Agile Testing Does automation replace the tester?

- O THE AGILE CONTEXT
- O AGILE TESTING
- O THE AGILE TESTER
- O MYTHS
- O EXAMPLES
- O TREND SPOTTING



Jimmy Janlén



WHO AM 1?

Jimmy Janlén

0735 – 12 57 25 jimmy.janlen@crisp.se www.crisp.se/konsulter/jimmy-janlen



History...

- Developer
- Project Manager
- Scrum Master
- Scrum/Agile Coach
- Teacher
- Team Manager

Work as...

- Agile/Lean Coach
- Scrum Master
- Agile Testing
- Courses
- Seminars

Experience...























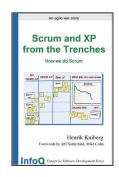


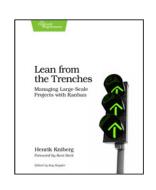


Crisp is an employee owned company known for agile courses with internationally renowned teachers and experienced agile developers and coaches.



Utvecklare User Experience Coacher Lärare











Me @ Online



Crisp

http://www.crisp.se/konsulter/jimmy-janlen



@JimmyJanlen



Linkedin: JimmyJanlen http://se.linkedin.com/in/jimmyjanlen



jimmy.janlen@gmail.com



Swedish Blog "Den Scrummande Konsulten" http://jimmyjanlen.wordpress.com







Me @ Online



Crisp Agile Academy

https://www.youtube.com/crispagileacademy





"Agile Testing is only a meaningful in an agile context"







Testing that enables AGILITY

Foto: Tropics urf



Agile is...

Working & Valuable Products.

Deliver business value early & frequently. Incremental/Continuous delivery.

Short iterations or flow.





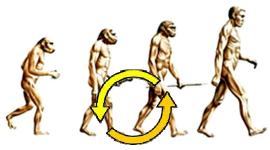




Welcoming change. Managing change. Respond to change.



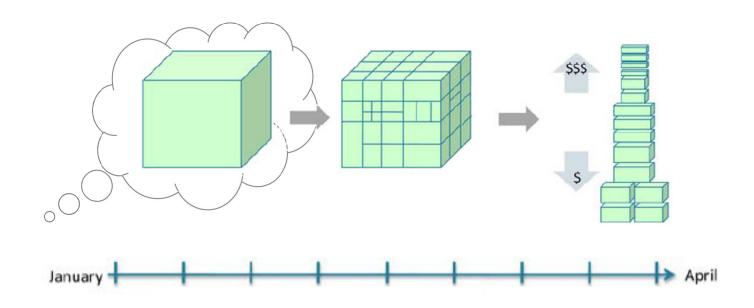
Customer collaboration.
Close and continuous.
Face-to-face.



Continuous learning.
Self-adapting process.
Transparency.



Iterative incremental development

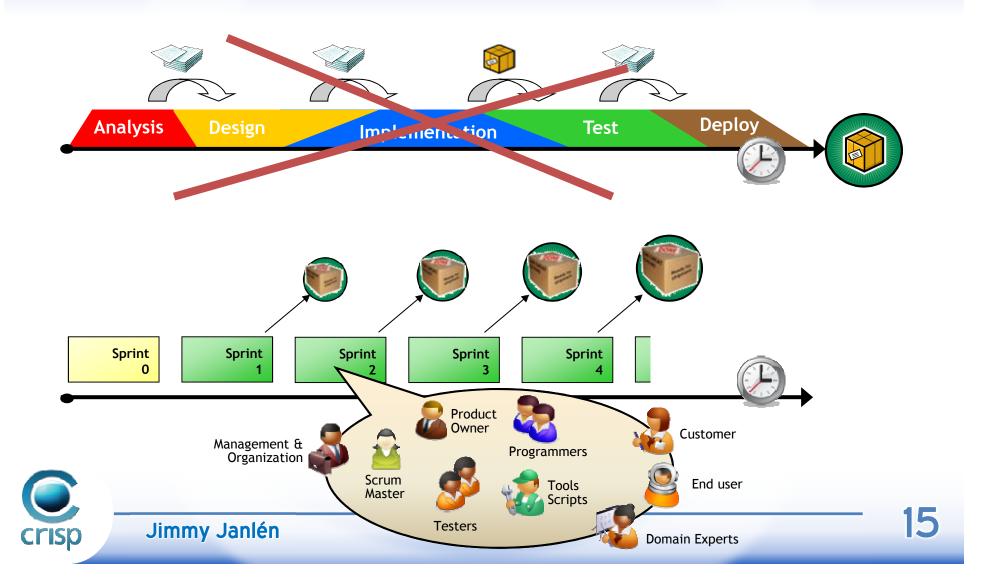






- I Unit tested
- Integration tested
- Regression tested
- ☐ Performance tested
- Acceptance tested
- Useful & Valuable

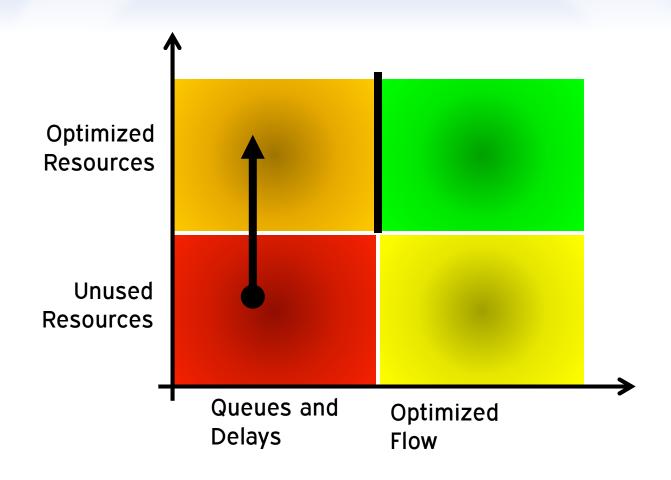
Incremental delivery and short iterations



- Maximize customer value
- Minimize delivery time
- Minimize waste

Continuously improve (kaizen)

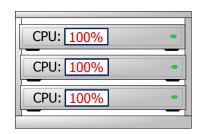




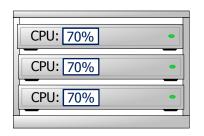








Server utilization = 100% Response: Slow



Server utilization = 70% Response: Fast

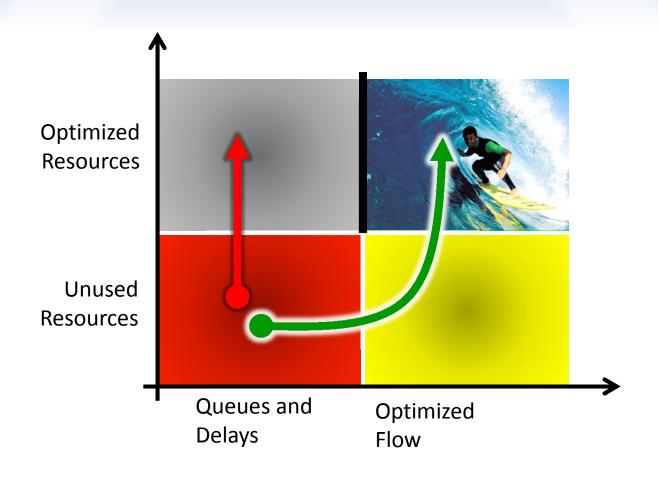


Staff utilization = 100% Delivery: Slow



Staff utilization ≈ 70% Delivery: Fast







The seven wastes of software development

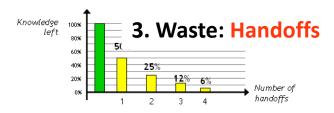
1. Waste: Partially Done Work

Examples:

- Uncoded documentation
- Unsynchronized code
- Untested code
- Undocumented code
- Undeployed code





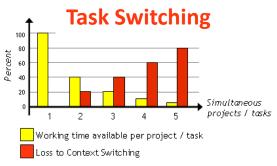


4. Waste: Relearning

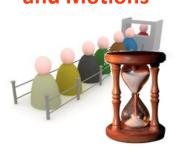
Examples:

- Poor knowledge sharing
- Poor documentation
- Repeating mistakes

5. Waste:



6. Waste: Delays and Motions



7. Waste:

Defects





The seven wastes of software development

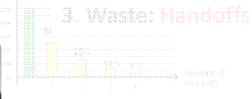
Waste: Wishful Thinking

Examples.

- Uncoded documentation
- Unsynchronized code
- University and a
- Undocumented code
- Undeployed code







4. Waste: Relearnii

Examples:

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- Boor documentatios
- Repenting mistakes



6. Waste: Delays



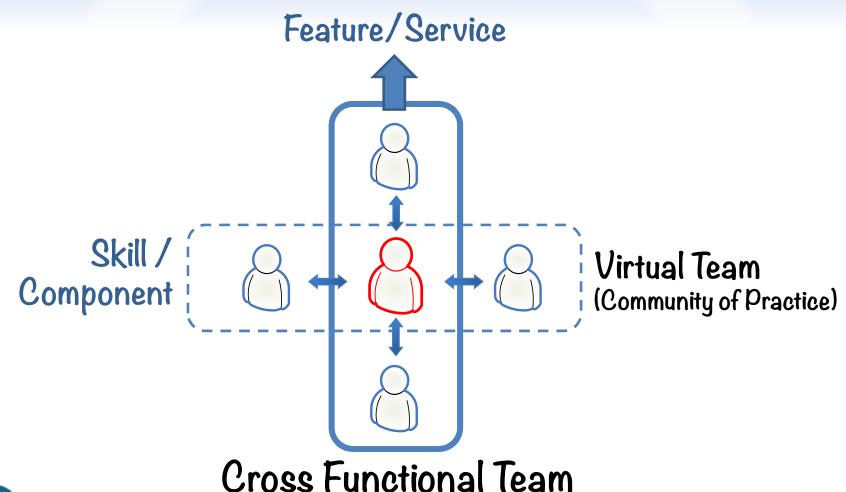
7. Waste:

Defects





Organize by Feature/Service!

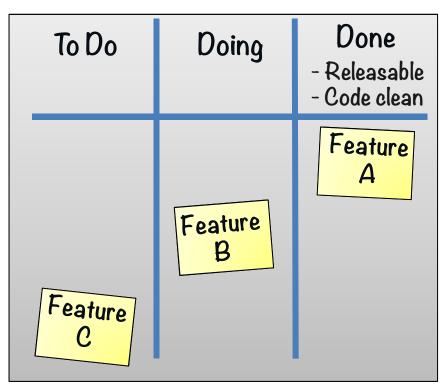




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Design, build, test and ship together! One feature at a time







Agile Testing



Why the confusion?



Agile Manifesto

www.agilemanifesto.org

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

Individer och interaktioner framför processer och verktyg

Working software over comprehensive documentation

Eungerande programvara framför omfattande dokumentation

Customer collaboration over contract negotiation

Kundsamarbete framför kontraktsförhandling

Responding to change over following a plan

Anpassning till förändring framför att följa en plan

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

Principles behind the Agile Manifesto

- 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-
- At regular intervals, the team reflects on how to become more effective, then tunes and adjusts its behavior accordingly.

David Evans

"Testing slows down development just as passengers slows down the bus.

The speed of the bus is not the point!"



Purpose of Tests & Testing

Build quality into the product and process

Provide courage to refactor

Provide fast feedback

Prevent defects

Texting that enables
AGULITY

Build confidence to release fast and often



- ☑ Embraces changes late in development and manages uncertainty in upcoming features
- ✓ Handles and utilizes that testing and development happens at the same time in close collaboration
- Fits within a sprint and aims at a potential release (that is ready to be delivered)
- Uses lightweight test techniques
- ✓ Incorporates and utilizes a cross-functional team, i.e. that the skills and experts are in the team
- ✓ Works with a test base (test data, test suits, documentation, etc.) that grows and evolves over time
- ✓ Introduces demands on test environment and support processes
- ✓ Is continuously challenged and improved





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Characteristics of an agile test approach...

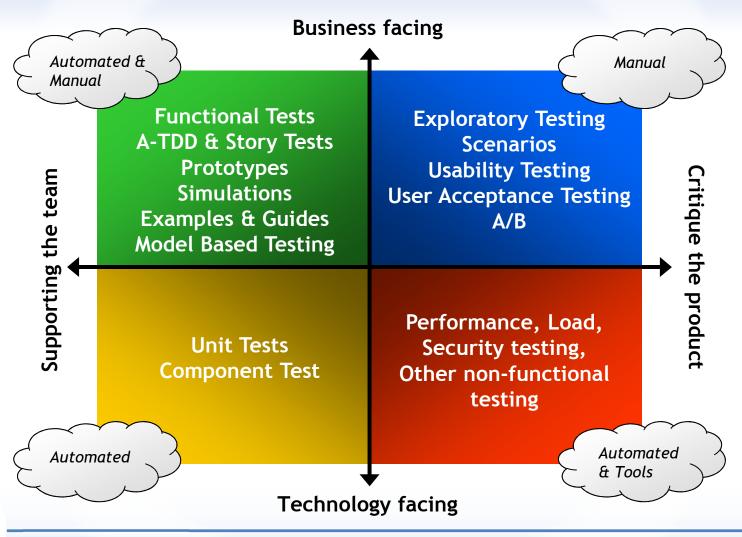


Adheres and obeys to the principles of Agile & Lean...

- ☑ Embraces changes late in development and manages uncertainty in upcoming features
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Agile Test Quadrants





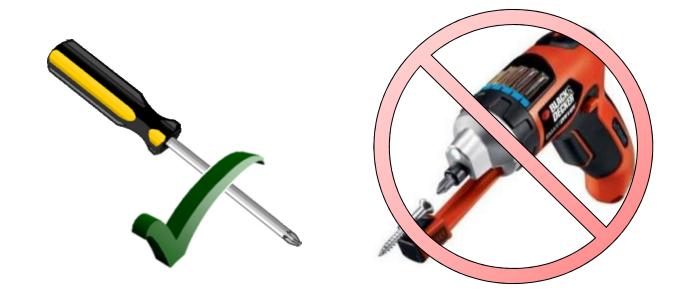




How can we do ALL of this – EACH Sprint?



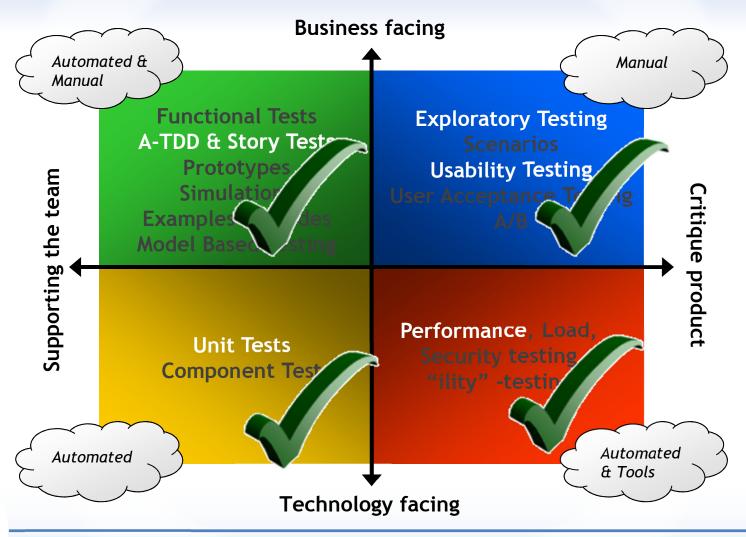
Decrease scope



KISS – Keep It Simple Stupid



Agile Test Quadrants



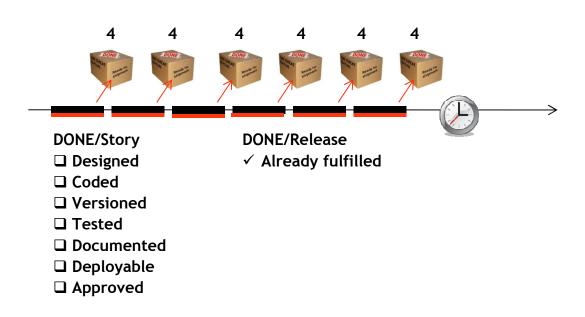


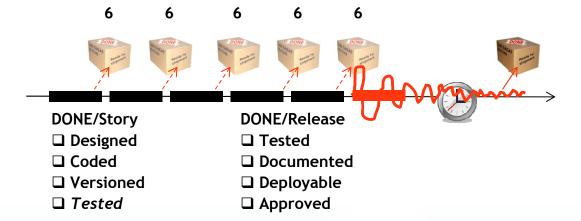
Being DONE VS Achieving DONE



Being DONE vs Achieving DONE









DoD examples

You could benefit from different Definition of DONE for...

Definition of DONE for **User Stories**

Definition of DONE for Releases

Definition of DONE for **Bug Fixes**

Definition of **Ready**

Definition of DONE User Stories



Designed

- ☐ Clear User Story (INVEST)
- Additional Acceptance Criteria specified if necessary (in addition to DONE/User Story)
- ☐ UI Mock-up / Prototyped (if applicable)
- Acceptance tests written (end-to-end, i.e. both functional, nonfunctional and integration)
- ☐ Design/Solution is auto testable?
- ☐ Consider:
 - Licenses?
 - Bigger architecture?
 - Wider ui design and user experience?

Tested

- Acceptance Tests Automated (when possible) or Acceptance tests executed
- Extend performance tests (if necessary)
- ☐ Unit Tests added to C.I.

Coded

- ☐ Code written using TDD & Unit Tests
- Documented on Wiki (if relevant)
 - Examples: Architecture overview, State charts, Example, Guidelines, Protocols, XML-formats, etc.
- ☐ Prepared for localization
- Versioned
 - Code checked into GIT with reference to JIRA Issue

Documented

- ☐ External documentation updated (outside R&D):
 - Branding Guidelines
 - Installation and upgrade instructions
 - User Manuals
 - Product Information
 - Release Notes
 - Customer Licenses
 - Performance
- □ Internal documentation:
 - Internal R&D Licenses

Deployable

☐ Release Build and Packaged

Approved

- ☐ Feedback on UI Mock-up / Prototype (when applicable)
- ☐ Sprint Demo prepared (when demonstratable)





The Agile Tester



Attitude and Mindset

"The job of tests, and the people that develop and run tests, is to prevent defects, not to find them."







The Agile Tester: Chief of Safety & Guardian of Quality!





If we were out adventuring...







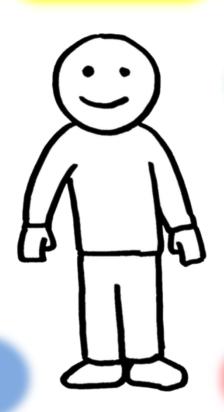
What does an agile tester do?

Engages

Teaches & Coaches

Creates Knowledge

Simplifies



Feedbacks

Solves Problems

Tests

Myths on Agile & Testing



Myth: It's harder to estimate testing when doing Scrum



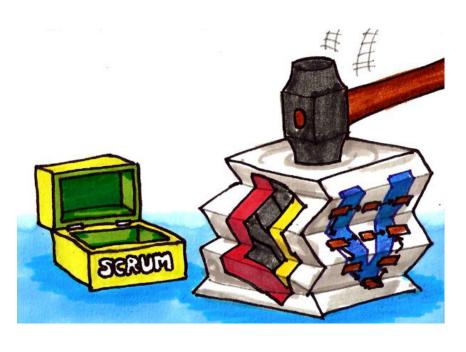
BUSTED

IT'S EASIER!

- Scope is smaller = Less to estimate
- Smaller deliverables, less risk
- Testers part of planning and design discussions
- Short learning cycles, estimations get better every sprint



Myth: No time for regression tests when doing Scrum



CONFIRMED

- Impossible to shrink old "non agile" test process to fit into Agile/Sprints.
- Traditional manual regression testing is done after code/feature freeze.
 Not enough time to test "everything" every sprint.



Myth: An agile team doesn't have a Test Lead



CONFIRMED

IF WE HAD ONE IT WOULD...

- Undermine collective ownership of quality, test process and testing
- Signal lack of trust in skills
- Signal mistrust in motivation
- Only one person doing the thinking = less learning



http://agilamyter.wordpress.com



Agila Myter BUSTED (och några bekräftade)

Hem Om bloggen Om oss

Om oss



Jagannath "Jagge" **Tammeleht**

Agil testare, Scrum Master, testledare. föreläsare och thought Bloggar, håller leader på Claremont seminarier och är AB (konsult). Co-



Jimmy Janlén

Agile/Lean coach och lärare på Crisp (konsult). intresserad av grafisk Skriver på en bok, driver av testzonen. dokumentation och "Developer continuous discovery. Testing".



Alexander

Tarnowski Utvecklare, arkitekt och byggmiljökonstnär på Crisp (konsult).



Therése Ressel

Agil testare, testledare och Scrum Master på Kambi Sports Solutions. Skribent för testzonen.

"Myter är som kamouflerad kollektiv visdom, det finns alltid något att lära. Ingen rök utan eld."



SÖK

type and press enter

SENASTE MYTER

- > Myt #3: Agila team behöver inga testare
- Myt #2: Regressionstest hinns inte med
- Myt #1: Alla agila testare måste vara tekniska

ÄLDRE MYTER OM...

> Agil Testning

Purpose of Tests & Testing

Build quality into the product and process

Provide courage to refactor

Provide fast feedback

Prevent defects

Texting that enables
AGULITY

Build confidence to release fast and often

Examples of Agile Test Strategies & Approaches





From 2 releases a year to every sprint



Long Stabilization/Test phase





"Poor respect/care for quality"



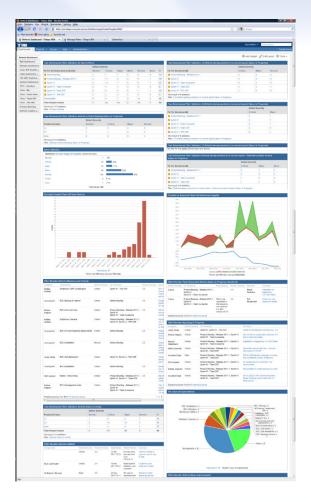
Huge defect-list legacy (avg. age ~ 100 days)



Long time between releases (~2/year)



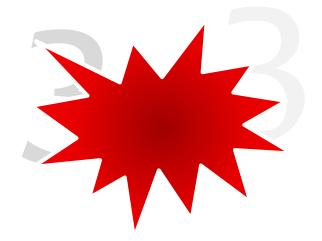
Delays opened up for Scoop creep...















RELEASE EVERY SPRINT!







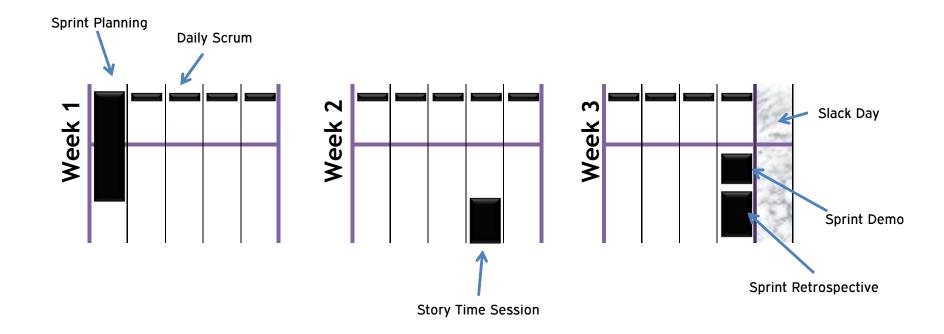


3 XFT TEAMS



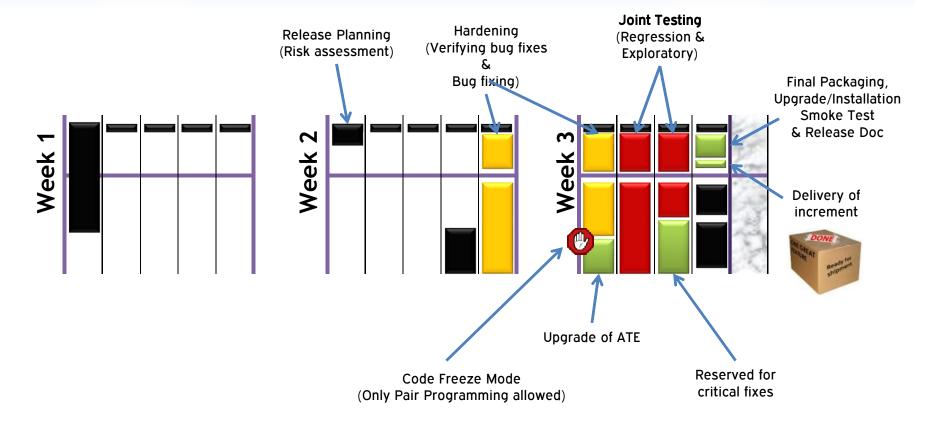


Sprint Test & Release Strategy Example





Sprint Test & Release Strategy Example

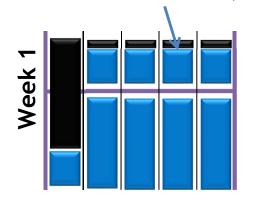


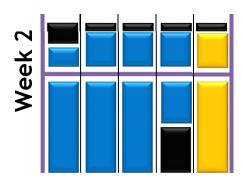


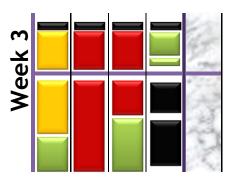
Sprint Test & Release Strategy Example

Development

(Design, Collaboration, Programming, Documentation & Test)

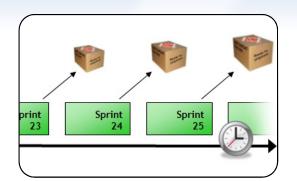








Strategy



Release every Sprint! Rigid Definition of DONE.



Rotating Responsibility



Joint Testing



Bug alarm





"Higher respect/care for quality"



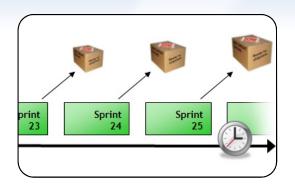
Less Defect-legacy (avg. age 30 days)



More frequent releases (4-6/year)



Strategy



Release every Sprint! Rigid Definition of DONE.



Rotating Responsibility



Joint Testing



Bug alarm





"Higher respect/care for quality"



Less Defect-legacy NO DEFECT PAIN!



More frequent releases
EVERY SPRINT! (Every 3rd week)



SIEMENS

medical

Large Scale Scrum



Many customers Many wills One application











Many customer



Soarian®



Different markets











Changing legal demands



Implemented Quality mechanisms and Disciplines





- **□** Obeying DONE
- Acceptance Test Driven Development
 - Clear User Stories (incl. How to demo)
 - PO wrote Acceptance Test drafts in Excel
 - → Given... When... / Tables / Etc.
 - → Fitnesse
- **►** Test Driven Development
- Automated integration tests
- **Full Nightly Builds**+ STOP-THE-LINE
- Team Micro Builds(Compilation & Automated tests)

- Team Design Review
- Pair programming,Pair Testing
- **Exploratory Testing**
- **►** Full day joint test efforts
- Root Cause Analysis



End-to-end responsibility

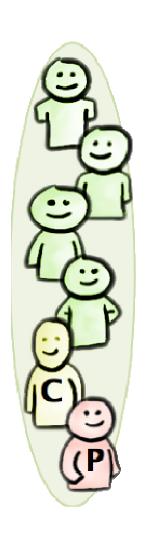




Example squads



Squad

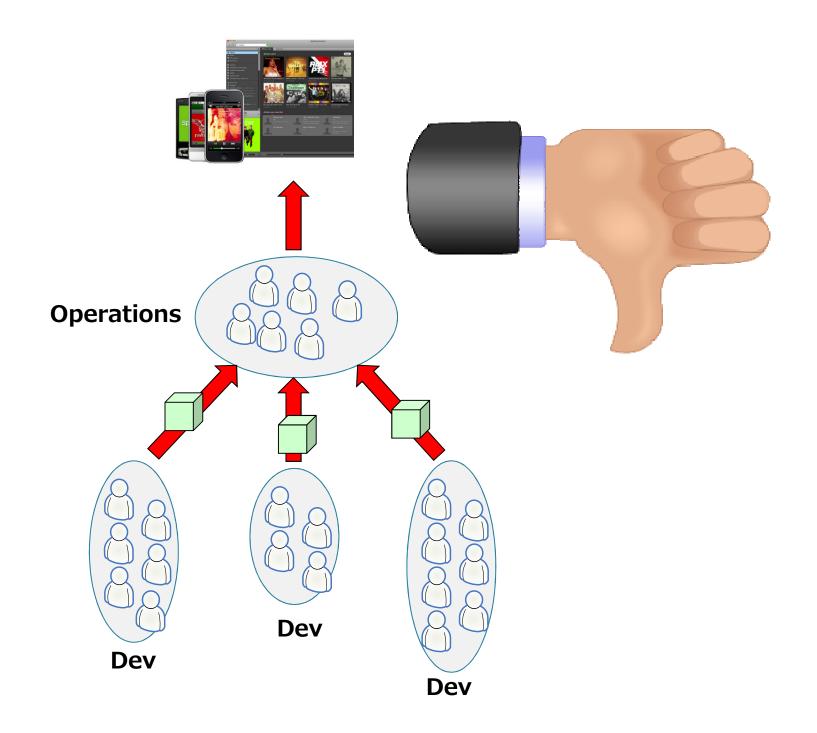


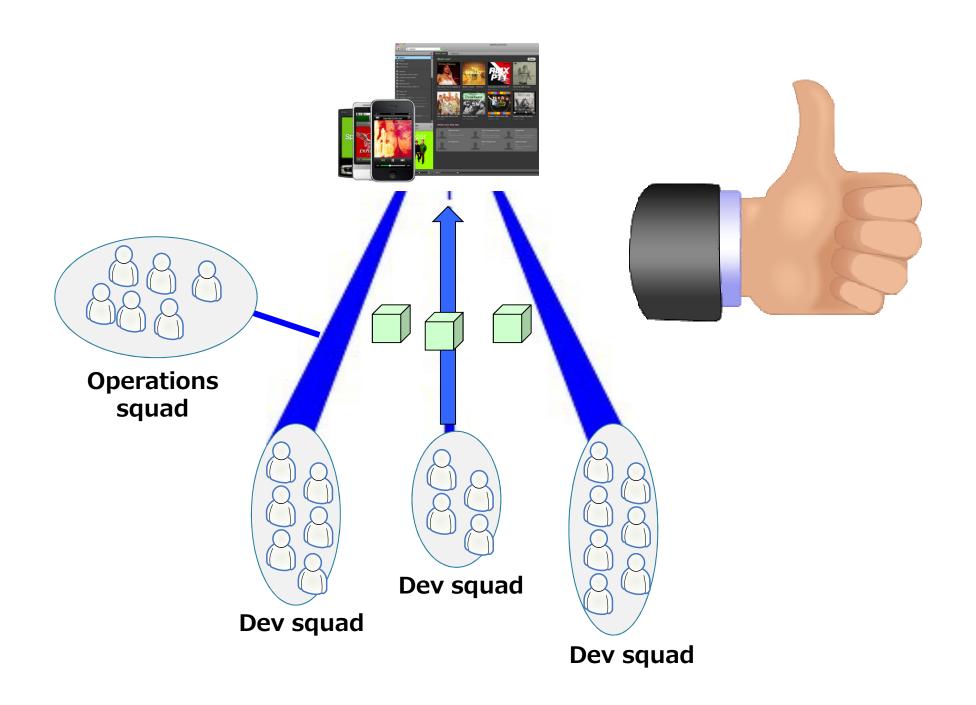
- ✓ Autonomous with a mission
- ✓ Self-organizing, Cross-functional
- √ 5-7 engineers, less than 10
- ✓ Stable
- ✓ Dedicated PO and Coach

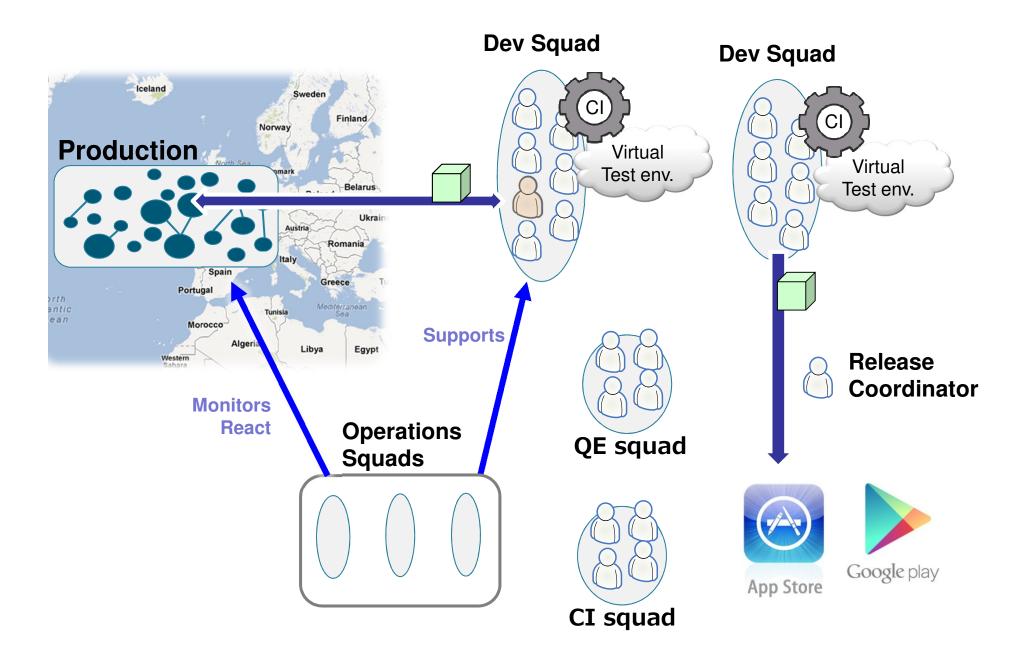
- ✓ Owns process and quality
- ✓ Delivers to prod
- ✓ Operational responsibility and On-call

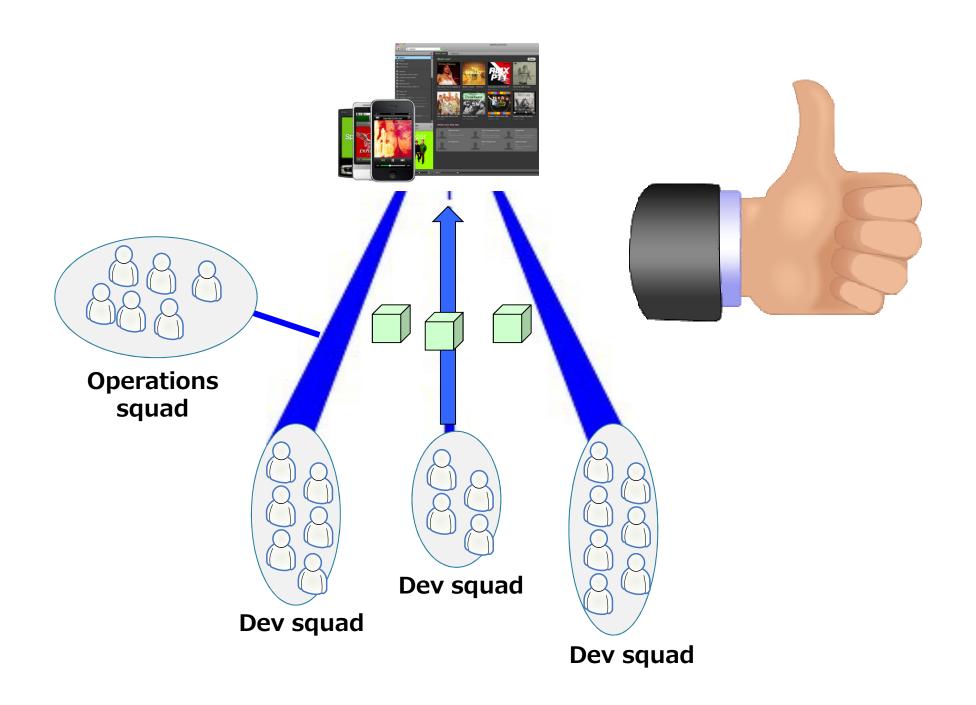
From Squad to Prod?

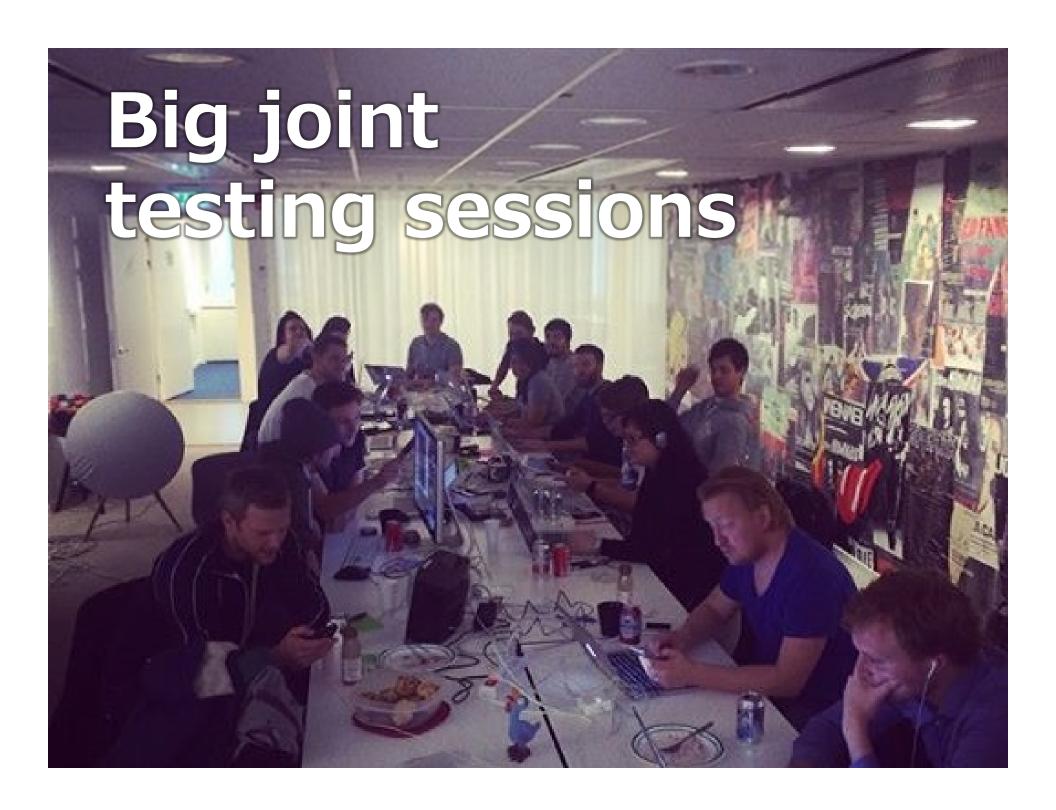




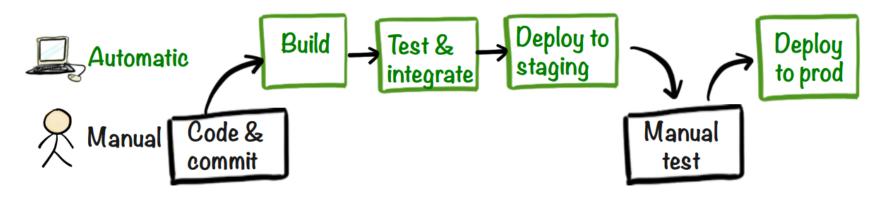


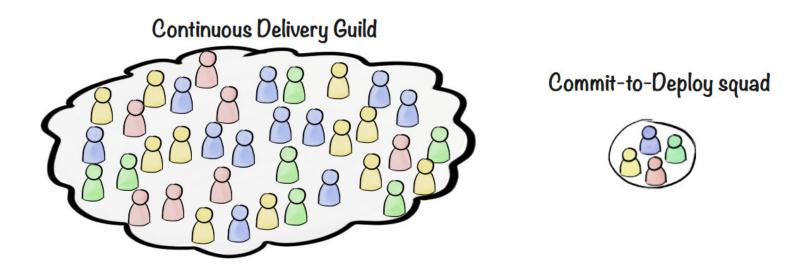




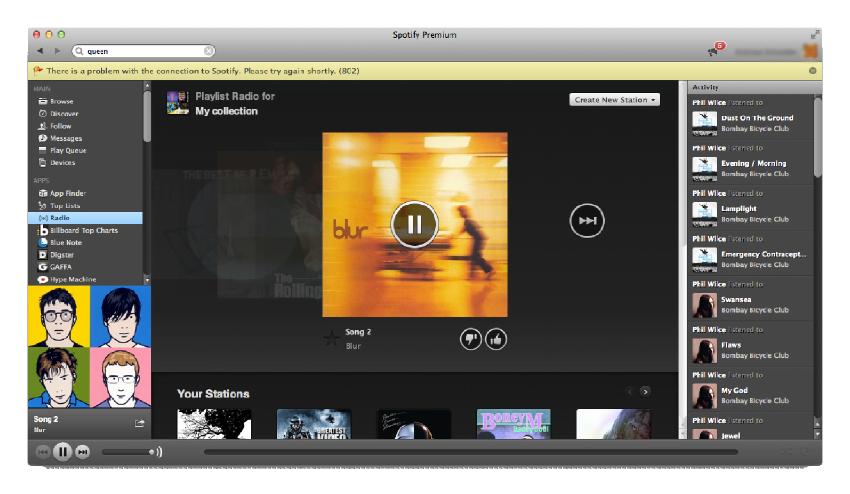


Pushing for Continuous Delivery





Monitoring, Operational Responsibility and On-Call



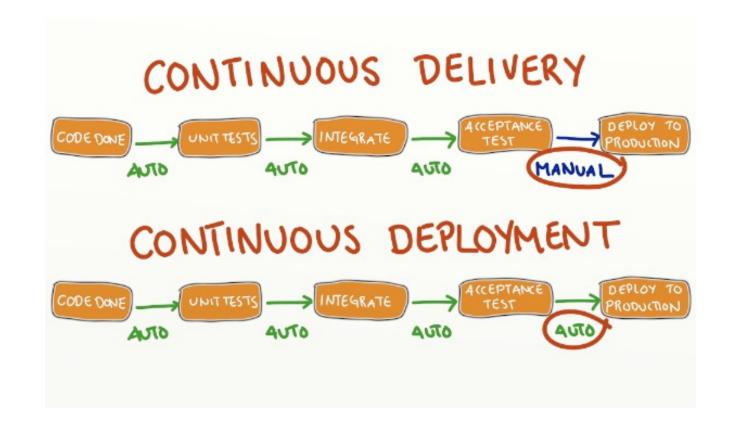
Current Trends & The Future



Release Pipeline



Continuous Delivery vs Continuous Deployment





http://blog.crisp.se/2013/02/05/yassalsundman/continuous-delivery-vs-continuous-deployment

Dark launching





Automatic Rollback





Increase knowledge runtime



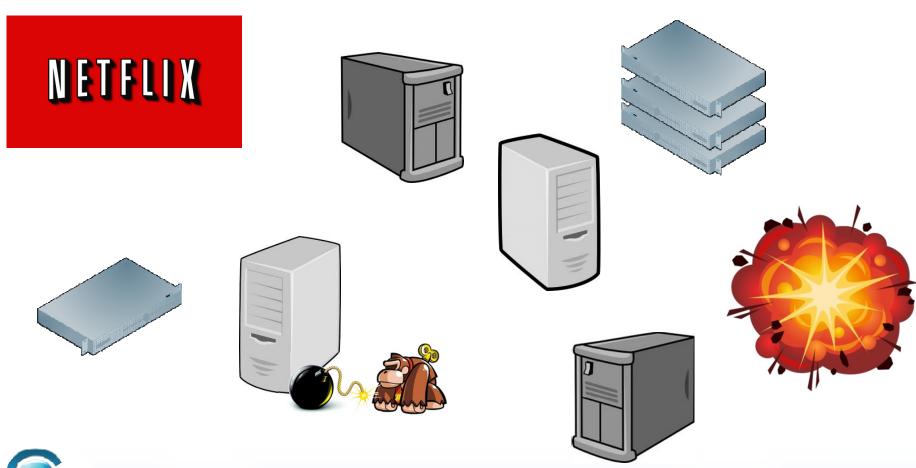
A/B-testing





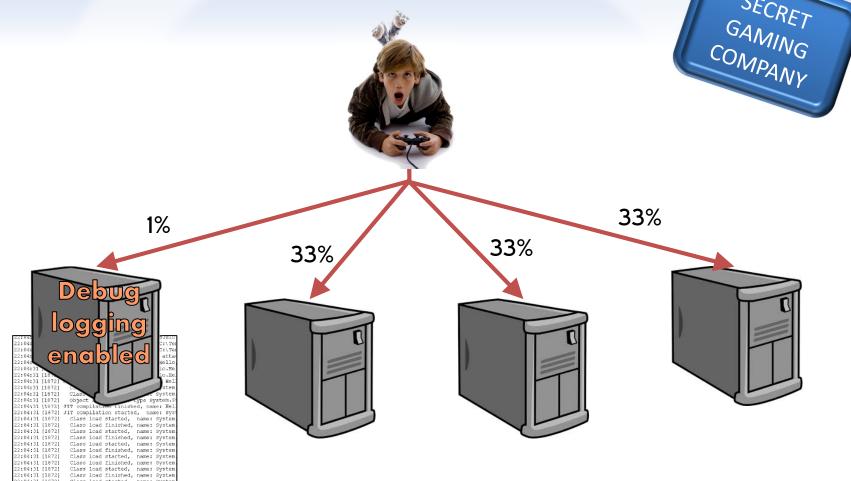


Destructive robot monkeys



Crisp

Massive logging in prod





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Atlas Copco

Requirement spec. Tests



Atlas Copco – TDD Example

Automated Unit Test

```
[Test]
public void Does not generate drill plan if view is invalid()
{
    ViewIsInvalid();
    _presenter.Generate();

    _drillPlanGenerator.AssertWasNotCalled(x => x.Generate(null), x => x.IgnoreArguments());
}

[Test]
public void Shows error message when trying to generate from invalid input()
{
    ViewIsInvalid();
    _presenter.Generate();

    _dialog.AssertWasCalled(x => x.ShowValidationFailedMessage());
}
```



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Atlas Copco – TDD Example

Automated System Description Documentation

```
Drill plan generation presenter:

- Previewing generates drill plan from the parameters in the view model
- Previewing adjusts the camera position after setting the new drill plan
- Shows error message when trying to generate preview from invalid input
- Does not show error message when trying to generate preview if view is invalid
- Selects first hole in generated drill plan when previewing
- Shows generation dialog when initialized
- Delegates drill plan generation to drill plan generator
- Generates drill plan from the parameters in the view model
- Saves generated drill plan if view is invalid
- Shows error message when trying to generate from invalid input
- Opens drill plan view after successful generation
- Saves generated drill plan before opening drill plan view
- Does not close dialog when generating if view is invalid
- Closes dialog when generating if view is invalid
- Updates view model with generated drill plan when previewing result
```



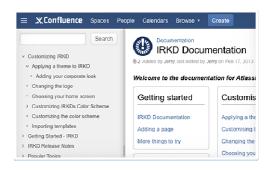
Atlas Copco – A-TDD Example

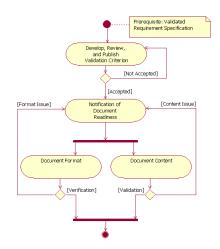
Automated Acceptance Test



Automatic documentation

- Automatic system descriptions and overview
- Automatic update of wikis
- Automatic release notes









Roles



More mature definition of testing skills and roles

Diversified expertise areas

- TA Test Automation
- QA Quality Assistance
- QE Automation engineer
- Quality Coach / Mentor
- Release Coordinator/Conductor





Myth: Automation replaces the tester



Myth: Automation will kill the tester?



BUSTED

- Automated tests are just fact checking!
- Skill still needed, broadens the team (XFT, end-to-end)
- Tester → QA/QE/TA/QC/etc.
- Strengthens the team's planning, design and ability to deliver with their input, expertise and experience
- Broadens the perspective (process, testability, etc.)



http://agilamyter.wordpress.com



Agila Myter BUSTED (och några bekräftade)

Hem Om bloggen Om oss

Om oss



Jagannath "Jagge" **Tammeleht**

Agil testare, Scrum Master, testledare. föreläsare och thought Bloggar, håller leader på Claremont seminarier och är AB (konsult). Co-



Jimmy Janlén

Agile/Lean coach och lärare på Crisp (konsult). intresserad av grafisk Skriver på en bok, driver av testzonen. dokumentation och "Developer continuous discovery. Testing".



Alexander

Tarnowski Utvecklare, arkitekt och byggmiljökonstnär på Crisp (konsult).



Therése Ressel

Agil testare, testledare och Scrum Master på Kambi Sports Solutions. Skribent för testzonen.

"Myter är som kamouflerad kollektiv visdom, det finns alltid något att lära. Ingen rök utan eld."



SÖK

type and press enter

SENASTE MYTER

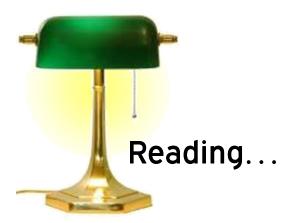
- > Myt #3: Agila team behöver inga testare
- Myt #2: Regressionstest hinns inte med
- Myt #1: Alla agila testare måste vara tekniska

ÄLDRE MYTER OM...

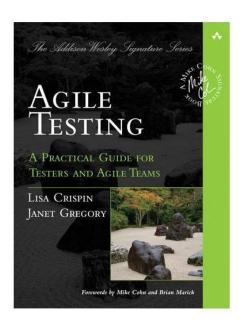
> Agil Testning

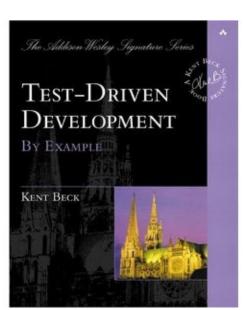
Thank you!

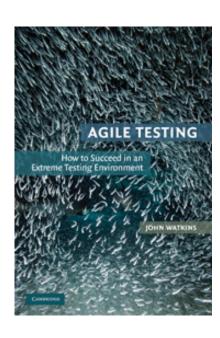


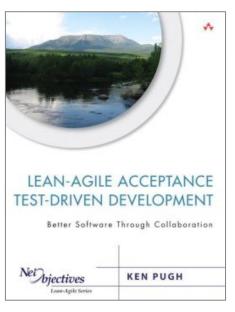












Me @ Online



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http://www.youtube.com/crispagileacademy



Swedish Blog

"Den Scrummande Konsulten"

http://jimmyjanlen.wordpress.com





Får du allt av Agile?

Crisps coacher hjälper dig att slå i på vägen av ständig förbättring.







Search



from the Crisp Consultants

Role Expectation Mapping

Role Expectation Mapping is a series of workshop that explores, clarifies and establishes which expectations members of a group, team or project have on each other.

If you suspect that collaboration is undermined because of mismatch of expectations between people, then this exercise could boost the team's ability to collaborate efficiently together. It is also a powerful way to jump start a new team and give them a structure to relate to.





















Me @ Online



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