Accelerated Agile Overview
Focus on Scrum

Agile Tour
6-October-2009

Facilitated By David Bulkin
http://www.linkedin.com/in/davidbulkin
David.Bulkin@litheSpeed.com

About

David Bulkin

http://www.linkedin.com/in/davidbulkin
David.Bulkin@lithespeed.com

David Bulkin is a strong leader, technologist, business thinker and process engineer with over 20 years experience in applying agile and lean principles to lead people and manage portfolios, projects, process, and technology. He has helped numerous teams learn and apply agile project management, business analysis, automated testing, and engineering methods as trainer, practitioner and coach. David is a VP at LitheSpeed LLC (www.litheSpeed.com) and is on the Board of Directors at the Center for Program Transformation.

He is a frequent speaker at user groups and blogs on the subjects of agile and lean. David's career has spanned both the public and private sector. He built an electronic commerce startup from the group up in the early 1990's, and later managed large scale, mission critical technology projects for eBanking, branch banking, insurance and investments as a VP at JP Morgan Chase. He is frequently engaged in both strategic board level, and hands on implementation (analysis, design, coding) activities, keeping his agile coaching and training skills sharp and relevant.

He is on the Board of Directors at the Center for Program Transformation (CPT) where he prepared Senate testimony on IT Oversight and contributed to federal legislation. In the 1990's David was a member of the Software Program Managers Network (SPMN) where he identified proven software best practices, conveyed them to managers of large-scale DoD system acquisition programs, and consulted on numerous projects.

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Agile Process Baselining

Level Setting

Introductions

Let's find out the level of experience with agile that we have in the room.

- As a group, raise your hand to show:
  - Level of professional software experience?
    - < 5
    - > 5 and < 10
    - > 10
  - Your level of experience with Agile?
    - Novice
    - Some
    - Strong
    - Expert

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Approach

Go Fast

- This material is usually presented over two days
- As such, we will go quite fast
- But we will cover what is important to you

So this must be participatory

- Please interupt me early and often
- Please share your ideas and learning
- Please tell me when to move on

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Agile Process Baselining

What is Agile

Agile - **Discipline w/o Undue Burden**

Overly Complex, Burdensome

Process Burden or Lack of Discipline

- Historically development teams have **faced a false choice** in respect to process
  - **Overly complex** and burdensome
  - Or, **undisciplined** with no controls
- Agile Provides a lightweight, but disciplined approach to **speed time to market, improve quality, and reduce risk**

Undisciplined, Ad-Hoc No Controls

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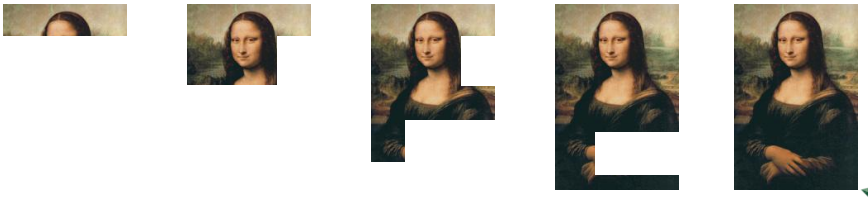
Agile is more than Incremental

With agile, we do incremental delivery, but we can tweak our requirements over time.

1 2 3 4 5



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Rough to Polished

Iterating allows us to move from vague idea to realization.

1 2 3 4 5

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Why

The Right Product

At the Right Time

At the Right Cost

With the ability to do again

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Agile Process Baselining

In Context

Scrum is a **Part** of the Total Picture

Integrating Scrum:

- Corporate strategy operates over years
- Scrum activities typically operate in time frames of quarters or less

Year(s): Set corporate goals and strategies

Quarter(s): Discover and create innovative product strategies from corporate goals

For our lightning talk today, we are focusing on the short term, the actual development and implementation of software.

Month(s): Update Release Plans, Product Backlogs and Roadmaps

Week(s): Decompose features from Product Backlog into tasks and deliver working code

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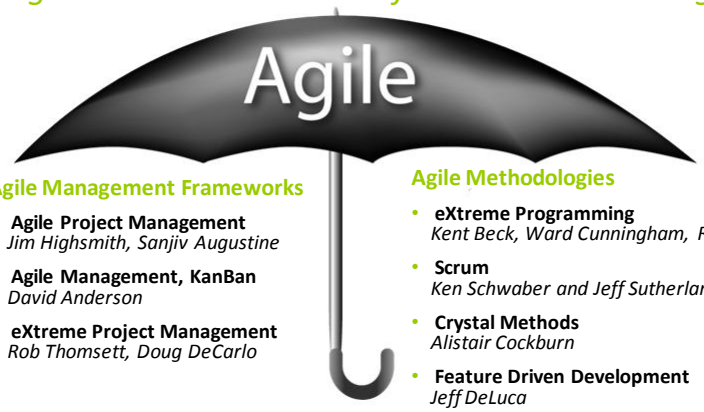
The Agile **Umbrella**

"Agile" describes a series of related methodologies.



Agile Management Frameworks

- **Agile Project Management**
  Jim Highsmith, Sanjiv Augustine
- **Agile Management, KanBan**
  David Anderson
- **eXtreme Project Management**
  Rob Thomsett, Doug DeCarlo

Agile Methodologies

- **eXtreme Programming**
  Kent Beck, Ward Cunningham, Ron Jeffries
- **Scrum**
  Ken Schwaber and Jeff Sutherland
- **Crystal Methods**
  Alistair Cockburn
- **Feature Driven Development**
  Jeff DeLuca
- **Dynamic Systems Development Method**
  DSDM Consortium

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Popular Patterns of Agile Usage

Agile Approaches are Often Combined

Scrum as a project wrapper combined with eXtreme Programming engineering principles and Queue/WIP limit concepts from KanBan.

Many standard project management principles still apply.

Scrum + XP (Extreme Programming) +

Kanban + PMI

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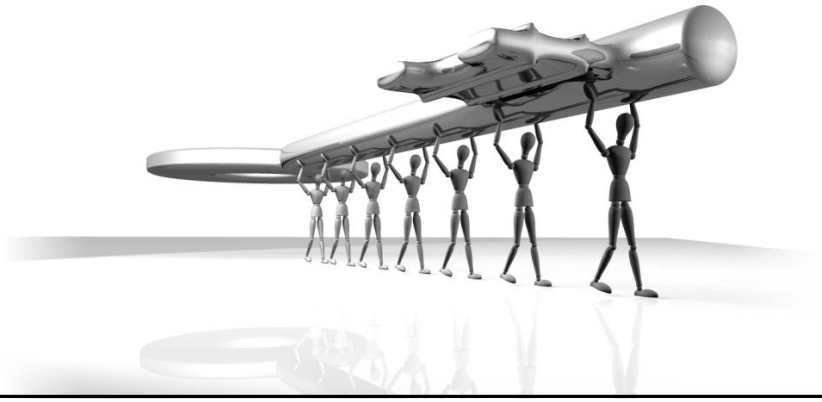
Agile Process Baselining

Key Principles



Traditional Development

Traditional Methods Are Characterized By:

1. **Firm Requirements -** Rigorous definition of requirements up front. Can take a long time.
2. **Handoffs Across Functions** – Analysts hand off to developers who hand off to testers who hand off to production.
3. **Large and Long Delivery Cycles –** Can easily be 6 months to deliver any working functionality.
4. **Everything At the End -** All working code is delivered at the end of the process. Not much opportunity for early inspection, feedback, and change.

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Key Principles of Agility

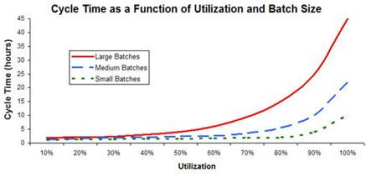
Key Agile principles are:

1. **Small Batches -** Create a flow of value to customers by "chunking" feature delivery into small increments.
2. **Responding to Change** – Process expects, adapts and thrives with change.
3. **Iteration and Continuous Flow –** Regularly scheduled time boxes, working sessions and releases provide points for integration, planning, learning, reflecting and adapting to change; continual learning informs the plan.
4. **Small, Integrated Teams** (Whole Team) **-** Intense collaboration via face-to-face communication, collocation, etc; diversified roles on integrated, self-organizing, self-disciplined teams.
5. **Focus on Highest Value –** Align project, product and team visions to deliver better product, faster and cheaper, based on business priority.

www.linkedin.com/in/davidbulkin • David.Bulkin@litheSpeed.com
www.lithespeed.com • www.agilephilly.com

Principle – Small Batches

- Trying to do everything at once results in most things moving in slow motion
- High priority deliveries are slowed down by lower priority deliveries
- A lot of work happening but little is getting delivered, resulting in long cycle times



Cycle Time = WIP / Throughput

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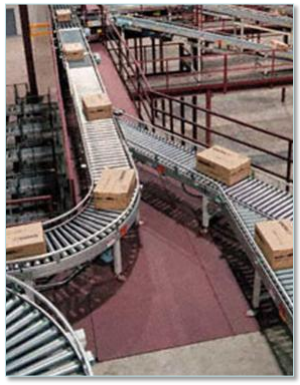
Principle – **Small Batches**



1. Which system has more time and money tied up in unshipped work?
2. Which system will deliver something to a customer sooner?
3. Which system will uncover defects sooner?
4. In Agile, we try to emulate the continuous flow system on the right

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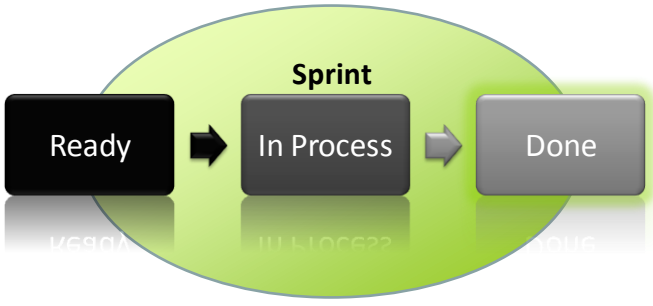
Principle – Small Batches

With small batches, work quickly goes from Ready to Done, where Done means that it is production ready.



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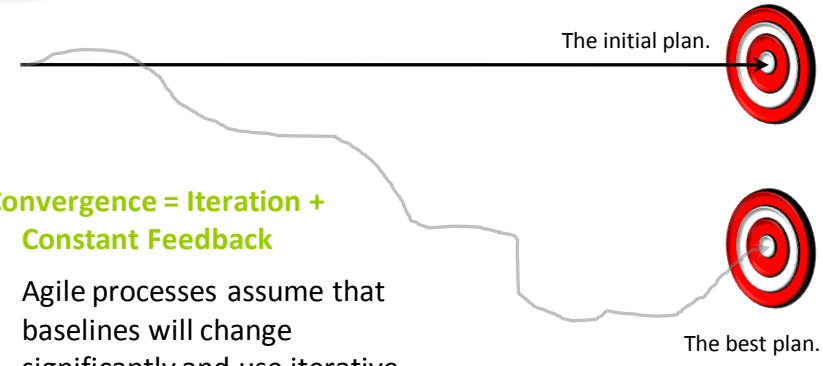
Principle – **Responding to Change**



Convergence = Iteration + Constant Feedback

Agile processes assume that baselines will change significantly and use iterative processes, feedback and course correction to converge on moving targets.

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Principle – **Iteration + Continuous Flow**

- Iterations are regularly scheduled, pre-planned, recurring:
  - Time Boxes – Sprints in which work is done
  - Releases – Production and Maintenance
  - Working Sessions - Release Planning, Sprint Planning, Sprint Review, Retrospective
- Iterations provides a cadence / rhythm that provides predictability and synchronization points for planning

- Flow is the constant completion of work, acquirement of knowledge, and adapting to change, within and across iterations

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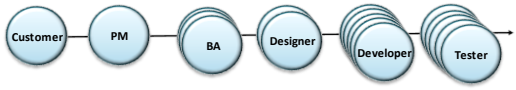
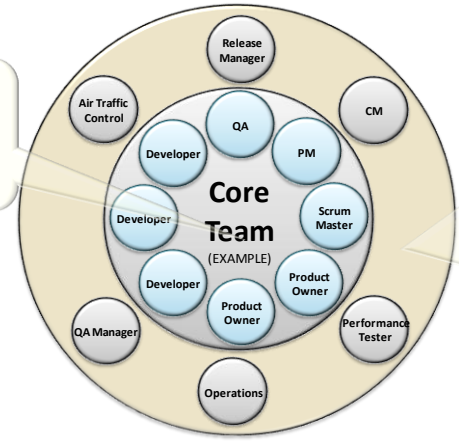
Principle – Small Integrated Teams

Traditional Silos



The Core Project Team ideally consists of **5-9 dedicated members** (7 +/- 2).



The Extended Team can contain many additional members (piglets), each playing an important role, but they are typically not dedicated to the effort.

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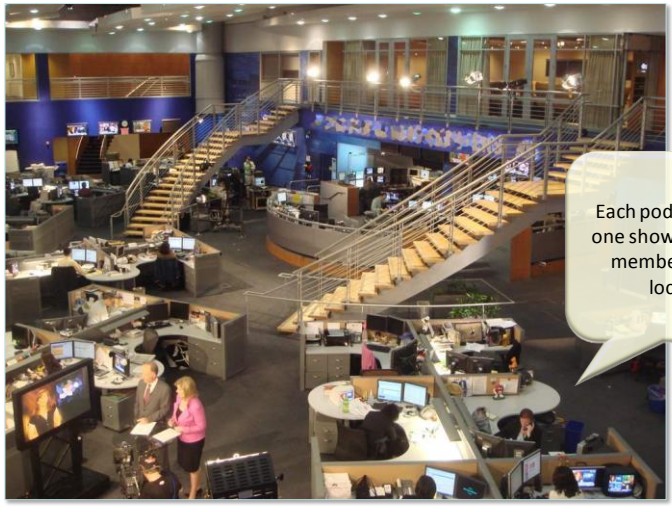
Principle – Small Integrated Teams



Each pod represents one show, so all team members are co-located.

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Principle – **Small Integrated Teams**

- Information transfer maximized through collocation
- Constant face-to-face communication and collaboration
- Self-organization and management facilitated by *information radiators* – charts, posters, whiteboards, etc.

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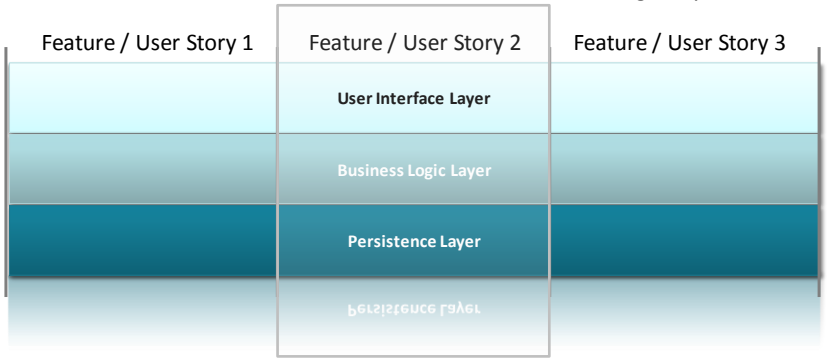
Principle – Focus on Highest **Value**

Vertical Slices to Deliver Business Value

- Agile projects organize work by **Units of Value**, rather than **Architectural Layer**
- As such, teams take vertical, instead of horizontal slices through a system



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Agile, Waterfall, Ad Hoc **Compared**

Key Agile Principles	Traditional Waterfall	Ad Hoc
Small Batches	Large Batches	Always changes
Responding to Change	Baseline and Change Limitation	Constant, Uncontrolled Flux
Iteration & Continuous Improvement	Lessons Learned at the End	No Formal Lessons Learned
Small, Integrated Teams	Silo Teams with Handoffs	Uncontrolled Handoffs
Focus on Highest Value First	All or nothing	Who yells the loudest
Bake Quality In, Pay Down Existing Technical Debt	Quality Inspected In	Limited Quality Control
Low Work In Process	High Work in Process	High Work in Process

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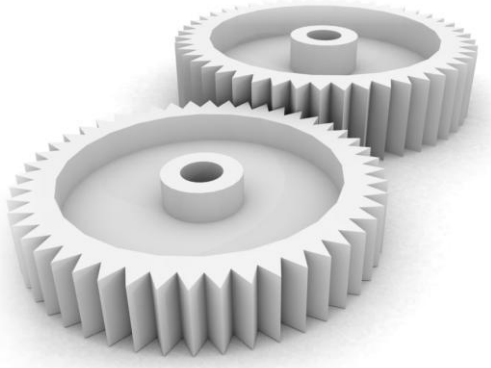
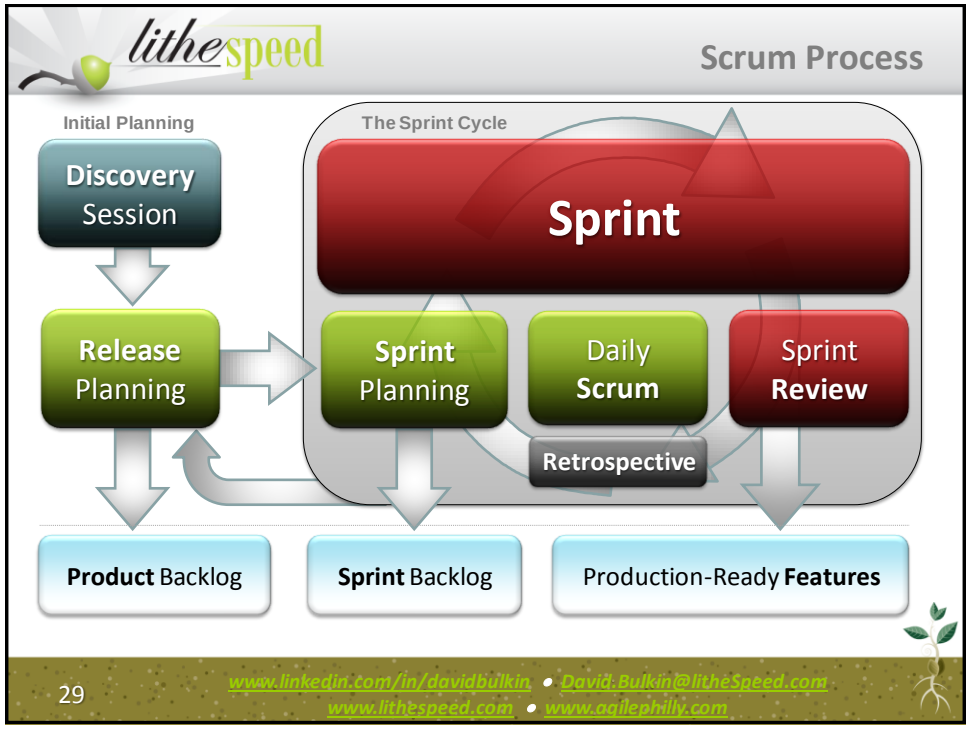
Agile Process Baselining

Scrum Overview

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Scrum Process
Initial Planning
Discovery Session
Release Planning
The Sprint Cycle
Sprint
Sprint Planning
Daily Scrum
Sprint Review
Retrospective
Product Backlog
Sprint Backlog
Production-Ready Features
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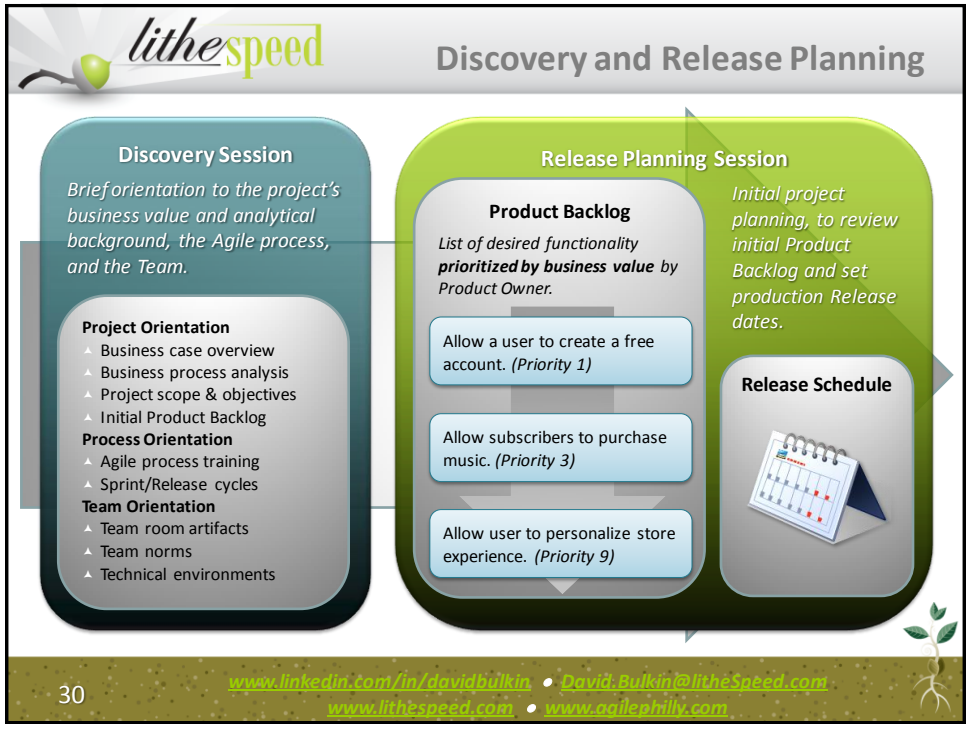
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Discovery and Release Planning
Discovery Session
Brief orientation to the project's business value and analytical background, the Agile process, and the Team.
Project Orientation
Business case overview
Business process analysis
Project scope & objectives
Initial Product Backlog
Process Orientation
Agile process training
Sprint/Release cycles
Team Orientation
Team room artifacts
Team norms
Technical environments
Release Planning Session
Product Backlog
List of desired functionality prioritized by business value by Product Owner.
Allow a user to create a free account. (Priority 1)
Allow subscribers to purchase music. (Priority 3)
Allow user to personalize store experience. (Priority 9)
Initial project planning, to review initial Product Backlog and set production Release dates.
Release Schedule
30
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The Scrum **Sprint Cycle**

Sprint Planning

Elaboration, estimation and prioritization of highest-value User Stories.

Sprint Backlog

- Allow a user to enter a login & password.
- Allow a user to enter personal information.
- Allow user to enter billing information.

Sprint

Complete Sprint Backlog

*Team **works** on highest-value functionality until it meets jointly defined Acceptance Criteria.*

Sprint Review

*Team demonstrates **completed functionality** to interested stakeholders, gathering feedback.*

Daily Scrum *(or Standup)*

15-minute status and risk management meeting for Team & Product Owner.

Retrospective *(Optional)*

Team reflects on project & process and takes action as appropriate.

Production Release *(Optional)*

Generally occurs when a useful group of related functionality has been completed.

The Process: "**Scrum?**"

Scrum is the process that ties these principles together into a defined process

Scrum, *in our case, is a project management framework that is designed around small batches, iterative development, feedback loops, responding to change, and small integrated teams (whole team).*

Basic **Terminology**

Term	Definition
Sprint / Iteration	Fixed-length period of time (e.g. two weeks)
Release	Drop to production
Release / Sprint Planning	Agile planning meetings
Product Owner	Business representative to project
Retrospective	"Lessons learned" style meeting
ScrumMaster	Agile leader / facilitator
Daily Scrum / Daily Standup	Brief daily status meeting

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Scrum **Roles & Responsibilities**

Product Owner

- Owns Product vision
- Defines features, decides on release date & content
- Responsible for market success
- Prioritizes features according to market value
- Can change features and priorities every Sprint

ScrumMaster

- Responsible for facilitating process
- Focuses Team and protects them from external interruption
- Looks for ways to enhance productivity
- Assists Product Owner in leveraging Scrum

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Scrum **Roles & Responsibilities**

Developer

- Create unit tests to match testable user specs
- Implement framework to automate functional tests
- Create code to pass unit tests and meet specs
- Refactors code to ensure the maintainability, reliability, scalability, etc.
- Continuously integrate code

QA

- Work with developers to determine how to test functionality
- Identifies boundary conditions and outliers for team to consider
- Review working tests created by developers
- Test software

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Self Organization

"**Self-organization** refers to a process in which the **internal organization** of a system, normally an open system, **increases automatically** without being guided or managed by an outside source."
Wikipedi

A flock of birds, in a v-formation is an example

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Self Organizing Teams

Self-organizing teams:

- Exhibit a high degree of collaboration
- Operate with a high degree of trust and autonomy
- Work towards high performance
- Produce measurably great results
- Are very fulfilling to work on

Characteristics of Self-Organizing Teams

- Small team size
- Dedicated resources
- Customer value orientation
- Individual competence
- Sustainable self-discipline
- Intense collaboration
- Easy information transfer
- Low decision feedback time
- Constant learning & interaction

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Roles of the Team

The Team

- Works cross-functionally (reduce handoffs !)
- Shares roles to get the work done (i.e. (generalizing specialist)
  - A developer may write user documentation
  - A business analyst may perform testing
  - A tester may create graphics
- Develops the detailed task list and the estimates
- Volunteers for work (is not tasked)
- Raises issues to the ScrumMaster
- Assesses performance and makes process recommendations

www.linkedin.com/in/davidbulkin • David.Bulkin@litheSpeed.com
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Self Organizing Principles

- Self organizing principles guide a team so they can operate without explicit management control
- Examples:
  - As a team member, I will contact the ScrumMaster if I see a tweak that can be made to a feature, that will maintain it's business value, while reducing time, cost or risk associated with implementing that feature
  - As a team member, when I complete my work, on a task, I will either help another team member, or start a new task, depending on what will most likely allow us to deliver the maximum value in a Sprint
  - As a team member, I will provide honest and open feedback to my peers, to the ScrumMaster, to the Project Manager, whenever that feedback will help the performance of the team

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Agile Process Baselining

Checkpoint

Questions

Questions:

- Typically at this point, we create a learning backlog of key questions, thoughts and concerns.
- During the course of the training we burn down the backlog.
- With our time constraints, let's answer questions until our time runs out.

About

David Bulkin
http://www.linkedin.com/in/davidbulkin
David.Bulkin@lithespeed.com

Thank You!
Contact me if you have questions, thoughts, want to be on an agile project, or have agile opportunities to discuss.

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Agile Philly

www.lithespeed.com

David Bulkin

http://www.linkedin.com/in/davidbulkin
David.Bulkin@lithespeed.com

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