Cognizant
Passion for building stronger businesses

Agile 101 Chapter 1

Introduction to Agile – General Overview

August 2013

Agile 101 – Chapters

- Chapter 1 – An Introduction to Agile – General Overview
- Chapter 2 - Introduction to Scrum
- Chapter 3 – Introduction to Daikibo

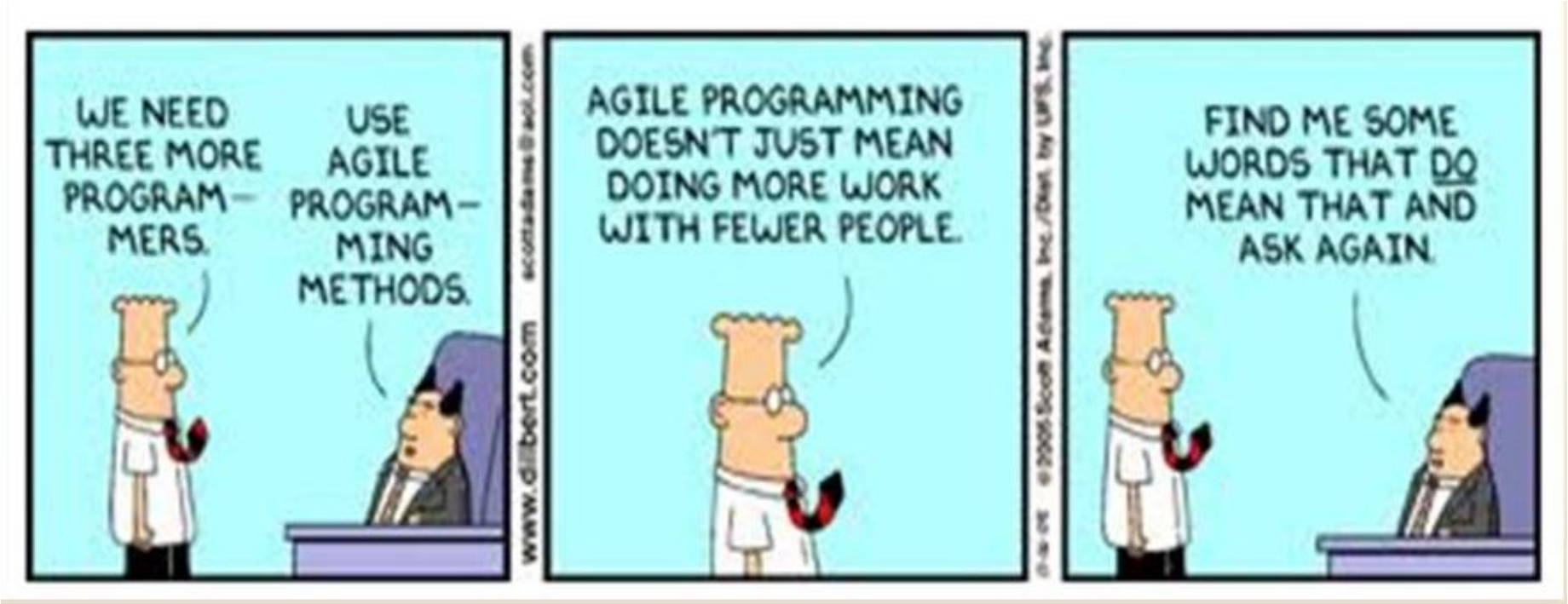
Agenda

- Expectations for this course
- Introduction to Agile
- Agile Manifesto
- Family of Methodologies
- Agile Narrative
- Fact vs Myth?
- Benefits
- Partnership
- Values
- Introduction to Scrum
- Scrum Terms & Definitions
- Scrum Framework
- Agile & Scrum Together
- Scrum is an empirical process
- The Inverted Triangle

Today's Expectations

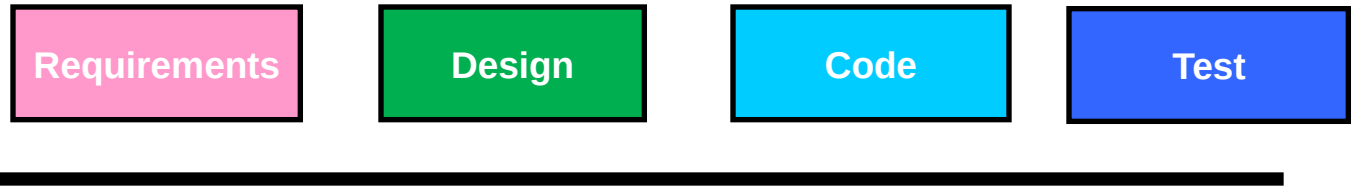
A few ground rules for this session…

- This only an overview of Agile and Scrum
- Keep an open mind – this is a different way of thinking
- We won't get to everything



Introduction to Agile

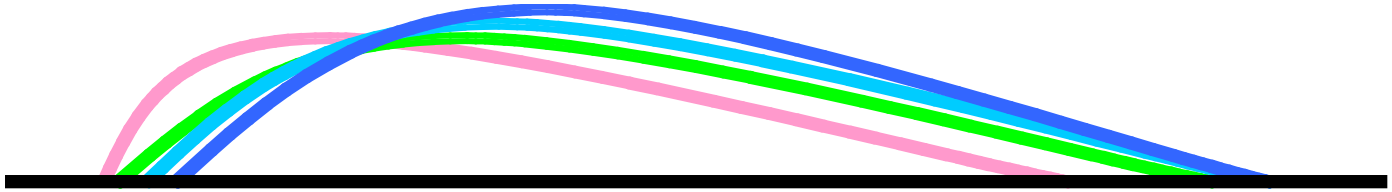
Waterfall



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

...Agile teams do a little of everything all the time following a structured approach.

Agile



Agile Manifesto

Themes

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

Quoted from the *Manifesto for Agile Software Development*, http://agilemanifesto.org

#	Principles
1	The highest priority is to satisfy the customer through early and continuous delivery of valuable software.
2	Welcome changing requirements, even late in development. Harness change to develop the competitive advantage.
3	Deliver working software frequently, from a couple of weeks to a couple of months.
4	Business people and developers must work together daily throughout the project.
5	Build projects around motivated individuals. Give them the environment and support they need, and trust them to get the job done.
6	Development teams communicate frequently. The most efficient and effective method of conveying information to and within a development team is face-to-face conversation.
7	**Working software is the primary measure of progress.**
8	Promote sustainable development. The sponsors, developers, and users should be able to maintain a steady pace indefinitely.
9	Continuous attention to technical excellence and good design enhances agility.
10	Simplicity -- the art of maximizing the amount of work not done -- is essential.
11	The best architectures, requirements, and designs emerge from self-organizing teams.
12	At regular intervals, the team reflects on how to become more effective, then tunes and adjusts its behavior accordingly.

The Agile Family of Methodologies

scrum

kanban

daikibo

fdd

lean

msf

am

xp

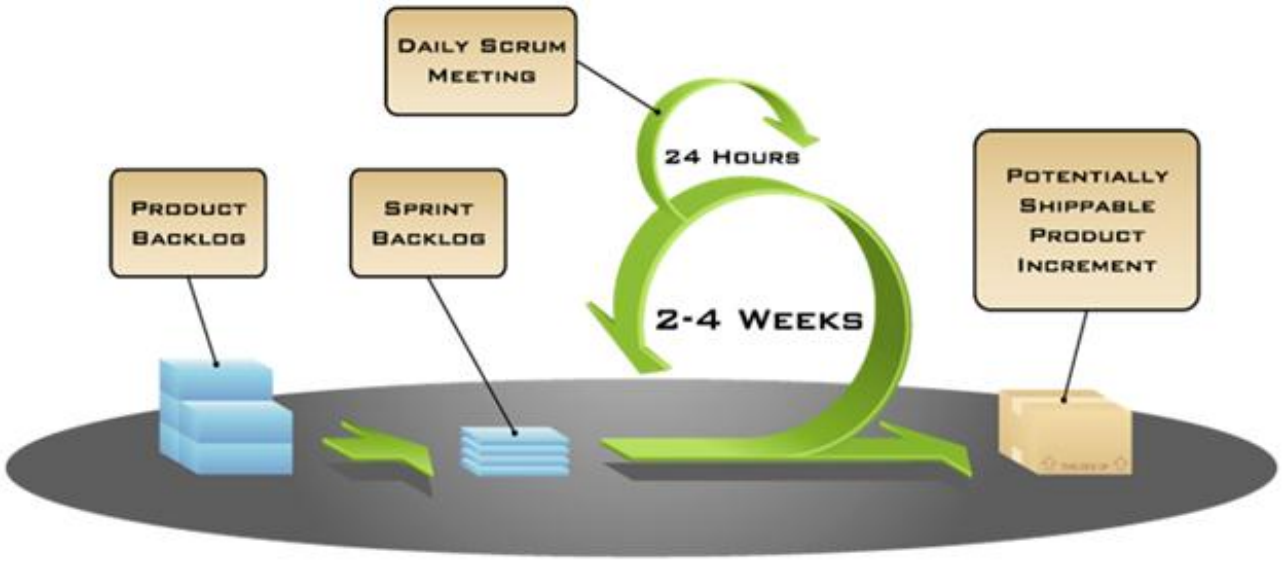
asd

tdd

The Agile Narrative

Agile software development is…

a group of software development methods based on *iterative and incremental development*, where requirements and solutions evolve through collaboration between *self-organizing, cross-functional teams*. It promotes adaptive planning, evolutionary development and delivery, and encourages rapid and flexible response to change. Some methods, like Scrum and Feature Driven Development, emphasize time-boxed iterations. It is a conceptual framework that promotes foreseen interactions throughout the development cycle.



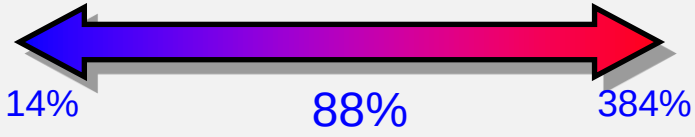
Example of an Agile method: Scrum Framework

Agile Myths

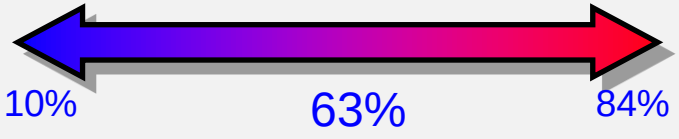
- Facts or Myths?
  - Agile Teams don’t plan
  - Is not predictable
  - No sign-offs
  - Chaos with no ownership
  - Agile-specific tools are not needed
  - Can be thought of as a silver bullet
  - Little or no documentation
  - Can only be used for web projects
  - Agile implementations are more expensive
  - Is not scalable because teams are small
  - Cannot be used with distributed/remote team members
  - People can shift between waterfall and agile projects easily

Agile Benefits

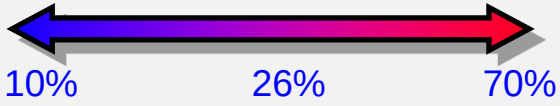
Higher Productivity



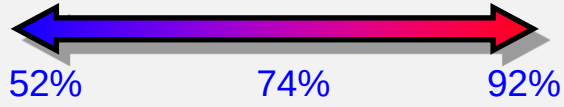
Higher Quality



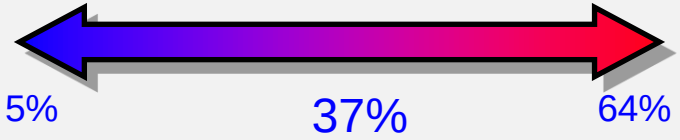
Lower Costs



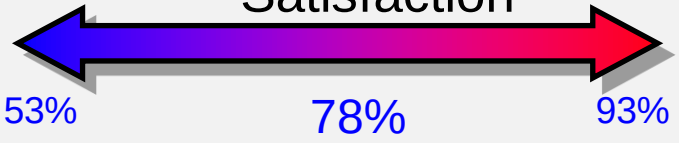
Improved Job Satisfaction



Faster Time to Market



Improved Stakeholder Satisfaction



Statistics quoted from QSMA, Rico, and DDJ in Succeeding with Agile, Mike Cohn, Jan 2010

Agile Requires Business and IT in Partnership

Business and IT must be in an equal partnership

- Need to balance what the needs are with the delivery team's performance to mutually agree upon release schedules
- If either side dominates, everyone loses…

If the business dominates…

- Functionality and release dates are mandated without regard for the delivery team's past and predicted performance

If IT dominates…

- Technical terms become pervasive in user stories and delivery teams lose the opportunity to learn by listening to the business

Values of Agile + Scrum + XP

Values are the foundation for all the activities and artifacts for a project following an Agile methodology.

✓ **Agile Values**

- » Commitment – the team committing to deliver functionality to the business by or before the end of their timebox or quoted cycle time
- » Courage – the courage to speak up even when a situation becomes uncomfortable
- » Respect – treat individuals & organizations with respect
- » Openness – working in a way that issues, risks, successes & failures are open to peers and management
- » Focus – on the critical path

✓ **Scrum Values**

- » Transparency – all work is performed in a transparent manner
- » Inspection – review the team's performance and their process at cadence checkpoints
- » Adaptation – make adjustments to improve team performance or streamline the process

✓ **XP Values**

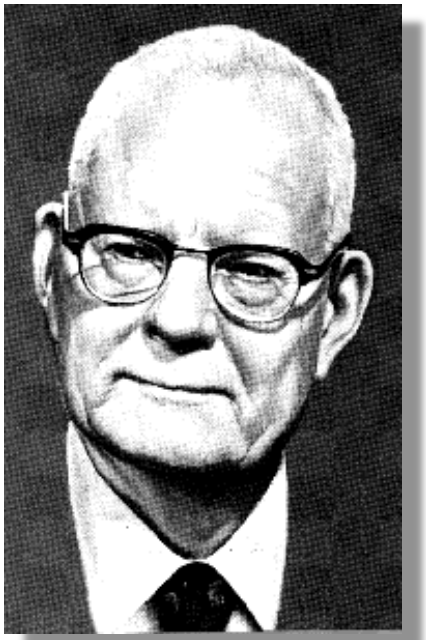
- » Trust – between team members, between the team and the business, between the team and management
- » Simplicity – focus on the simplest design first and iterate to increase complexity
- » Feedback – seek out feedback from stakeholders and end users frequently

Superset of values

- Commitment
- Courage
- Respect
- Openness
- Focus
- Transparency
- Inspection
- Adaptation
- Trust
- Simplicity
- Feedback

The Emergence of Scrum

- Scrum has its roots as a Rugby term
- Ideas came together slowly in a series of white papers from 1986 – 1995
  - » It started with the "The New New Product Development Game", HBR 1986
- Comes from the manufacturing industry tracing its roots back to statistican W.E. Deming and his work with the Army during WWII and afterwards in Japan. Known for *Plan-Do-Check-Adapt* cycle.
- Ken Schwaber and Jeff Sutherland formalized it in 1995
- The first wave of books came out from 1998 – 2001
- It is now considered the fastest growing approach to software development



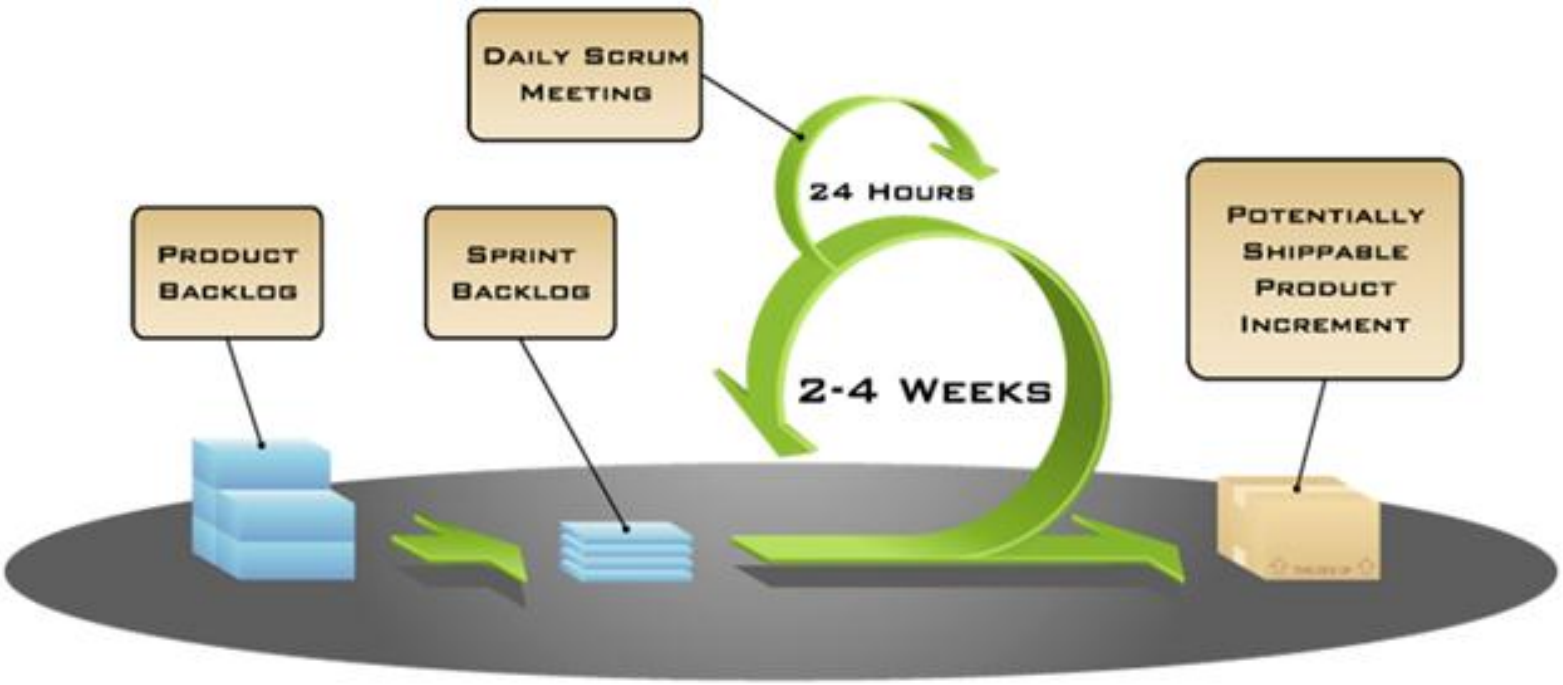
William Edwards Deming, 1900 - 1993

Scrum Terms and Definitions

#	Term	Short Definition
1	**Sprint**	A short timeframe, usually 2-4 weeks, wherein teams collaborate with product owners to develop working and valuable software. Usually performed in a series.
2	**User Story**	Short, plain language narratives of features, in business terms, from a particular point of view; each includes acceptance criteria.
3	**Product Backlog**	List of user stories, ordered by business value and the scrum team's effort estimate.
4	**Product Owner**	An individual, usually from the business, that provides or represents the voice of the customer. Owner of the product backlog.
5	**Scrum Master**	An individual that has responsibilities to facilitate the daily scrum meeting, facilitate story point/effort estimation, monitor team progress against their committed goal, guide the team on agile process, and assist the product owner in ordering the product backlog.
6	**Sprint Backlog**	List of stories that the scrum team is working on in a sprint.
7	**Daily Standup a.k.a. "Daily Scrum"**	15 min daily meeting where scrum team members briefly describe what they accomplished yesterday, plan to accomplish today, and any impediments they encountered or expect to encounter today.
8	**Scrum of Scrums**	15 min daily meeting where product owners and scrum masters discuss impediments and cross team dependencies.
9	**Story Points**	Estimated effort assigned to a user story by developers and testers
10	**Velocity**	Number of story points that a scrum team can have accepted by the product owner
11	**Burndown chart**	The primary report, produced daily, that shows the progress of the team against the committed goal for a given sprint.
12	**Sprint Review**	On the last day of a sprint, the entire project attends as the team demonstrates the functionality that was built during the sprint. Also known as "the demo".
13	**Retrospective**	On the last day of a sprint, each team discusses what worked, what didn't work, and what they need to do better in the next sprint.

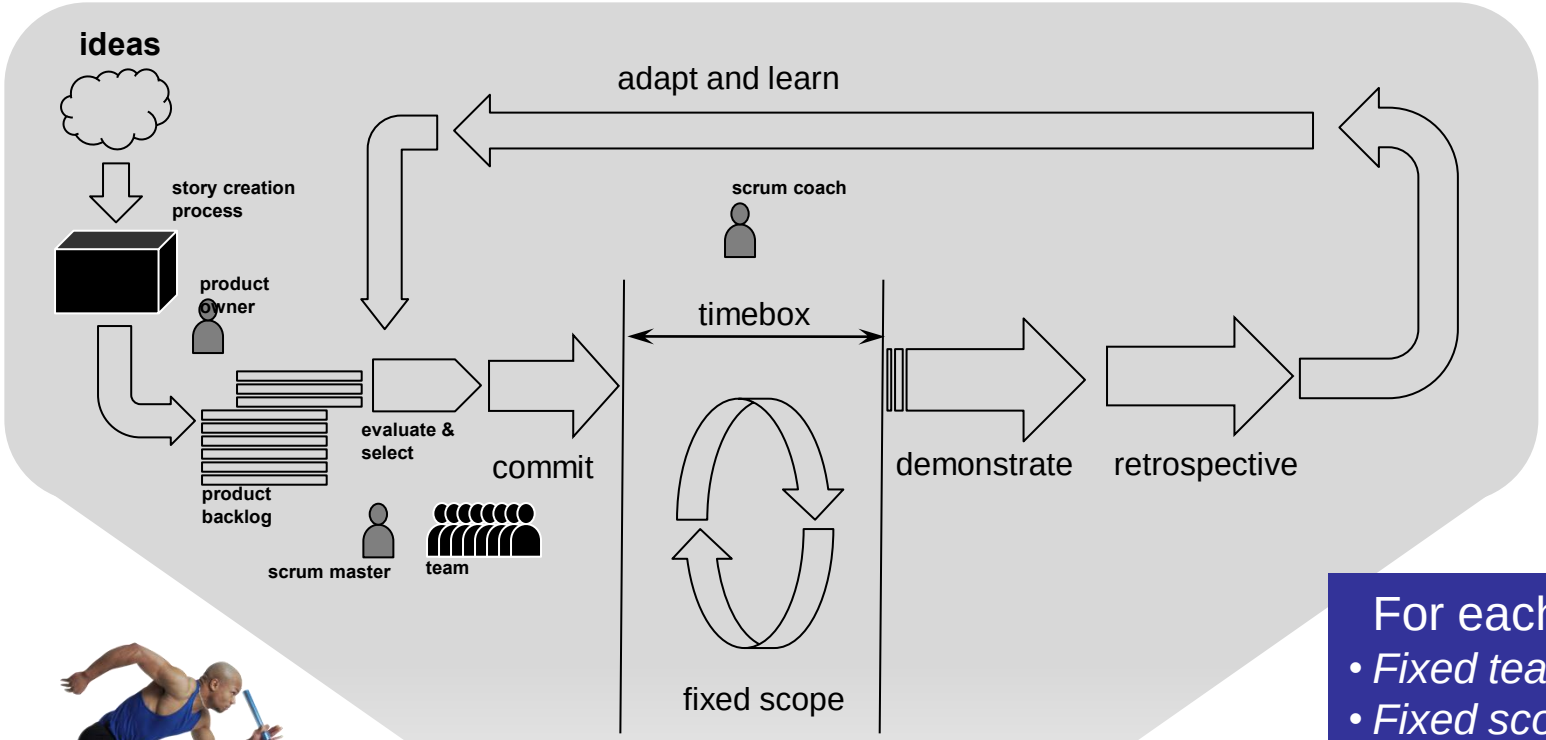
Scrum: lightweight and not comprehensive

- Factors that Influence Scrum Effectiveness

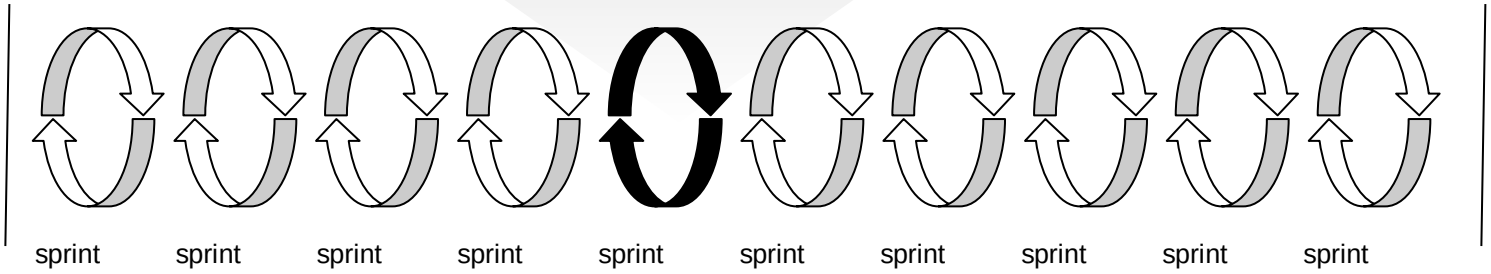


- The Scrum framework is lightweight and simple
- It does NOT provide all the answers

Agile Principles + Scrum Framework



For each sprint:
- *Fixed team size*
- *Fixed scope*
- *Fixed timebox*

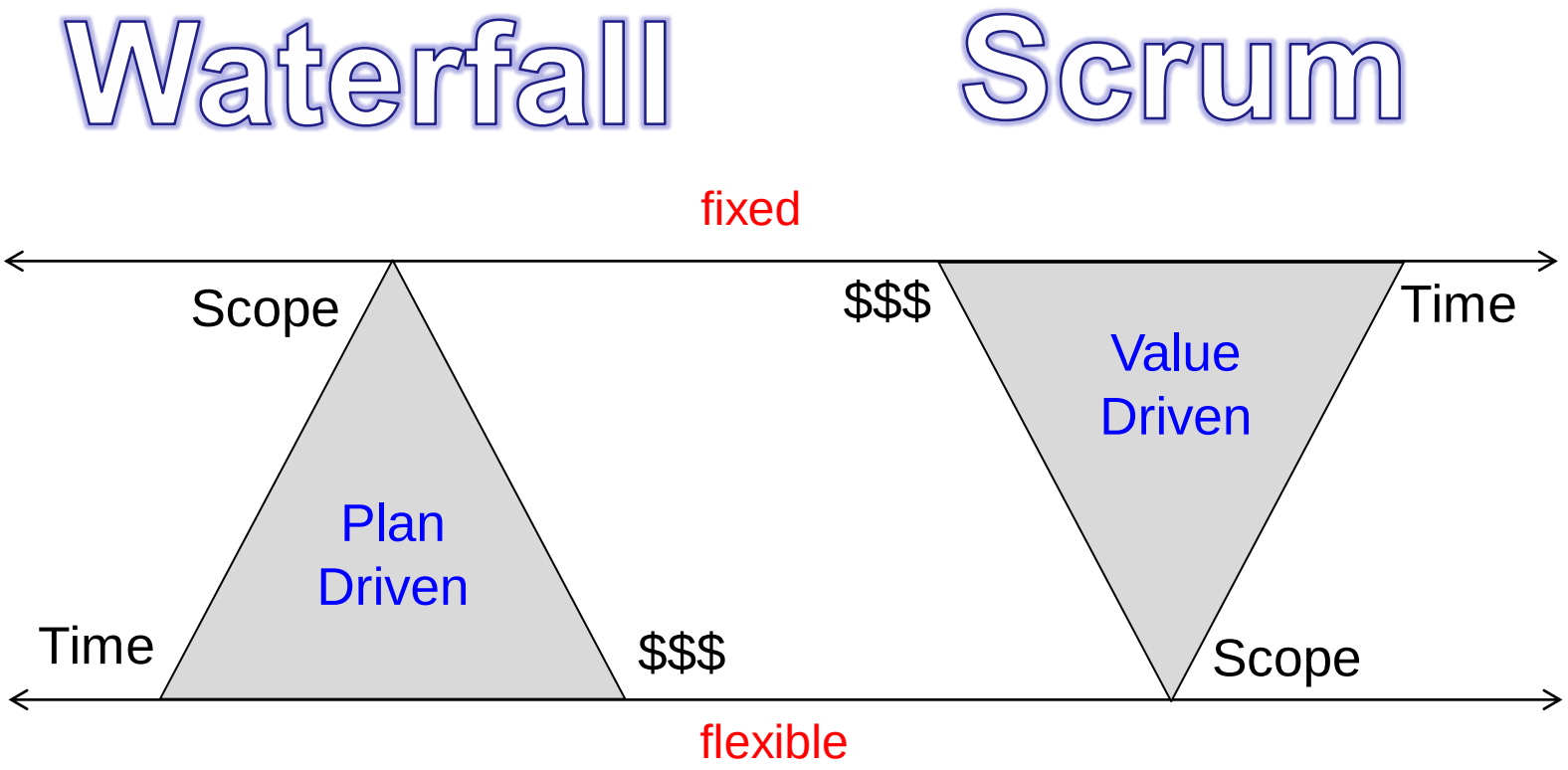


Scrum is an Empirical Process

Primary Example: Thermostat

- Information gained by means of observation or experiments
- Actual temperature drive setting of A/C, heating, etc.
- Adjustments based on actual temperature vs. predictions
- Frequency of inspection and adaptation based on conditions and risk (e.g., server room may have smaller allowance on temperature variance)

The Inverted Triangle



Recap of Chapter 1

- ✓ Expectations for this course
- ✓ Introduction to Agile
- ✓ Agile Manifesto
- ✓ Family of Methodologies
- ✓ Agile Narrative
- ✓ Fact vs Myth?
- ✓ Benefits
- ✓ Partnership
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- ✓ Scrum Framework
- ✓ Agile & Scrum Together
- ✓ Scrum is an empirical process
- ✓ The Inverted Triangle

Quick Review

1. What are some of the basic attributes of Agile projects? (select all that apply)
   a) Reflection, learning and adapting
   b) Pushing the team to deliver via overtime and weekends
   c) Negotiation is better than Collaboration
   d) Valuable software delivered early and often
   e) Overlapping design, development and testing activities
   f) Business and development working separately
2. What is the primary measure of progress in an Agile project?
   a) The project plan
   b) Working software
   c) Documentation
3. What are some of the basic attributes of Scrum projects? (select all that apply)
   a) Fixed time-box, fixed scope, variable team size
   b) Signoffs and change control
   c) Learning and adapting
   d) Working software demonstrated at the end of the time-box
4. Who was William E Deming?
   a) Respected statistican from WWII who created the plan, do, check, adapt cycle
   b) Famous Rugby player from the 1950s
   c) Founder of the Scrum software framework
5. What is the velocity of the team?
   a) the amount of documentation and wiki pages produced by the team
   b) the rate at which the team delivers working software to the business
   c) The amount of defect free code produced in a sprint