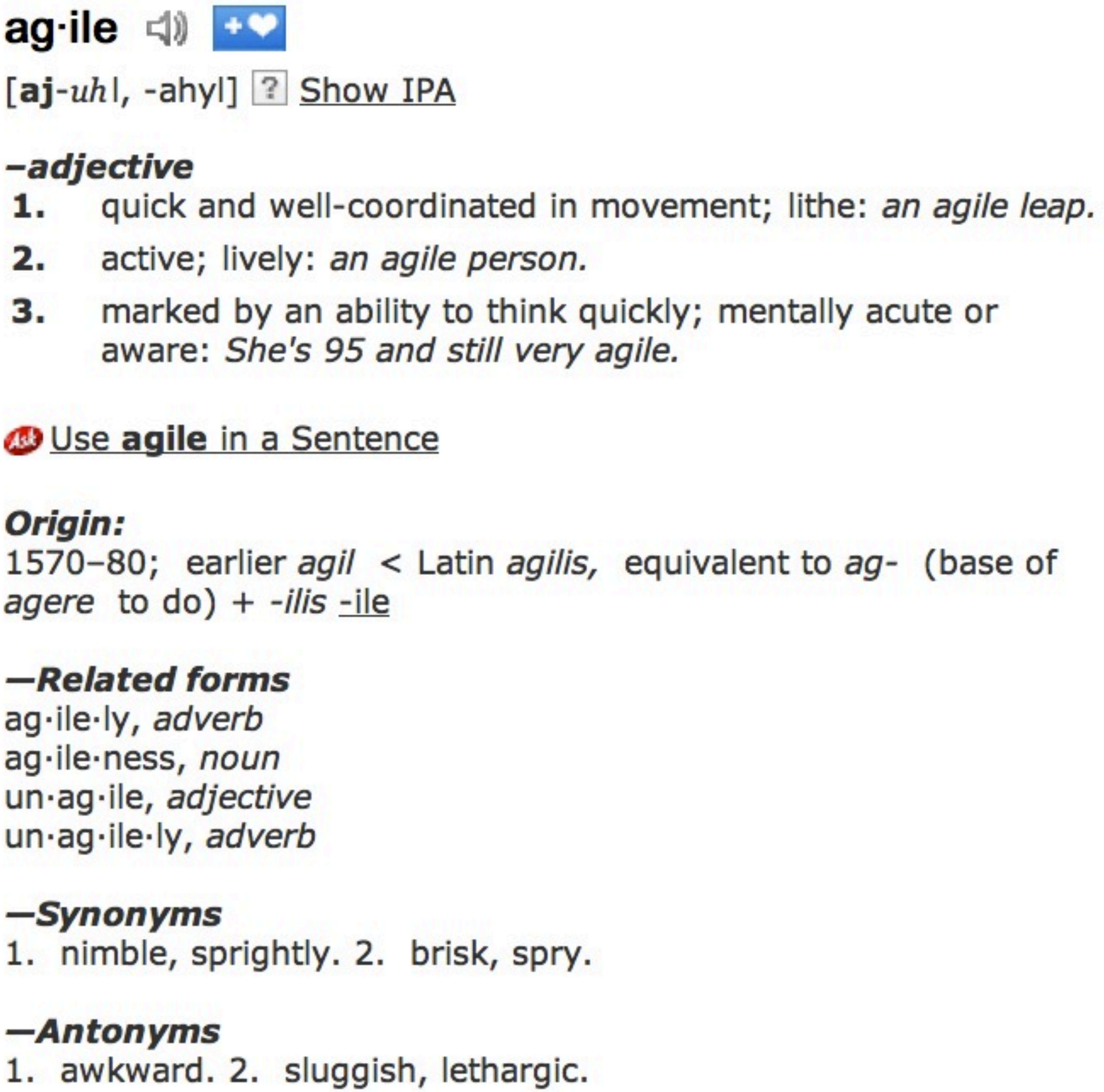
Course intro, Overview Agile Processes & Philosophy

Lecture 1, EDA397/DIT191,
Agile Dev Processes
Robert Feldt, 2012-03-12

CHALMERS

What is “Agile Development Processes”?



ag·ile

[**aj**-*uh*l, -ahyl] ? Show IPA

–adjective

1. quick and well-coordinated in movement; lithe: *an agile leap.*

2. active; lively: *an agile person.*

3. marked by an ability to think quickly; mentally acute or aware: *She's 95 and still very agile.*

Use **agile** in a Sentence

Origin:
1570–80; earlier *agil* < Latin *agilis,* equivalent to *ag-* (base of *agere* to do) + *-ilis* -ile

—Related forms
ag·ile·ly, *adverb*
ag·ile·ness, *noun*
un·ag·ile, *adjective*
un·ag·ile·ly, *adverb*

—Synonyms
1. nimble, sprightly. 2. brisk, spry.

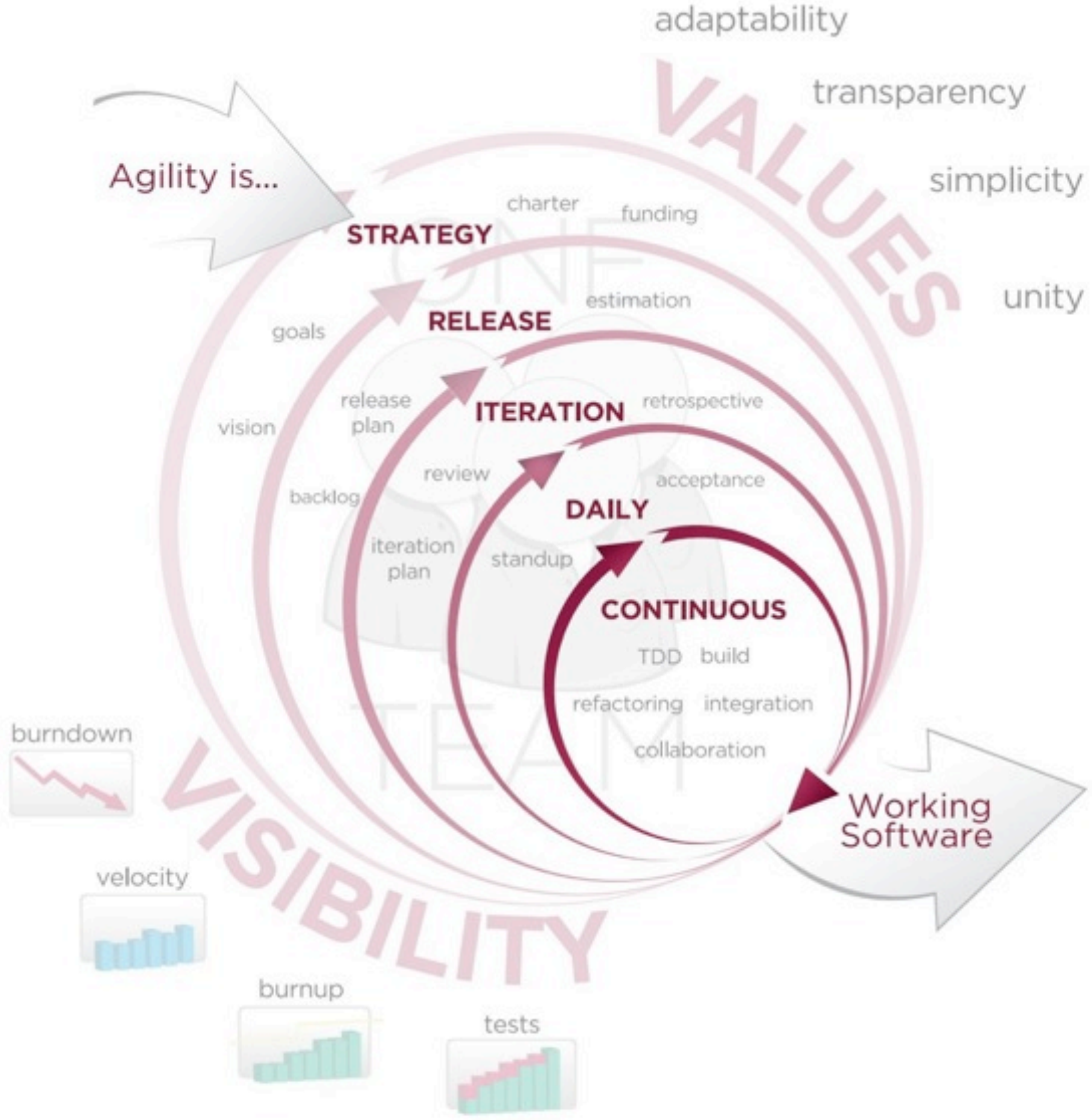
—Antonyms
1. awkward. 2. sluggish, lethargic.

[Dictionary.com 2011]

Agile Dev Processes

- Processes a bit of a misnomer
- Agile SW Development **Methodologies** more apt
- Some are more process/management-like: Scrum
- Some are more practices/programming-focused: XP
- But most have a little bit of both
- In particular Crystal tries to trade-off and explicitly adapt
- Course book focus on Crystal but even more on why agile work - best such “theory” yet

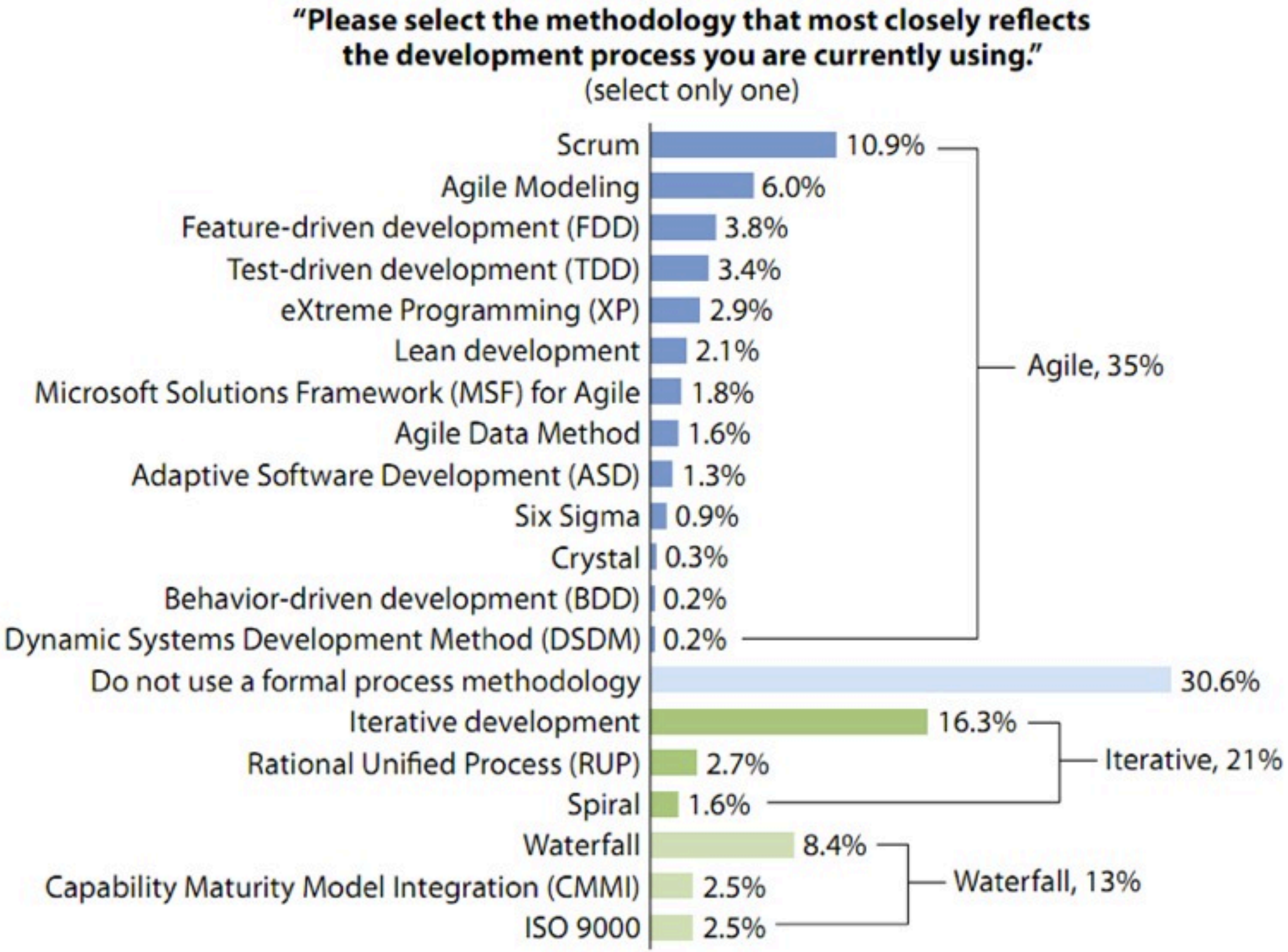
AGILE DEVELOPMENT



ACCELERATE DELIVERY

Why is Agile important?

Figure 1 Agile Adoption Has Reached Mainstream Proportions



Base: 1,298 IT professionals

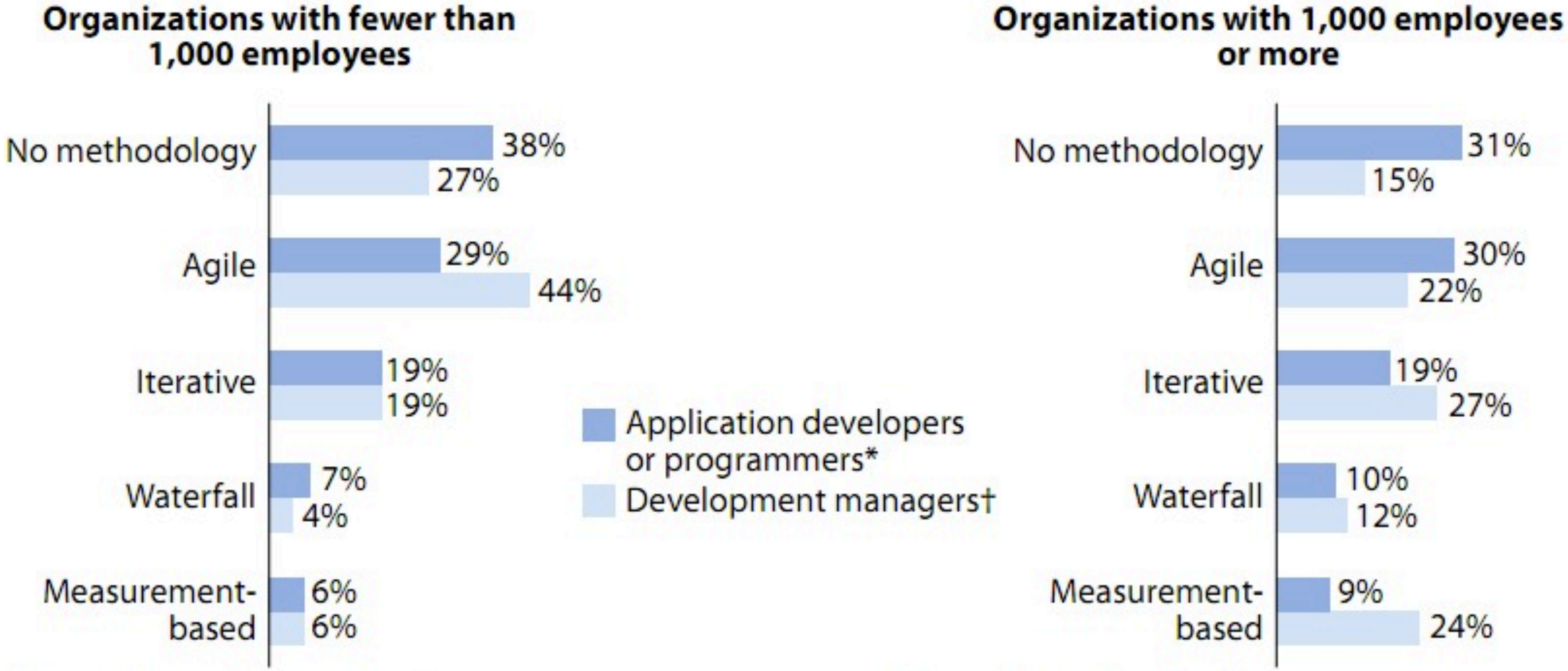
Source: Forrester/Dr. Dobb's Global Developer Technographics® Survey, Q3 2009

56100

Source: Forrester Research, Inc.

Figure 2 Developers Couldn't Care Less About Methodology Unless It's Agile

"Please select the methodology that most closely reflects the development process you are currently using."



*Base: 381 application developers or programmers
†Base: 73 development managers

*Base: 280 application developers or programmers
†Base: 59 development managers

(percentages may not total 100 because of rounding)

Source: Forrester/Dr. Dobb's Global Developer Technographics® Survey, Q3 2009

56100

Source: Forrester Research, Inc.

157 Swedish SW Engs: Dev method?

Method?	Total	2010	2011	Diff
Agile	16.2%	13.7%	18.8%	+5.1
Concious/Chosen mix	50.8%	52.3%	49.3%	-3.0
Plan-driven	28.6%	30.7%	26.4%	-4.3
Other	4.4%	3.3%	5.6%	+2.3

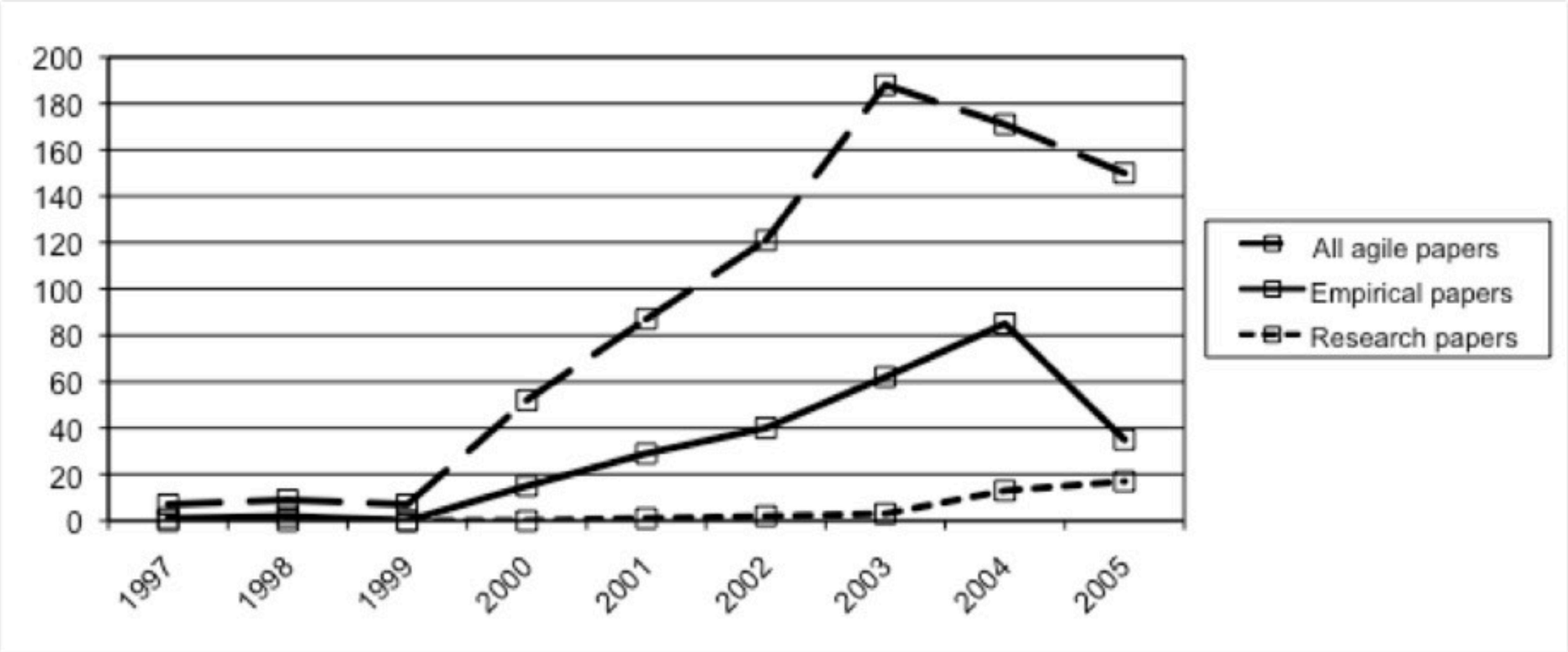


Figure 1: Number of papers identified in systematic review by year: All agile papers, empirical papers and empirical research papers.

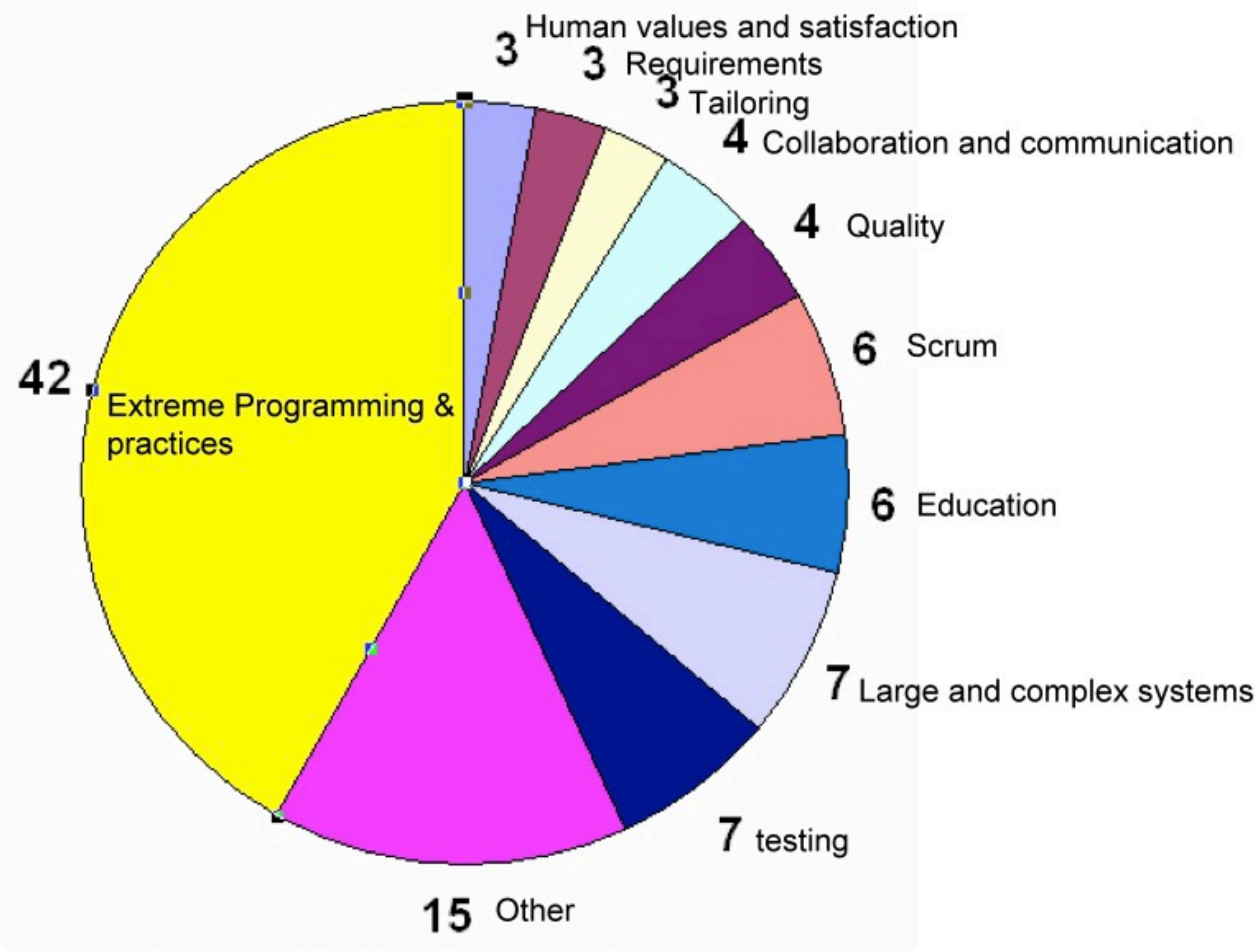


Figure 2: Distribution of conference papers according to topic.

What you will learn?

Course Content

- Agile processes (& compared to plan-driven, CMMI...)
- Differences in methods/processes: XP, Scrum, Crystal, Lean, Kanban, ...
- Agile practices
  - Test-driven, Backlog, Continuous integration, ...
- Agile project management
- Customer interaction
- Design in agile projects, Refactoring
- Philosophy of agile processes, Social aspects
- Missing in agile processes, Transitioning to agile

How will this course work?

Course Structure

- **Lectures** (a few)
- **Project** (main focus)
  - Develop Android application in iterations, start monday w. 2
  - Groups of 6-9 people, Continuous and on-site work
  - 1st week task: Hello world app in Android
  - Final project/demo workshop in exam week
- **Workshops** introduces specific project practices/ tools
- **Written exam**

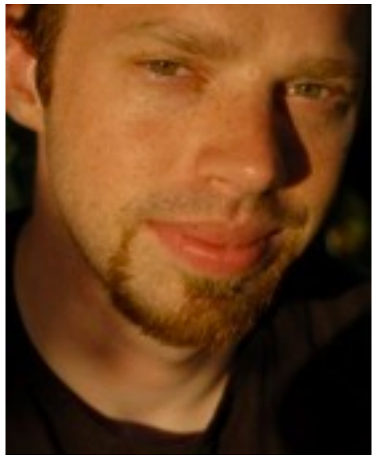
Course Team

Robert

Examiner,
Lecturer,
Customer

Ali

Project support,
Customer proxy



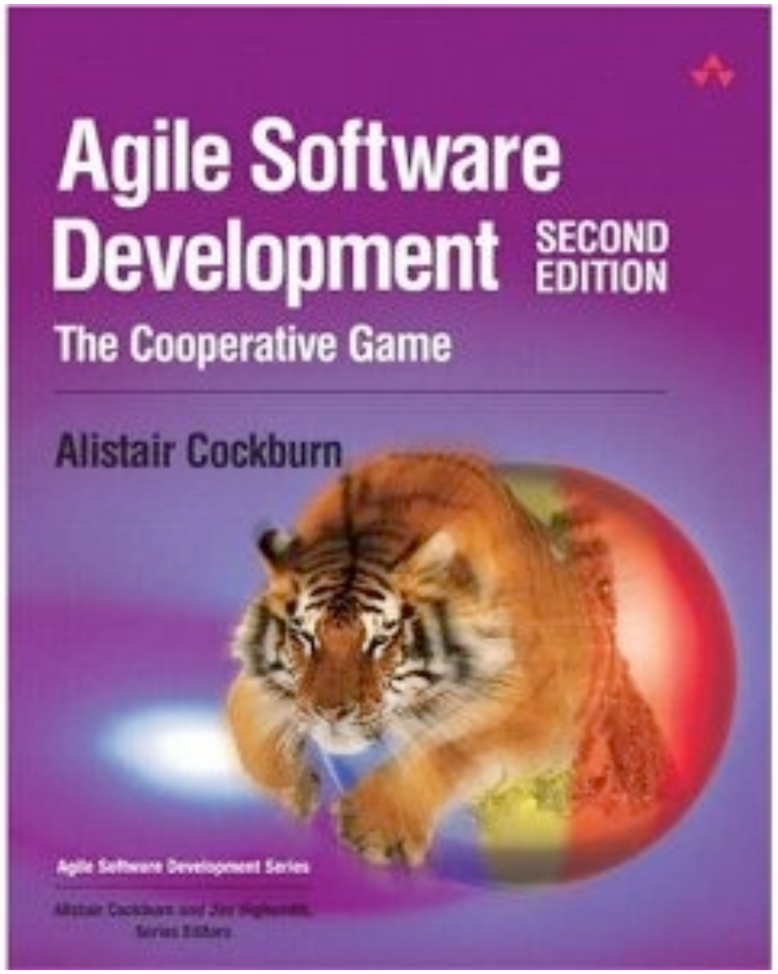
Emil

Project support,
Customer proxy

+ Ulrik & Tobias

2 Guest Lecturers
from Volvo AB and
SAAB AB

Material


Agile Software Development
SECOND EDITION
The Cooperative Game
Alistair Cockburn
Agile Software Development Series
Alistair Cockburn and Jim Highsmith, Series Editors

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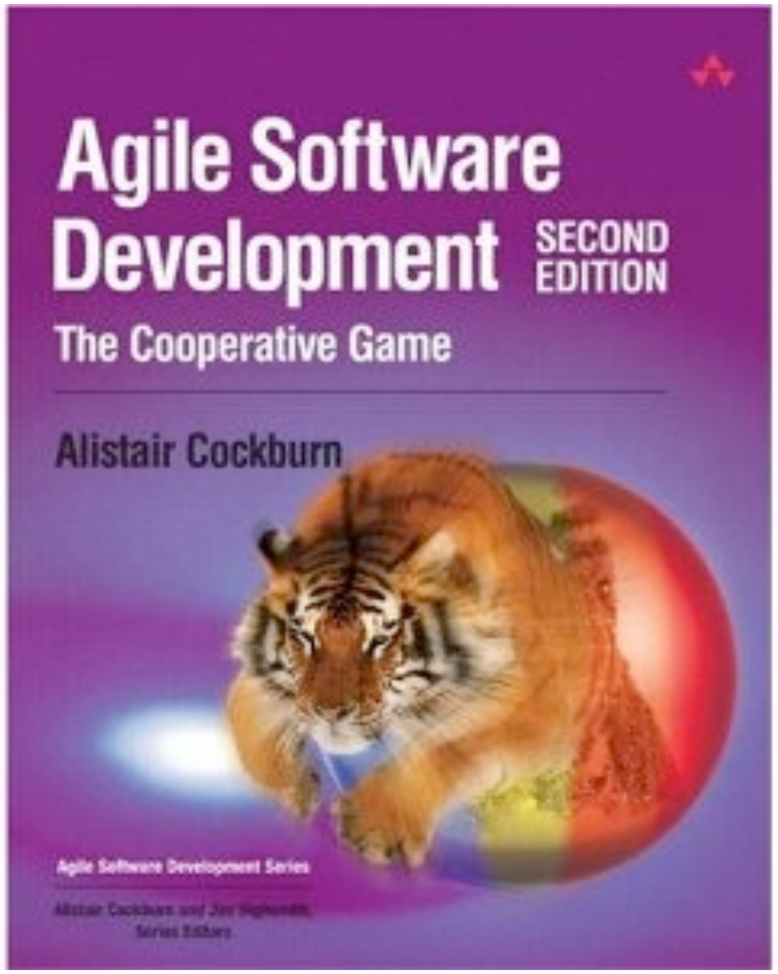
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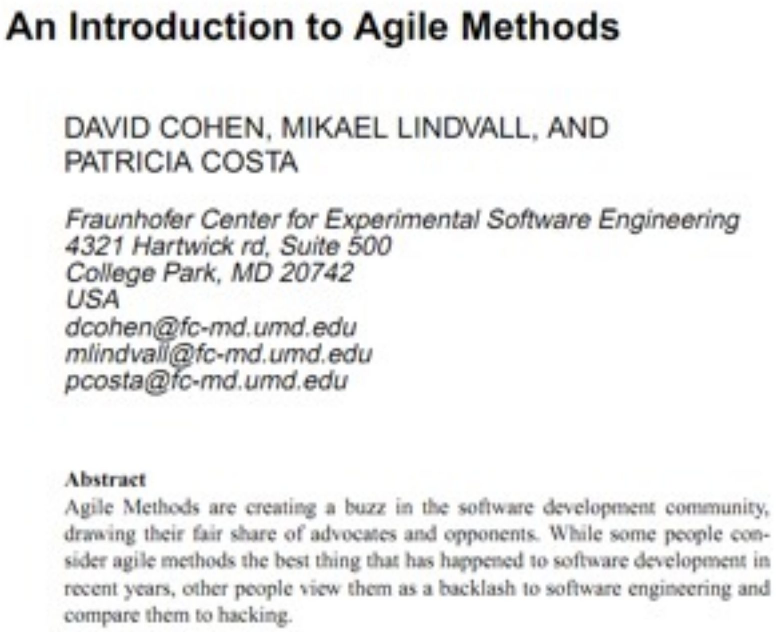

An Introduction to Agile Methods

DAVID COHEN, MIKAEL LINDVALL, AND
PATRICIA COSTA

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pcosta@fc-md.umd.edu

Abstract

Agile Methods are creating a buzz in the software development community, drawing their fair share of advocates and opponents. While some people consider agile methods the best thing that has happened to software development in recent years, other people view them as a backlash to software engineering and compare them to hacking.

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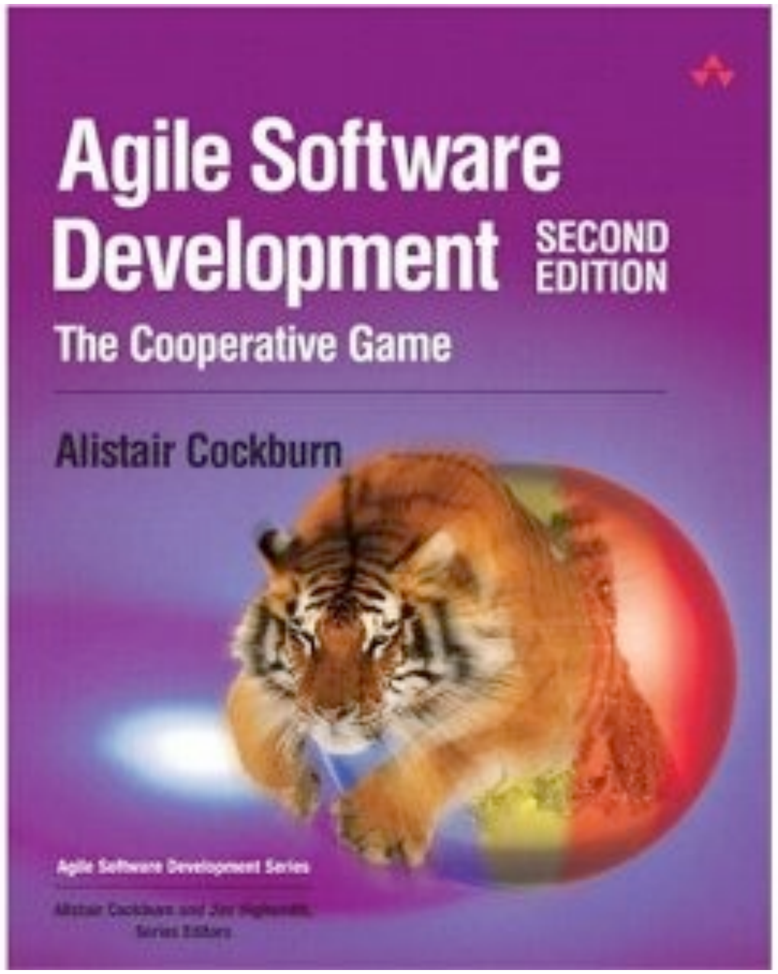
Material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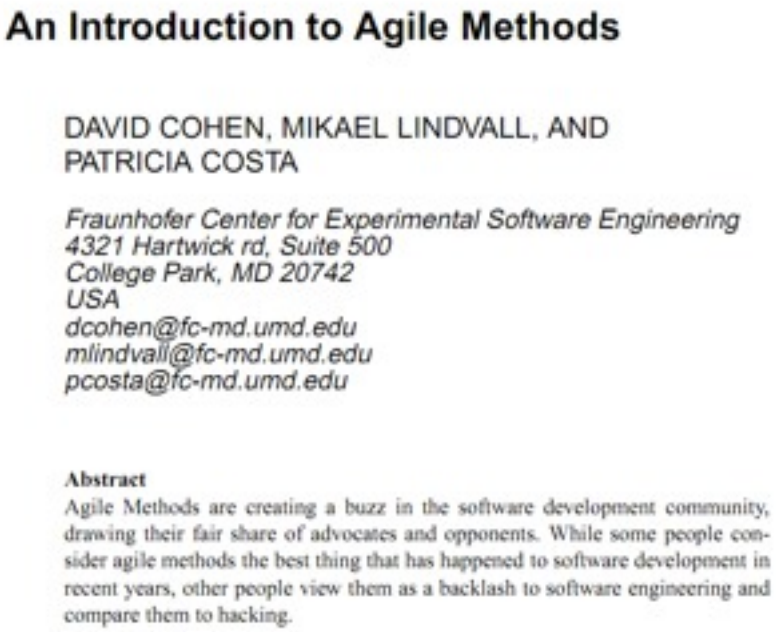

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...

+ slides & videos from lectures & workshops

Project

- Mobile KnowSE - Mobile App for Android platform
- We do NOT provide Android phones
    - Use emulator or run on own Android phone if available
- Robert is customer but only rarely on site. Two customer proxies partly on site (wed or fridays)
- 2*4 hours mandatory project time scheduled / week
    - Sometimes these are used for workshops, often not, check schedule
- Additional 4-6 hours expected per member / week
- Continuous weekly delivery with customer acceptance tests
- Iteration retrospective & Post mortem report

Project

- Process will be "Scrum" + XP practices + Kanban
- Scrum master - switched every week
- Weekly retrospective & planning
- Online backlog, logging and management tool: Pivotal Tracker
- Continuous integration
- Version control system with fixed file structure: Git
- Mandatory presence; special circumstances require formal ok from project group (in written) with plan for "catchup"
- All details at project startup: Friday 16/3 13:15

Groups

- Groups of 6-9 people
- No choice in group assignment; we will assign groups
    - Don’t bother asking for “special treatment”
- You will do a survey on your background and EQ
- Groups announced end of week 1, before project start

Post Mortem Report

- Postmortem report should be in IEEE conf proceedings format
  - Info linked on home page
  - Proper and complete references to all supporting books/papers/info!
  - Proper format!
- Handed in as PDF file
- All info stated in project description and introduced in week 2!
- Iteration report only as text file on VCS/iteration_reports

Examination

- Written exam, individual, 3.0 credits
  - 60 points, 24 a must to pass
- Project, 4.5 credits
  - Grades: Fail/Pass but gives bonus on written exam
- Grades:
  - Chalmers: [0-49%] => Fail, [50-64%] => 3, [65-79%] => 4, [80-100%] => 5
  - GU: [0-49%] => Fail, [50-79%] => G, [80-100%] => VG

Key Dates & Deadlines

http://www.cse.chalmers.se/~feldt/courses/agile/

Additional notes

- How much should you write in reports?
  - Stated in assignment spec as MAX limit
  - Expected to perform each assignment in as many or as few pages as is necessary to convince us you sufficiently understand the topic of the assignment
- Plagiarism will
  - yield an immediate FAIL on course
  - be reported to university disciplinary board
  - be meaningless; why not buy a master degree online directly instead? ;)

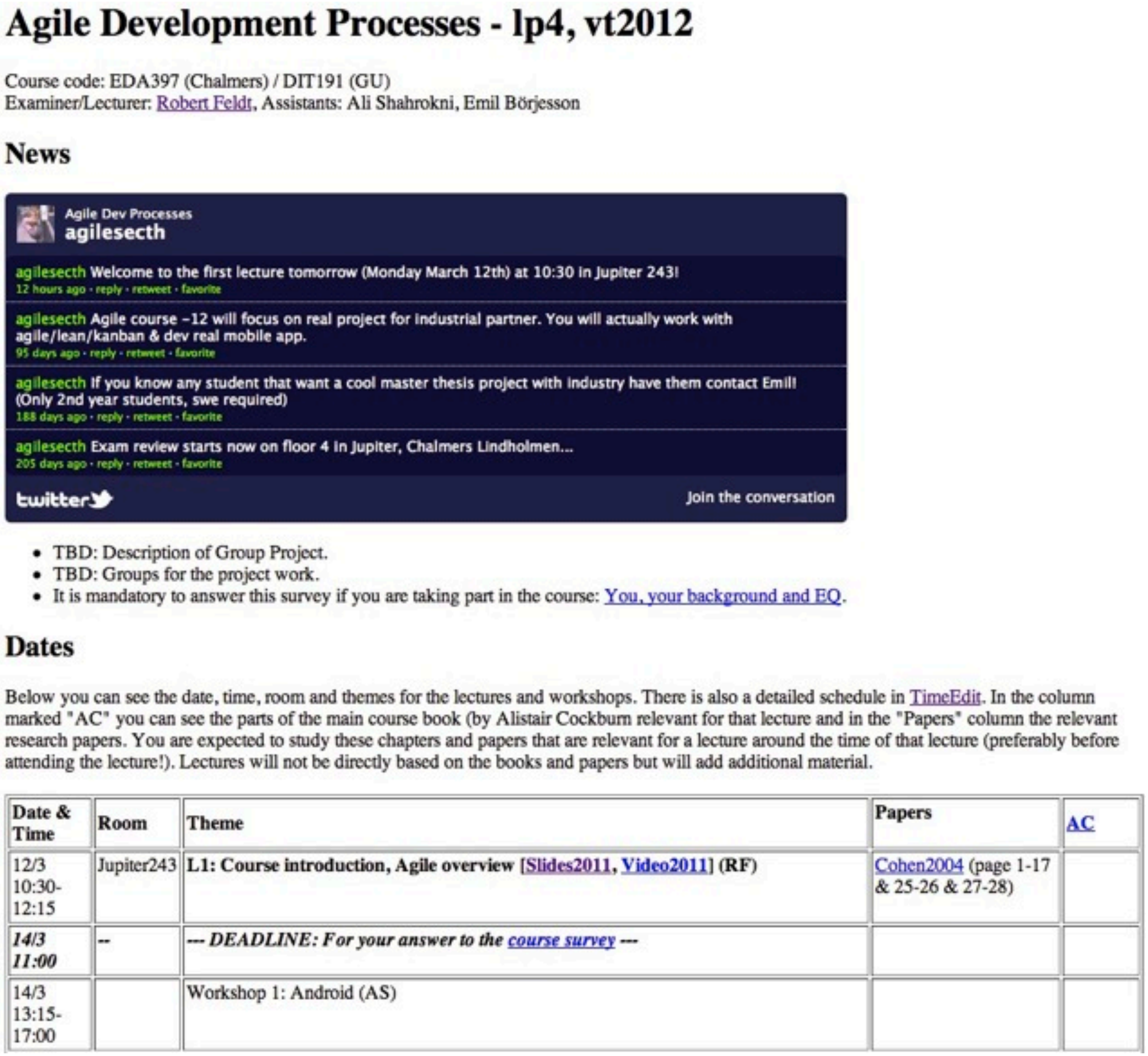
Additional notes

- Student participation
  - You are expected to take responsibility and initiative
  - Project most important - agile is more about doing than theoretical understanding
  - Product is important - develop something to be proud of
  - Lectures add philosophy, overview and counterpoints
  - Active participation; we will evaluate level of participation
  - Discuss
  - Reflect and relate to experience

Home page & Twitter

- Check home page at least twice per week!
- http://www.cse.chalmers.se/~feldt/courses/agile

Home page & Twitter



Agile Development Processes - lp4, vt2012

Course code: EDA397 (Chalmers) / DIT191 (GU)
Examiner/Lecturer: Robert Feldt, Assistants: Ali Shahrokni, Emil Börjesson

News

Agile Dev Processes
agilesecth

agilesecth Welcome to the first lecture tomorrow (Monday March 12th) at 10:30 in Jupiter 243!
12 hours ago · reply · retweet · favorite

agilesecth Agile course -12 will focus on real project for industrial partner. You will actually work with agile/lean/kanban & dev real mobile app.
95 days ago · reply · retweet · favorite

agilesecth If you know any student that want a cool master thesis project with industry have them contact Emil! (Only 2nd year students, swe required)
188 days ago · reply · retweet · favorite

agilesecth Exam review starts now on floor 4 in Jupiter, Chalmers Lindholmen...
205 days ago · reply · retweet · favorite

twitter
Join the conversation

- TBD: Description of Group Project.
- TBD: Groups for the project work.
- It is mandatory to answer this survey if you are taking part in the course: You, your background and EQ.

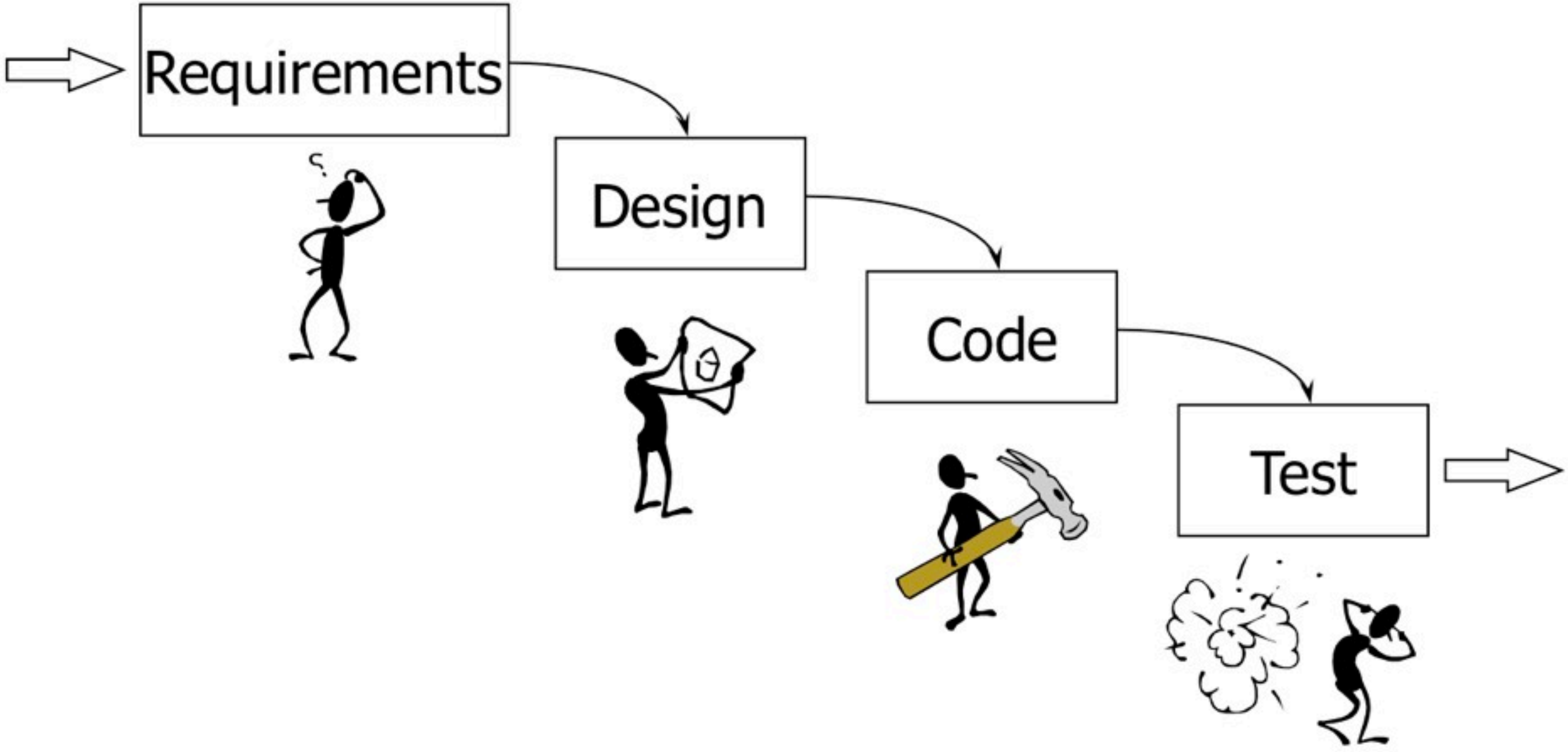
Dates

Below you can see the date, time, room and themes for the lectures and workshops. There is also a detailed schedule in TimeEdit. In the column marked "AC" you can see the parts of the main course book (by Alistair Cockburn relevant for that lecture and in the "Papers" column the relevant research papers. You are expected to study these chapters and papers that are relevant for a lecture around the time of that lecture (preferably before attending the lecture!). Lectures will not be directly based on the books and papers but will add additional material.

Date & Time	Room	Theme	Papers	AC
12/3 10:30-12:15	Jupiter243	**L1: Course introduction, Agile overview [Slides2011, Video2011] (RF)**	Cohen2004 (page 1-17 & 25-26 & 27-28)	
14/3 11:00	--	***--- DEADLINE: For your answer to the course survey ---***		
14/3 13:15-17:00		Workshop 1: Android (AS)		

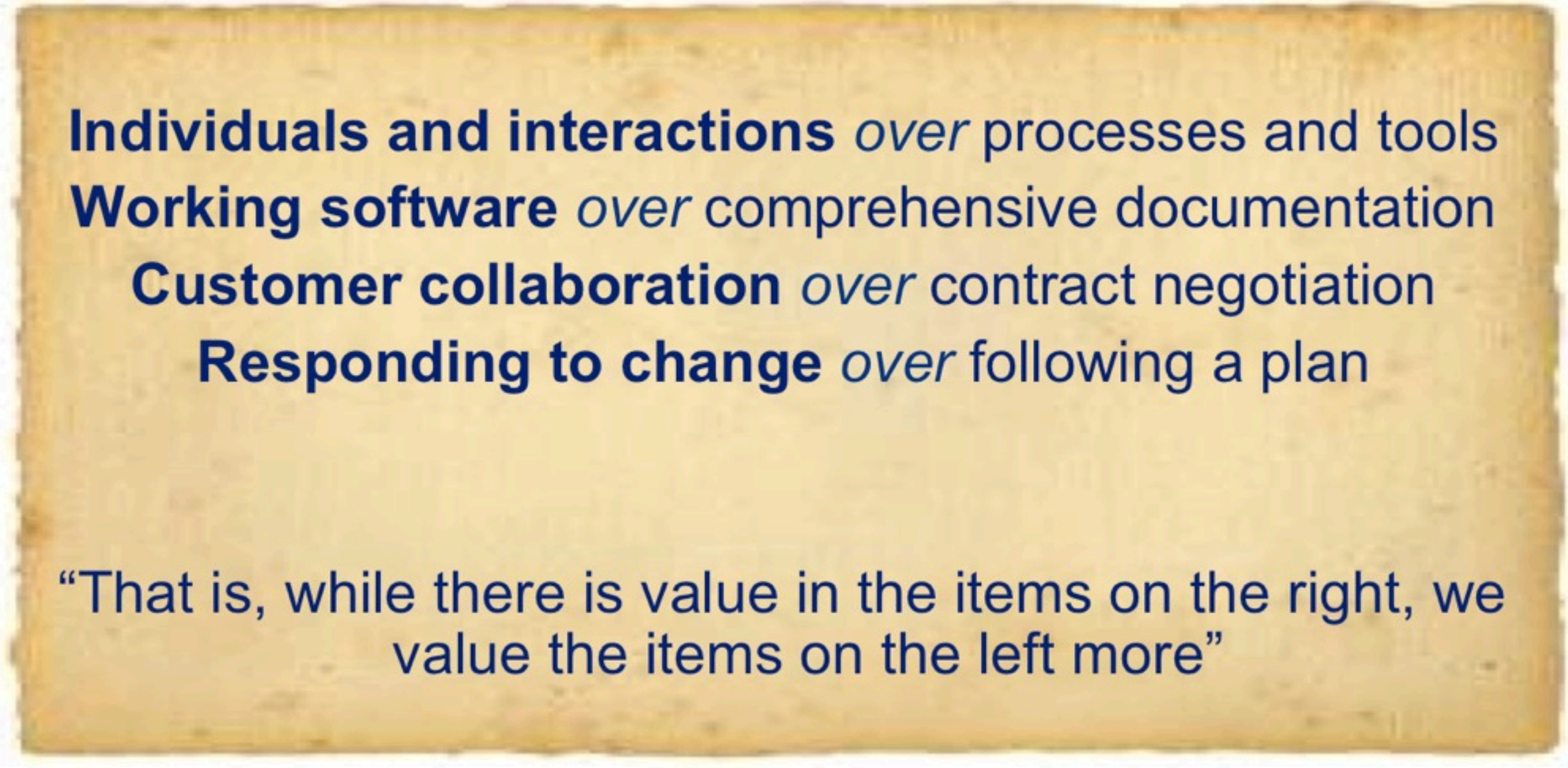
Overview of Agile Philosophy & Values

Is this inherently bad?



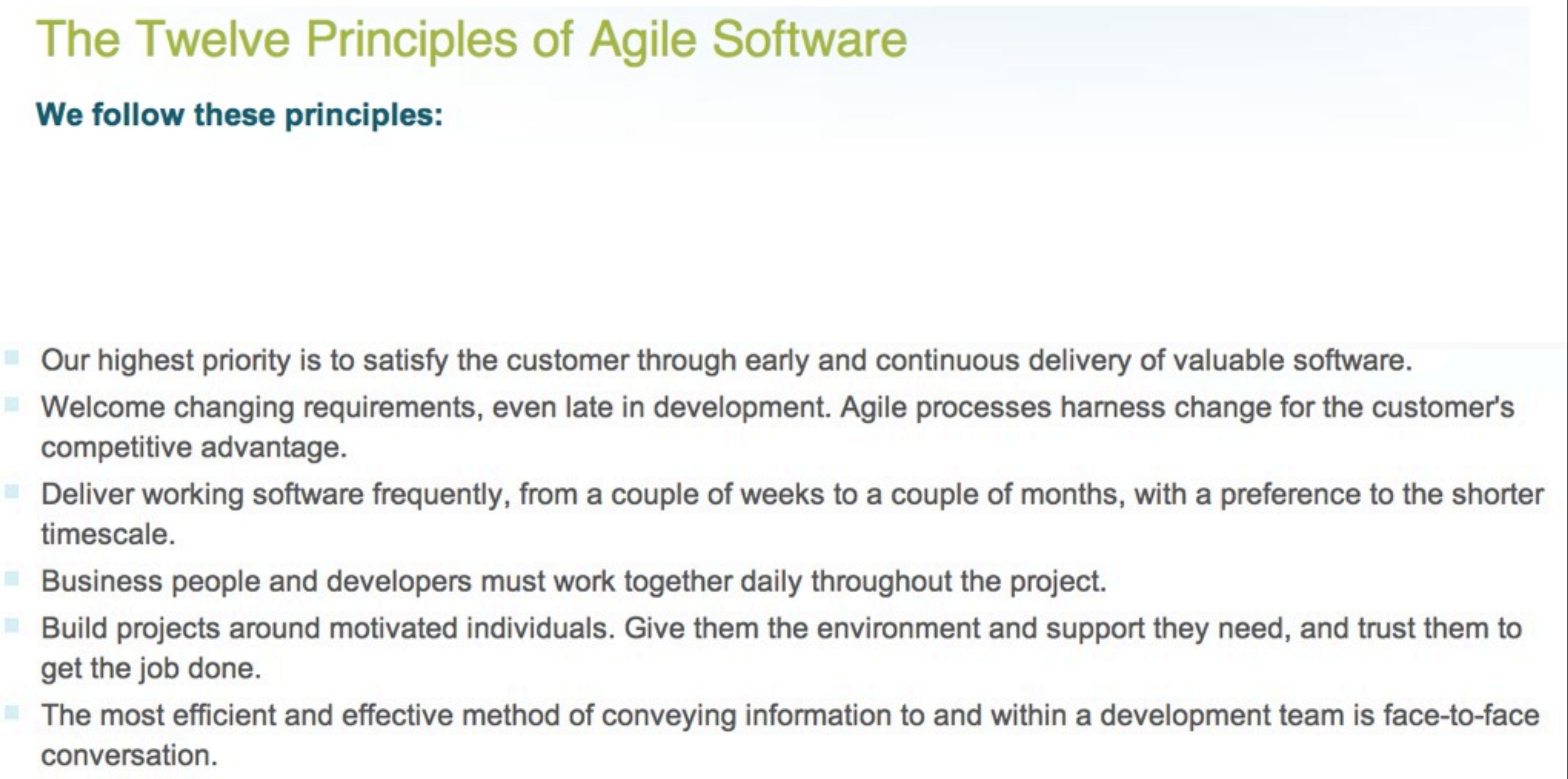
Manufacturing or Creation?

Agile Manifesto



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

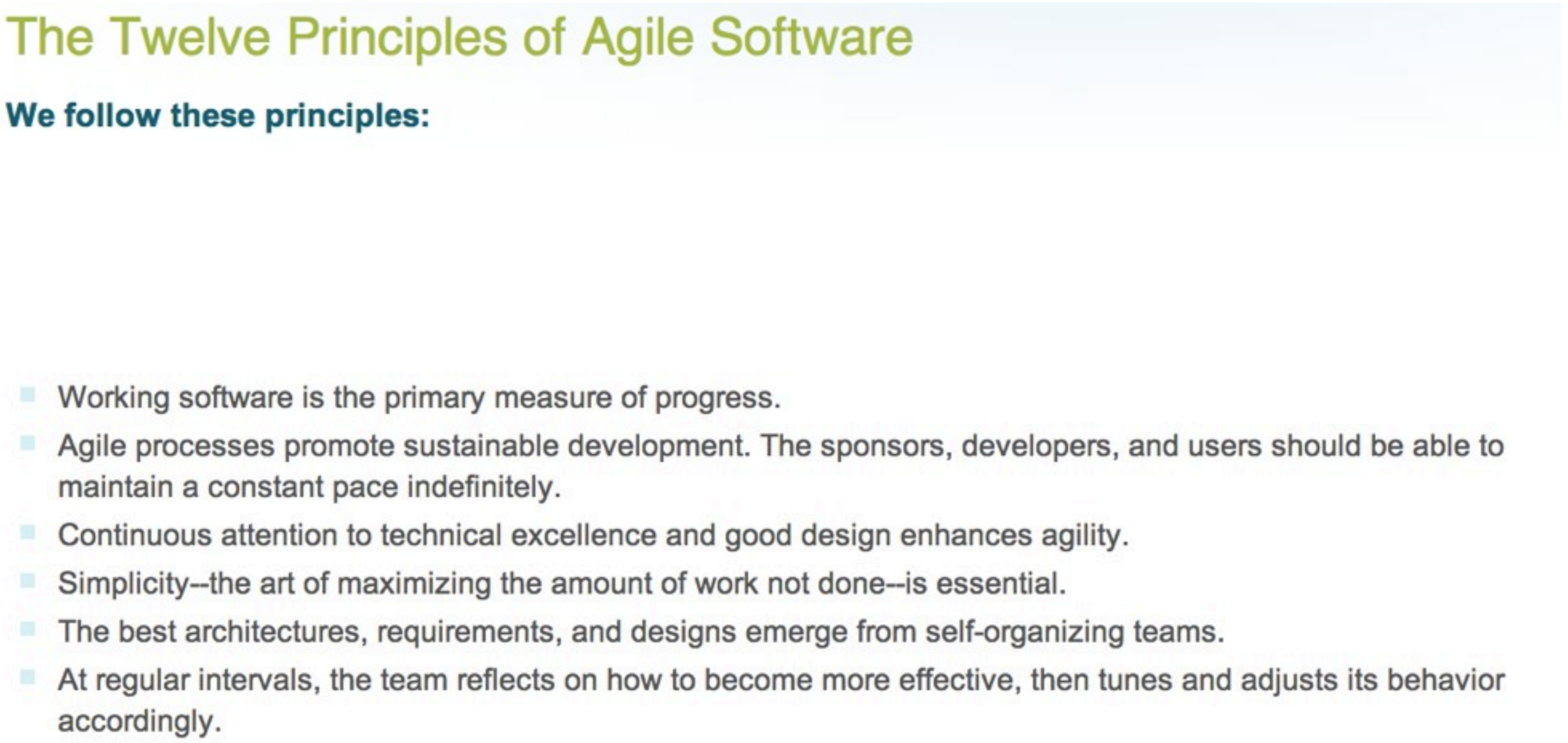
“That is, while there is value in the items on the right, we value the items on the left more”



The Twelve Principles of Agile Software

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.

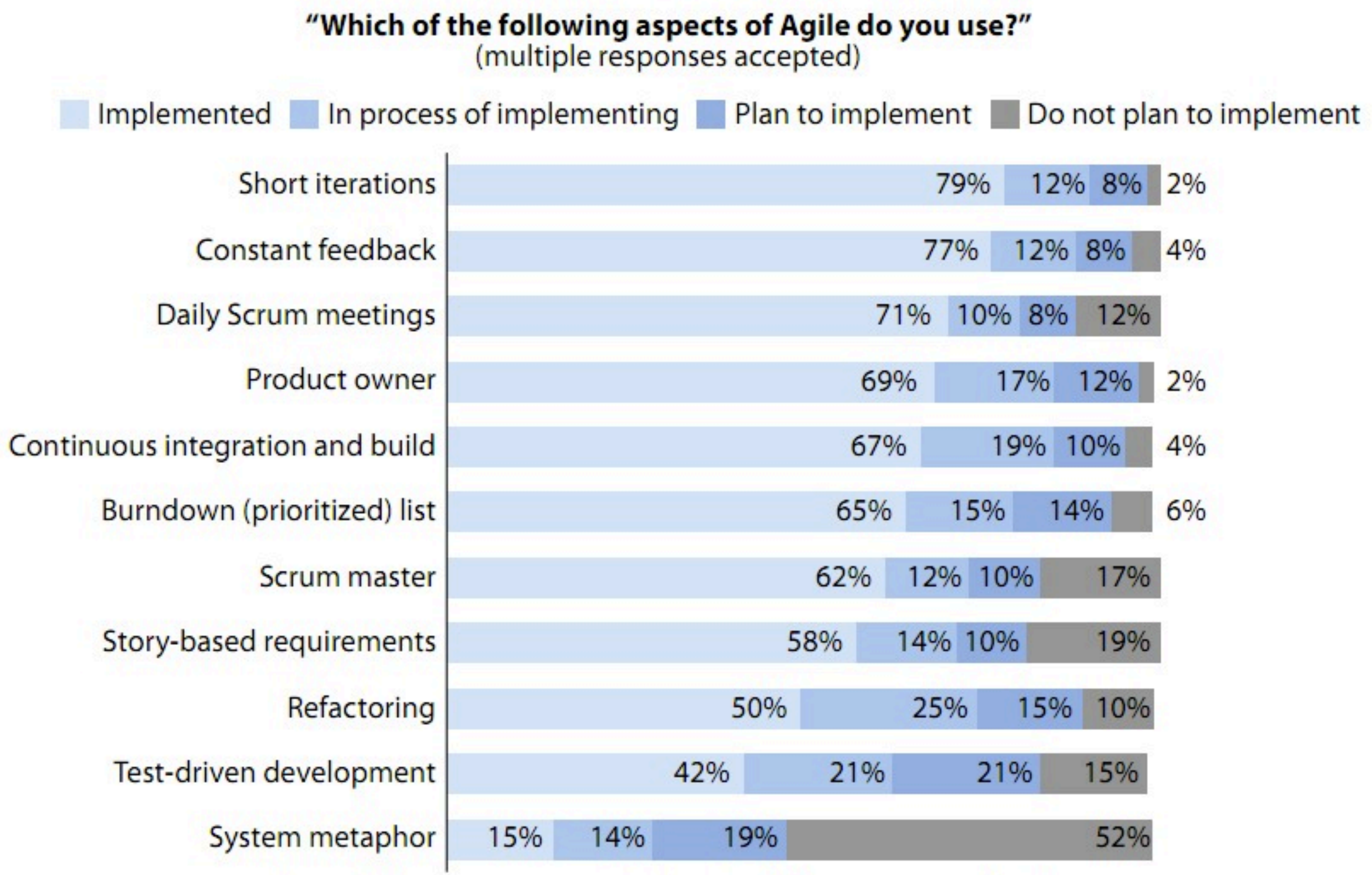


The Twelve Principles of Agile Software

We follow these principles:

- 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.

Figure 3 Teams Embrace Different Components Of Agile Methodologies



"Which of the following aspects of Agile do you use?"
(multiple responses accepted)

Base: 52 development professionals who have adopted Agile

Source: Q3 2009 Global Agile Adoption Online Survey

56100

Source: Forrester Research, Inc.

Agile Practice	All	Agile	Mix	Plan-dr.
Stand-up meeting	46 %	78 % ↑	59 % ↑	8 %
Sprint-based dev.	41 %	70 % ↑	52 % ↑	8 %
Product/Sprint Backlog	38 %	70 % ↑	44 % ↑	11 %
Exploratory testing	33 %	59 % ↑	39 % ↑	8 %
Daily/Cont. builds	26 %	56 % ↑	31 % ↑	3 %
Small/freq. releases	26 %	52 % ↑	31 % ↑	3 %
TDD	19 %	19 %	30 % ↑	5 %
Planning game	12 %	37 % ↑	10 %	0 %
Coding standards	12 %	22 %	14 %	3 %
On-site customer	11 %	22 %	9 %	11 %
Refactoring	10 %	37 % ↑	7 %	0 %
Pair Progr.	10 %	30 % ↑	9 %	0 %
Collective code ownersh.	8 %	30 % ↑	6 %	0 %
Sustainable pace	2 %	11 % ↑	0 %	0 %
System metaphor	1 %	4 %	1 %	0 %

What is new or original here?

It started very early

Gerald M. Weinberg:

*"We were **doing incremental development as early as 1957**, in Los Angeles, under the direction of Bernie Dimsdale. He was a colleague of John von Neumann, so perhaps he learned it there, or **assumed it as totally natural**. I do remember Herb Jacobs developing a large simulation for Motorola, where the technique used was, as far as I can tell .... All of us, as far as I can remember, **thought waterfalling of a huge project was rather stupid, or at least ignorant of the realities**. I think what the waterfall description did for us was make us realize that we were doing something else, something unnamed except for 'software development.'"*

An Agile Worldview

“What is new about Agile Methods is **not the practices** they use, but their recognition of **people as the primary drivers** of project success, coupled with an intense **focus on effectiveness and maneuverability**” [Cockburn & Highsmith 2001]