

A Course on AGILE,SCRUM

PSM Workshop Companion

Presenter
Koti Reddy Bhavanam

SPC4 PMI-ACP PMP PSM CSP CSM SSBB **ITIL-F**
PAHM



Presenter Profile

Seasoned professional working in IT for the last 14+ years with IT Product Development and Services Companies.

Implementing Agile methodologies for the last decade in various positions as Scrum Master, Coach, Project/Program Manager, Business Excellence manager, Test Manager and Release Manager

Few on the list of Enterprises where agile implementation in glory includes Oracle, Primavera, Symphony Services & UHG

Mentored and coached multiple teams and individuals

So far produced 10 PMPs, 20 PMI ACPs and 50+ PSMs

Currently associated with PMI in role of PMI India Champion

PhD scholar in Project Management from JNTUH.

Trained about 5000 IT professionals on various agile certifications.

Visiting faculty on Project Management



AHM
CERTIFIED

AGILE
SCRUM
Certified
ITIL®

AGILE
SCRUM
MASTER
Certified

SCALED AGILE
FRAMEWORK
PROGRAM
CONSULTANT



Certifications



MY BLOG

PMI-
ACPSM



6σ

Ground Rules

- ✓ Punctuality
- ✓ No disturbances
- ✓ Respect Others
- ✓ Participation
- ✓ Agree to disagree
- ✓ Ask Questions
- ✓ Give your honest feedback

Agenda

DAY 1

- Introduction
- Agile Manifesto
- Different Agile methods – overview
- Scrum Basics
- Scrum Theory

DAY 2

- Scrum Framework
- Scaling Scrum
- Agile Metrics
- Agile Tools
- Agile Best Practices
- Case Studies
- Certification Opportunities
- Test Sample Questions/Mock Exam
- Appendix/Resources
- References



PEDAGOGY

Class Room interaction on the concepts
Exercise/Activities – 04 (30 min each)
Videos on agile teams/ceremonies – 04 (a few min each)
A few motivational video/Presentation (17 min)
Case studies
Mock Questions Review



CSM Vs. PSM

	Scrum Alliance	Scrum.org
Certificate	CSM	PSM1
#Certificates issued	125285	50000
Pre-requisite	Training Course	None
Training Required?	Yes	No
Training Cost	\$850-\$1300	\$1295 - \$1995
Assessment Required	Yes (Since 2012)	Yes
Assessment Cost	\$0 (covered in training cost)	\$150 (or \$0 if you attend training)
Renewal required	Yes	No
Cost to acquire Certificate	\$850-\$1300	\$150
Cost to Renew	\$100 (Bi-annual)	\$0

INTRODUCTION



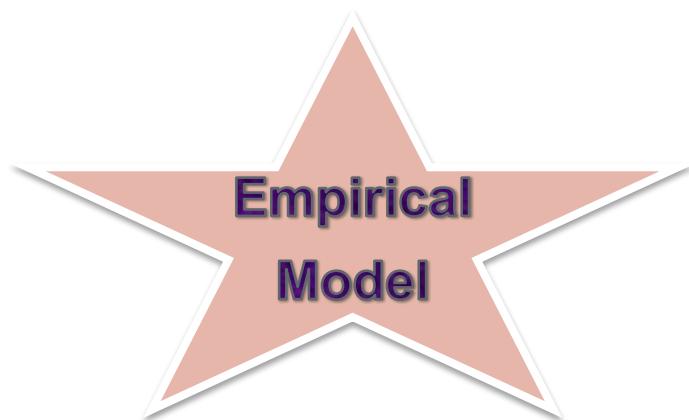
Agile Pre reading

The problem

The problem we face has nothing to do with process and technology, but with people.

Scrum and Agile are based on the hypothesis that there is no meta-solution for software development. Just a framework within which we will be empirical – Inspect and Adapt

- Ken Schwaber



CHAOS 2004

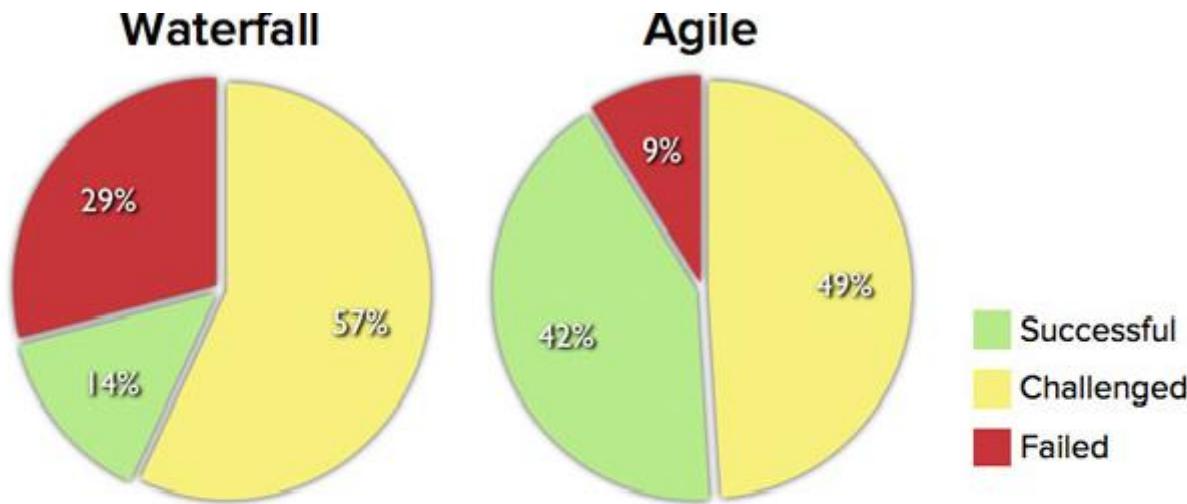
SURVEY RESULTS

Resolution of Projects



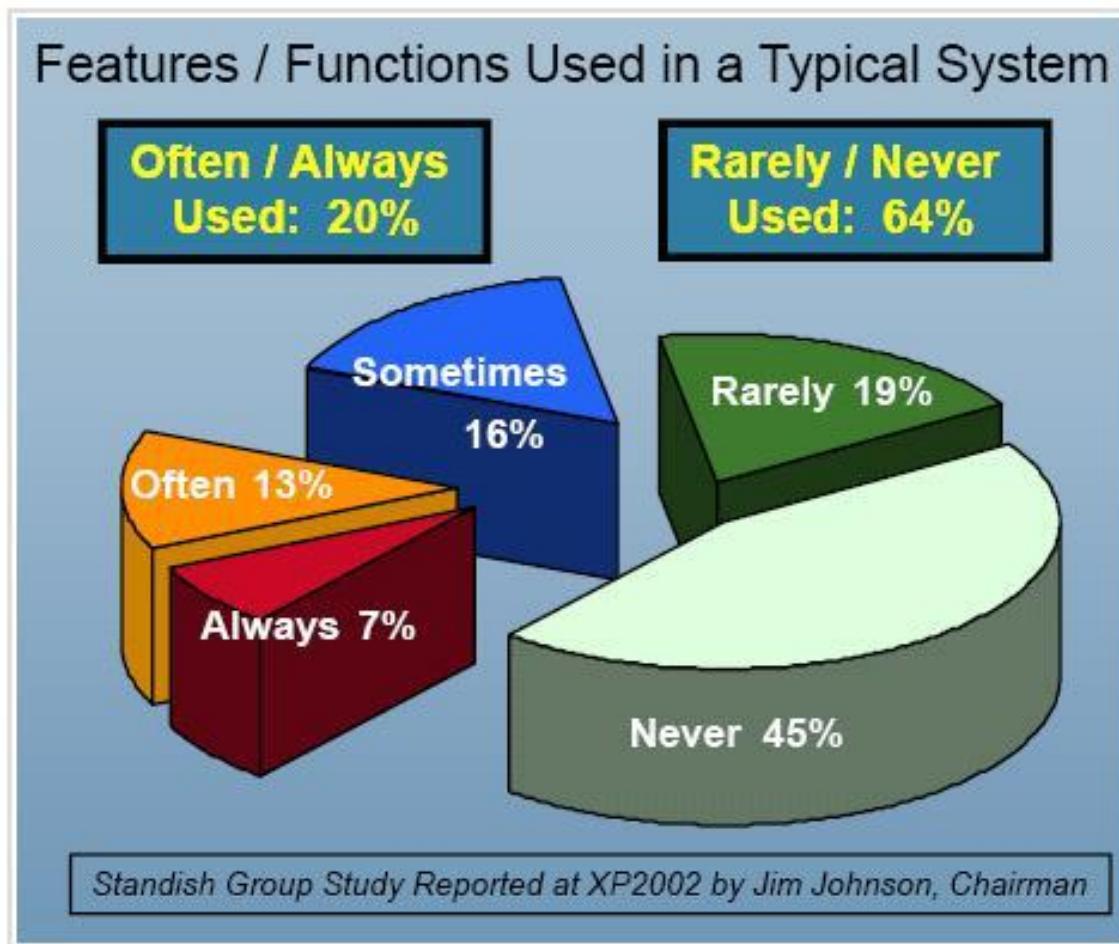
Copyright © 2006 The Standish Group International, Inc..

Agile Succeeds Three Times More Often Than Waterfall



Source: The CHAOS Manifesto, The Standish Group, 2012.

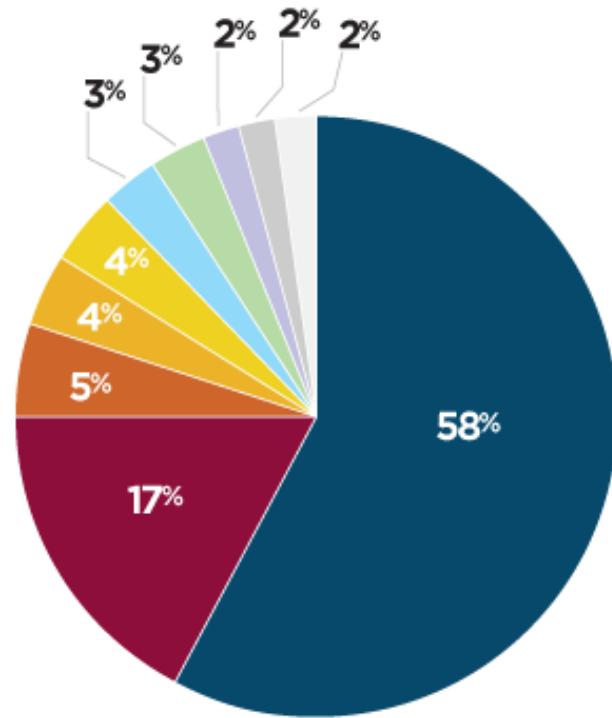
Features used



Agile Methods Contribution



AGILE METHODS & PRACTICES



AGILE METHODOLOGY MOST CLOSELY FOLLOWED

Scrum or Scrum variants were by far the most common agile methodologies employed.

- SCRUM
- SCRUM/XP HYBRID
- CUSTOM HYBRID
- OTHER
- EXTREME PROGRAMMING (XP)
- DON'T KNOW
- SCRUMBAN
- LEAN
- FEATURE DRIVEN DEVELOPMENT (FDD)
- AGILE UP

[_survey/10/page3.asp](#)

Agile Manifesto Origin

On February 11-13, 2001, at The Lodge at Snowbird ski resort in the Wasatch mountains of Utah, seventeen people met to talk, ski, relax, and try to find common ground and of course, to eat. What emerged was the Agile Software Development Manifesto. Representatives from Extreme Programming, SCRUM, DSDM, Adaptive Software Development, Crystal, Feature-Driven Development, Pragmatic Programming, and others sympathetic to the need for an alternative to documentation driven, heavyweight software development processes convened.

Kent Beck, Mike Beedle, Arie van Bennekum, Alistair Cockburn, Ward Cunningham, Martin Fowler, James Grenning, Jim Highsmith, Andrew Hunt, Ron Jeffries, Jon Kern, Brian Marick, Robert C. Martin, Steve Mellor, Ken Schwaber, Jeff Sutherland, Dave Thomas

Reference: <http://agilemanifesto.org/>

Manifesto for Agile Software Development (Agile Value CHAIN)

We are uncovering better ways of developing software by doing it and helping others do it.

Through this work we have come to value:

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

That is, while there is value in the items on the right, we value the items on the left more.

Reference: <http://agilemanifesto.org/>

Principles behind the Agile Manifesto

We follow these principles:

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.

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.

Continuous attention to technical excellence and good design enhances agility.

Simplicity--the art of maximizing the amount of work not done--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.

Reference: <http://agilemanifesto.org/>

AGILE MYTHS

- Agile solves every problem in this world
- Agile means no architecture and no documentation
- Using TDD approach double the amount of work
- Agile just an iterative and incremental model
- Agile works for only small projects
- Agile Teams get more stress and early burn-out
- Agile will not fit in out sourcing model
- Agile requires very experienced people
- Agile do not need project manager
- Agile does not support CMMI model
- Agile model will not fit with scaling
- Agile do not have risk management



Reasons for Myths

- Not understanding the concepts
- Wrong definitions of the concepts
- Bad use of concepts
- No experience in distributed projects
- No experience on big sized projects
- Blaming the process
- Not being agile



BENEFITS

Time to market - Early and regular

Productivity increase

Early Surprises

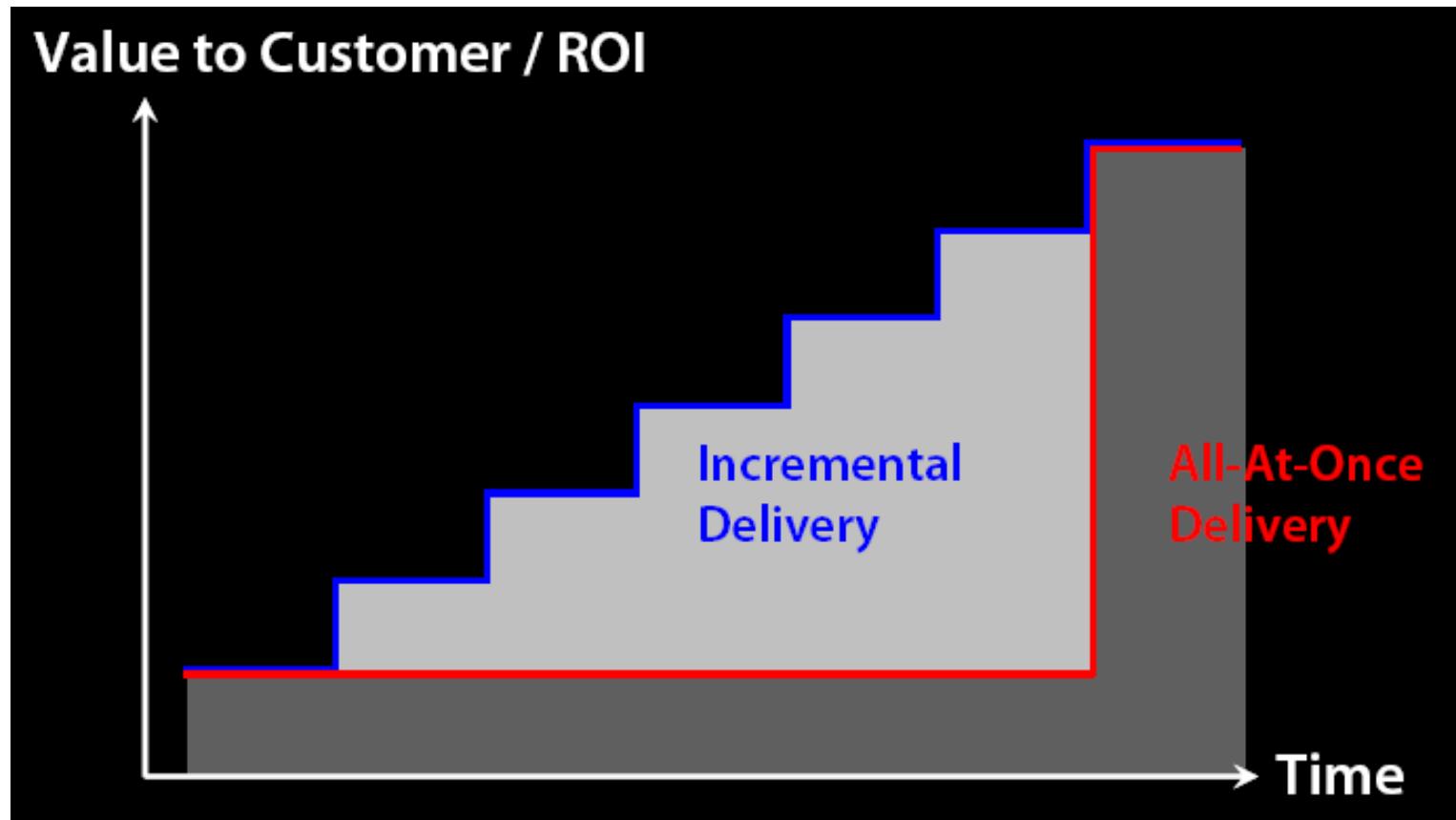
Higher Quality

Improved Customer Satisfaction

Team moral is high and enhanced work satisfaction



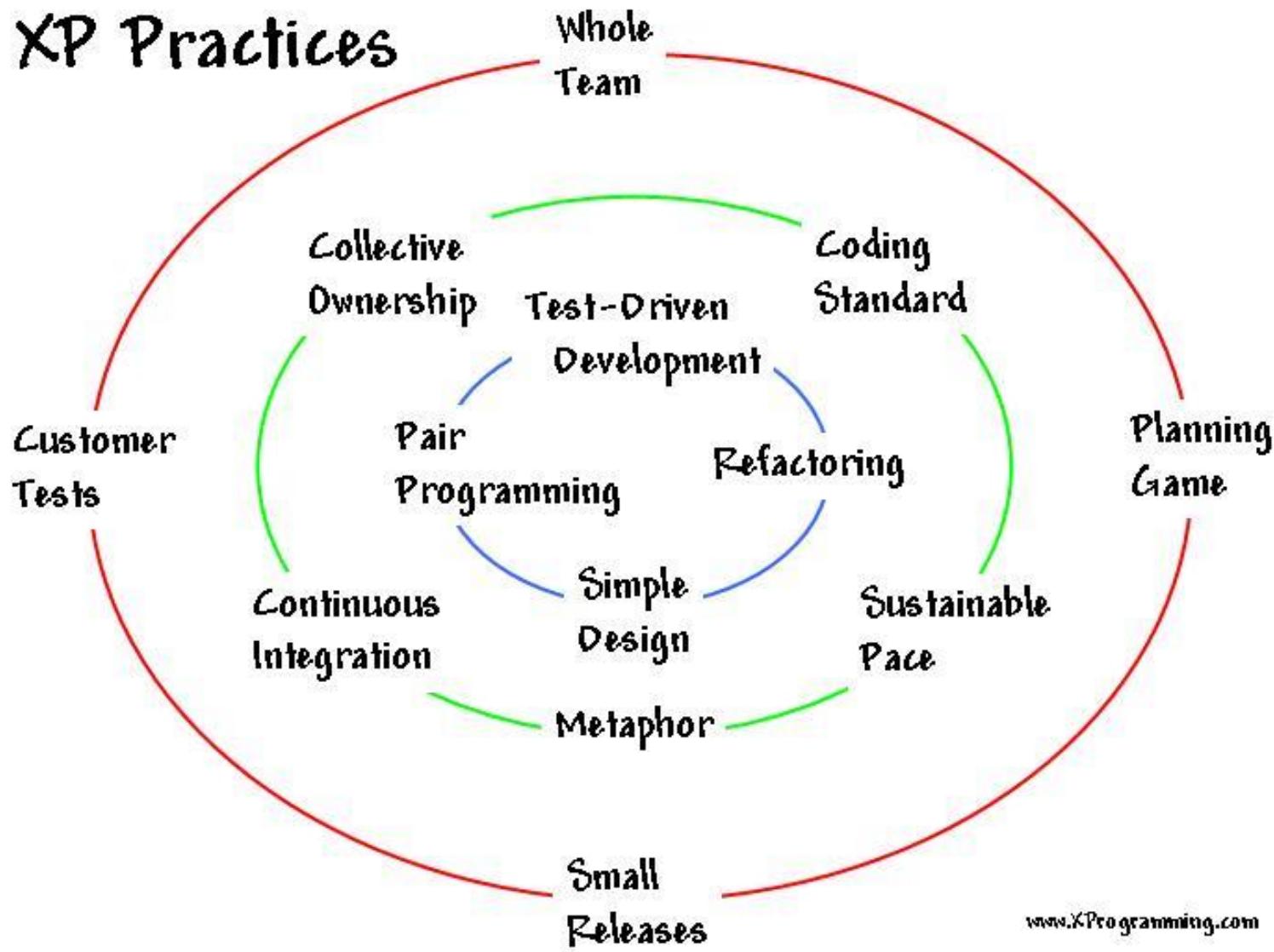
Value Realization



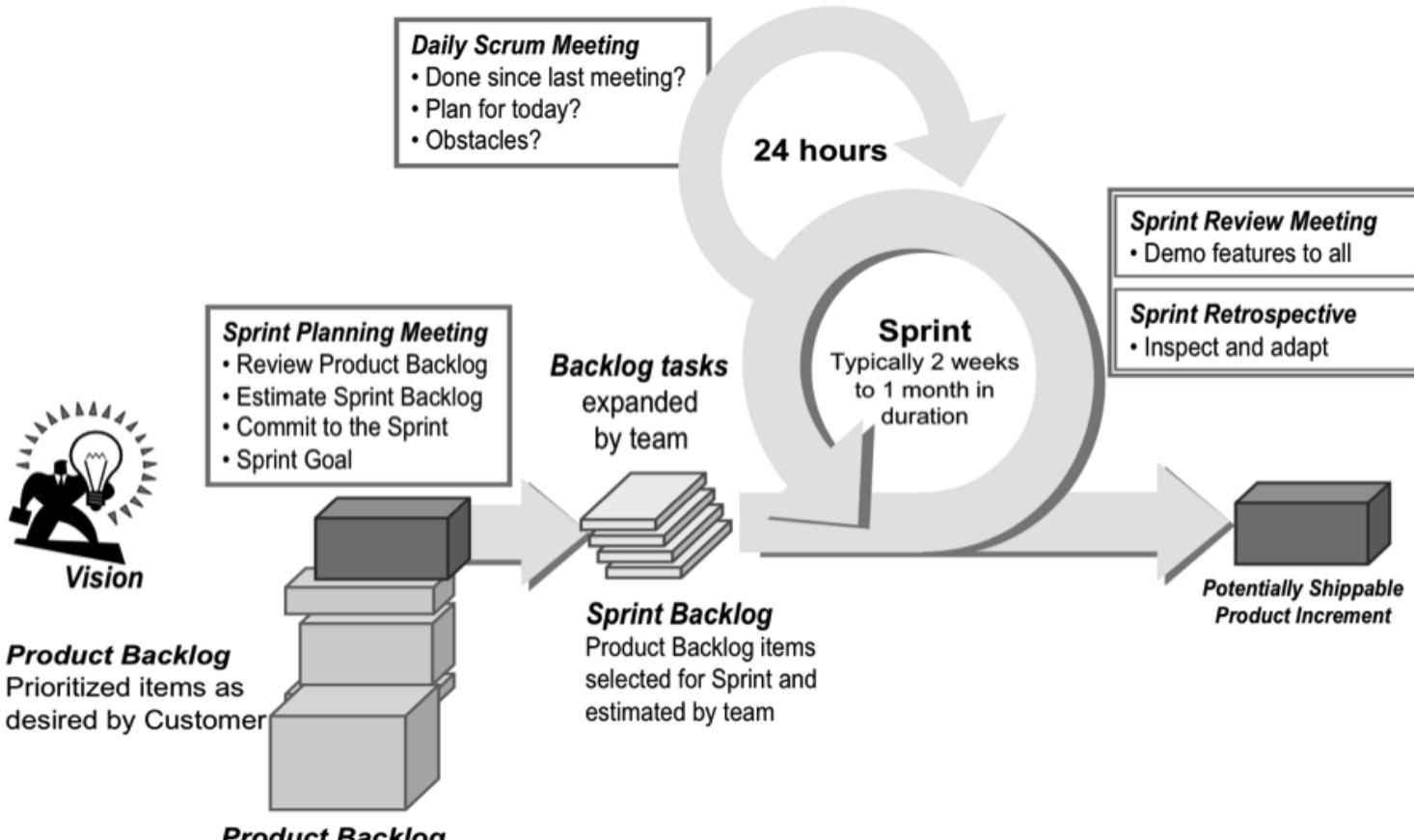
AGILE METHODOLOGIES

1. Extreme Programming
2. Scrum
3. Crystal
4. LEAN
5. FDD
6. RUP
7. DSDM
8. ASD
9. Agile Modeling





SCRUM - Self Committed Resources Unified Model *



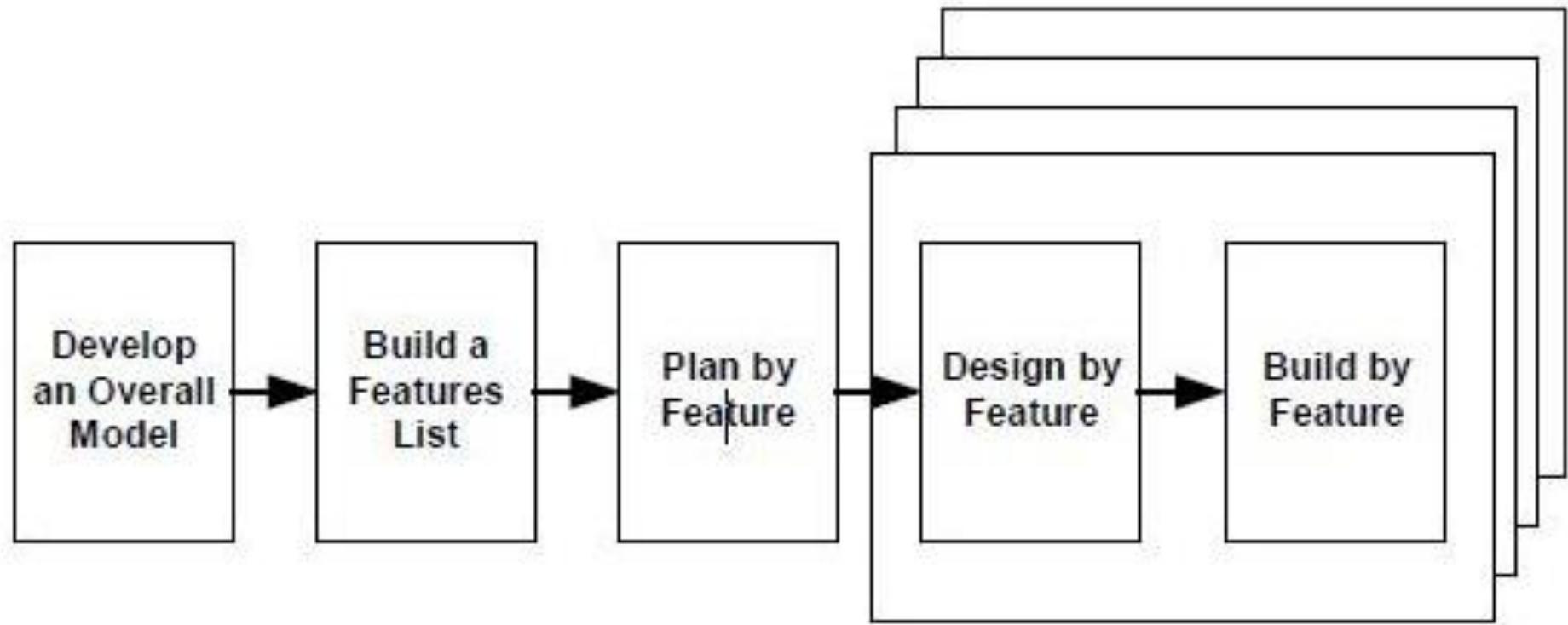
<http://www.gettingagile.com/>

Lean principles

- ❖ Eliminate waste
- ❖ Amplify learning
- ❖ Decide as late as possible
- ❖ Deliver as fast as possible
- ❖ Empower the team
- ❖ Build integrity in
- ❖ See the whole



FDD (Feature Driven Development)



<http://eljabiri1.tripod.com/sitebuildercontent/sitebuilderfiles/Comp-agile.pdf>

Agile Scrum Introduction

<http://scrumtrainingseries.com/>

A framework

SCRUM

(SELF COMMITTED RESOURCES UNIFIED MODEL *)

SCRUM



A play in Rugby in which the two sets of forwards mass together around the ball and, with their heads down, struggle to gain possession of the ball.

Scrum in 100 words

- An Agile frame work that allows us to focus on delivering the highest business value in the shortest time.
- Allows us to rapidly and repeatedly inspect actual working software (every two weeks to one month).
- The business sets the priorities. Teams self-organize to determine the best way to deliver the highest priority features.
- Every two weeks to a month anyone can see real working software and decide to release it as is or continue to enhance it for another sprint.

Scrum origins

Jeff Sutherland

- Initial scrums at Easel Corp in 1993
- IDX and 500+ people doing Scrum

Ken Schwaber

- ADM
- Scrum presented at OOPSLA 96 with Sutherland
- Author of three books on Scrum

Mike Beedle

- Scrum patterns in PLOPD4

Ken Schwaber and Mike Cohn

- Co-founded Scrum Alliance in 2002, initially within the Agile Alliance

Ken Schwaber – Scrum.Org



- Founded by Ken Schwaber in 2011



Scrum has been used by:

- Microsoft
- Yahoo
- Google
- Primavera
- Electronic Arts
- High Moon Studios
- Lockheed Martin
- Philips
- Siemens
- Nokia
- Capital One
- BBC
- Intuit
- Nielsen Media
- First American Real Estate
- BMC Software
- Ipswitch
- John Deere
- Lexis Nexis
- Sabre
- Salesforce.com
- Time Warner
- Turner Broadcasting
- Oce

Scrum has been used for:

Commercial software

In-house development

Contract development

Fixed-price projects

Financial applications

ISO 9001-certified applications

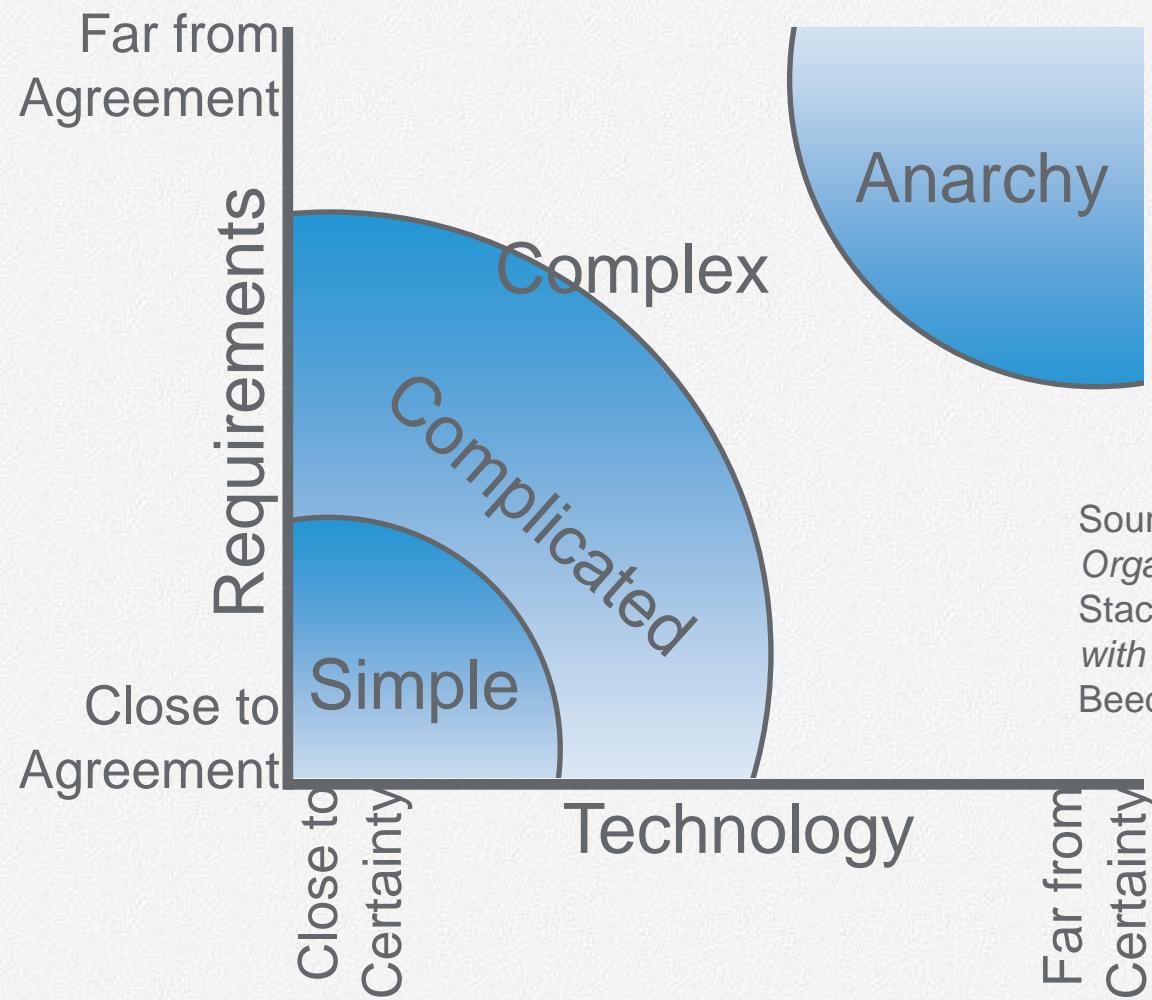
Embedded systems

24x7 systems with 99.999%
uptime requirements

- Video game development
- FDA-approved, life-critical systems
- Satellite-control software
- Websites
- Handheld software
- Mobile phones
- Network switching applications
- ISV applications
- Some of the largest applications in use
- Joint Strike Fighter

BASICS

Projects Types



Source: *Strategic Management and Organizational Dynamics* by Ralph Stacey in *Agile Software Development with Scrum* by Ken Schwaber and Mike Beedle.

Sequential vs. overlapping development



Requirements

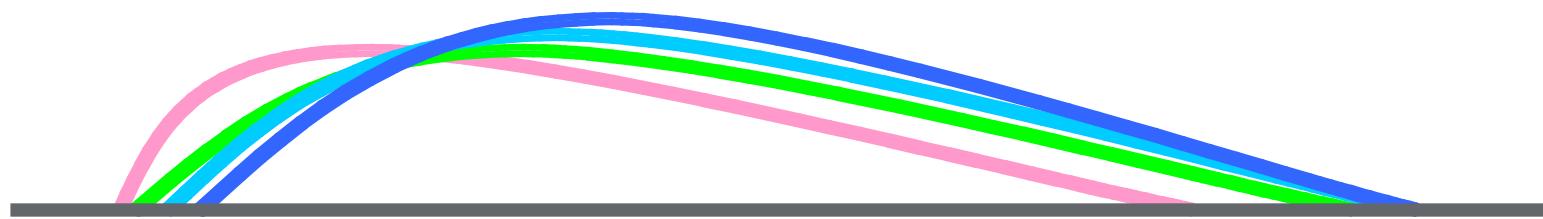
Design

Code

Test

Rather than doing all of one thing at a time...

...Scrum teams do a little of everything all the time



Source: "The New New Product Development Game" by Takeuchi and Nonaka. *Harvard Business Review*, January 1986.

Characteristics

Self-organizing teams

Product progresses in a series of month-long “sprints”

Requirements are captured as items in a list of “product backlog”

No specific engineering practices prescribed

Uses generative rules to create an agile environment for delivering projects

One of the “agile processes”

Sprints

Scrum projects make progress in a series of “sprints”

- Analogous to Extreme Programming iterations

Typical duration is 2–4 weeks or a calendar month at most

A constant duration leads to a better rhythm

Product is designed, coded, and tested during the sprint



Scrum time boxes

Sprint Planning Meeting: This is time-boxed to eight hours for a one-month Sprint. For shorter Sprints, the event is proportionately shorter.

Daily Scrum: The Daily Scrum is a 15-minute time-boxed event for the Development Team to synchronize activities and create a plan for the next 24 hours.

Sprint Review: This is a four-hour time-boxed meeting for one-month Sprints. Proportionately less time is allocated for shorter Sprints.

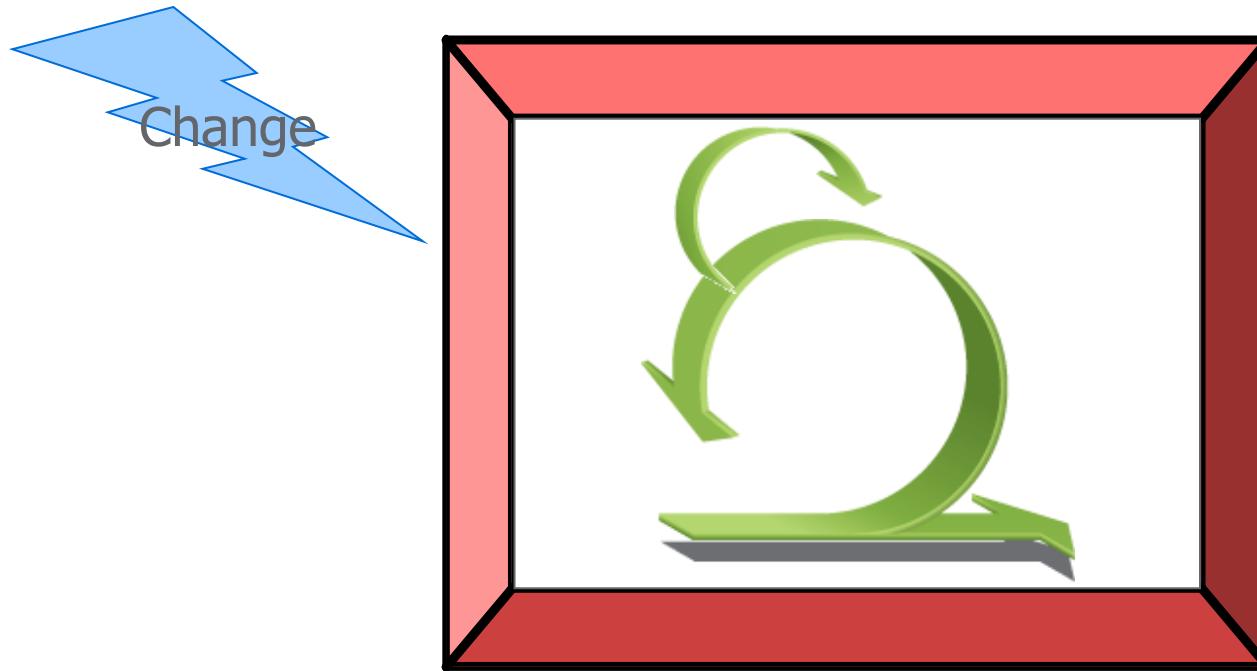
Sprint Retrospective : This is a three-hour time-boxed meeting for one-month Sprints. Proportionately less time is allocated for shorter Sprints.

Parkinson's Law

Effort expands to fill the time Effort time



No changes during a sprint



Plan sprint durations around how long you can commit to keeping change out of the sprint

Scrum Terminology

Pigs and Chicken

Product Backlog

Sprint Backlog

User Story

Acceptance Criteria

Tasks

Kanban Board

Information Radiators

WIP

DoD

Sprint Termination

Face 2 Face communication

Virtual Teams

Team Space

Backlog Grooming

Technical Debt

Spike

Team Charter

Daily Scrum ground rules



Definition of Done

A few checklist items for the team on the definition of DONE:

Coding standards followed

No outstanding show stopper bugs

Evidence of testing (Unit, System, Regression, Platform(s), Automation, Usability, Confirmation)

Documentation (User, Technical) as agreed

Peer review

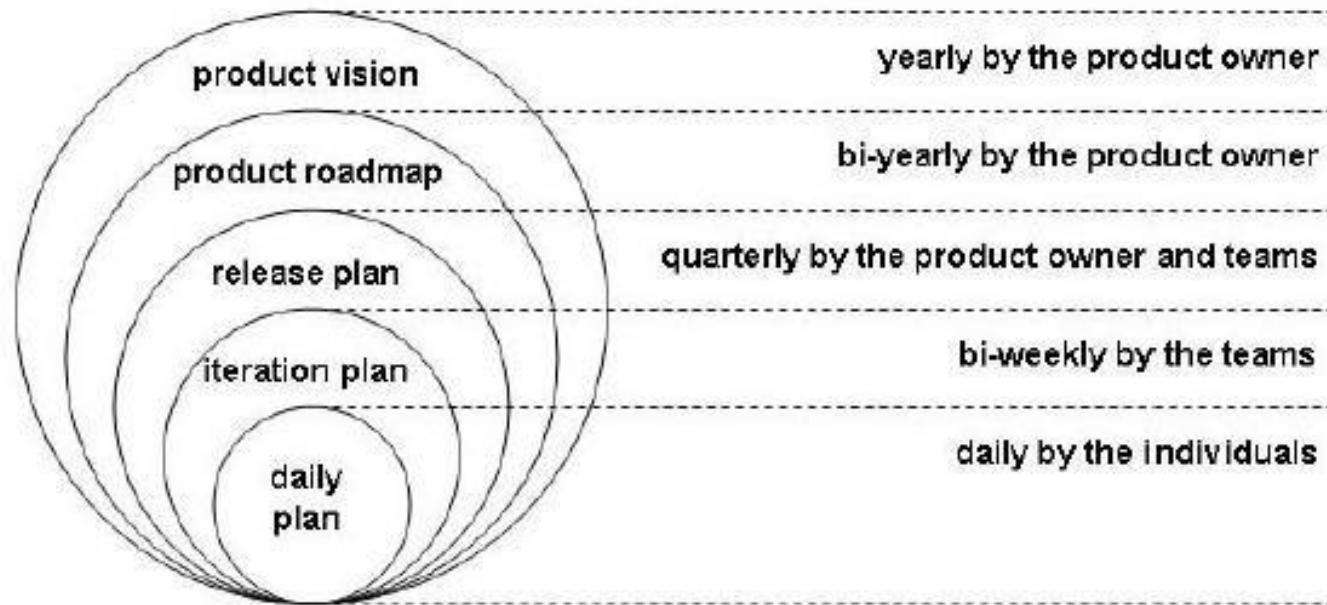
Agreed of percent code coverage achieved

Build and package changes are communicated to build master (i.e. introducing a new file or something) and build is deployed

Task list hours are updated and task is closed out

Know in scope and out scope on development and testing

Planning...



Ref: http://www.sao.corvallis.or.us/drupal/files/Five_levels_of_agile.pdf

User story template

Front of Card

Story [Short Name]

As a [Role]

I want [something]

So that [benefit)

Size ----

Priority ----

Back of card

Acceptance Criteria [Short Name]

Given [Context]

When [Event 1]

[Event 2] etc.

Then [Outcome]

[Outcome2] etc.



User Story writing

I would like to buy aircrafts of very high caliber.

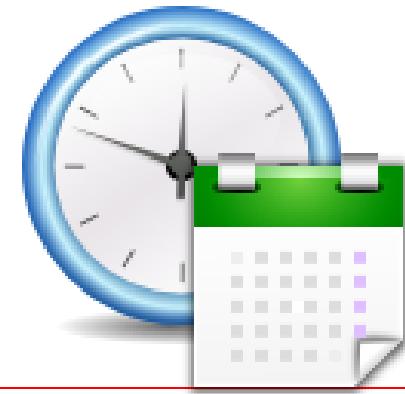
Write User stories

Estimation Units

Ideal Time –how long a task takes if there were no interruptions

Story Point –relative measurement among User Stories

Velocity - how many estimation units get completed by a team in a single iteration. –



Techniques



1. Analogous Estimation/Triangulation/Affinity

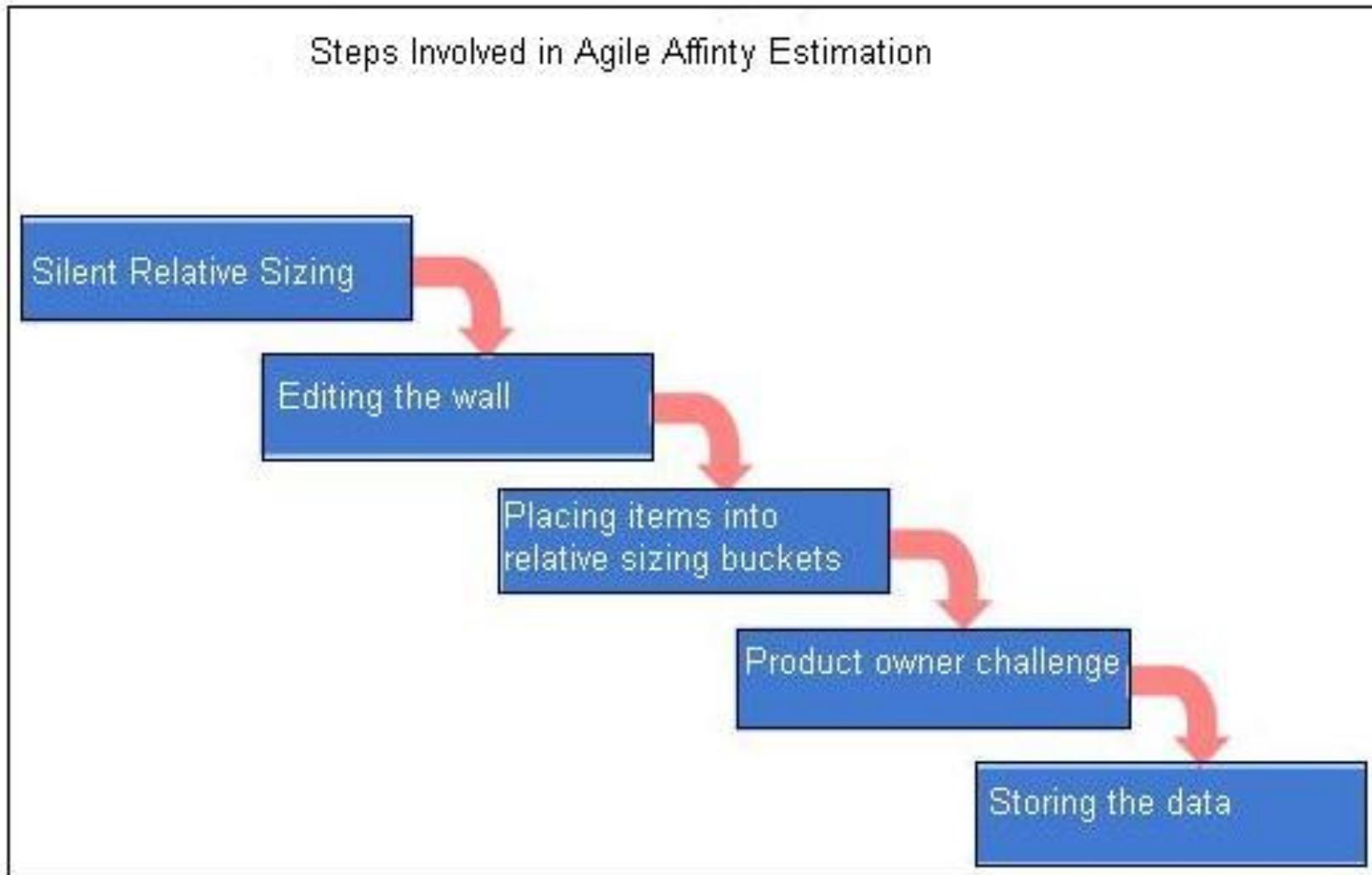
- T Shirt Size



2. Wide band Delphi

- Planning Poker

Affinity Estimation



t-shirt sizes

t-shirt sizes

XS, S, M, L, XL, XXL, XXXL

Estimation Using T-Shirt Sizes

T-shirt Sizing is an Agile Estimation method – it's used to estimate larger requirements i.e. Epics, but maybe the odd User Story also.

In short, you attribute a number of story points to a t-shirt size e.g. an XXL might equal '55 points' as shown in the diagram below. T-shirt sizes are great for Product Owners and/or non-technical people as they're totally abstract and non-threatening (that's not meant to sound patronizing...you know what I mean!). They're easy to understand.

When estimating in T-shirt sizes, it's still important to set your scale – agree in advance what constitutes a 'Small', 'Large' and 'XX Large'.

T-shirt sizing will normally take place at the Requirements Workshop – this helps the Product Owner and Product Manager get a sense of scale, which will in turn help with the prioritization process.

As always, the Scrum Team are the people that assign t-shirt sizes to Epics. The Product Owner and/or Product Manager are not allowed to participate in the estimation process – they can offer insight and guidance but the estimations belong to the Scrum Team.



Planning Poker

1. Each estimator is given a deck of cards, each card contains a valid estimate.
 - Power of 2 — 1,2,4,8,16,32,64,.....
 - Fib — 0, 1,1, 2,3,5,8,13,21,34,55,89,.....
2. Story is read and discussed briefly
3. Each estimator selects a card that reflects their estimate.
4. Cards are turned over for all to see.
5. Discussion takes place
6. Re-estimate to try to get convergence.
 - Similar to Wide-band Delphi
 - Research has shown that although planning poker is not wide-band Delphi, participants find it fun.



<http://www.planningpoker.com/>

Demo

Is it so easy?



Scrum is lightweight, simple to understand but extremely difficult to master and implement well - Ken

Scrum Values

COMMITMENT

FOCUS

OPENNESS

RESPECT

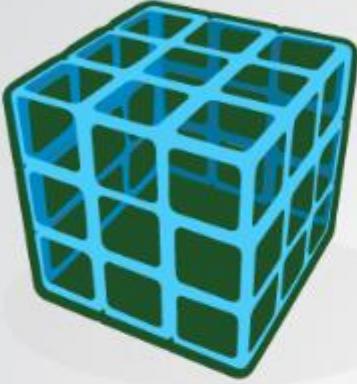
COURAGE

3 Pillars of Scrum



SCRUM FRAMEWORK

What is Scrum?



Framework for new product development

SCRUM FRAMEWORK



Roles

- Product owner
- ScrumMaster
- Team

Ceremonies

- Sprint planning
- Sprint review
- Sprint retrospective
- Daily scrum meeting

Artifacts

- Product backlog
- Sprint backlog
- Burndown charts

Roles

- Product owner
- ScrumMaster
- Team

Ceremonies

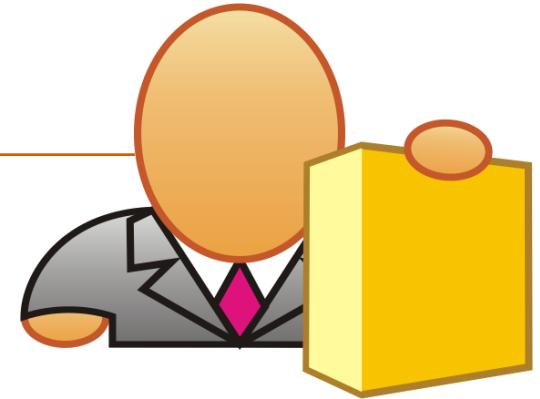
- Sprint planning
- Sprint review
- Sprint retrospective
- Daily scrum meeting

Artifacts

- Product backlog
- Sprint backlog
- Burndown charts

Product owner

- ✓ Define the features of the product
- ✓ Decide on release date and content
- ✓ Be responsible for the profitability of the product (ROI)
- ✓ Prioritize features according to market value
- ✓ Adjust features and priority every iteration, as needed
- ✓ Accept or reject work results



 Scrum Elements - Roles



PRODUCT OWNER

Responsible for Return On Investment (ROI)
Final arbiter of requirements questions
Focused more on the <i>what</i> than on the <i>how</i>



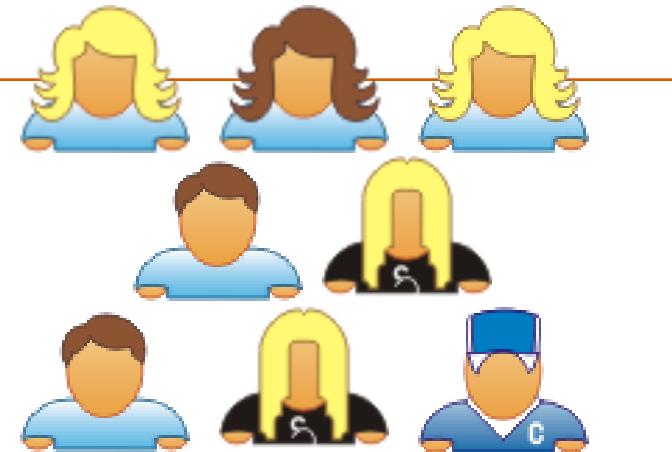
The ScrumMaster

- Represents management to the project
- Responsible for enacting Scrum values and practices
- Removes impediments
- Ensure that the team is fully functional and productive
- Enable close cooperation across all roles and functions
- Shield the team from external interferences



- a. Responsible**
- b. Influential**
- c. Collaborative**
- d. Humble**

The team



Typically **3 -9 people** (6 +/- 3)

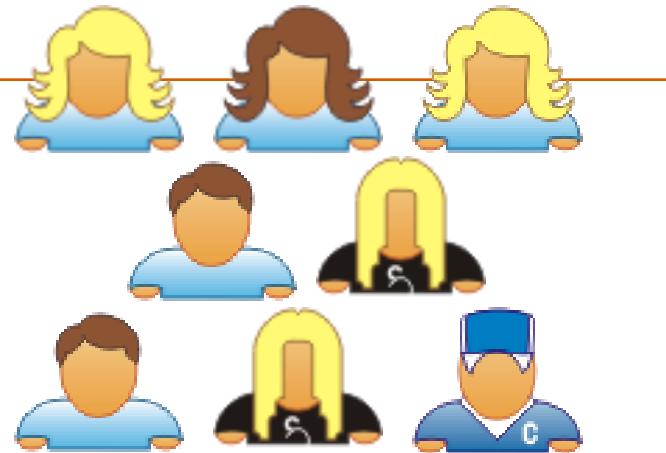
Cross-functional:

- Programmers, testers, user experience designers, etc.

Members should be full-time

- May be exceptions (e.g., database administrator)

The team



Teams are self-organizing

- Ideally, no titles but rarely a possibility

Membership should change only between sprints

BOLD

1. B: Belongingness
2. O: Openness
3. L: Listening
4. D: Disciplined

Roles

- Product owner
- ScrumMaster
- Team

Ceremonies

- Sprint planning
- Sprint review
- Sprint retrospective
- Daily scrum meeting

Artifacts

- Product backlog
- Sprint backlog
- Burndown charts



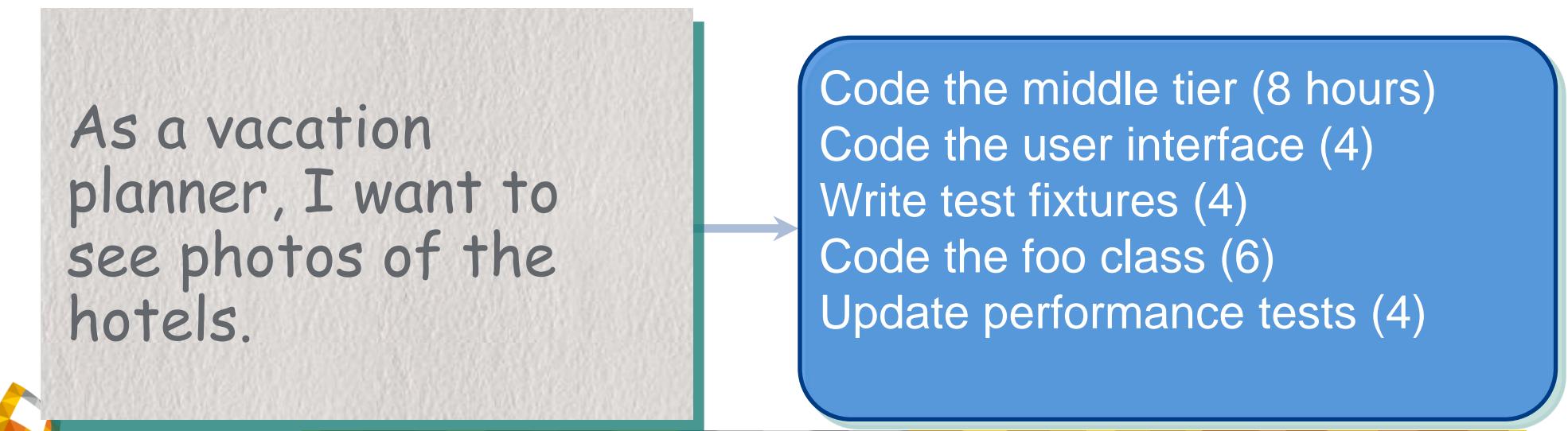
Sprint planning

Team selects items from the product backlog they can commit to completing

Sprint backlog is created

- Tasks are identified and each is estimated (1-16 hours)
- Collaboratively, not done alone by the ScrumMaster

High-level design is considered



The daily scrum

Parameters

- Daily
- 15-minutes
- Stand-up

Not for problem solving

- Whole world is invited
- Only team members, ScrumMaster, product owner, can talk

Helps avoid other unnecessary meetings



Everyone answers 3 questions

1

What did you do yesterday?

2

What will you do today?

3

Is anything in your way?

These are *not* status for the ScrumMaster

- They are commitments in front of peers
- Impediment Tracker

The sprint review

Team presents what it accomplished during the sprint

Typically takes the form of a demo of new features or underlying architecture

Informal

- 2-hour prep time rule
- No slides

Whole team participates

Invite the world



Sprint retrospective

Periodically take a look at what is and is not working

Typically 15–30 minutes

Done after every sprint

Whole team participates

- ScrumMaster
- Product owner
- Team
- Possibly customers and others



Start / Stop / Continue

Whole team gathers and discusses what they'd like to:

Start doing

Stop doing

This is just one
of many ways to
do a sprint
retrospective.

Continue doing

Roles

- Product owner
- ScrumMaster
- Team

Ceremonies

- Sprint planning
- Sprint review
- Sprint retrospective
- Daily scrum meeting

Artifacts

- Product backlog
- Sprint backlog
- Burndown charts

The requirements

A list of all desired work on the project

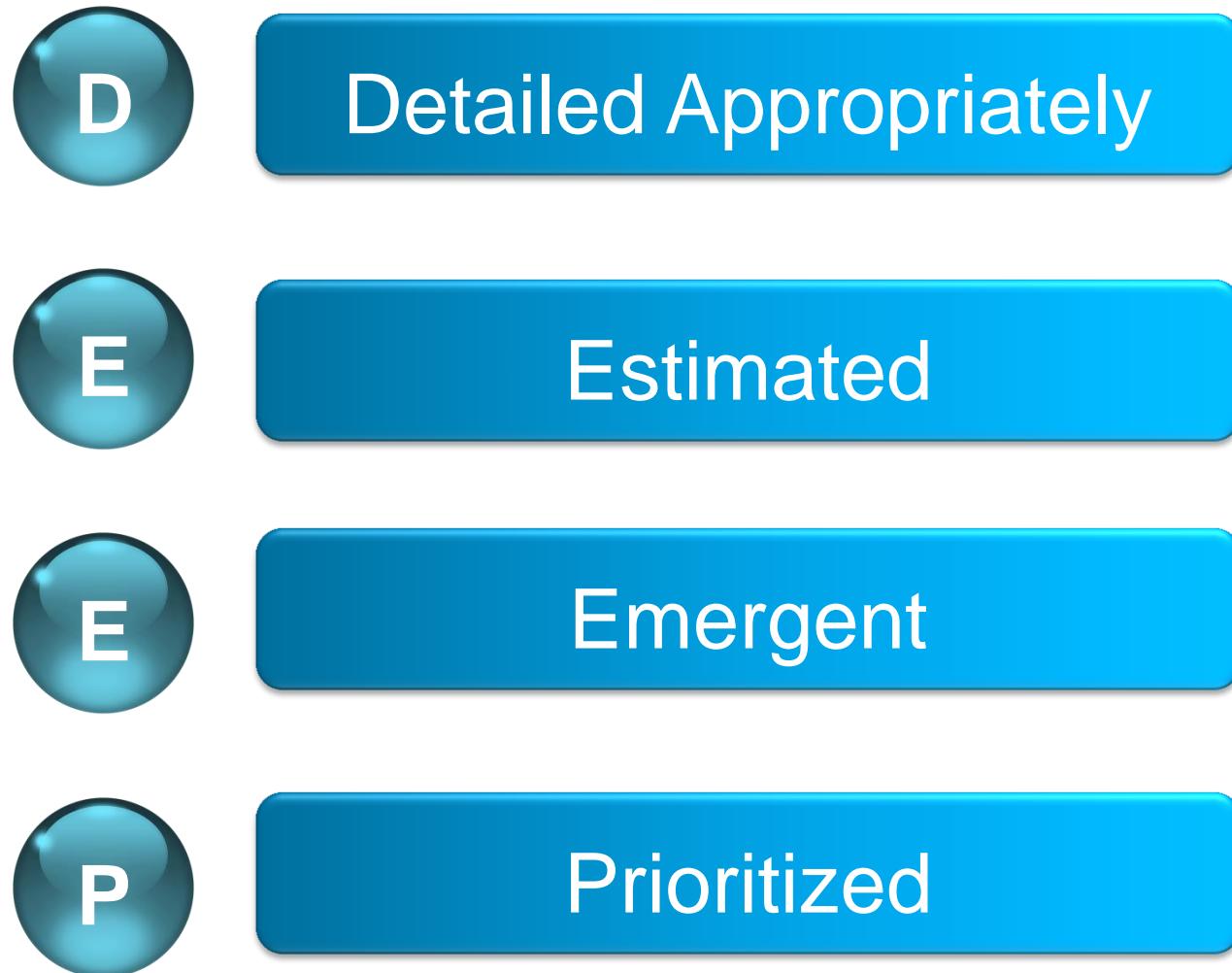
Ideally expressed such that each item has value to the users or customers of the product

Prioritized by the product owner

Reprioritized at the start of each sprint



This is the
product backlog



A sample product backlog

Backlog item	Estimate
Allow a guest to make a reservation	3
As a guest, I want to cancel a reservation.	5
As a guest, I want to change the dates of a reservation.	3
As a hotel employee, I can run RevPAR reports (revenue-per-available-room)	8
Improve exception handling	8
...	30
...	50

The sprint goal

A short statement of what the work will be focused on during the sprint

Database Application

Make the application run on SQL Server in addition to Oracle.

Life Sciences

Support features necessary for population genetics studies.

Financial services

Support more technical indicators than company ABC with real-time, streaming data.

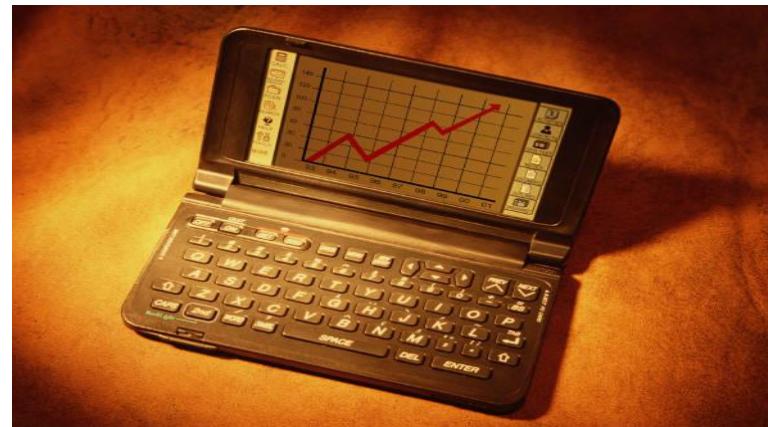
Managing the sprint backlog

Individuals sign up for work of their own choosing

- Work is never assigned

Estimated work remaining is updated daily

The amount of value achieved is burn up and the amount of work remaining is burn down



Managing the sprint backlog

Any team member can add, delete or change the sprint backlog

Work for the sprint emerges

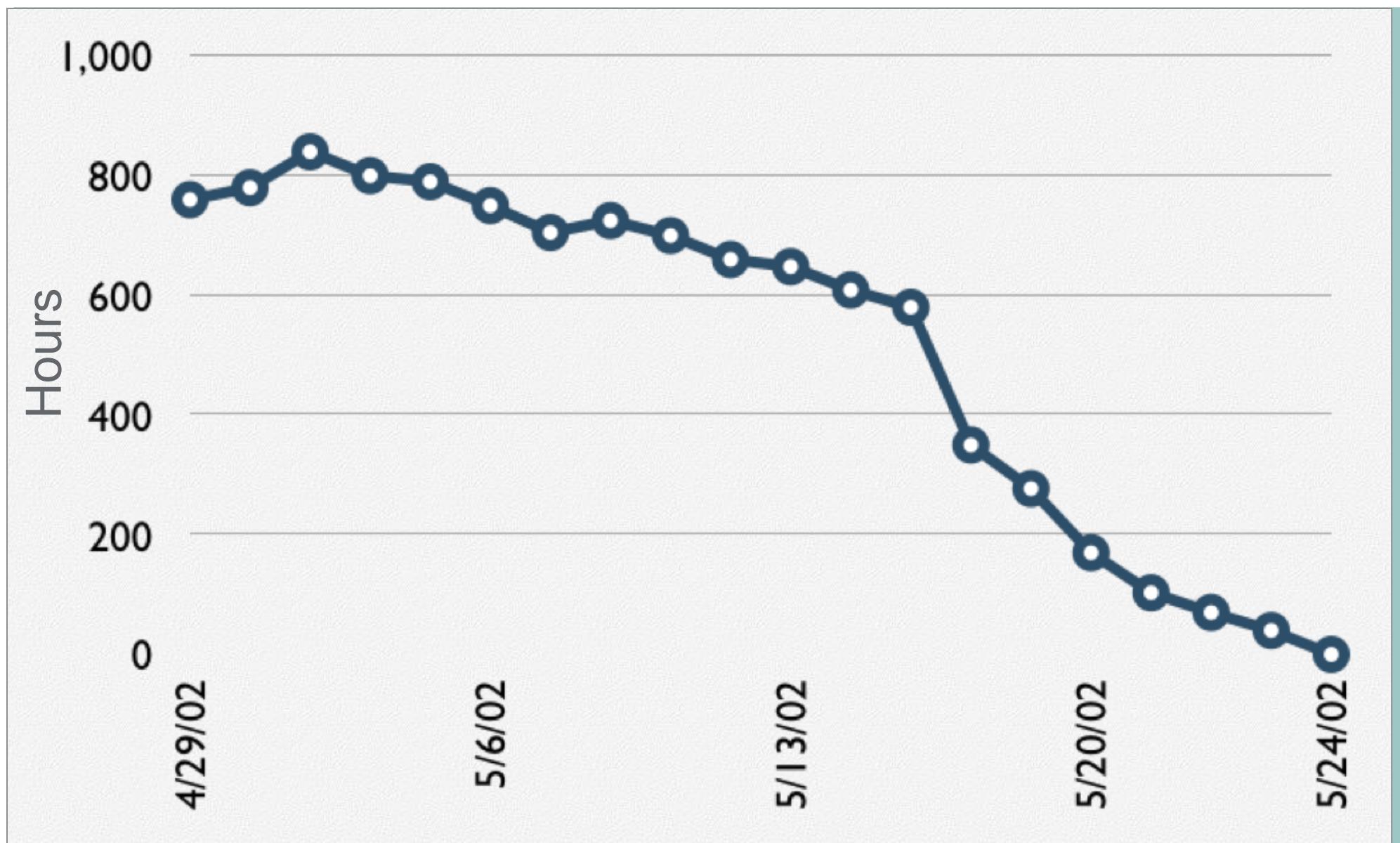
If work is unclear, define a sprint backlog item with a larger amount of time and break it down later

Update work remaining as more becomes known

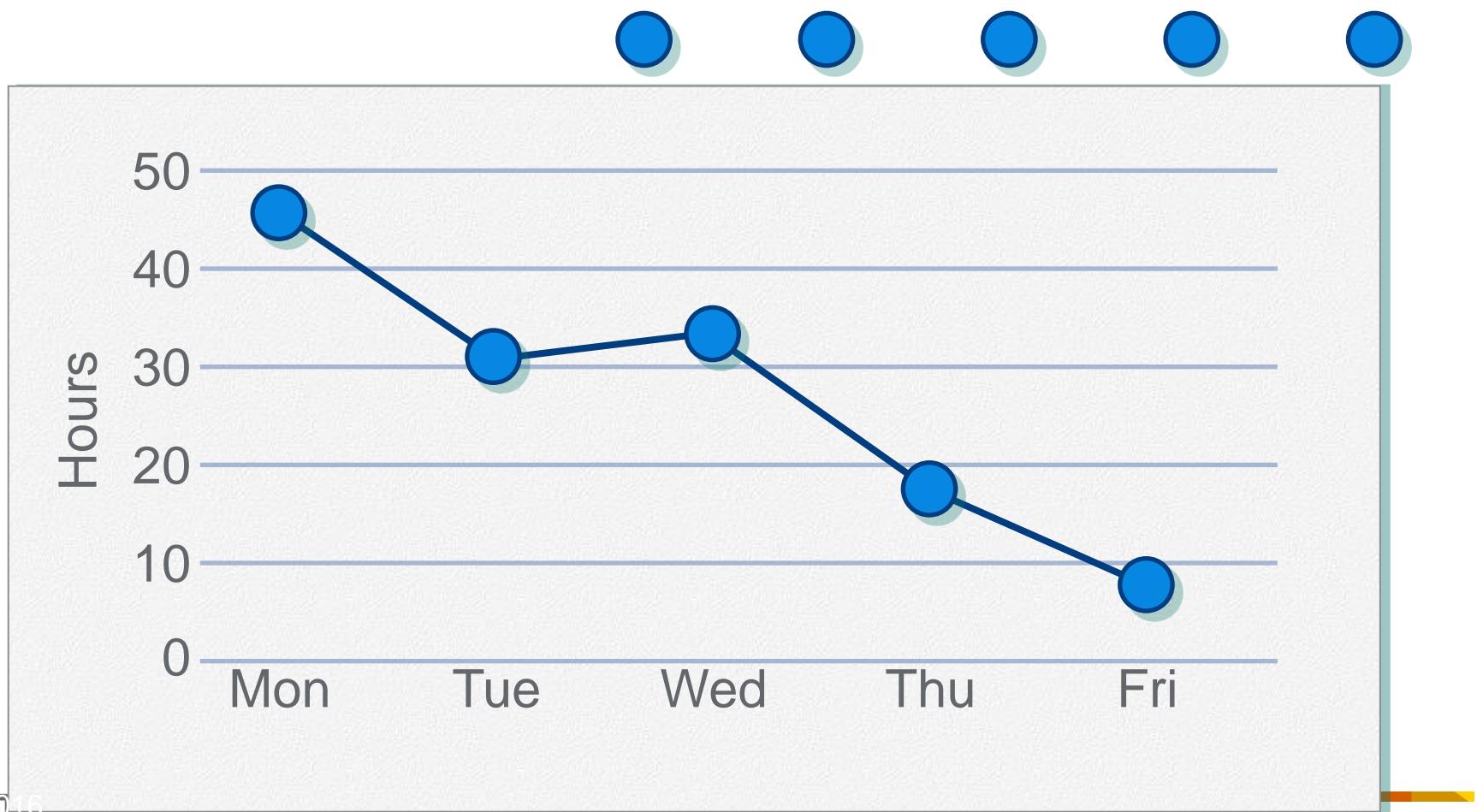
A sprint backlog Sample

Tasks	Mon	Tues	Wed	Thur	Fri
Code the user interface	8	4	8		
Code the middle tier	16	12	10	4	
Test the middle tier	8	16	16	11	8
Write online help	12				
Write the foo class	8	8	8	8	8
Add error logging			8	4	

A sprint burndown chart



Tasks	Mon	Tues	Wed	Thur	Fri
Code the user interface	8	4	8		
Code the middle tier	16	12	10	7	
Test the middle tier	8	16	16	11	8
Write online help	12				



Scalability

Typical individual team is 6 ± 3 Scalability comes from teams of teams

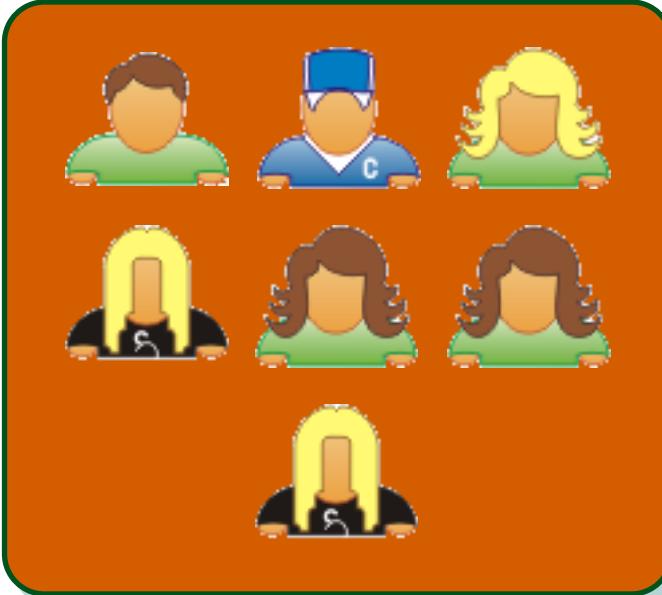
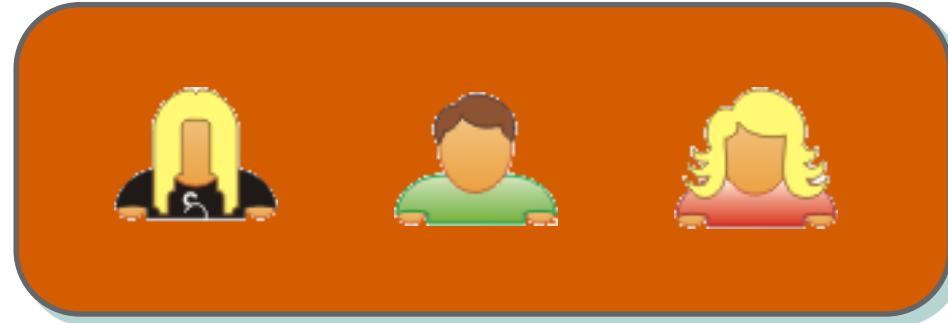
Factors in scaling

- Type of application
- Team size
- Team dispersion
- Project duration

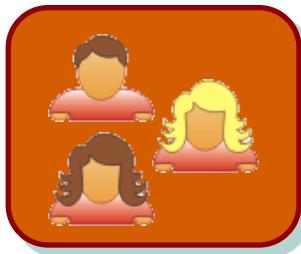


Scrum has been used on multiple 500+ person projects

Scaling through the Scrum of scrums



Scrum of scrums of scrums

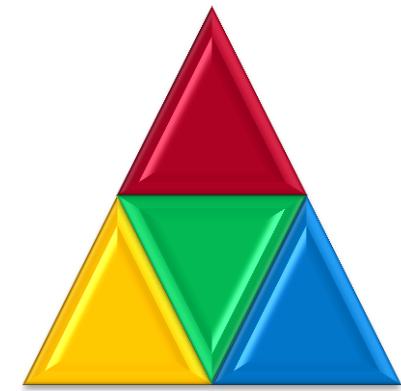


Metrics

- Velocity
- Escaped Defects



Beyond Scrum



Risk planning everywhere

Release Planning

Sprint Planning

Daily Scrum

Sprint Retrospective



Agile Scrum Risk Tracking

Impediment Tracker

Risk Burndown Chart



Why a Sprint Zero?

Getting started too early can be wasteful and can set the Scrum team up for quick frustration, creating immediate conflict and undo pressure. Teams need sufficient time and energy spent upfront to gain a solid grounding in the product vision and distilling it into 'just enough' business requirements to provide direction to the development team on what is expected at a high level. They also need time to get to know one another and to form a contract amongst themselves on how they will work as an agile team (see Team Charter user story).

Creating a vision, prioritizing user stories, agreeing on a definition of done, etc. does not need to take weeks or months. But it does need to get done.



Sprint 0 Tasks

Hardening Sprint

When necessary, a Hardening Sprint occurs to prepare for a software release, some name it “Release Sprint”

A sprint that typically occurs at the end of each release cycle to accomplish activities that are related to the release of software products

Hardening Sprints typically occur in environments where software releases happen on a quarterly, biannual, or annual calendar schedule as opposed to at the end of each sprint.

Hardening Sprints can also occur because there are story tasks that require other, outside, tasks to be complete that can not be accomplished during the sprint.

/

Items listed should be part of each story and each sprint but a lack of automation in code builds, code integration/deployment, testing, and maybe team structure, necessitate that they sometimes need to wait for a Hardening Sprint.

Defect fixes due to testing issues

System compliance/documentation work need to be completed before release

Team’s definition of “done” is less than required for the release

Perform tasks in meeting regulatory requirements (Additional Reviews may be needed)

Create deployment packages and other deployment related activities

Release sign-offs

Stakeholders training (in some cases)

“The release sprint is not a dumping ground for sloppy work; rather it is a place where some hardening of the system can occur.” - Mike Cohn

Avoid postponing development work from normal sprints for later hardening sprint just because it is available

Avoid delaying testing that can be completed during normal sprint

Avoid delaying refactoring and cleanup that can be completed in normal sprints

Some types of testing can only be done at the end when all functionality is complete

- End-to-End Performance Testing in a staging environment
- Load Testing; load scenarios that might not possible earlier
- Penetration testing (to evaluate computer and network security)
- Interoperability testing (with other systems)
- Integration testing
- Completion of User Acceptance Testing
- Regression testing

The same, time boxed, duration as the other sprints

Work activities should be reflected in stories that are in the sprint backlog and should include tasks, estimated time, and an assigned resource

The standard scrum agile ceremonies should be followed

Story points should not be created and hardening sprints should not effect the teams velocity



Agile EVM Equations

Item	Definition
Budget At Complete (BAC)	The planned amount you expect to spend
Actual Cost (AC)	The actual cost to complete the work
PRSP	Planned Release Story Points for the release. Story points are defined at the Product Backlog level.
Expected Percent Complete (EPC)	Current Sprint(n) / Total planned Sprints
Actual Percent Complete (APC)	Story points completed / Total planned Story points
Planned Value (PV)	$PV = BAC * EPC$
Earned Value (EV)	$EV = BAC * APC$
Cost Performance Index (CPI)	$CPI = EV / AC$
Schedule Performance Index	$CSPI = EV/PV$

- » **Schedule Variance (SV)**
- »
- » The difference in number of story points completed (Potentially Shippable Increments) and the total number of story points planned.
- »
- » **Schedule Performance Index (SPI)**
- »
- » The total number of story points completed (Potentially Shippable Increments) divided by the total number of story points planned.
- »
- » **Cost Variance (CV)**
- »
- » The difference between the completed features to date (in \$) and the actual cost to date (in \$).
- »
- » **Cost Performance Index (CPI)**
- »
- » The total value of the completed features to date (in \$) divided by the actual cost to date (in \$).
- »
- » This formulae can go even beyond but these are a few basic formulae which usually anyone from agile teams would be interested.



High Performance Team Building

Three key characteristics of High Performance Team building

trust, respect, and support



High Performance Team Building

Define a very clear picture of the future - a vision for the team.

Be genuine, even if it means lowering your guard.

Ask good questions.

Talk about things - even the hard things.

Follow through on commitments.

Let others speak first.

Listen.

Face up to non-performing players.

Have fun, but never at others' expense.

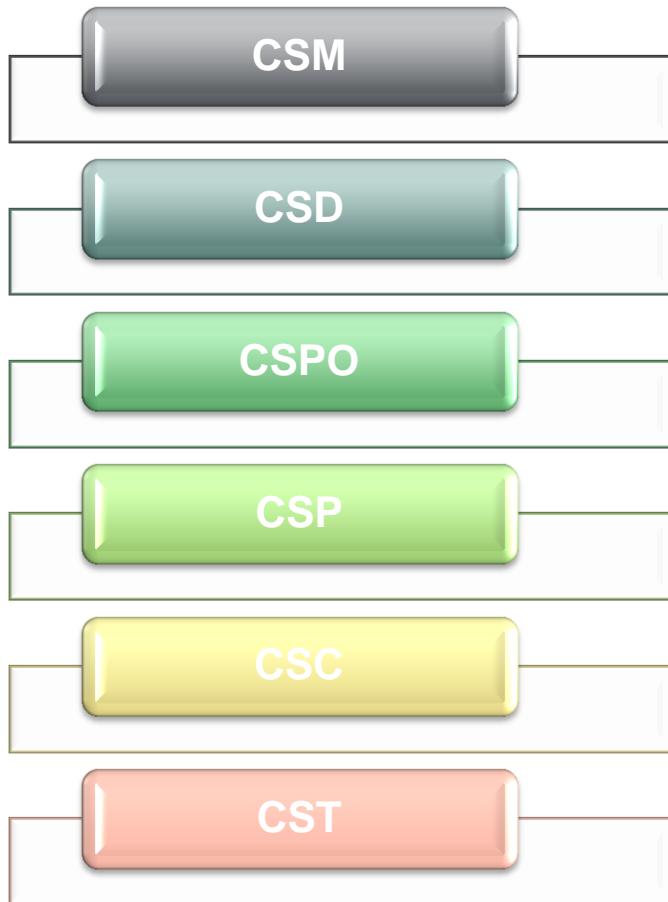
Be confident and dependable.

TEAM

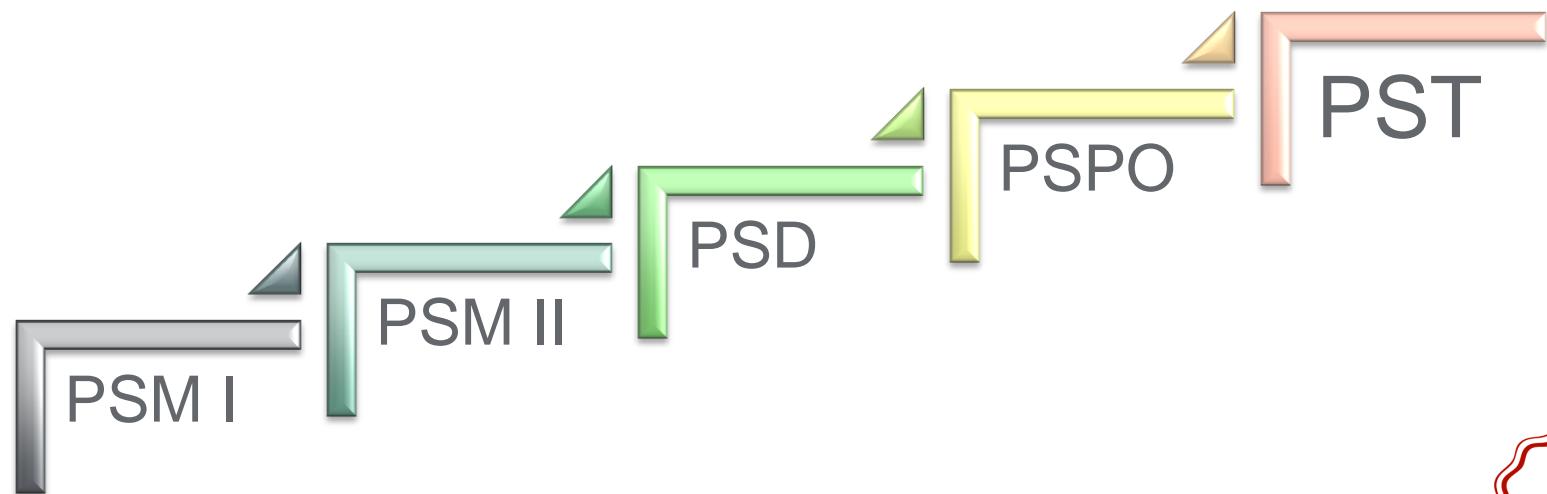




Certification Opportunities



<http://www.scrumalliance.org/>



<http://www.scrum.org/>



PMI ACP

<http://www.pmi.org/Certification/New-PMI-Agile-Certification.aspx>



Agile PM



PSM EXAM SPECIFIC

Details

Fee: \$100

Passing score: 85%

Time limit: 60 minutes

Format: Multiple Choice and True/False

Required course: None

Recommended course: [Professional Scrum Master](#)

Practice Assessment: [Scrum Open](#)



Read the [Scrum Guide](#), which lays out the overall Scrum framework.

Read any of the good books in publication. [Software in 30 Days](#): by Ken Schwaber is well regarded and relatively short.

Join the Scrum.org [Forum](#) discussions.

Join Scrum discussion groups. The [Scrum Development Yahoo group](#) has been around since 2001.

May please register for assessment @ <https://www.scrum.org/Member-Login?returnurl=/Assessments/Open-Assessments/Scrum-Open-Assessment/Take-Scrum-Open-Assessment>

Additional Help

Follow the group @

https://oneconnect.uhg.com/community/communities_of_practice/technology/agile/agile_certifications of your interest

The request for UHG internal certification can be raised @

<http://sep.uhc.com/MyAgile/Lists/UHG%20Scrum%20Certification%20Requests/AllItems.aspx>

More details can be found @ <https://oneconnect.uhg.com/thread/23941?tstart=0>

Agile community group link can be accessed @

https://oneconnect.uhg.com/community/communities_of_practice/technology/agile

Agile certification group link can be accessed @

https://oneconnect.uhg.com/community/communities_of_practice/technology/agile/agile_certifications

Agile Share point can be accessed @ <http://sep.uhc.com/MyAgile/default.aspx>



Sample Questions

Question 1

1. What is the difference between a release and an iteration?

- a) A release consists of many iterations
- b) An iteration contains many releases
- c) They are the same
- d) They are mutually exclusive



Question 2

2. What is the timing of when extreme Programming teams work on features?

- a) Sequentially
- b) Simultaneously
- c) In any order
- d) Once all the requirements are complete



Question 3

3. Which of the following Agile practices emphasizes building releasable products in short time periods?
- a) Computer programming process
 - b) Iterative and incremental development
 - c) Load testing
 - d) Release planning



Question 4

4. What is a coding methodology that is sometimes confused with Agile?

- a) Continuous integration
- b) Automated unit testing
- c) Cowboy coding
- d) Test-driven development



Question 5

5. Of the tools listed below that are related to Planning, Monitoring, and Adapting, which is better suited to Waterfall project management rather than Agile?
- a) Retrospectives
 - b) Stand-up meetings
 - c) Burn-down and burn-up charts
 - d) Daily status reports



Question 6

6. What is the definition of method tailoring?

- a) A process that determines a system development approach for a specific project situation
- b) A process of refactoring software functions
- c) The way in which Waterfall methodology is adapted to Agile
- d) A custom approach for determining milestones in a test-driven development project



Question 7

7. What is the underlying philosophy of the Agile Manifesto?

- a) To complete projects before they are due
- b) To make sure that projects come in under budget
- c) To satisfy the customer through early and continuous delivery of valuable software
- d) To make sure projects are aligning to Agile processes and not concern themselves with the successful delivery of projects



Question 8

8. As recommended by the Agile Manifesto, how should business owners and product developers interact?
- a) Work together during the requirements phase and no other phases
 - b) Interact with each other only at the end of the project.
 - c) Work together daily throughout the project
 - d) Interact with the team through either e-mail or voice mail, but not in person



Question 9

9. On an Agile project, the sponsors, developers, and users should be able to maintain a constant pace for what time period?
- a) For one sprint
 - b) For all sprints in the release
 - c) For three sprints
 - d) Indefinitely



Question 10

10. In an Agile project, stakeholder engagement management is defined as:
- a)the time after the product is launched when the stakeholders actually use the product.
 - b)establishing and maintaining mechanisms that ensure all current and future parties are participating in the life cycle of the project.
 - c)the individual or individuals that manage the Scrum team and sets direction for each sprint.
 - d)the group or individuals that are developing the code for each sprint.



Questio 11

What is the recommended size for a Development Team (within the Scrum Team)?

- a). 9 plus or minus 2
 - b). 6 plus or minus 3
 - c). 5 plus or minus 3
 - d). 30 plus or minus 3
- 6 plus or minus 3**



Question 12

The timebox for a Daily Scrum is?

- a). 15 minutes for a 4 week sprint, proportionally less for shorter sprints.
- b). 4 hours.
- c). Two minutes per person.
- d). The same time of day every day.
- e). 15 min

15 min



Question 13

It is important that the product increment be released to production or shipped to customers at the end of each Sprint

- a) True
- b) False



Question 14

Who should know the most about the progress toward a business objective or a release, and be able to explain the alternatives most clearly?

- a). The Scrum Master.
- b). The Development Team.
- c). The Project Manager.
- d). The Product Owner.



Question 15

Which statement best describes the Sprint Review?

- a). It is when the Scrum Team and stakeholders inspect the outcome of the Sprint and figure out what to do in the upcoming Sprint.
- b). It is used to congratulate the Development Team if it did what it committed to doing, or to punish the Development Team if it failed to meet its commitments.
- c). It is a review of the team's activities during the Sprint.
- d). It is a demo at the end of the Sprint for everyone in the organization to provide feedback on the work done.



Question 16

When multiple teams are working together, each team should maintain a separate Product Backlog.

- a). True
- b). False



Question 17

An abnormal termination of a Sprint is called when?

- a). When Sales has an important opportunity.
- b). When it is clear at the end of a Sprint that everything won't be finished.
- c). When the Product Owner determines that it makes no sense to finish it.
- d). When the Team feels that the work is too hard.



Question 18

What is the primary way a Scrum Master keeps a Development Team working at its highest level of productivity?

- a). By facilitating Development Team decisions and removing impediments.
- b). By ensuring the meetings start and end at the proper time.
- c). By preventing changes to the Backlog once the Sprint begins.
- d). By keeping high value features high in the Product Backlog.



Question 19

The reason the Scrum Master is at the Daily Scrum is:

- a). He or she does not have to be there; he or she only has to ensure the Development Team has a Daily Scrum.
- b). To write down any changes to the Sprint Backlog, including adding new items, and tracking progress on the burndown.
- c). To make sure everyone answers the three questions in order of seniority.
- d). So he or she knows what to report to management.



Question 20

What is the maximum length of a Sprint?

- a). Not so long that the risk is unacceptable to the Product Owner.
- b). Not so long that other business events can't be readily synchronized with the development work.
- c). No more than one calendar month.
- d). All of these answers are correct.



Question 21

The timebox for the complete Sprint Planning meeting is?

- a). 8 hours for a monthly Sprint, proportionately less for shorter Sprints.
- b). Whenever it is done.
- c). Monthly.
- d). 4 hours.



Question 22

The Product Backlog is ordered by:

- A) Small items at the top to large items at the bottom.
- B) Safer items at the top to riskier items at the bottom.
- C) Least valuable items at the top to most valuable at the bottom.
- D) Items are randomly arranged.
- E) Whatever is deemed most appropriate by the Product Owner.



Question 23

How much work must a Development Team do to a Product Backlog item it selects for a Sprint?

- a). The best it can do given that it is usually impossible for QA to finish all of the testing that is needed to prove ship ability.
- b). As much as it can fit into the Sprint.
- c). As much as it has told the Product Owner will be done for every Product Backlog item it selects in conformance with the definition of done.
- d). Analysis, design, programming, testing and documentation.



Question 24

Who is responsible for updating the work estimates during a Sprint?

- a). The Product Owner.
- b). The most junior member of the Team.
- c). The Development Team.
- d). The Scrum Master.



Question 25

Development Team membership should change:

- a). Never, because it reduces productivity.
- b). Every Sprint to promote shared learning.
- c). Just as it would on any development team, with no special allowance for changes in productivity.
- d). As needed, while taking into account the short term reduction in productivity.



Question 26

Which two (2) things does the Development Team **not** do during the first Sprint?

- a) Deliver an increment of potentially shippable functionality.
- b) Develop a plan for the rest of the project.
- c) Develop and deliver at least one piece of functionality.
- d) Nail down the complete architecture and infrastructure.



Question 27

The Development Team should not be interrupted during the Sprint. The work it selects for the Sprint should not be changed. The Sprint Goal should remain intact. All of these attributes of a Sprint foster creativity, quality and productivity. Based on this, which of the following is **false**?

- a) As a decomposition of the selected Product Backlog Items, the Sprint Backlog changes and may grow as the work emerges.
- b) The Product Owner can help clarify or optimize the Sprint when asked by the Development Team
- c) The Sprint Backlog and its contents are fully formulated in the Sprint Planning meeting and do not change during the Sprint.
- d) The Development Team may work with the Product Owner to remove or add work if it finds it has more or less capacity than it expected.



Question 28

Which of the below are roles on a Scrum Team?

- a) Users
- b) Scrum Master
- c) Development Team
- d) Customers
- e) Product Owner



Question 29

Scrum Master is a "management" position?

- a) True
- b) False



Question 30

The CEO asks the Development Team to add a "very important" item to the current Sprint. What should the Development Team do?

- a) Add the item to the current Sprint without any adjustments.
- b) Inform the Product Owner so he/she can work with the CEO.
- c) Add the item to the current Sprint and drop an item of equal size.
- d) Add the item to the next Sprint.



Question 31

What does it mean to say that an event has a timebox?

- a) The event can take no more than a maximum amount of time.
- b) The event must happen at a set time.
- c) The event must take at least a minimum amount of time.
- d) The event must happen by a given time.



Question 33

When a Development Team determines that it has over-committed itself for a Sprint, who has to be present when reviewing and adjusting the Sprint work selected?

- a) The Product Owner and all stakeholders.
- b) The Scrum Master, project manager and Development Team.
- c) The Development Team.
- d) The Product Owner and Development Team.



Question 34

Who is on the Scrum Team?

- a) The Scrum Master
- b) The Product Owner
- c) The Development Team
- d) Project Manager
- e) None of the above



Question 35

Who has the last say on the order of the Product Backlog?

- a) The Development Team
- b) The Stakeholders
- c) The Product Owner
- d) The Scrum Master
- e) The CEO



Question 37

Who is required to attend the Daily Scrum?

- a) The Scrum Master and Product Owner.
- b) The Scrum team.
- c) The Development Team and Product Owner.
- d) The Development Team and Scrum Master.
- e) The Development Team.



Question 38

Which statement best describes a Product Owner's responsibility?

- a) Optimizing the Return on Investment (ROI) and the Total Cost of Ownership (TCO) of the work the Development Team does.
- b) Directing the Development Team.
- c) Managing the project and ensuring that the work meets the commitments to the stakeholders.
- d) Keeping stakeholders at bay.



Question 39

Which statement best describes Scrum?

- a) A complete methodology that defines how to develop software.
- b) A cookbook that defines best practices for software development.
- c) A framework within which complex products in complex environments are developed.
- d) A defined and predictive process that conforms to the principles of Scientific Management.



Question 40

An organization has decided to adopt Scrum, but management wants to change the terminology to fit with terminology already used. What will likely happen if this is done?

- a) Without a new vocabulary as a reminder of the change, very little change may actually happen.
- b) The organization may not understand what has changed within Scrum and the benefits of Scrum may be lost.
- c) Management may feel less anxious.
- d) All answers apply.



Question 41

What is the role of Management in Scrum?

- a) To continually monitor staffing levels of the Development Team.
- b) To monitor the Development Team's productivity.
- c) Management supports the Product Owner with insights and information into high value product and system capabilities. Management supports the Scrum Master to cause organizational change that fosters empiricism, self-organization, bottom-up intelligence, and intelligent release of software.
- d) To identify and remove people that aren't working hard enough.



Question 42

Scrum is

- a) Lightweight.
- b) Heavyweight
- c) Complex.
- d) Hard.



Question 43

Scrum is founded on which process

- a) Empirical
- b) Hypothetical
- c) Analysis
- d) Theoretical



Question 44

Scrum may be best suitable to be applied to which type of projects

- a) Simple
- b) Hard
- c) Chaotic
- d) Complex



Question 45

Which of the following is not one of the three pillars of the scrum

- a) Transparency
- b) Inspection
- c) Adaptation
- d) Discipline



Question 46

If a team commits to deliver 10 user story points but able to deliver only 8 user story points, what is the team's velocity?

- a) 80
- b) 120
- c) 100
- d) Can not say



Question 47

A team's velocity is 8 in the previous sprint and as per the yesterday's weather what would be the velocity of this team in the current sprint?

- a) 8
- b) 12
- c) 16
- d) 9



Question 48

How many parts a sprint planning will have?

- a) One
- b) Two
- c) Three
- d) As required



Question 49

What is the approach during the second part of the sprint planning?

- a) Why
- b) Who
- c) What
- d) How



Question 50

Who owns the sprint backlog?

- a) Scrum Master
- b) Scrum Team
- c) Development Team
- d) Product Owner





Appendix/Resources

- A – Acceptance Criteria
- B – Burn down Chart
- C – Customer Collaboration
- D – Daily Scrum
- E – Epic
- F – Face - To - Face Communication
- G – Grooming
- H – High Performance Team
- I – Impediments
- J – Just-In-Time Requirements
- K – Kanban Board
- L – Lean Development
- M – MMF; Minimum Marketable Feature
- N – Negotiable

A to M

Contd....

Agile Alphabets Continued...

O - Osmotic Communication

P – Product Owner

Q – Quality

R – Retrospective Meeting

S – Sprint

T – Time- Boxed

U – User Story

V – Velocity

W – Working Software

X – XP Practices

Y – Yesterday's Weather

Z – Zero Defects

O to Z

Scrum cheat sheet

Roles		Artifacts	Meetings	SCRUM CHEAT SHEET
	Scrum Team	Product Backlog - (PB) <ul style="list-style-type: none"> • Team is cross-functional and consists of 5-9 people • There are no set project roles within the team • Team defines tasks and assignments • Team is self-organizing and self-managing • Maintains the Sprint Backlog • Conducts the Sprint Review 	Sprint Planning – Day 1 / First Half <ul style="list-style-type: none"> • Product backlog prepared prior to meeting • First half – Team selects items committing to complete • Additional discussion of PB occurs during actual Sprint 	
	Product Owner (PO)	Sprint Backlog – (SB) <ul style="list-style-type: none"> • To-do list (also known as Backlog Item) for the Sprint • Created by the Scrum Team • Product Owner has defined as highest priority 	Sprint Planning – Day 1 / Second Half <ul style="list-style-type: none"> • Occurs after first half done – PO available for questions • Team solely responsible for deciding how to build • Tasks created / assigned – Sprint Backlog produced 	Estimating
	Scrum Master (SM)	Burndown Chart – (BC) <ul style="list-style-type: none"> • Chart showing how much work remaining in a Sprint • Calculated in hours remaining • Maintained by the Scrum Master daily 	Daily Scrum <ul style="list-style-type: none"> • Held every day during a Sprint • Lasts 15 minutes • Team members report to each other not Scrum Master • Asks 3 questions during meeting <ul style="list-style-type: none"> • "What have you done since last daily scrum?" • "What will you do before the next daily scrum?" • "What obstacles are impeding your work?" • Opportunity for team members to synchronize their work 	User Stories <ul style="list-style-type: none"> • A very high level definition of what the customer wants the system to do. • Each story is captured as a separate item on the Product Backlog • User stories are NOT dependent on other stories • Story Template: <ul style="list-style-type: none"> • "As a <User> I want <function> So that <desired result>" • Story Example: <ul style="list-style-type: none"> • As a user, I want to print a recipe so that I can cook it.
Process		Release Backlog – (RB) <ul style="list-style-type: none"> • Same as the Product Backlog. May involve one or more sprints dependent on determined Release date 	Sprint Review <ul style="list-style-type: none"> • Team presents "done" code to PO and stakeholders • Functionality not "done" is not shown • Feedback generated - PB maybe reprioritized • Scrum Master sets next Sprint Review 	Story Points <ul style="list-style-type: none"> • A simple way to initially estimate level of effort expected to develop • Story points are a relative measure of feature difficulty • Usually scored on a scale of 1-10. 1=very easy through 10=very difficult • Example: <ul style="list-style-type: none"> • "Send to a Friend" Story Points = 2 • "Shopping Cart" Story Points = 9
Tools		FAQ <ul style="list-style-type: none"> • Who decides when a Release happens? At the end of any given Sprint the PO can initiate a Release. • Who is responsible for managing the teams? The teams are responsible for managing themselves. • What is the length of a task? Tasks should take no longer than 16 hours. If longer then the task should be broken down further. • Who manages obstacles? Primary responsibility is on the Scrum Master. However, teams must learn to resolve their own issues. If not able then escalated to SM. • What are two of the biggest challenges in Scrum? Teams not self-managing, Scrum Master managing not leading. 	Sprint Retrospective <ul style="list-style-type: none"> • Attendees – SM and Team. PO is optional • Questions – What went well and what can be improved? • SM helps team in discovery – not provide answers 	Business Value <ul style="list-style-type: none"> • Each User Story in the Product Backlog should have a corresponding business value assigned. • Typically assign (L,M,H) Low, Medium, High • PO prioritizes Backlog items by highest value
Task Board			Visibility + Flexibility = Scrum	Estimate Team Capacity <ul style="list-style-type: none"> • Capacity = # Teammates (Productive Hrs x Sprint Days) • Example – Team size is 4, Productive Hrs are 5, Sprint length is 30 days. • Capacity = 4 (5 x 30) = 600 hours • NOTE: Account for vacation time during the Sprint!
				Velocity <ul style="list-style-type: none"> • The rate at which team converts items to "DONE" in a single Sprint – Usually calculated in Story Points.
				http://scrumlogicinc.com/images/Scrum-Cheat-Sheet.pdf

Scrum books reading list



Agile and Iterative Development: A Manager's Guide by Craig Larman

Agile Estimating and Planning by Mike Cohn

Agile Project Management with Scrum by Ken Schwaber

Agile Retrospectives by Esther Derby and Diana Larsen



Agile Software Development Ecosystems by Jim Highsmith

Agile Software Development with Scrum by Ken Schwaber and Mike Beedle

Scrum and The Enterprise by Ken Schwaber

Succeeding with Agile by Mike Cohn

User Stories Applied for Agile Software Development by Mike Cohn

Resources



Scrum Guide



PMI ACP Handbook



Scrum Primer



CSP hand book



Agile Alphabets



Agile Scrum
Glossary



Agile Sample
Questions

References

1. www.mountaingoatsoftware.com/
2. <http://www.scrumalliance.org/>
3. <http://www.scrum.org/>
4. <http://www.pmi.org/>
5. <http://eljabiri1.tripod.com/sitebuildercontent/sitebuilderfiles/Comp-agile.pdf>
6. www.controlchaos.com
7. scrumdevelopment@yahoogroups.com
8. www.velociteach.com
9. I have tried mentioning the source URL names on each slide as well and I might have missed some source names of this presentation, if anyone found anything I am missing, may please bring to my notice so that I can add to this section.



Q & A

Contact and Feedback

Koti Reddy Bhavanam PMI-ACP PMP PSM1 CSP CSM ITIL-V3 SSBB

Senior Project Manager/ *IDC |Hyderabad - India |*

(0) +91-40-30836633 |(M)+91-9676863535 |

bhavanam_k_reddy@optum.com

May provide the feedback @

<http://in.linkedin.com/pub/koti-reddy-b-pmi-acp-pmp-psm-csm-csp-itil-ssbb/18/6b9/587>

Thank You