for a sprint planning meeting if the sprint is one week long and four hours if the sprint is two weeks long.
- Scrum enforces this meeting structure to a level that might make people uncomfortable. This reaction comes from the pressure to be on time, the peer accountability that is associated with making and keeping commitments, and the transparency that is required to actively participate. Daily Scrum meetings are also usually a standup meetings.

Scrum Meetings

Meeting	Purpose	Duration	Frequency
Sprint Planning Meeting	Determine what work to do in the coming sprint.	Two hours per week in the sprint, up to four hours	Once per sprint
Daily Scrum Meeting	Allow team members to commit, collaborate, and communicate risks.	Fifteen minutes	Daily
Sprint Review Meeting	Show the customer and other stakeholders the work that the team accomplished in the sprint, and receive feedback.	Two hours per week in the sprint, up to four hours	Once per sprint
Retrospective Meeting	Identify and implement ideas for process improvement.	Three hours	Once per sprint

When your team practices Scrum, it will hold a set of meetings, and each meeting has a specific purpose and frequency. Your ScrumMaster should ensure that each meeting fulfills its intended purpose.

Scrum Meetings

- The meeting agenda should be clear.
- If team members start a discussion that does not address the purpose of the meeting, the members should take the discussion offline, to be completed later. The ScrumMaster should identify and indicate when team members should take a discussion offline.
- All meetings should follow the basic structure that is described for that meeting.
- Meetings should start on time, even if some team members are late.
- Team members should be on time except in rare, unavoidable cases. If your schedule prevents you from being on time regularly, the conflict should be resolved as soon as possible. If necessary, the ScrumMaster should adjust the meeting time to resolve the conflict if the change does not unfairly inconvenience another member of the team.
- Each team member should come to the meeting prepared.
- Meetings should finish on time. In most cases, the length of the meeting is determined by the length of the sprint. For example, take two hours for a sprint planning meeting if the sprint is one week long and four hours if the sprint is two weeks long.
- Scrum enforces this meeting structure to a level that might make people uncomfortable. This reaction comes from the pressure to be on time, the peer accountability that is associated with making and keeping commitments, and the transparency that is required to actively participate. Daily Scrum meetings are also usually a standup meetings. When you standup it forces you to be short and focused, so you don't waste time on meetings.

Sprint Planning Meeting

- Your team builds the **sprint backlog** in the planning meeting on the first day of the sprint
- At this meeting, your **product owner** works with your team to determine which stories it will complete in the sprint
- Your team then breaks those **user stories** down into **tasks** and **estimates** the work that is required to complete them
- Tasks should take no more than a day to complete
- **Assign tasks** to the team members

Daily Scrum Meeting

- The goal to make forward progress is clear, and your team pulls together toward that common goal.
- Your Scrum Master strictly enforces the structure of the meeting and ensure that it starts on time and finishes in 15 minutes or less. In this meeting, each member of the team answers 3 questions:
 - What have I accomplished since the most recent Scrum?
 - What will I accomplish before the next Scrum?
 - What blocking issues or impediments might affect my work?
- It is important that team members answer these questions quickly and concisely.
- The time for elaboration is after the meeting, as people return to their desks or, if a significant amount of conversation is necessary, in a follow-up meeting.
- Many teams delay discussions by using the "virtual parking lot" method. As topics come up that a team member feels must be discussed later, any team member can quietly walk to a whiteboard or flipchart and list the topic in the parking lot. At the end of the meeting, the team plans to discuss topics that appear in the list.
- Another aspect of a successful Scrum is that people actually stand up. When the team stands up, members feel uncomfortable, especially when they are speaking. If everyone stands, the meeting will keep moving and discourage lengthy conversations.
- Third, the meeting should start and end on time and be at the same time in the same location every day
- Useful tools: Task board and Burndown chart

Daily Scrum Meeting



Max. **15 min.!!!**

Daily Scrum Meeting



Product Owner may join the Daily Scrum Meetings – but are not allowed to say anything!

The Daily Scrum Meeting is also a Standup Meeting!

Sprint Review Meeting

- On the last day of the sprint, your team meets with your product owner, customers, and stakeholders to accept completed work and to identify new requirements.
- In this meeting, your team demonstrates each user story that it completed in the sprint.
- In many cases, your customers will understand their additional needs more fully after seeing the demonstrations and will identify and discuss the changes that they want to see.
- Based on this meeting, some user stories will be accepted as complete. Incomplete user stories will remain in the product backlog, and new user stories will be added to the product backlog.
- After this meeting and the retrospective meeting, your team will plan the next sprint.



Scrum

Project Management



Task board

RED TEAM

NOT STARTED
IN PROGRESS
FINISHED

LAT and Production Tickets 4000

0

Employment Status and Legacy Status 3000

0

Support old PDT's 336

0

More Live 32

2.5

Taxpoint Has check on weight 322

0.5

<p>IN PROGRESS</p> <p>23002 ON HOLD IN HOLD</p> <p>23004 TO BE DELETED SAVED</p> <p>23001 TO BE SAVED</p> <p>23002 TO BE SAVED</p> <p>23001 TO BE SAVED</p> <p>23002 TO BE SAVED</p> <p>23001 TO BE SAVED</p> <p>23002 TO BE SAVED</p>	<p>23001 TO BE SAVED</p> <p>23002 TO BE SAVED</p> <p>23003 TO BE SAVED</p> <p>23004 TO BE SAVED</p> <p>23005 TO BE SAVED</p> <p>23006 TO BE SAVED</p> <p>23007 TO BE SAVED</p> <p>23008 TO BE SAVED</p>	<p>FINISHED</p> <p>23009 TO BE SAVED</p> <p>23010 TO BE SAVED</p> <p>23011 TO BE SAVED</p> <p>23012 TO BE SAVED</p> <p>23013 TO BE SAVED</p> <p>23014 TO BE SAVED</p> <p>23015 TO BE SAVED</p> <p>23016 TO BE SAVED</p> <p>23017 TO BE SAVED</p>
---	---	---

DAILY SCRUM 9:30

ToDo's

- Release notes
- Com 2 Othras
- Gp Personal

Parking lot

ORB
Can't copy
Use WS for
getting ORB
order info?

PNG
Use WS for
getting ORB
order info?

ORB
Release +
Complex with
ORB

ORB
Release +
Complex with
ORB

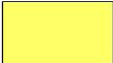















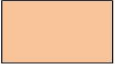







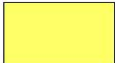





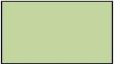







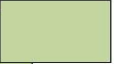




ORB
Release +
Complex with
ORB

ORB
Release +
Complex with
ORB

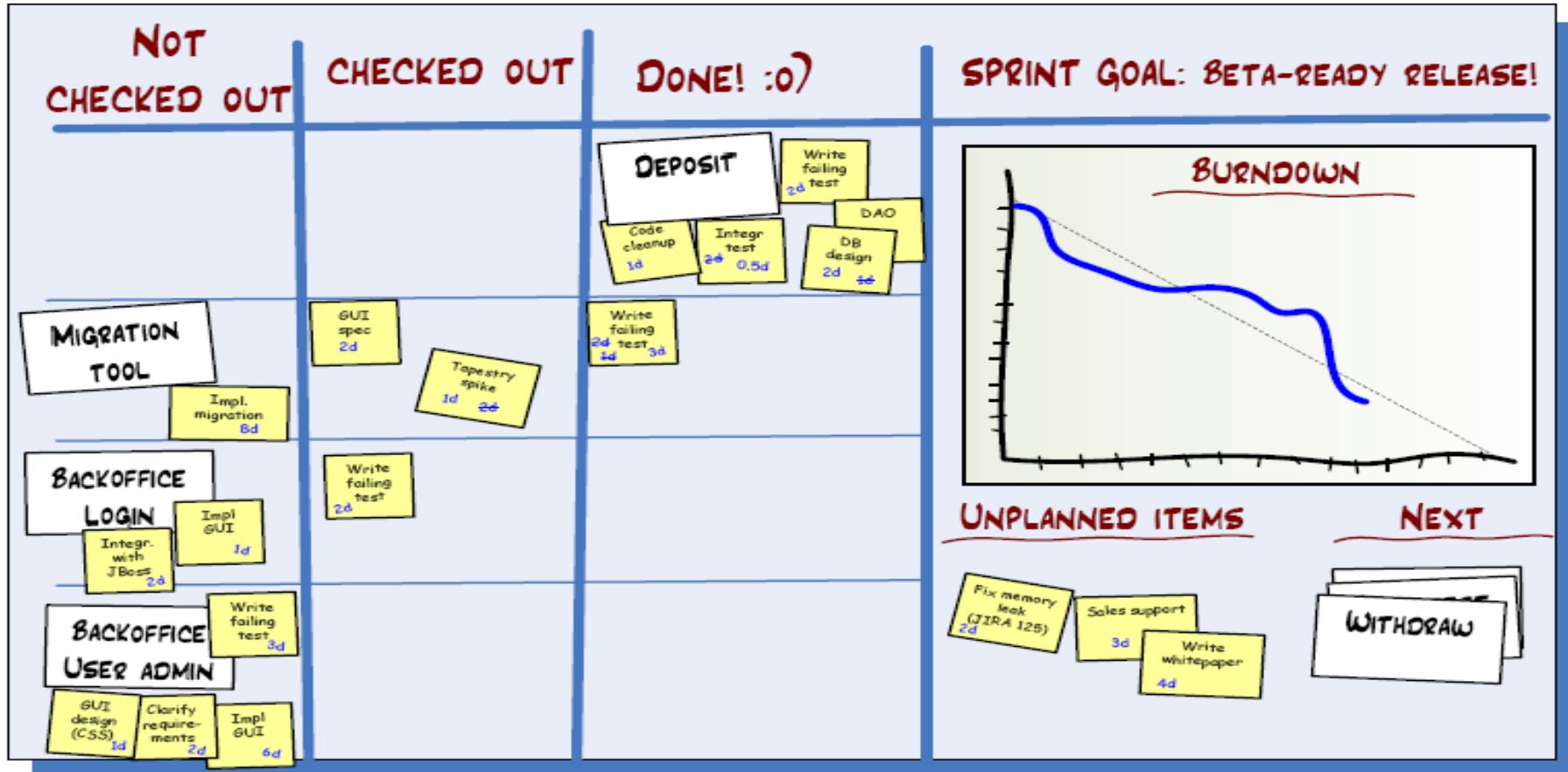
Task board

PROJECT/TEAM: *Awesome Scrum Team*

© Liza Wood
socketsandlightbulbs.com

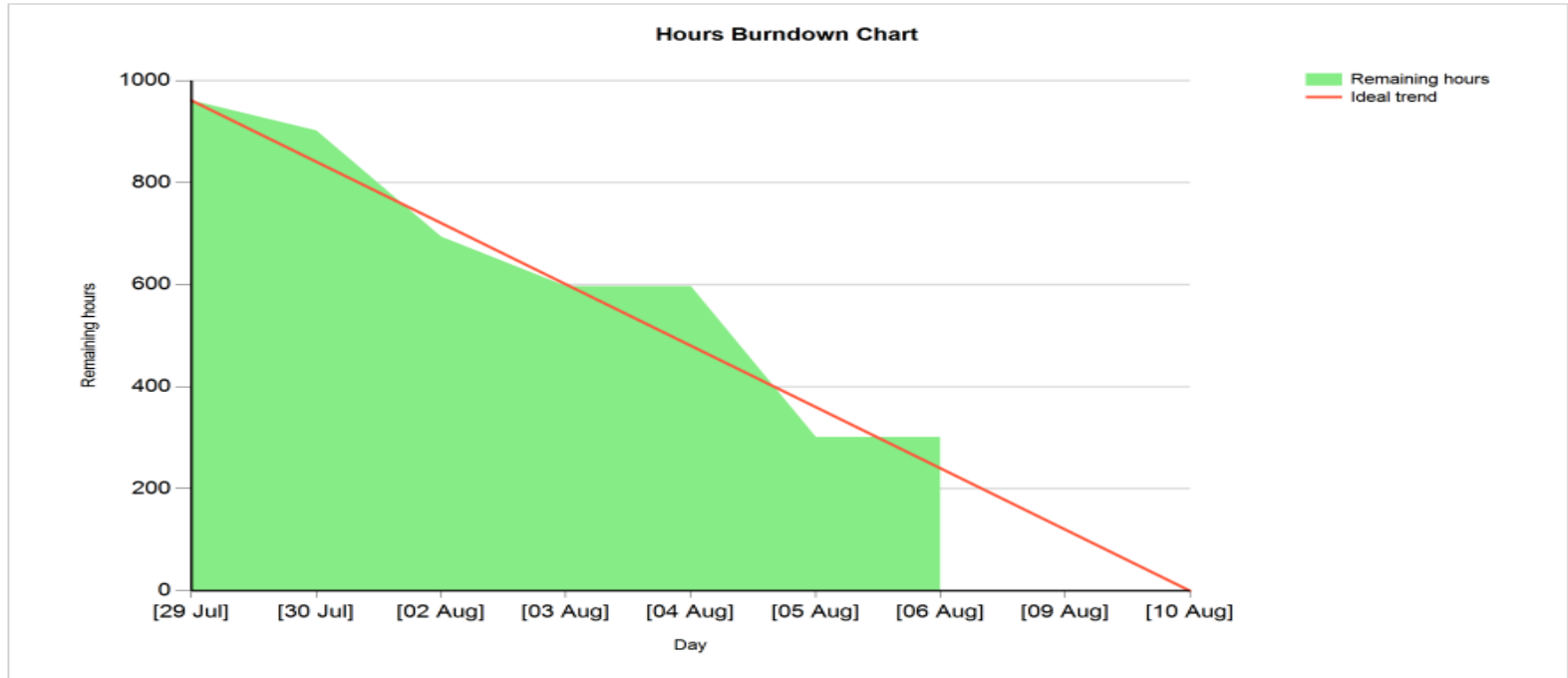
	Backlog	To-Do	In Progress	In Review/QA	Done!
user Story 1		  		  	
user Story 2		  	 	 	
user Story 3		 		 	
user Story 4				 	 
user Story 5					
user Story 6			 	 	
user Story 7		 			

Task board



Burndown Chart

Burndown (Sprint 2010.07.27)



Using Scrum in Large Software Development?



Development Team
3-9 persons



Project Management



Development Team
3-9 persons



Project Leaders
Stakeholders



Scrum Master

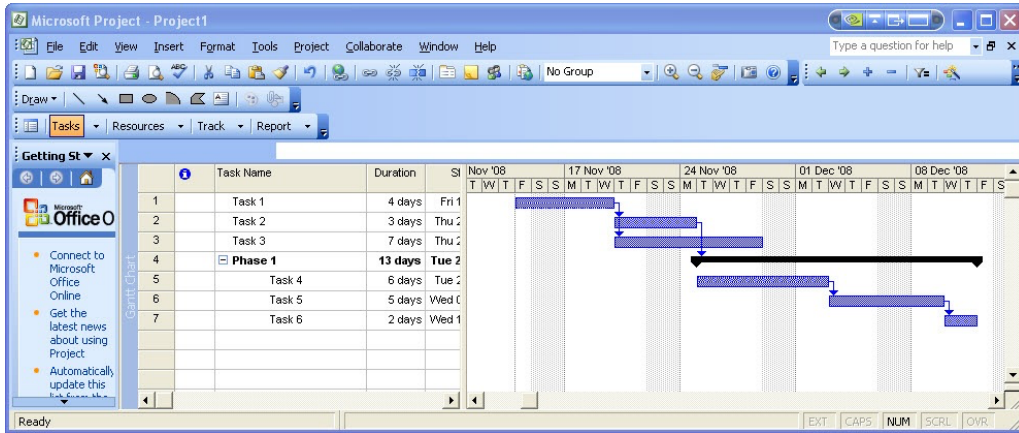


Development Team, 3-9 persons

Development Team, 3-9 persons

Gantt Chart vs. Backlog

Gantt Chart is not part of Scrum, but can be handy!



Small size
Lots of details

Product backlog items



Worked on soon

Details. It is used by the Scrum Team/Development Team

The “Big Picture”. It is used by Managers, Project Leaders, etc. Overall Project Management for several Teams.

Large size
Few details

Not worked on soon



Using Team Foundation Server together with Scrum

Hans-Petter Halvorsen, M.Sc.

Using Scrum with TFS

- TFS – Team Foundation Server
- TFS has built-in Templates for Agile Development and Scrum

CREATE NEW TEAM PROJECT

Project name

Note: You cannot change the name of your project after you have created it

Description

Process template

- Microsoft Visual Studio Scrum 2013
- Microsoft Visual Studio Scrum 2013
- MSF for Agile Software Development 2013
- MSF for CMMI Process Improvement 2013

Version control

- Team Foundation Version Control

Team Foundation Version Control (TFVC) uses a single, centralized server repository to track and version files. Local changes are always checked in to the central server where other developers can get the latest changes.

Create project Cancel

Product Backlog and Sprint Backlog

The screenshot displays the Visual Studio Online interface for a project named "ScrumTest". The top navigation bar includes "HOME", "CODE", "WORK", "BUILD", and "TEST". The user's name, "Hans-Petter Halvorsen", is visible in the top right corner. Below the navigation bar, the "Backlogs" section is active, showing a "Backlog items" view. The interface is divided into three main panels: a left sidebar, a central main area, and a right sidebar.

Left Sidebar: Contains "Features" and "Backlog items" sections. Under "Current", there are items "Alpha", "Beta", "RC", and "RTM".

Central Main Area: Titled "Backlog items", it shows a "Backlog" view. At the top, there are options for "Forecast Off", "Mapping On", and "View Backlog items". Below this is a "New" button and a "Create query" link. A "Type" dropdown menu is set to "Product Backlog Item". A "Title" input field is highlighted in yellow, with an "Add" button next to it. Below the input field is a table of backlog items:

Order	Work Item Type	Title	State	Effort	Iteration Path
1	Product Backlo...	Backlog Item 1	New		ScrumTest\Alpha
2	Product Backlo...	Backlog Item 2	New		ScrumTest\Beta

Right Sidebar: Titled "Features", it contains a "Title" input field.

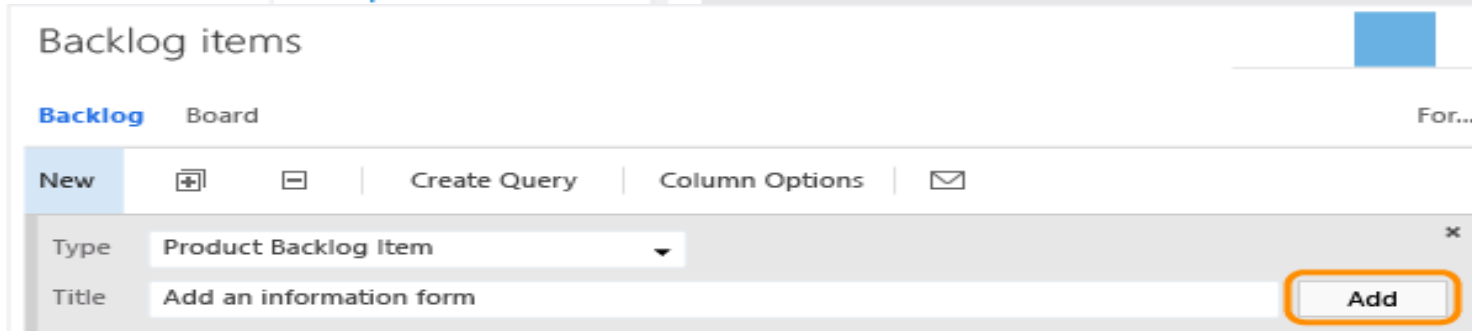
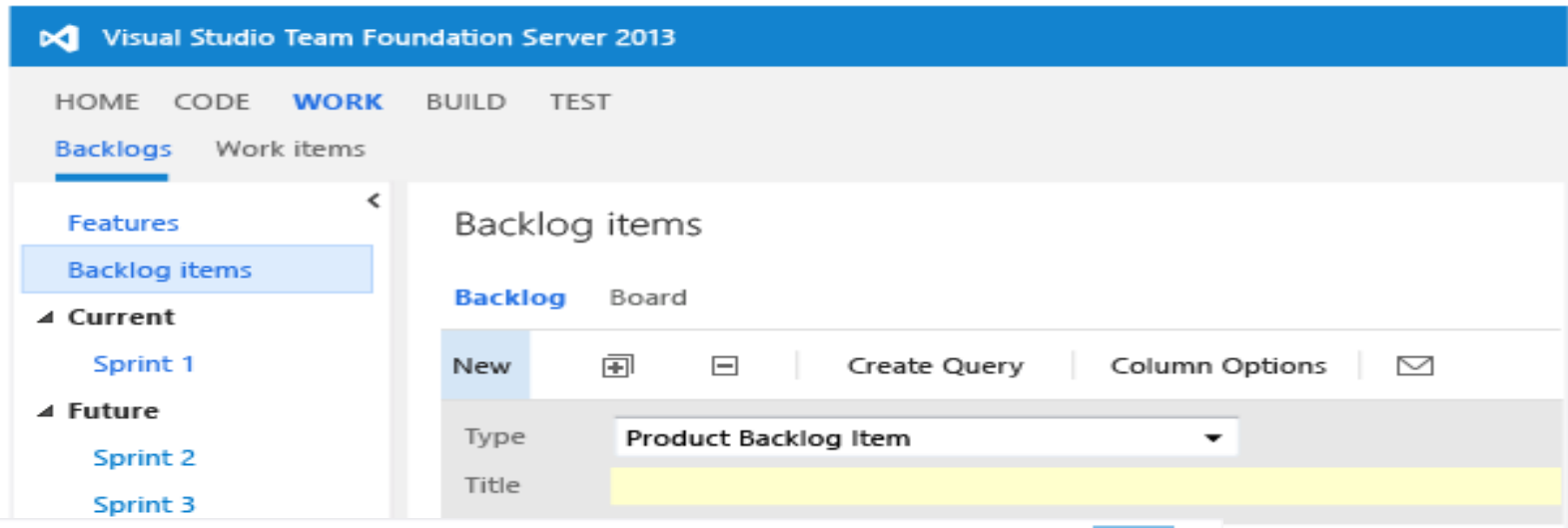
Digital Task board in TFS

The screenshot displays the TFS Digital Task Board interface. At the top, there are navigation tabs: **home**, **boards**, **backlogs**, **feedback**, **work items**, **source**, and **build**. The current view is the **board**. Below the navigation, there are tabs for **STORIES** and **TEAM MEMBERS**, with a filter set to **PERSON: ALL**. The board is divided into two main sections:

- Sprint Planning - Capacity by discipline**: Total 24.5 h. This section contains several tasks:
 - QA: Automation: Add activity validation on existing tests (4, Testing)
 - QA: Exploratory testing of interaction between capacity page and capacity (5, Testing)
 - QA: Exploratory testing of discipline assignment on capacity page (1, David Gorena Eliz...)
 - QA: Exploratory testing of discipline rollup on capacity pane (3, Mehmet Argun AL...)
 - Update server to save capacity by activity (Aaron Patterson)
 - QA: Exploratory testing of interaction between sprint backlog and capacity (Mehmet Argun Alpa...)
 - QA: Automation: Add activity validation on existing tests (4)
 - Add activity group to activity validation on existing tests (3, Aaron Patterson, Testing)
 - QA: Adding Discipline to Automation Framework (8, Kevin McMurry)
 - Error message scrub (0.5, Susan Ferrell)
 - Data provider for activity (Aaron Patterson)
 - Add activity to capacity page (Aaron Patterson)
 - FieldAggregator client changes (Aaron Patterson)
 - FieldAggregator server changes (Aaron Patterson)
- Product Backlog: Insert at current location**: Total 31 h. This section contains tasks in various disciplines:
 - Exploratory testing (4, Testing)
 - Modify Add Panel to add at current location (5, Development)
 - Refactor Grid to remove order usage (5, Development)
 - Style changes to Product backlog grid to highlight insertion location (5, Development)
 - Add new and fix existing automation (12, Testing)

The footer of the interface includes **Team Foundation Server Web App | About** and **© Microsoft Corporation. All rights reserved.**

Using TFS to create the Backlog



<http://msdn.microsoft.com/en-us/library/ee518933.aspx>

Sprint Backlog in TFS

HOME CODE **WORK** BUILD TEST

Backlog items Work items

Product Backlog

▲ **Current**

- Sprint 1

▲ **Future**

- Sprint 2
- Sprint 3
- Sprint 4
- Sprint 5
- Sprint 6

Backlog items

Backlog Board

New [+] [-] Create Query Column Options [✉]

Type Product Backlog Item

Title

Order	Work Item Type	Title	State
1	Product Backlo...	Hello World Web Site	New
2	Bug	Slow response on welcome...	New
3	Product Backlo...	Change initial view	New
4	Product Backlo...	Add an information form	New
5	Product Backlo...	Welcome back	New
6	Product Backlo...	Resume	New
7	Product Backlo...	Interim save on long forms	New

Break items down into Tasks

In the sprint backlog, add a task:

The screenshot shows a Jira sprint backlog for 'Sprint 1' (April 29 - May ... 12 work days remain...). The 'Backlog' tab is active. A parent item 'Hello World Web Site' (State: New) is selected. A modal window for adding a new task is open, showing the task name 'Welcome Screen' and an estimated work of 2 hours. The task is assigned to 'FabrikamFiber'.

Title	State	Assigned
+ Hello World Web Site	New	
+ Add an information form		
+ Change initial view		
+ Welcome back		

New Task 1*: Welcome Screen	
Copy template URL	
Welcome Screen	
Iteration	FabrikamFiber\Release 1\Sprint 1
STATUS	DETAILS
Assigned To	Remaining Work: 2
State: To Do	Backlog Priority
Reason: New task	Activity
Blocked	Area: FabrikamFiber
DESCRIPTION	HISTORY LINKS ATTACHMENTS

Give the task a name, and estimate the work it will take:

Final Results:

The screenshot displays a web-based interface for managing work items. At the top, there is a navigation bar with tabs for HOME, CODE, WORK (selected), BUILD, and TEST. Below this, there are links for 'Backlog item' and 'Work items'. A left-hand sidebar contains a tree view with categories: 'Features', 'Product Backlog', 'Current' (expanded), and 'Future'. Under 'Current', 'Sprint 1' is selected. Under 'Future', there are links for 'Sprint 2', 'Sprint 3', 'Sprint 4', 'Sprint 5', and 'Sprint 6'. The main content area is titled 'Sprint 1' and has sub-tabs for 'Backlog' (selected), 'Board', and 'Capacity'. Below the tabs, there are icons for adding items, a list icon, and buttons for 'Create Query', 'Column Options', and an email icon. The backlog items are listed under the heading 'Title' and include: 'Hello World Web Site' (expanded) with sub-items 'Welcome Screen', 'Change background color', and 'About Screen'; 'Slow response on welcome page' with sub-item 'Rework opening animation'; 'Change initial view'; 'Add an information form' with sub-items 'Auto-complete user's name in form if logged in' and 'Auto-save'; and 'Welcome back'.

HOME CODE **WORK** BUILD TEST

[Backlog item](#) Work items

Features
Product Backlog

Current

Sprint 1

Future

Sprint 2
Sprint 3
Sprint 4
Sprint 5
Sprint 6

Sprint 1

Backlog Board Capacity

Create Query Column Options

Title

- + Hello World Web Site
 - Welcome Screen
 - Change background color
 - About Screen
- + Slow response on welcome page
 - Rework opening animation
- + Change initial view
- + Add an information form
 - Auto-complete user's name in form if logged in
 - Auto-save
- + Welcome back

Use the Taskbord to update Tasks

The task board is at the heart of daily standups. Move tasks on the task board to reflect their current state.



Use the Taskbord to update Tasks

You can assign a task to a specific person:

The screenshot displays a Jira Taskboard for 'Sprint 1' (April 29 - May 17, 11 work days remaining). The board is organized into columns: 'TO DO 10 h' and 'IN PROGRESS 5 h'. A dropdown menu is open over the 'Unassigned' task in the 'TO DO' column, listing team members for assignment: Johnnie McLeod, Christie Church (highlighted), Nicole Zamora, Raisa Pokrovskaya, Francis Totten, and Jamal Hartnett. The board shows tasks like 'Add an information form' (7h), 'Welcome Back' (2h), and 'Hello World Web Site' (6h) in the backlog, and 'Auto-save', 'Auto-complete user's name in form if logged in', 'Welcome Screen', 'Change Background Color', and 'About Screen' in the columns.

Backlog	Board	Capacity	Group by	Backlog items	Person...
Sprint 1		April 29 - May 17 11 work days remaining			
		TO DO 10 h		IN PROGRESS 5 h	
Add an information form 7 h	+	Auto-save Unassigned	Unassigned	Auto-complete user's name in form if logged in 3	Jamal Hartn...
Welcome Back 2 h	+	Unassigned	Johnnie McLeod (Fabrikam) Christie Church (Fabrikam)		
Hello World Web Site 6 h	+	Welcome Screen 2	Johnnie McL...	Change Background Color 2	Christie Ch...
				About Screen 2	Nicole Zamor...

Use the Taskbord to update Tasks

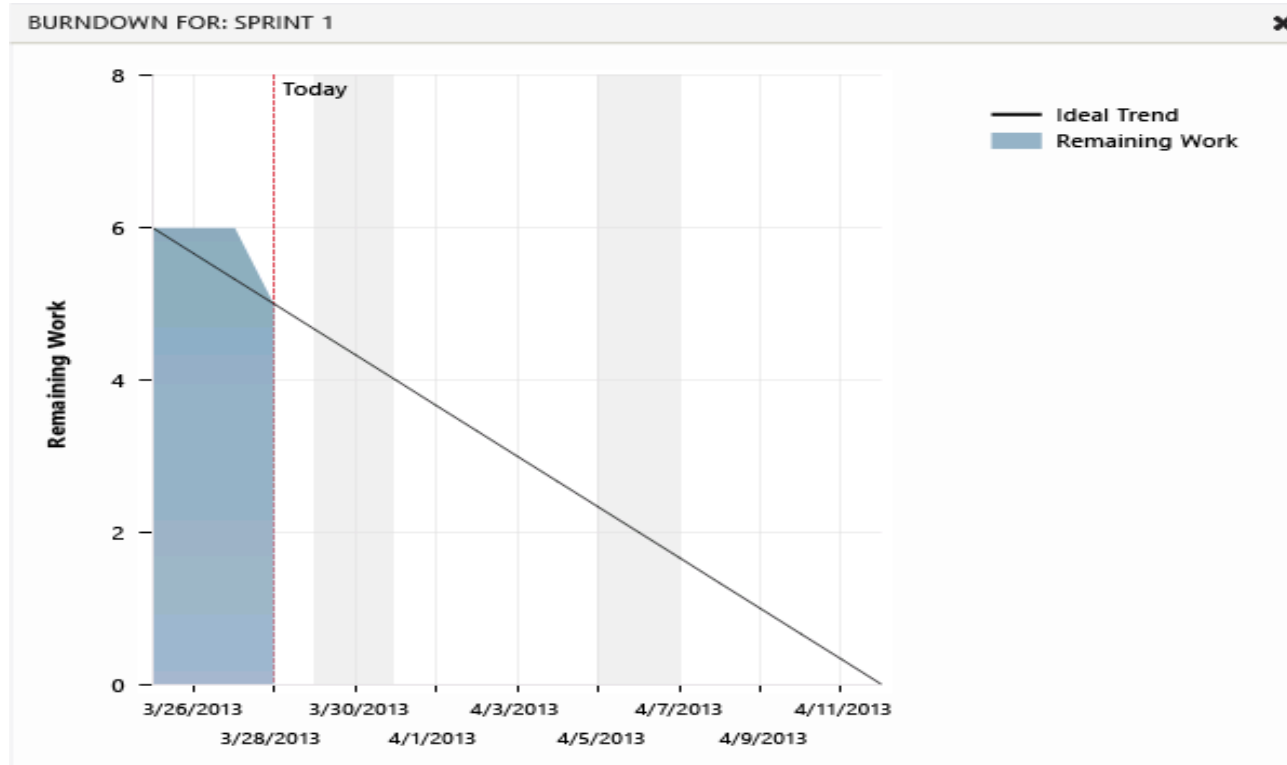
Update the remaining work by either using the drop-down list or typing a specific value:

The screenshot shows a Jira Taskboard for 'Sprint 1' from April 29 to May 17, with 11 work days remaining. The board is organized into columns: 'TO DO 10 h' and 'IN PROGRESS 5 h'. There are three main task categories on the left: 'Add an information form 7 h', 'Welcome Back 2 h', and 'Hello World Web Site 6 h'. A dropdown menu is open over the 'Welcome Back' task, showing a list of values: 4, 3, 2, 1, 0.5, 0.25, and 0. The '4' option is selected. The board also shows task cards for 'Auto-save', 'Auto-complete user's name in form if logged in', 'Welcome Screen', 'Change Background Color', and 'About Screen', each with a remaining work value and assigned person.

Task Category	Task Name	Remaining Work	Assigned To
Add an information form (7 h)	Auto-save	4	istie Church...
	Auto-complete user's name in form if logged in	3	Jamal Hartnett (...)
Welcome Back (2 h)	...active text me Back	1	
	kaya (Fabrik...	0.25	
Hello World Web Site (6 h)	Welcome Screen	2	Johnnie McLe...
	Change Background Color	2	Christie Chur...
	About Screen	2	Nicole Zamo...

Burndown Chart Example

Review overall progress by opening the burndown chart for the sprint:



Summary



Stakeholders



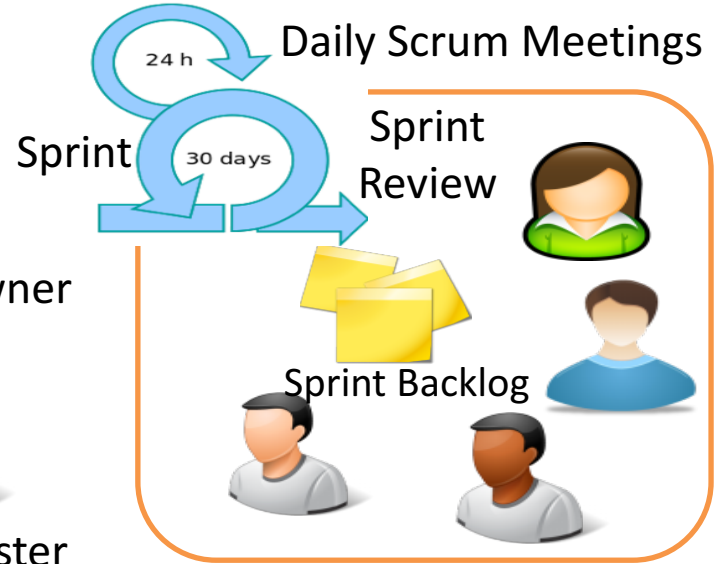
Product Backlog



Product Owner



Scrum Master



Development Team
3-9 persons

References



- I. Sommerville, *Software Engineering*: Pearson, 2010.
- E. J. Braude and M. E. Bernstein, *Software Engineering: Modern Approaches*, 2 ed.: Wiley, 2011.
- Microsoft. (2013). *Application Lifecycle Management with Visual Studio and Team Foundation Server*. Available: <http://msdn.microsoft.com/en-us/library/fda2bad5.aspx>
- Wikipedia. (2013). *Scrum Development*. Available: [http://en.wikipedia.org/wiki/Scrum_\(development\)](http://en.wikipedia.org/wiki/Scrum_(development))
- Wikipedia. (2013). *Agile Software Development*. Available: http://en.wikipedia.org/wiki/Agile_software_development
- CoreTrek. (2013). *Scrum i et nøtteskall*. Available: <http://www.coretrek.no/scrum-i-et-noetteskall/category642.html>
- S. Adams. *Dilbert*. Available: <http://dilbert.com>
- O. Widder. (2013). *geek&poke*. Available: <http://geek-and-poke.com>

Hans-Petter Halvorsen, M.Sc.



University College of Southeast Norway

www.usn.no

E-mail: hans.p.halvorsen@hit.no

Blog: <http://home.hit.no/~hansha/>

