

Agile-Scrum vs. Waterfall-Cycle Methodology



Speech by Ross Inghish

Agenda



Waterfall Cycle

Agile - Scrum

Terminology

Risk Management Overview

Advantages & Disadvantages

What is the „Waterfall“ methodology?

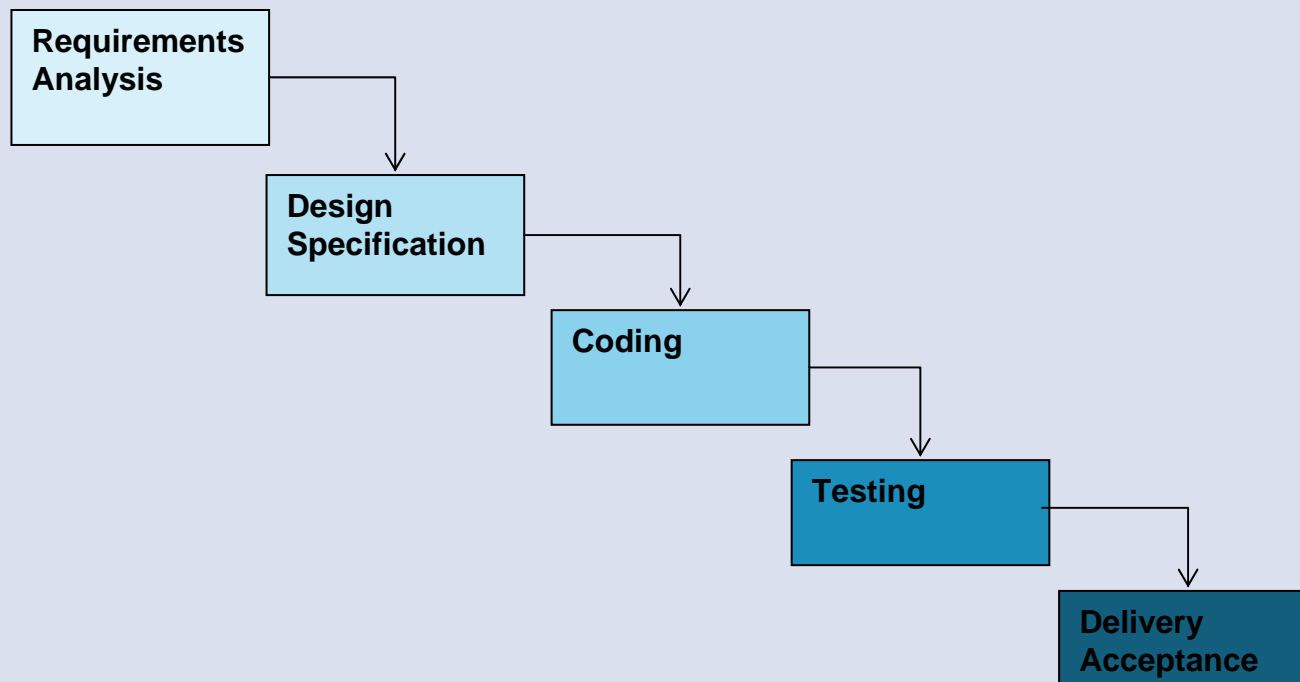


- Does the Waterfall methodology really exist?
- Barry Boehm – „Spiral Model of Software Development“
 - Probably makes first reference early 90's
 - Early advocate of Agile
- Waterfall Model – is a term representing any software development process, which:
 - is Sequential
 - Requires substantial up-front formal requirements analysis
 - Flows unabated through the phases:
 - Requirements Analysis
 - Design
 - Coding
 - Testing
 - Delivery
 - Progress is seen as flowing steadily downwards (like a waterfall)

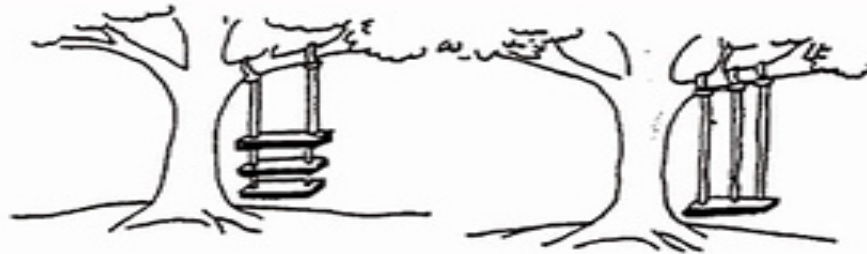
Waterfall Development Cycle



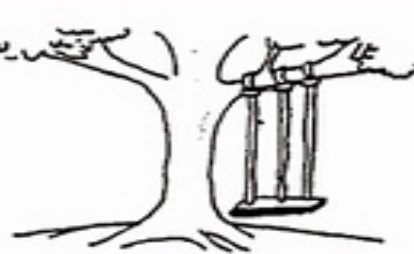
- Up-front analysis and design
- Attempts to define the whole project from the beginning
- Structured approach
- Emphasis on documentation
- Decentralization of software development



What the User *Really* wanted



AS PROPOSED BY THE
PROJECT SPONSOR.



AS SPECIFIED IN THE
PROJECT REQUEST.



AS DESIGNED BY THE
SENIOR ANALYST.



AS PRODUCED BY THE
PROGRAMMERS.

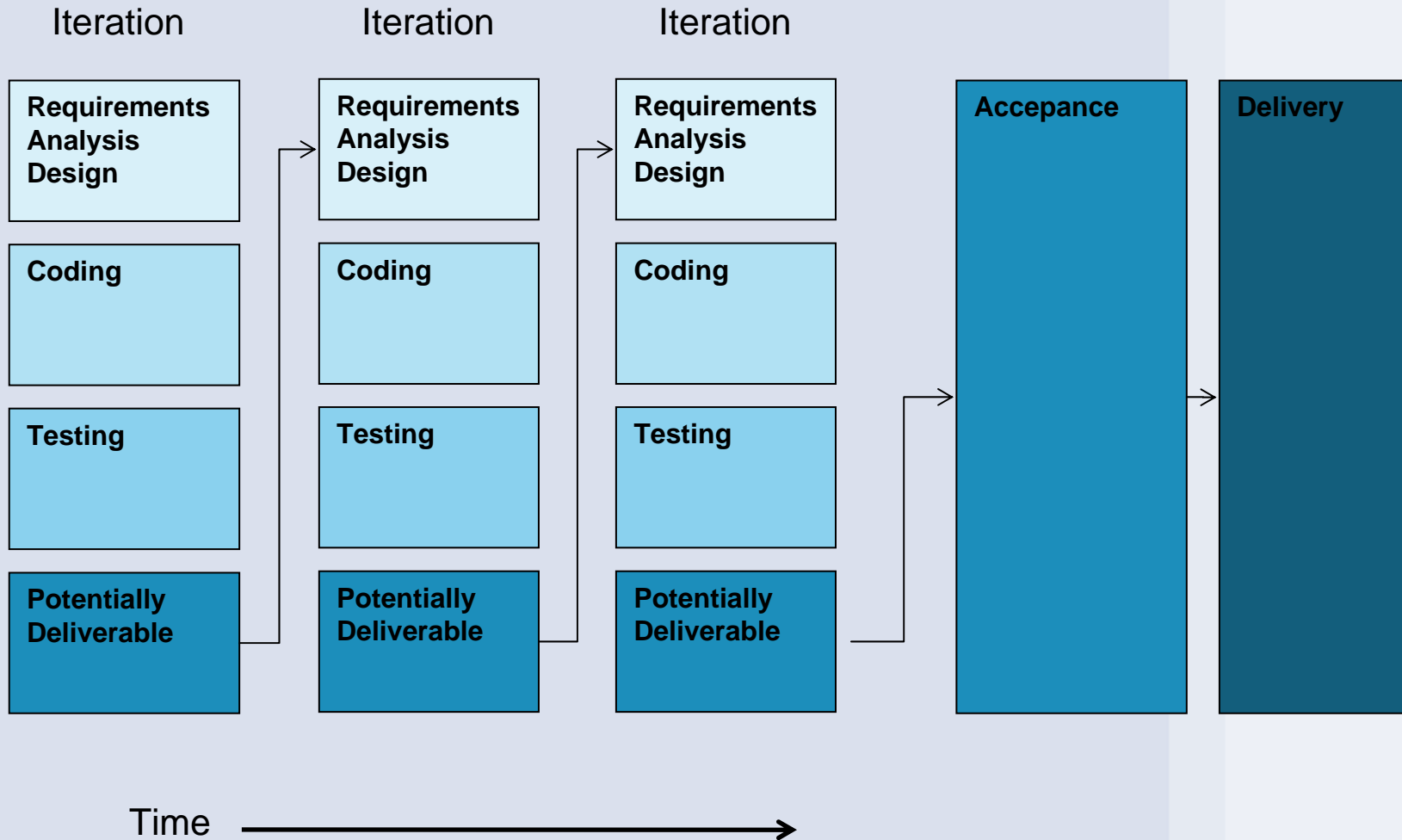


AS INSTALLED AT THE
USERS SITE.



WHAT THE USER
WANTED!

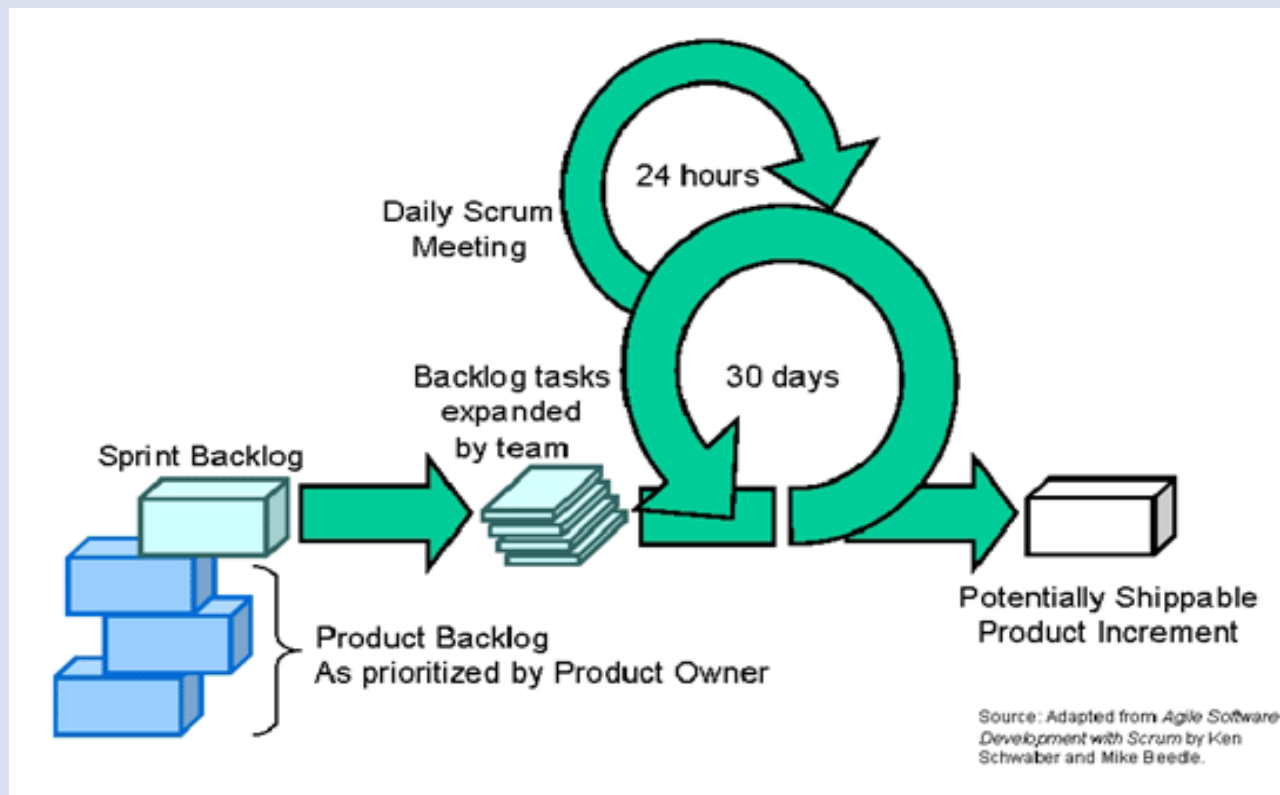
Iterative Approach



Scrum process view



- Self-organizing, motivated teams
- Customer interaction and involvement
- Enhanced customer satisfaction
- Working software is the principal measure of progress
- Frequent deliveries



Project Management Terminology



Traditional	Scrum
Project	Product
Phase	Sprint
Task	Sprint Feature
Milestone	Sprint review
Resource	Team Member
Requirements	Backlog, User Stories
Time Estimates (ideal Man hrs, days, weeks, months)	Story Points



Traditional „Waterfall“

- Always tries to remove uncertainty about „What“ is going to be built
- Then tackles the uncertainty of „How“ it will be built
- Product first fully defined and analyzed before the „means“ (How) are considered



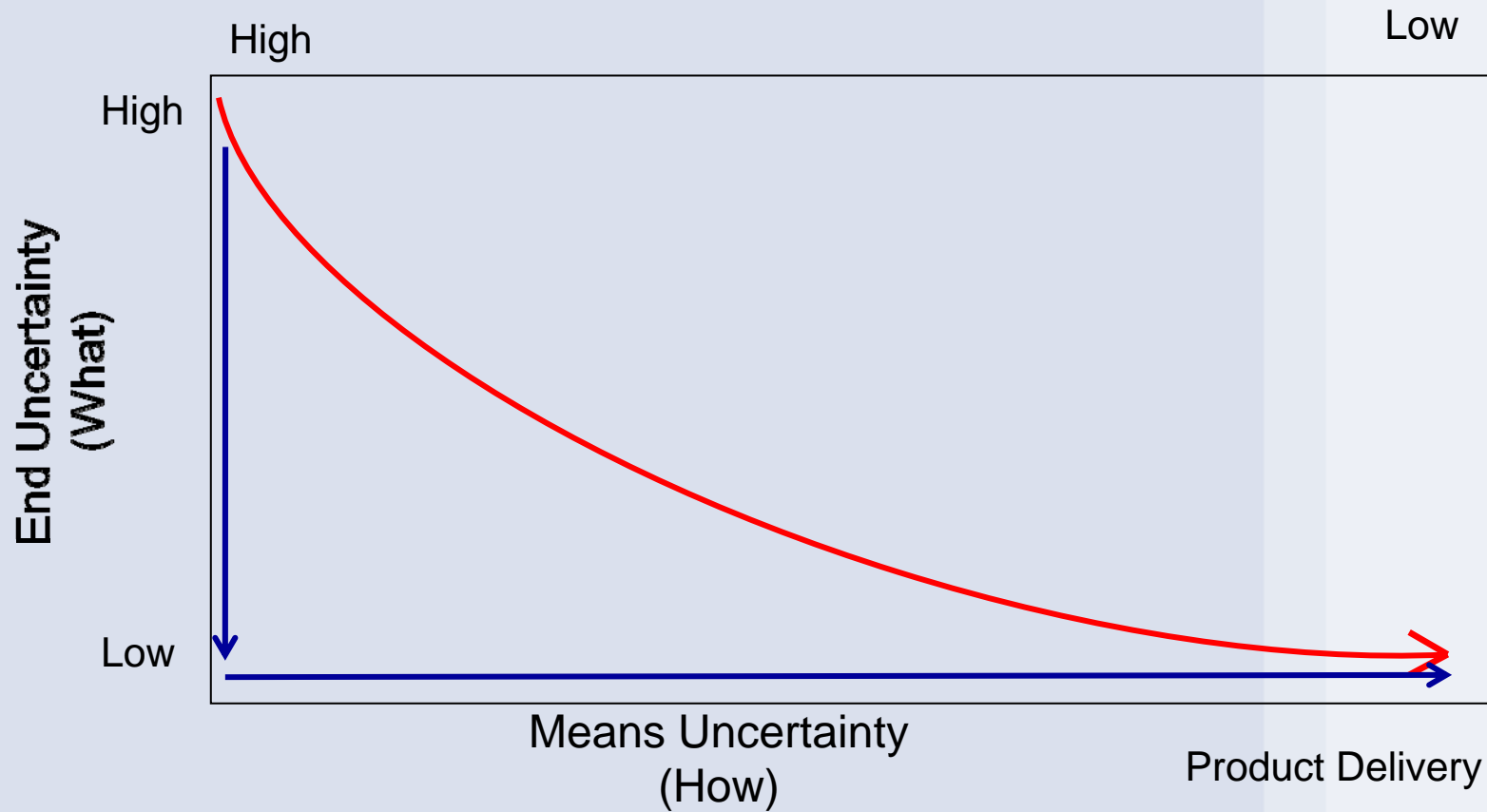
Agile - Scrum

- It is not possible to eliminate all uncertainty about what a product will be at the beginning
- Present the customer with smaller workable parts of the product
- Re-evaluate, plans adjusted by customer feedback
- Reduces the risk of building the wrong product

Risk Management Comparison



- Agile – Scrum
- Waterfall



Advantages / Disadvantages



	Traditional (waterfall) Management	Agile - Scrum Methodology
Prioritization	<ul style="list-style-type: none"> ✓ Support for long-term plans 	<ul style="list-style-type: none"> ✓ Few delays on important features ✓ Prioritization of features
Planning	<ul style="list-style-type: none"> ✓ Tries to define the overall project from the beginning ✗ Might be headed toward wrong direction 	<ul style="list-style-type: none"> ✓ Micro Planning ✓ Avoids Requirement cramming
Communication	<ul style="list-style-type: none"> ✗ Communication between customer and team members not encouraged 	<ul style="list-style-type: none"> ✓ Good internal communication ✓ Customer Involvement
Documentation	<ul style="list-style-type: none"> ✓ Highly emphasized ✓ Required at every phase 	<ul style="list-style-type: none"> ✗ Knowledge is stored mentally ✗ Code is the documentation
Risk Management	<ul style="list-style-type: none"> ✗ Might not find bugs until much later phase 	<ul style="list-style-type: none"> ✓ Continuous testing and review ✓ Issues found more rapidly

Questions



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References



- “Agile Manifesto.” 19 Apr 2007, 10:26 UTC.
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- „Agile Estimating and Planning“ Mike Cohn
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