QUALITY ENGINEERING

A NEW HOPE FOR QUALITY SOFTWARE

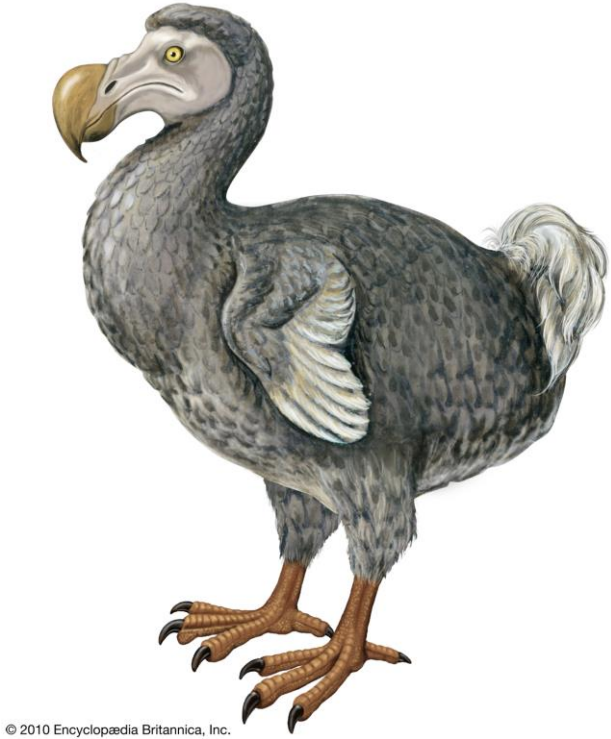
Geoffrey van der Tas

ORDINA

A long time ago in a galaxy far, far away....

ATLASSIAN

This New World



Definition of Testing

Old

“Independent judgement about the quality of the testobject”

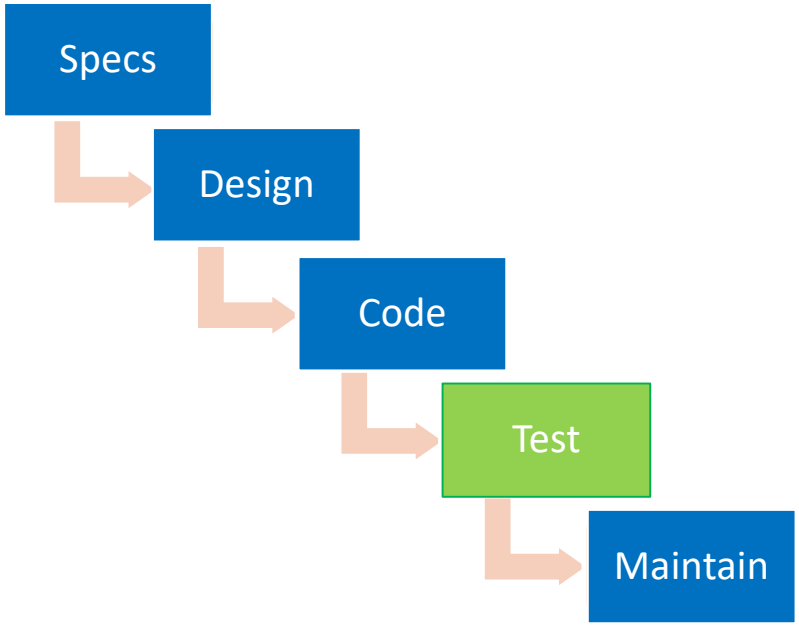
New

“Getting fast & reliable feedback on your product”

No more Quality Assurance

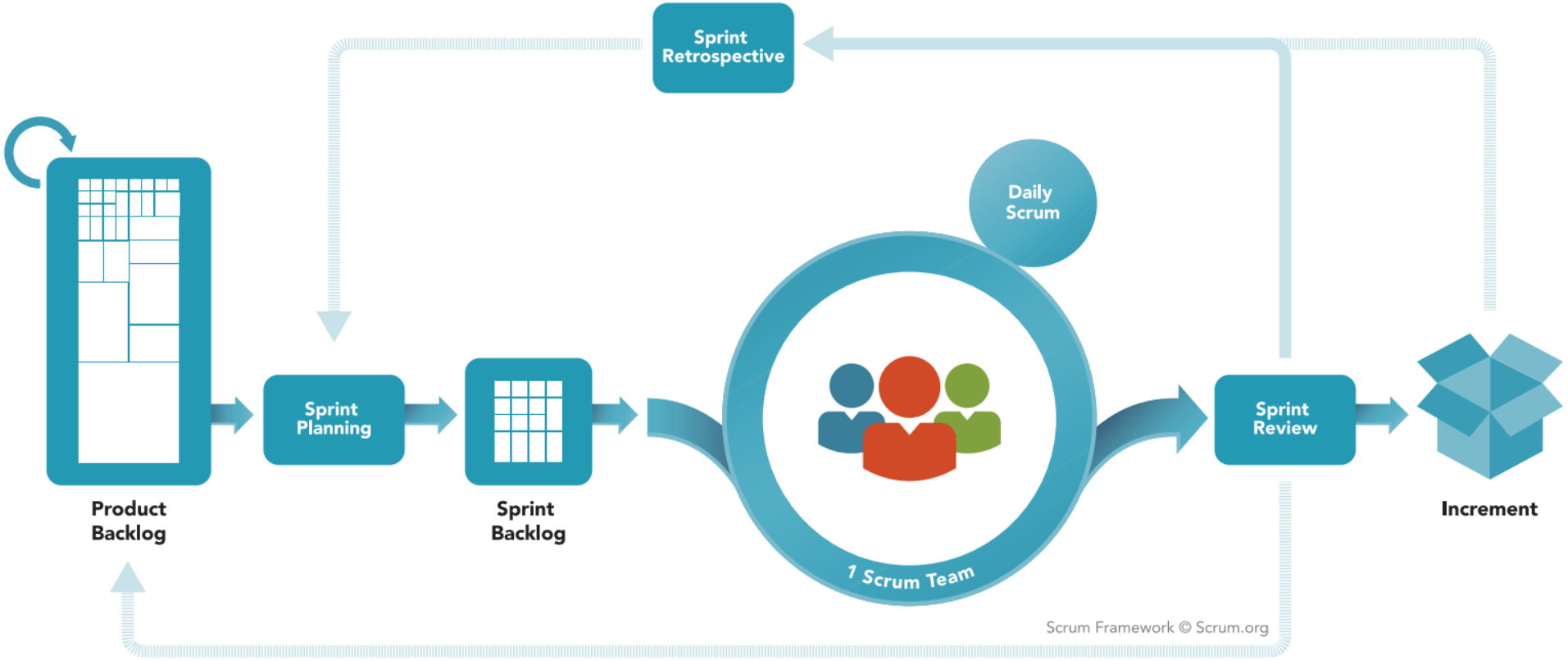
This New World

Waterfall



DevOps

This New World



From Assurance towards Engineering

“Quality Engineering is the management, development, operation and maintenance of IT systems and enterprise architectures with a high quality standard.” - New Perspectives on Software Quality by Ruth Breu; Annie Kuntzmann-Combelles; Michael Felderer (January–February 2014).

This New World

The 4 Pillars to better quality

- **People**: The New Tester & Quality Teams
- **Process**: Built-In Quality
- **Automation**: Our future
- **Mindset**: Explore & Experience

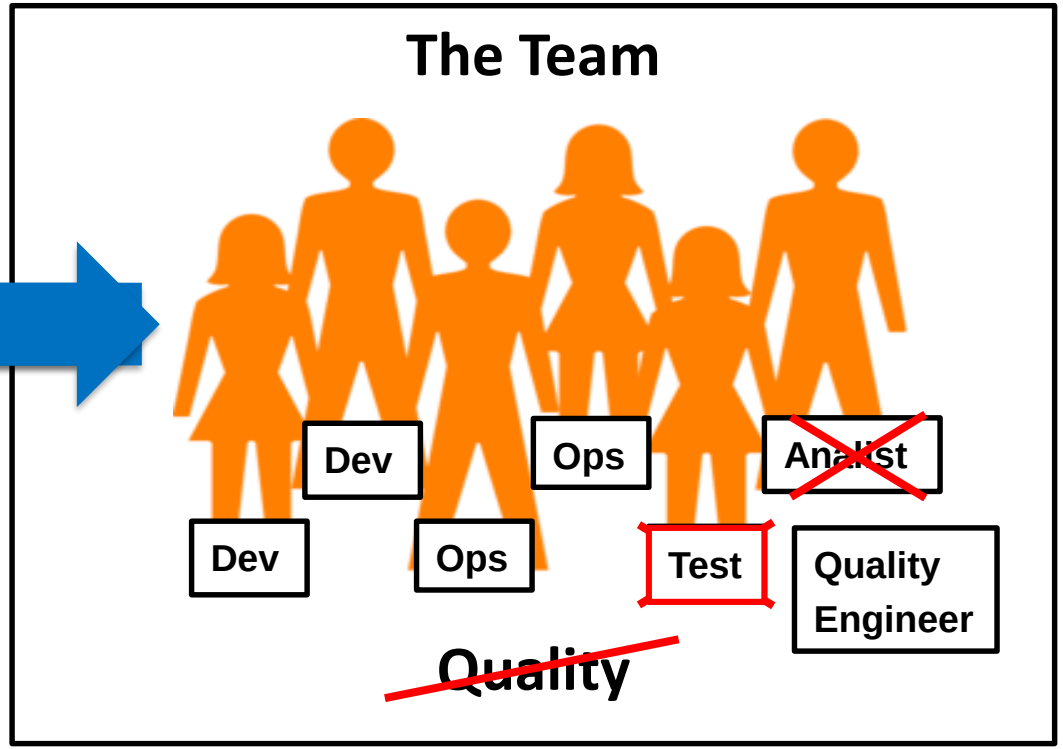
People

The Good Tester's Guid

QUALITY ENGINEER
IT'S KIND OF A BIG DEAL!
memegenerator.net

What is changing

Quality Assistant
Agile Test Coach



At other companies

Quality Engineering at Spotify

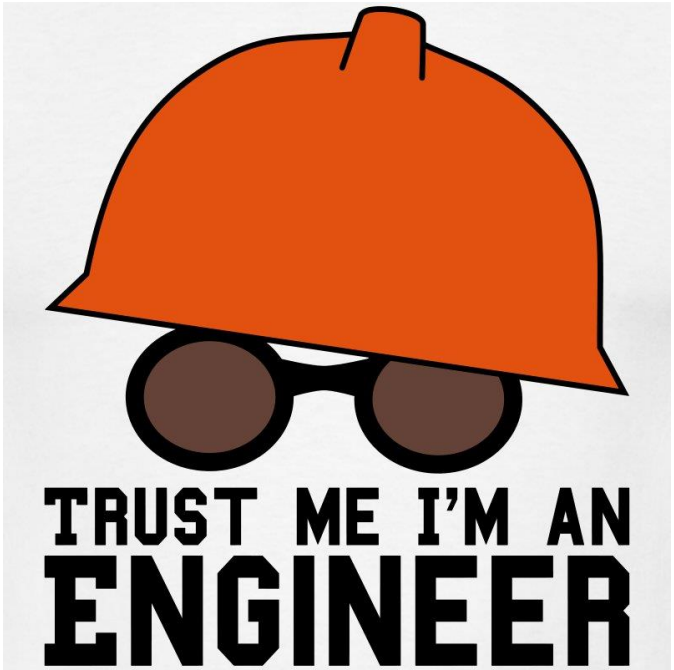
“The Quality Engineer will help developers and teams cultivate a quality mindset, advocating for quality while assisting engineers with software development and test automation best practices.”

Quality Assistance at Atlassian

“They optimised the process by empowering and educating developers to test their own features to production quality standards.”

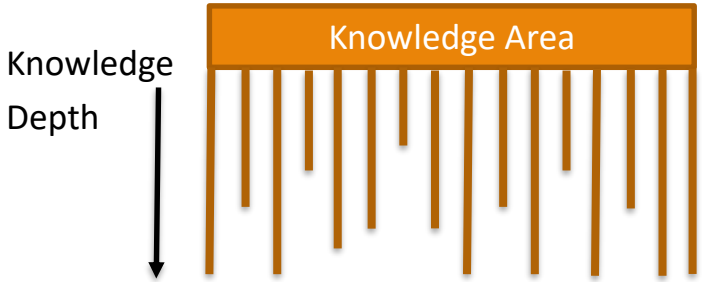
Quality Engineer

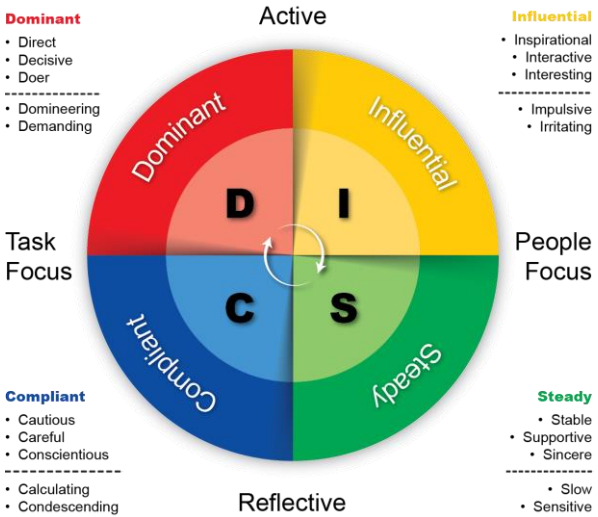
- Advocate for quality
- Actively coach developers/business
- Make testing part of Development Process
- Coordinate testing efforts
- Maintain test reporting and visualization
- Spot opportunities for (Test) Automation

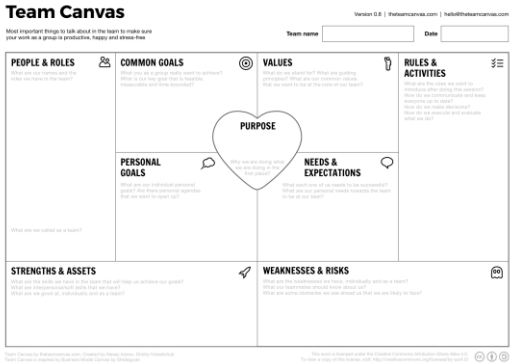


One Quality Engineer doesn’t make a Team

From a Quality Engineer to a Quality Team

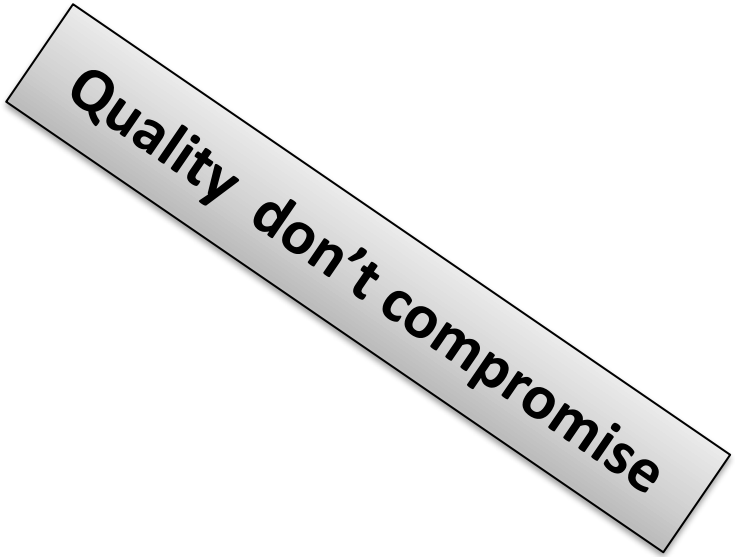




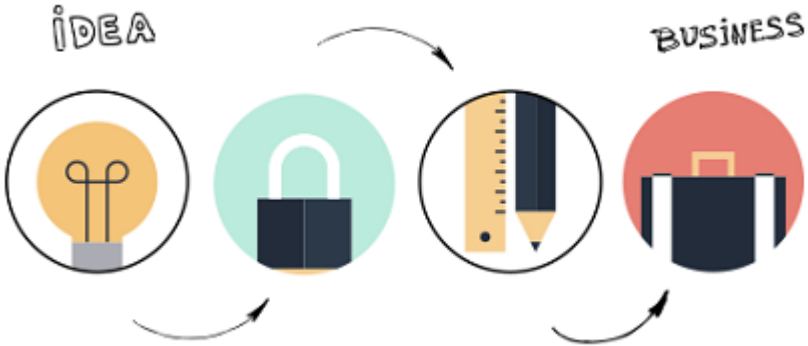


Key Principles for your team

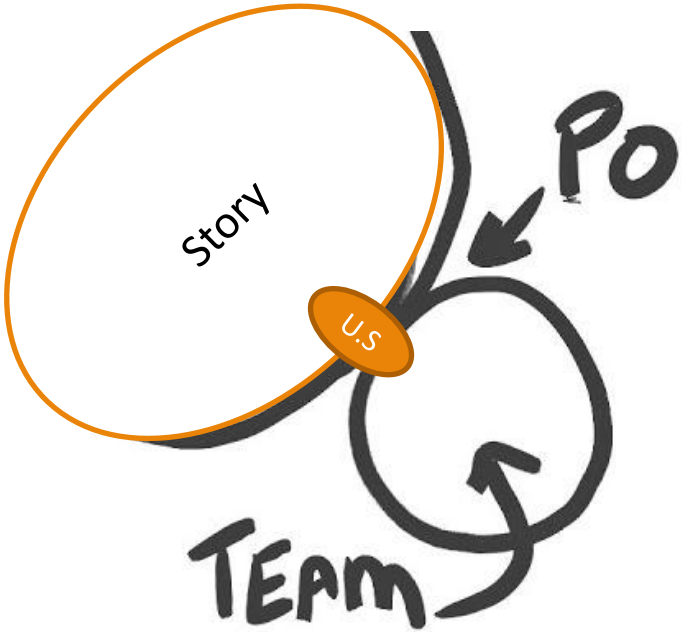
- Customer first
- Whole team is responsible for quality
- Tested = Checked + Explored
- Bugs are fixed when they are found
- ‘Done’ means fully tested
- Quality before new functionality
- Collaboration is key for quality

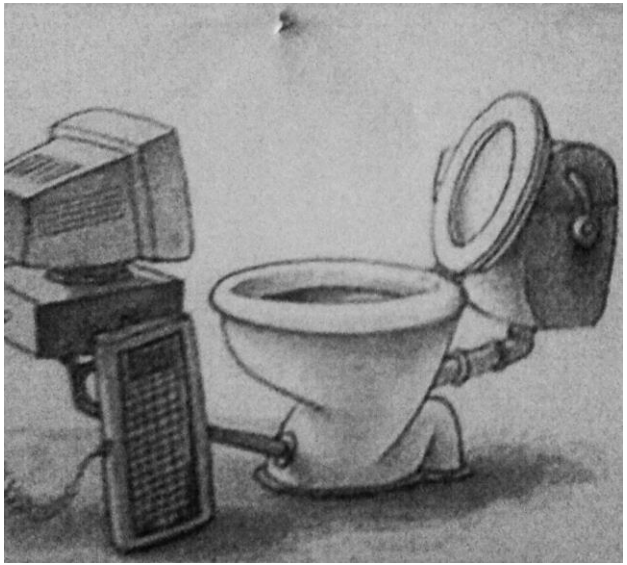


Process: Built-In Quality



Backlog Items – Sprint Backlog Items

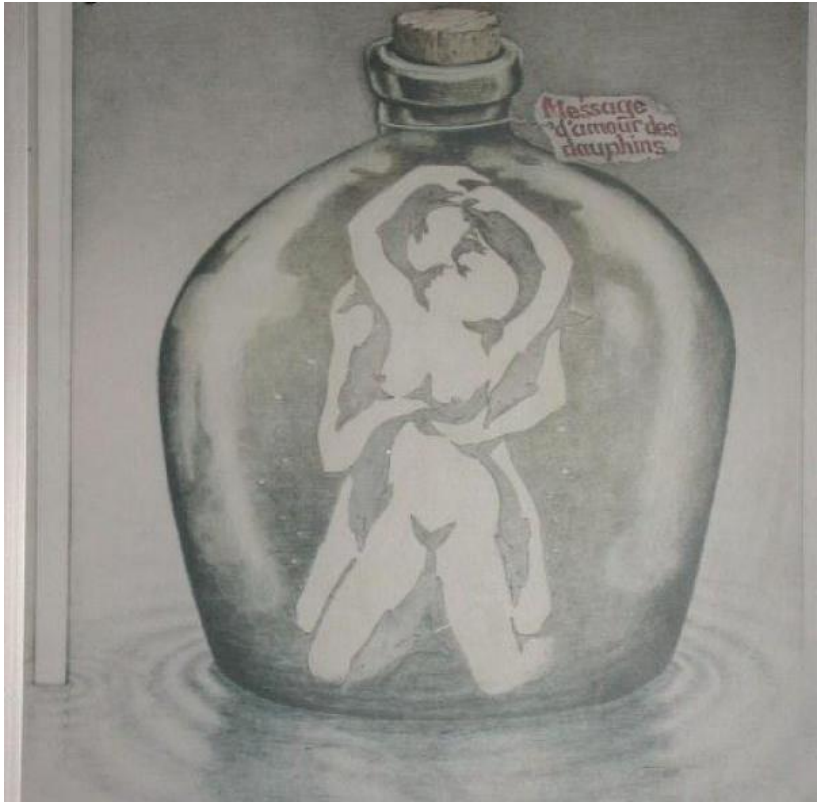




Crap in, Crap out

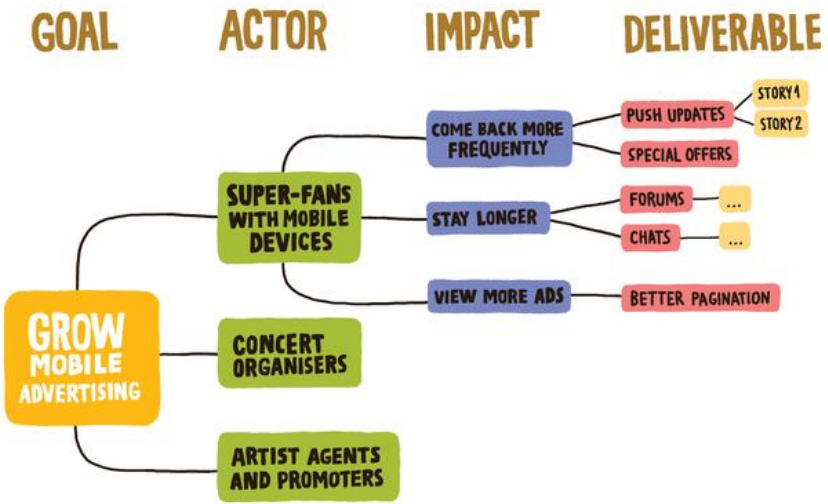
Tell the story

Process: Built-In Quality



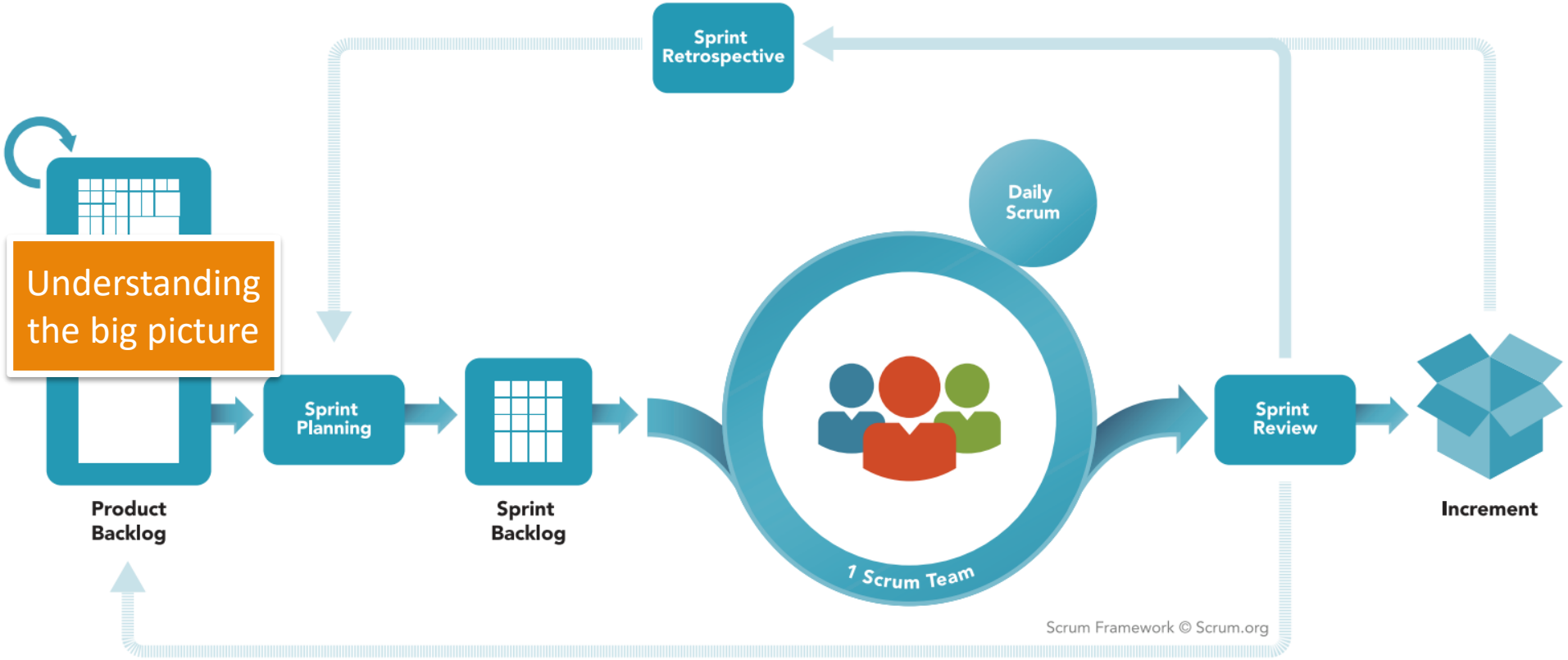
Techniques

Impact Mapping

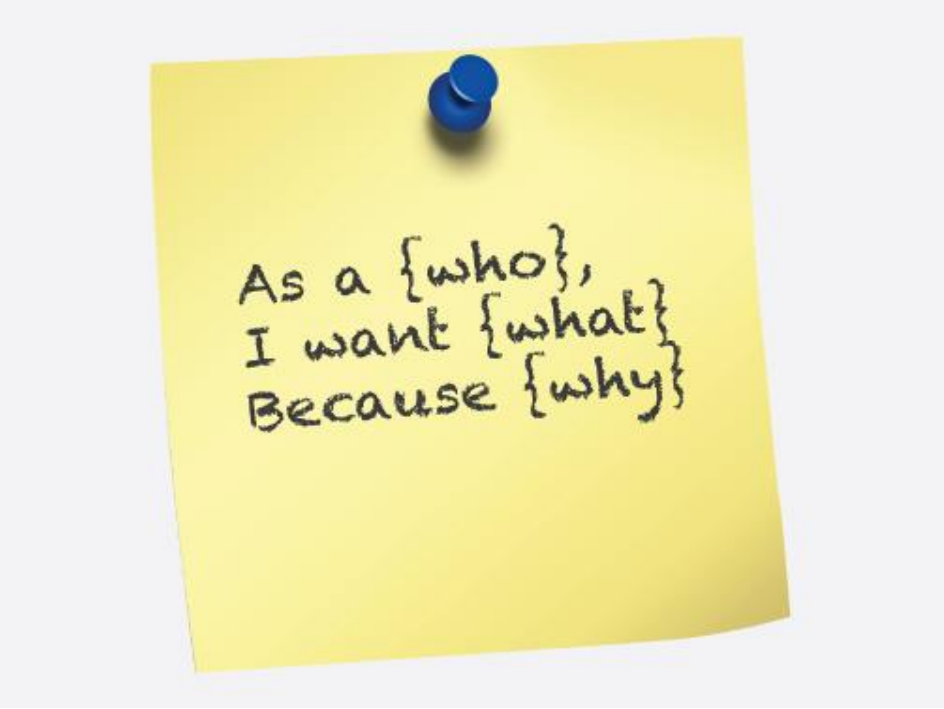


User Story Mapping

Process: Built-In Quality



Big Picture to User Stories



Specifications:
Spec one
Spec two
…
Acceptance Criteria:
Criteria one
Criteria two
Criteria three
…..

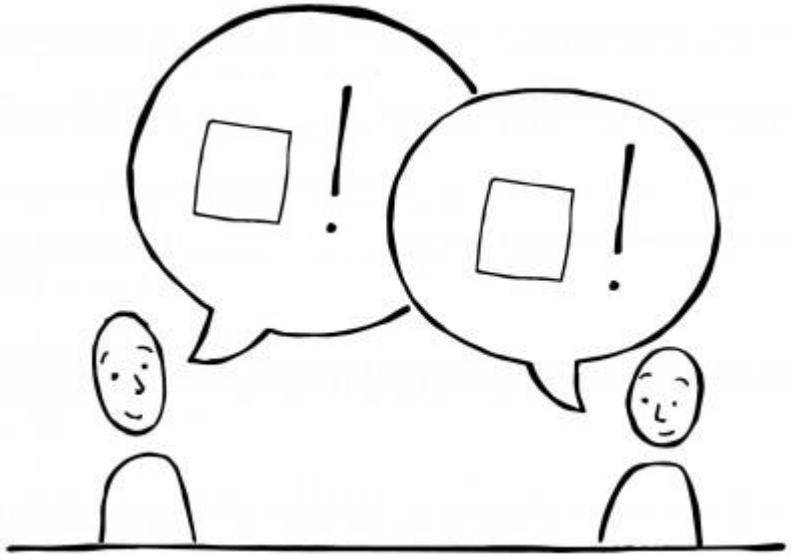
Process: Built-In Quality

Communication

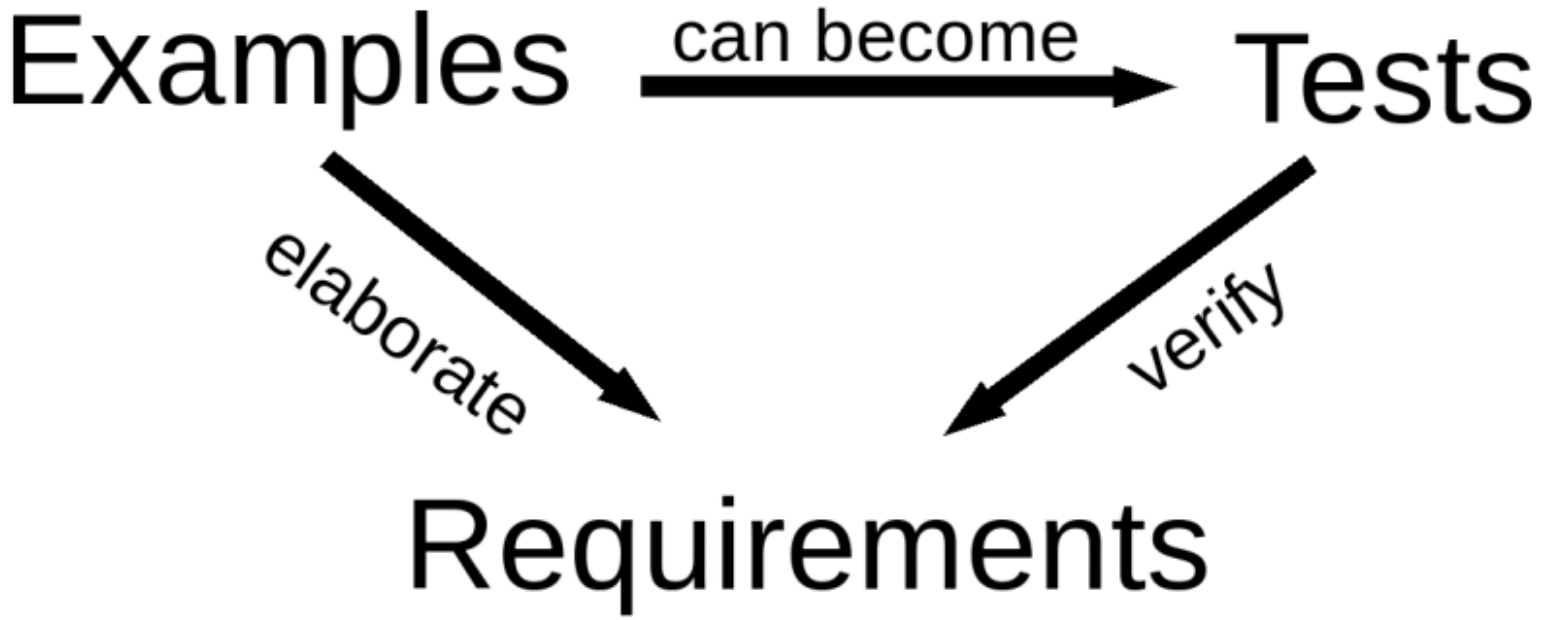
Cakewrecks.com

Shared understanding

- Shared vision, idea’s and alignment on what was discussed;



Refinements by examples



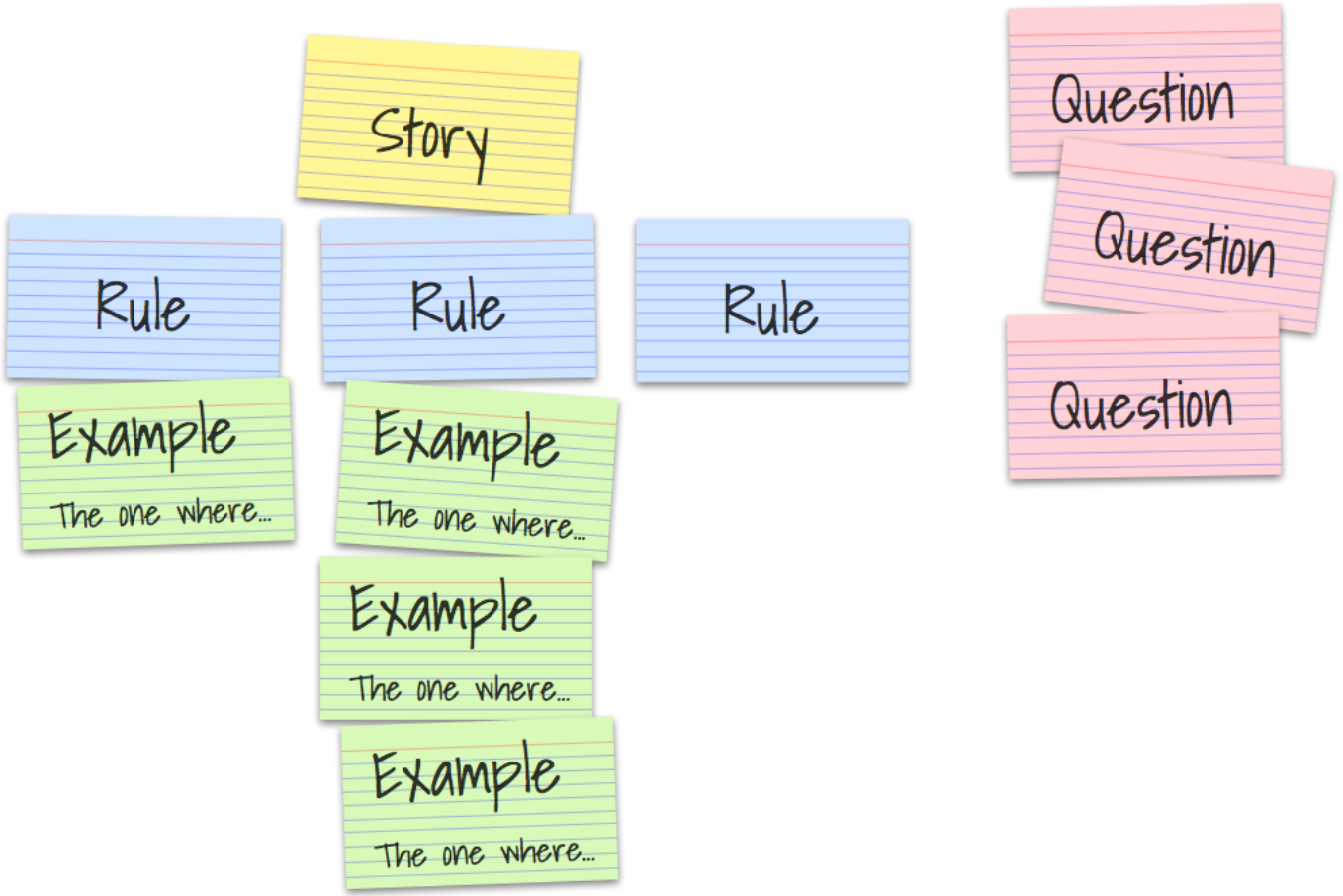
Specification By Example

User story: As an employee I want to find other employees so I can find more information about employees.

Example ATDD:

Search parameter	Result
Peter	Peter Janssen
Jan	Annie Jansen Jan van Buren Peter Janssen
Jans	Annie Jansen Peter Janssen
Bakkr	(geen)

Techniques


Story
Rule
Rule
Rule
Example
The one where...
Example
The one where...
Example
The one where...
Example
The one where...
Question
Question
Question

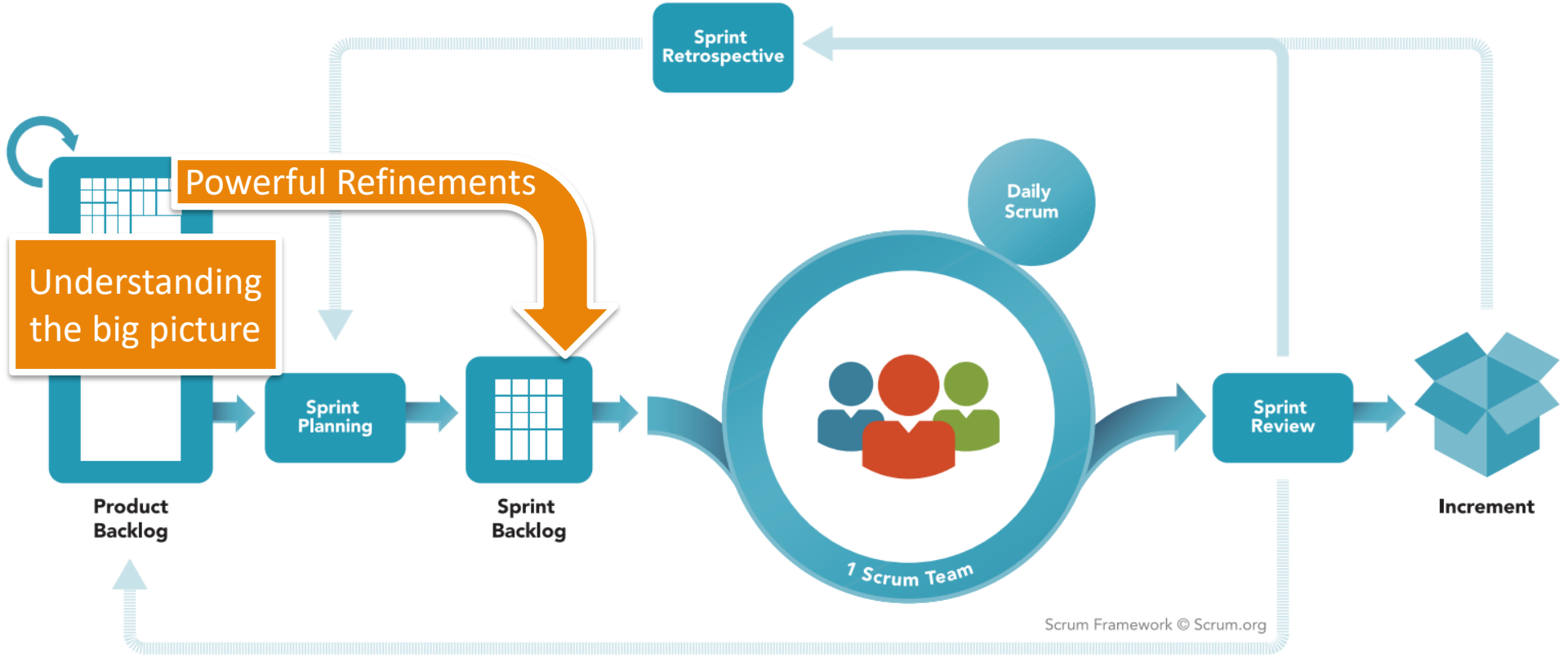
Risks

Risks lead to Strategy
Strategy leads to Tests/Measures

That leads to Quality

Hmmmmm....

Quality Engineering in Scrum



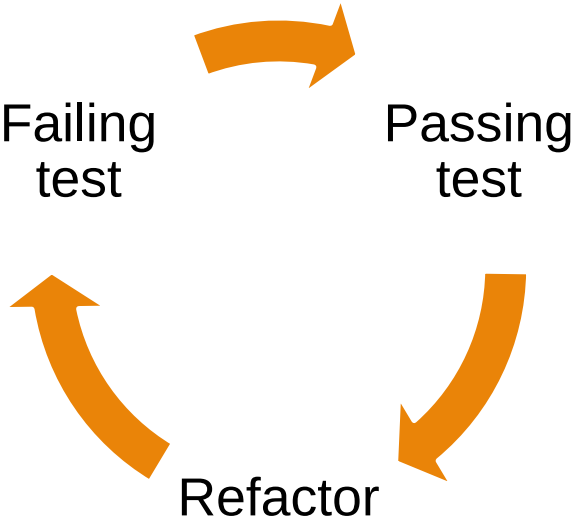
Process: Built-In Quality

ATDD

Failing
Acceptance Test

Passing
Acceptance Test

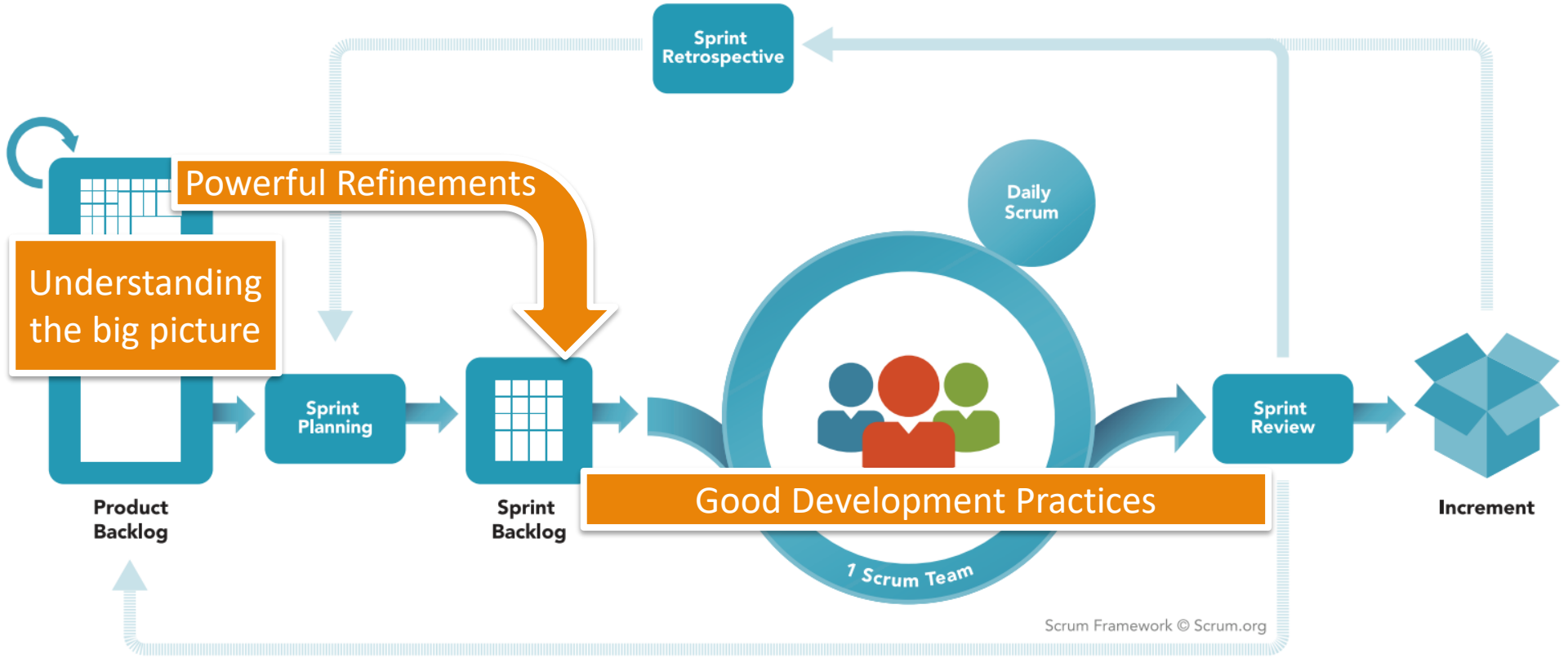
TDD



Quality First at ING

	Date/time	Result
Current features		
Advisor makes appointment	2017/10/05 *12:13:54*	
- Appointment mailed to customer	2017/10/05 *12:14:06*	
Summary of advice is mailed to customer	2017/10/05 *12:14:46*	
This sprint		
Make appointment with Specialist	2017/10/05 *12:14:48*	
Customer details are shared with Specialist	2017/10/05 *12:14:49*	

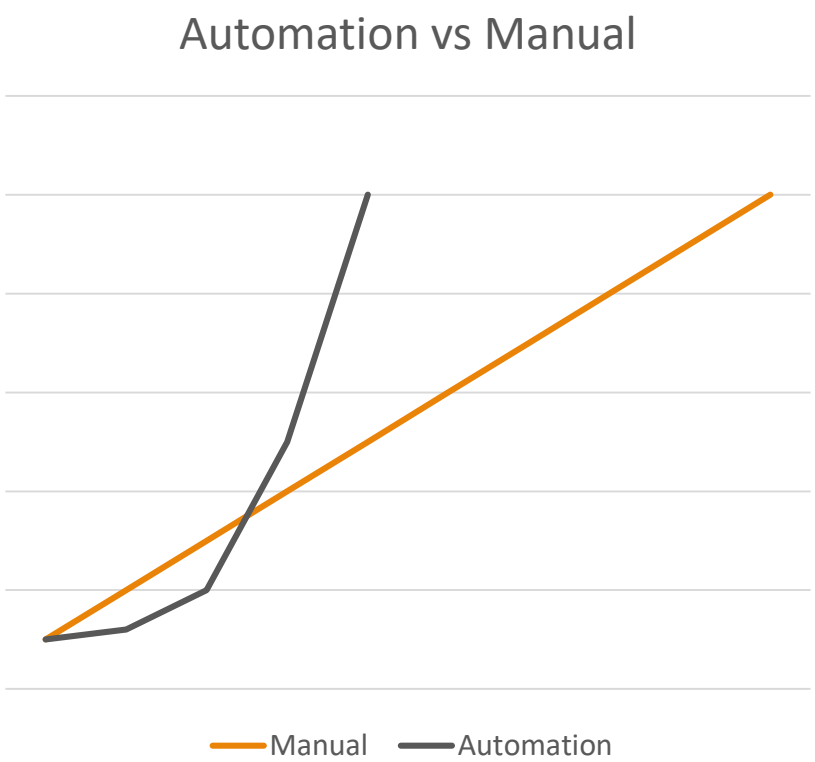
Quality Engineering in Scrum



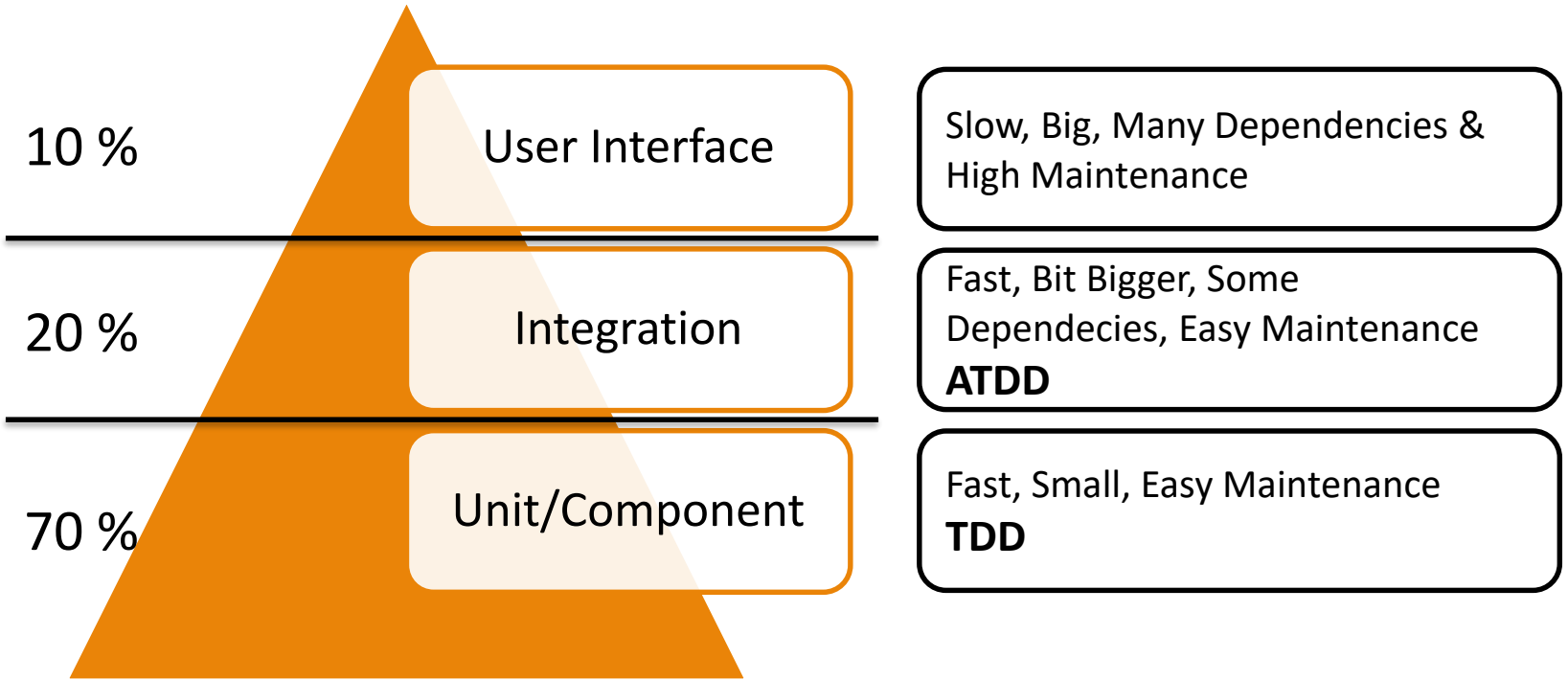
Automation

Why Automate

- ✓ Fast
- ✓ Reliable
- ✓ Repeatable
- ✓ Reuseable
- ✓ Control
- ✓ Money
- ✓ Fun

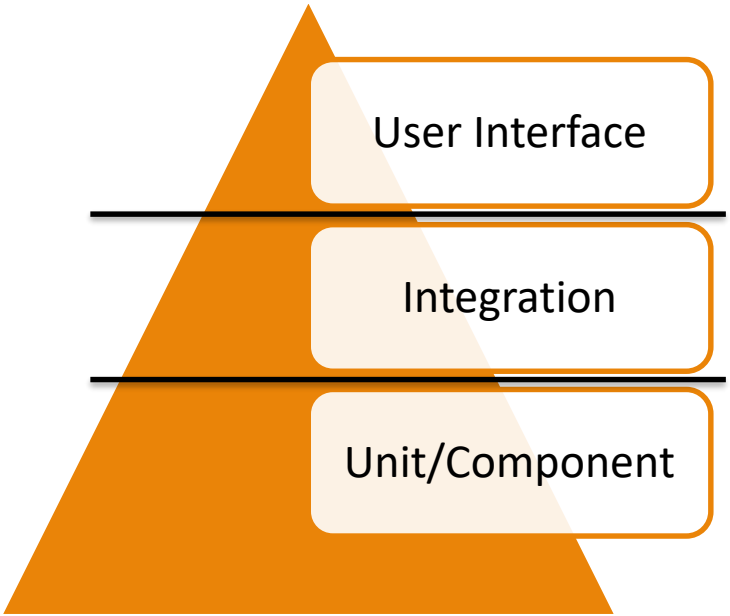


How to approach it

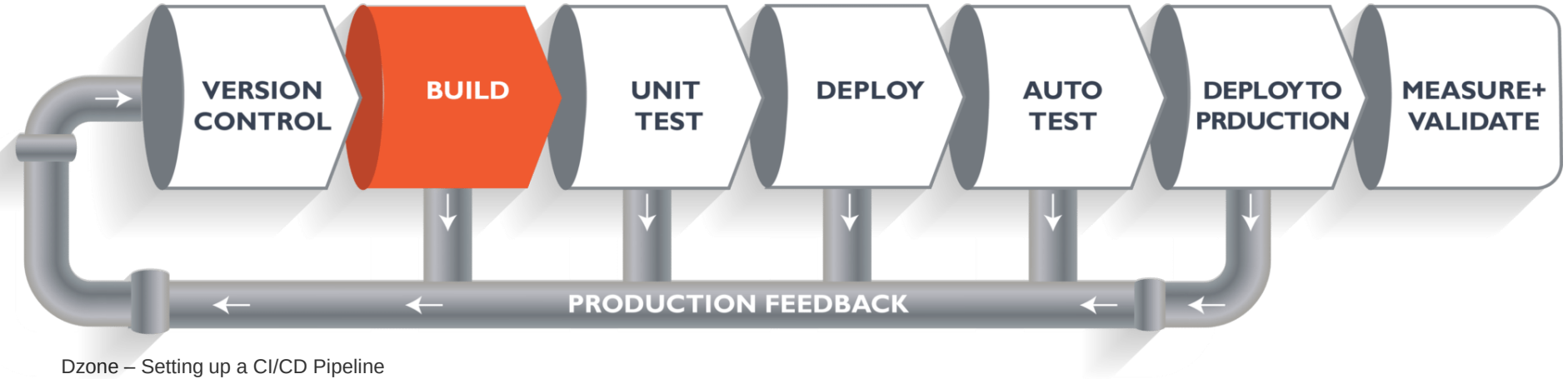


What to automate

- Context is key
  - Self build vs bought software
  - Java, Javascript, C++, C#
  - Employee vs Client facing

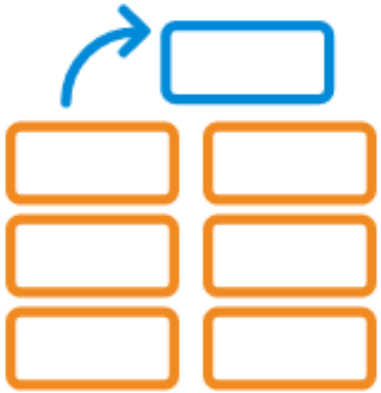


Quality goes further than Test Automation



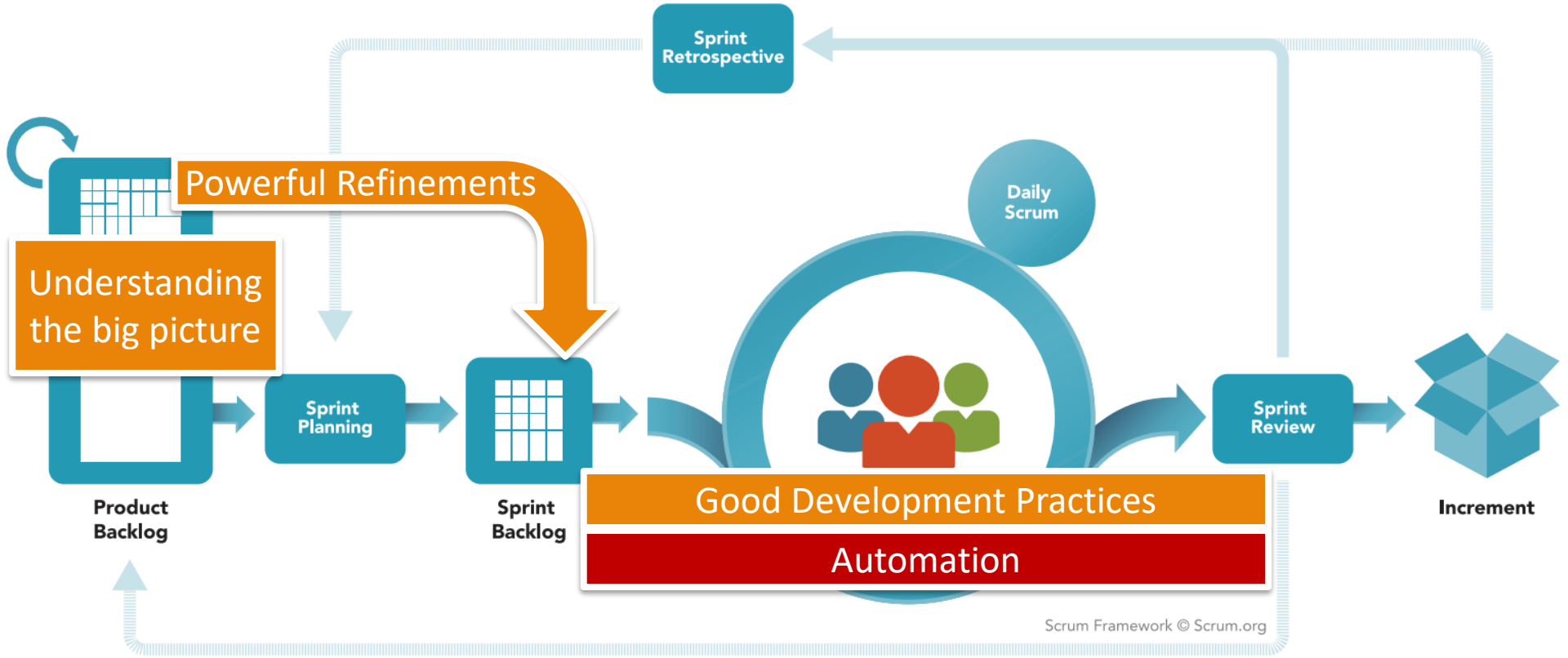
Dzone – Setting up a CI/CD Pipeline

Even further



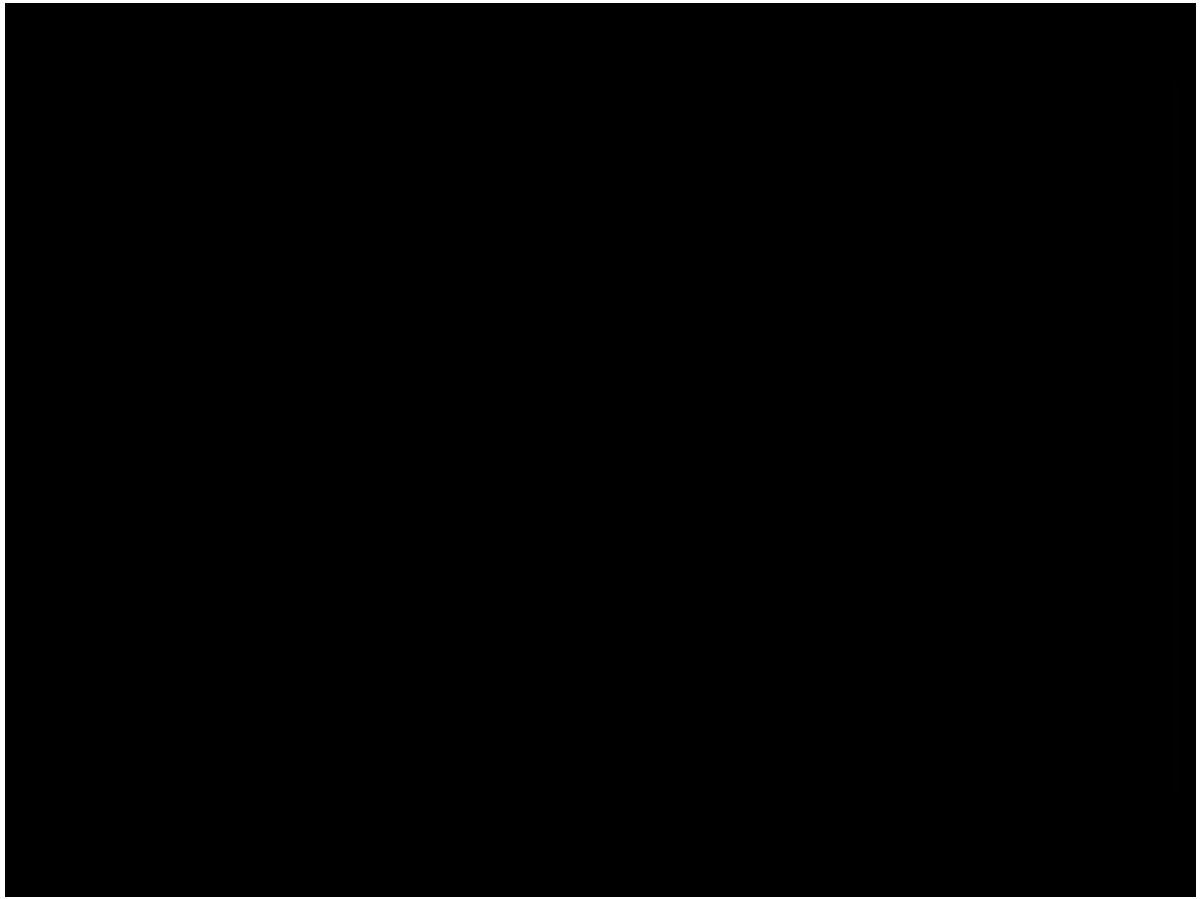
```
application rgbank {
  rgbank::db { $name:
    user    => $db_user,
    pass    => $db_pass,
    export =>
      Db["rg-${name}"],
  }
  ...
}
```

Quality Engineering in Scrum

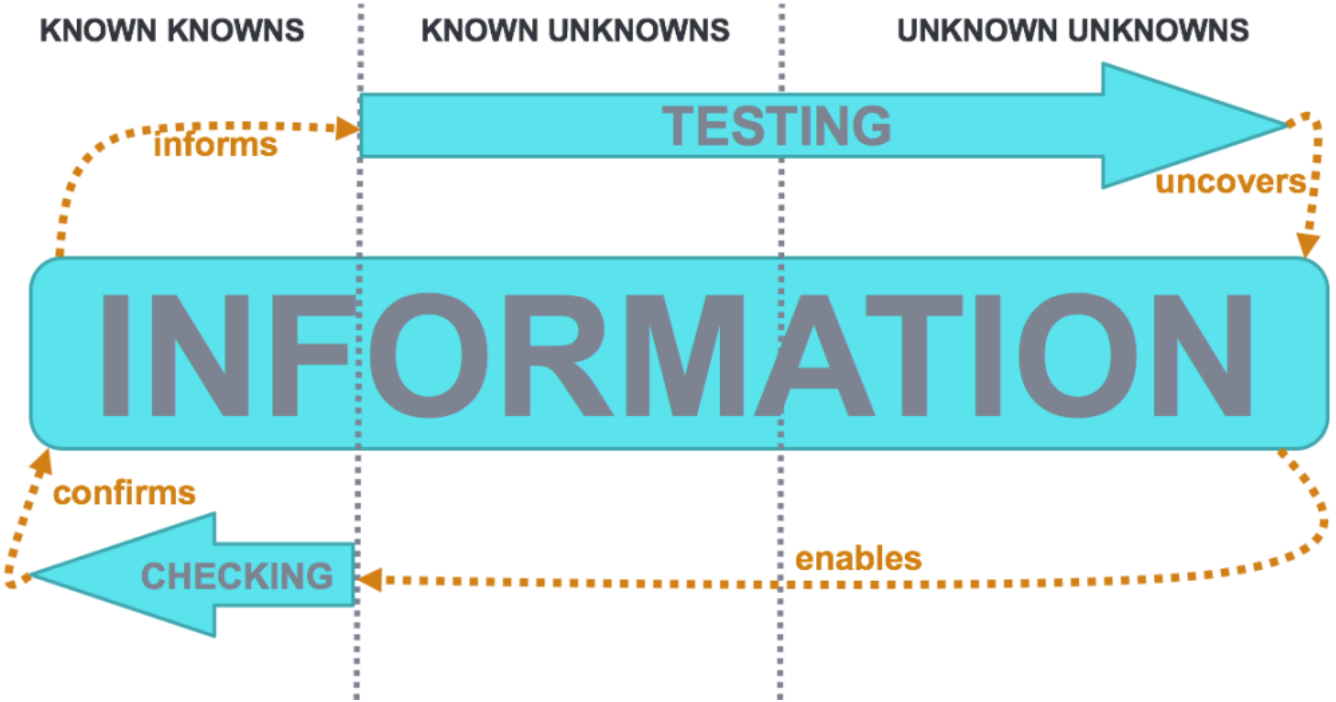


Explore & Experience

Explore & Experience



Testing helps Checks



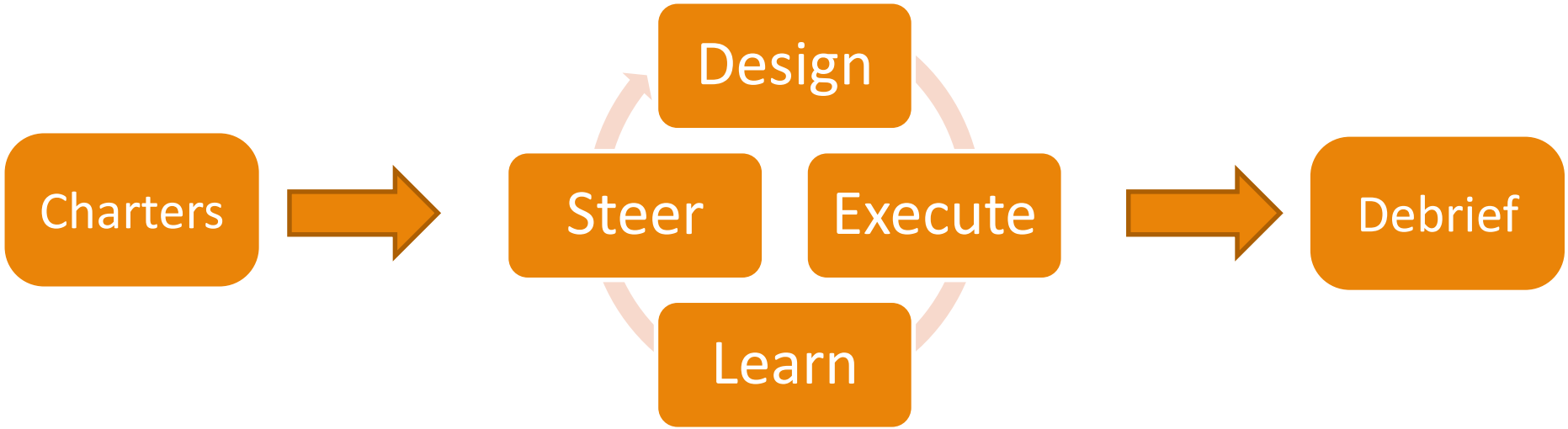
https://findingdeefex.com/2016/05/20/the-testing-checkingsynergy/

Exploratory Testing

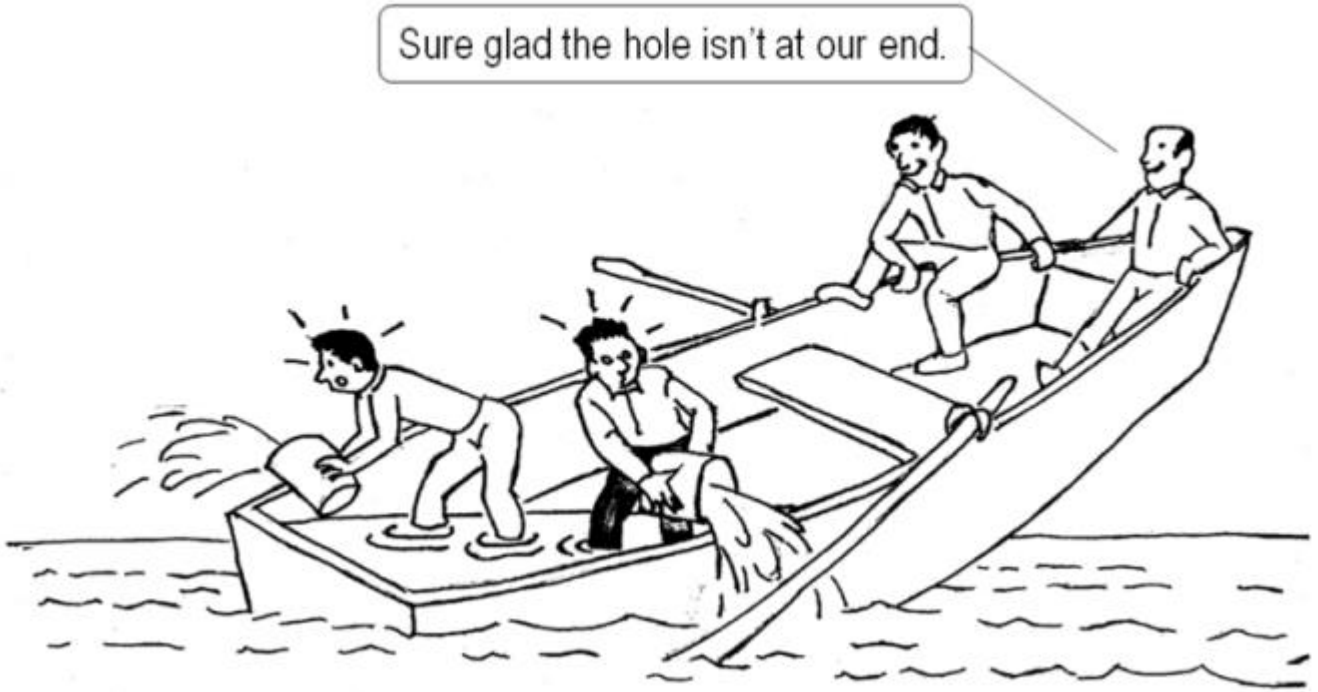
“Exploratory Testing is a style of testing in which you explore the software while simultaneously designing and executing tests, using feedback from the last test to inform the next.” – Elisabeth Hendrickson

- Timeboxed
- Charters
- Debrief
- In Pairs

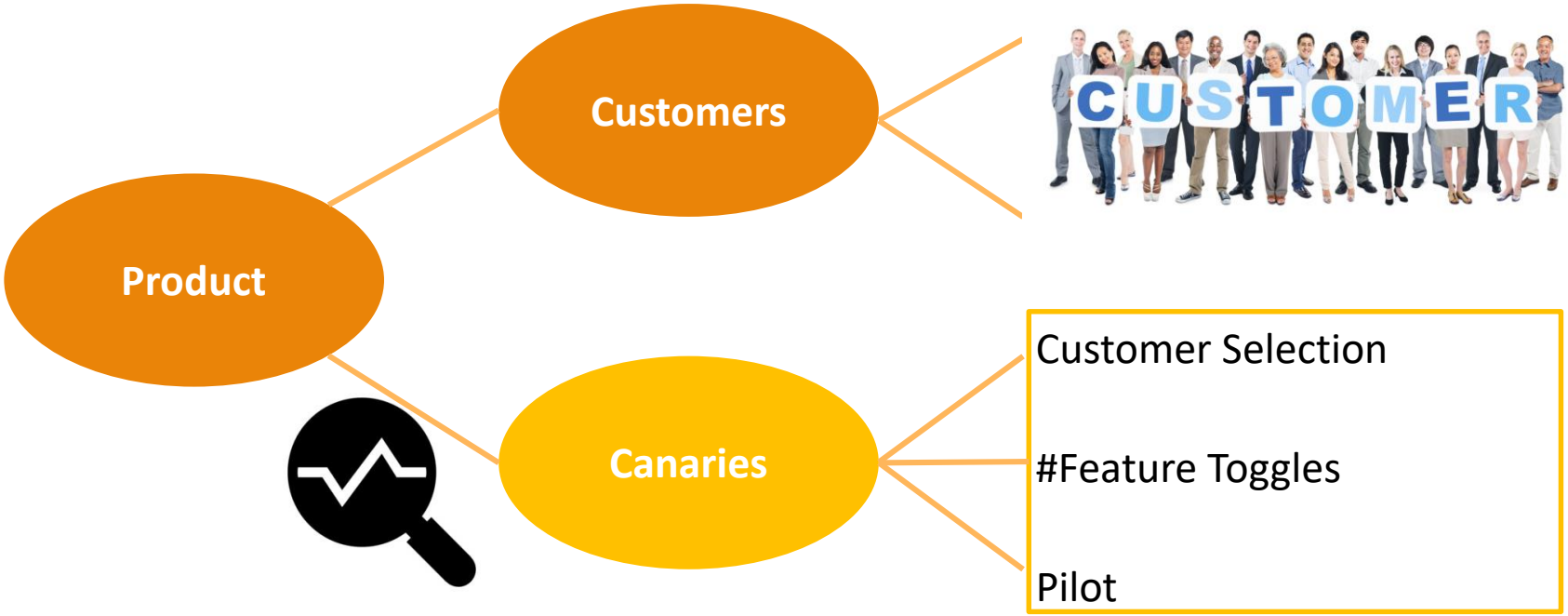
Exploratory Testing



Testing Together will help with Team Responsibility for Quality

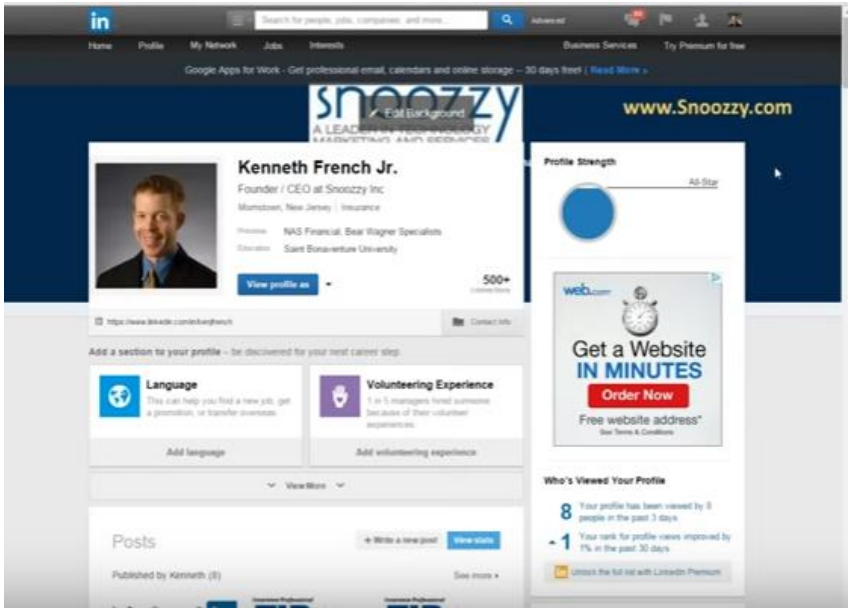


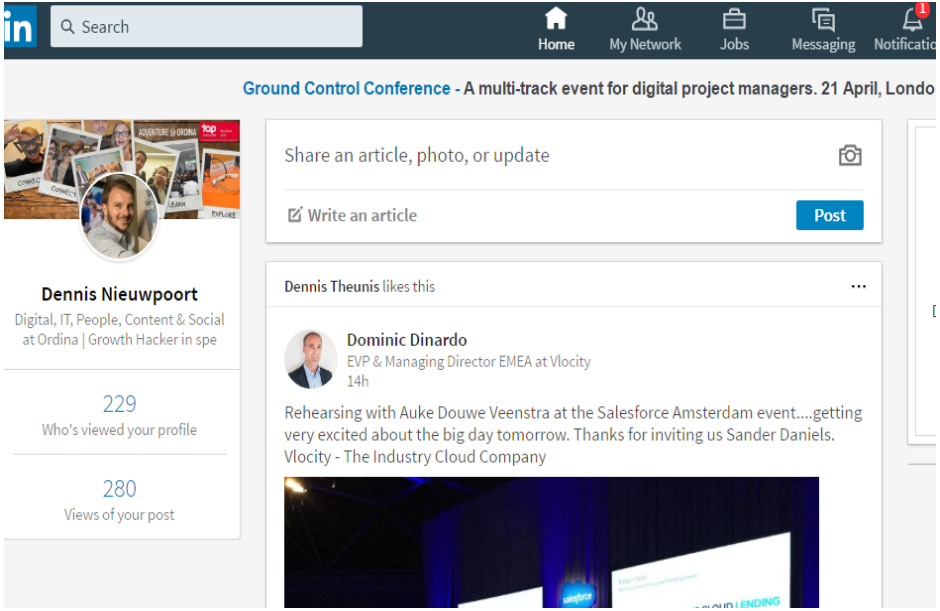
Release Strategy



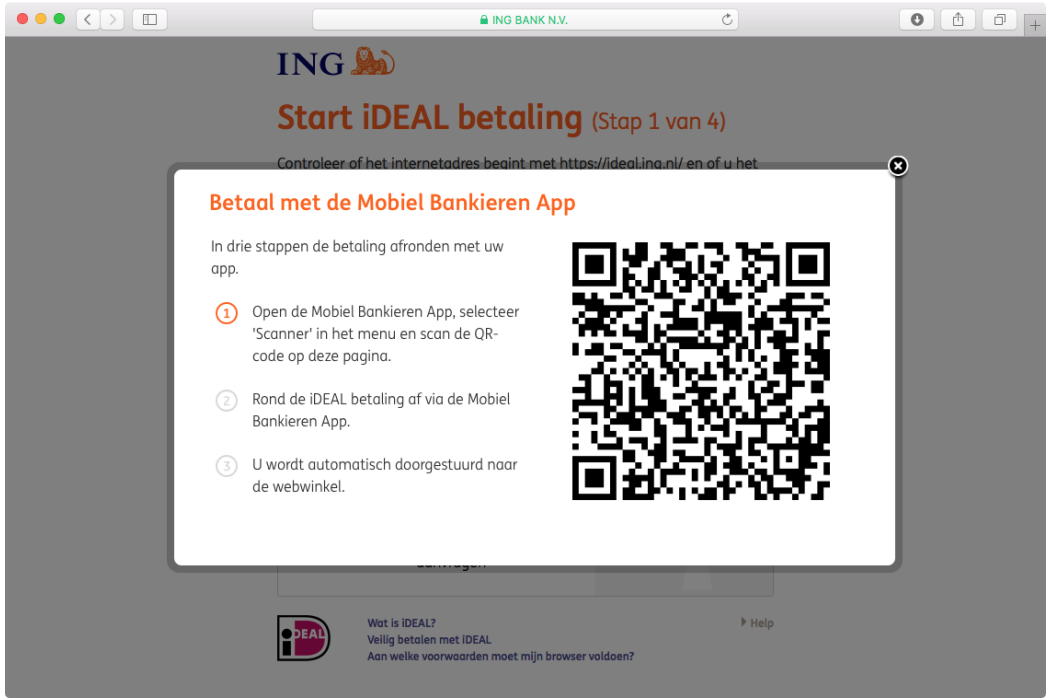
Explore & Experience

Examples

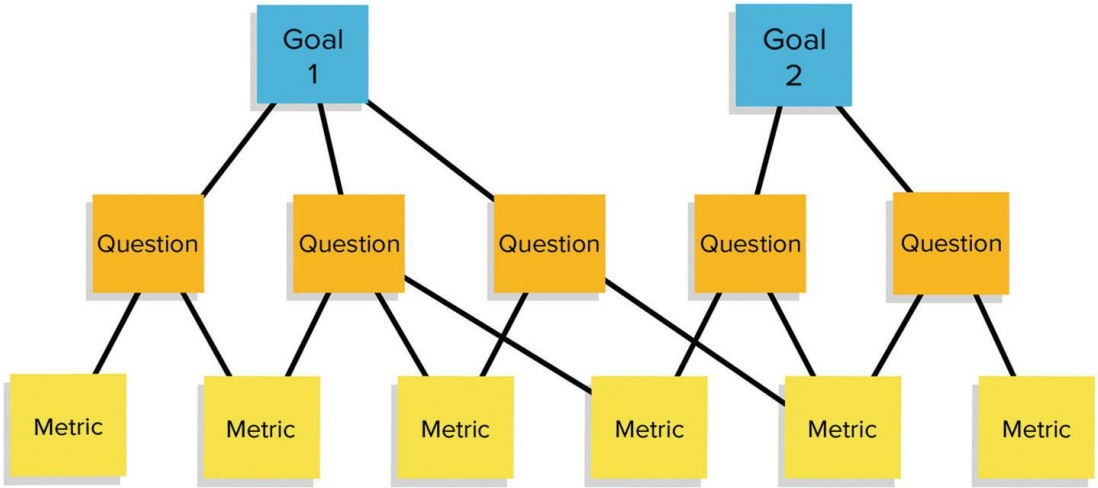




Examples

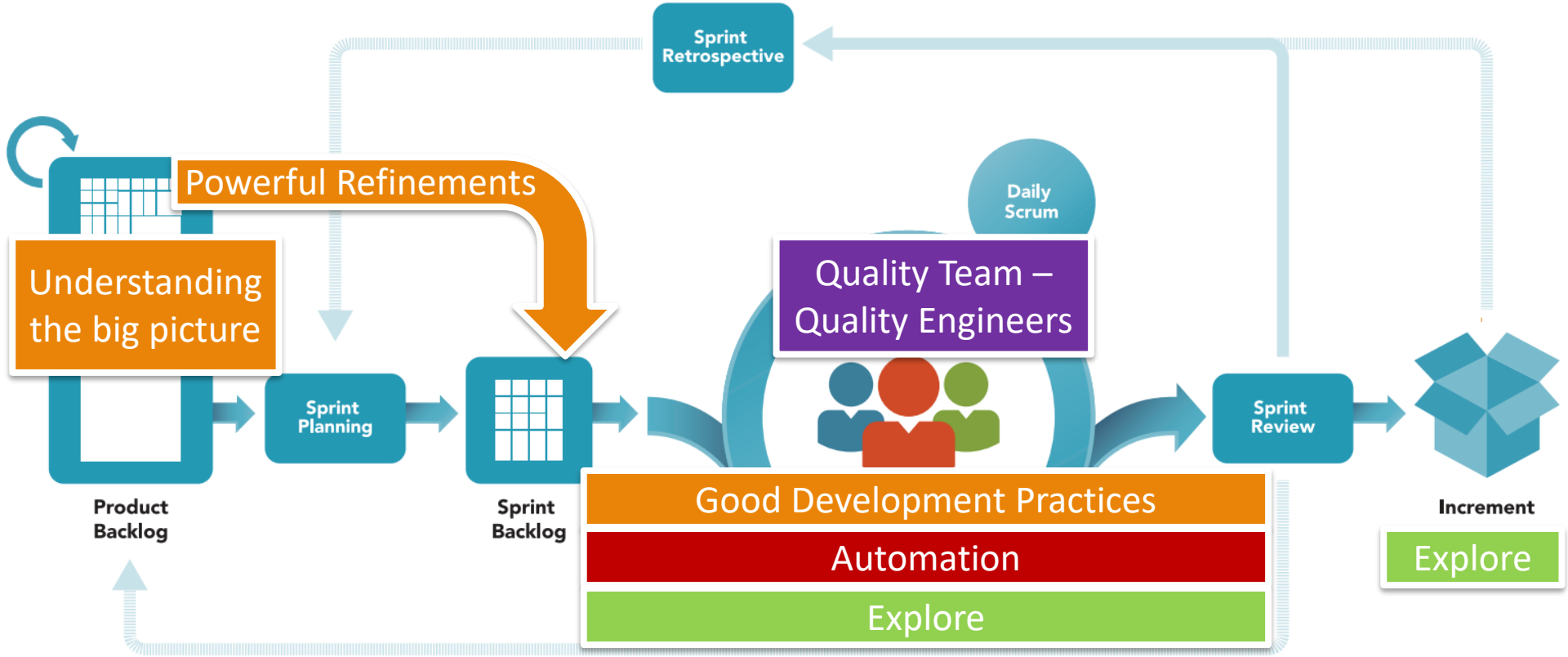

ING BANK N.V.
ING
Start iDEAL betaling (Stap 1 van 4)
Controleer of het internetadres begint met https://ideal.ing.nl/ en of u het
Betaal met de Mobiel Bankieren App
In drie stappen de betaling afronden met uw app.
1 Open de Mobiel Bankieren App, selecteer 'Scanner' in het menu en scan de QR-code op deze pagina.
2 Rond de iDEAL betaling af via de Mobiel Bankieren App.
3 U wordt automatisch doorgestuurd naar de webwinkel.
Wat is iDEAL?
Veilig betalen met iDEAL
Aan welke voorwaarden moet mijn browser voldoen?
Help

Testing in production – It is all about Metrics



by **Victor Basili** of the University of Maryland

Quality Engineering



The last hope against a BAD QUALITY EMPIRE

People: Team-Assessment, Skills and Quality as a team responsiblity

Process: Vision, Roadmap, Refinements with Examples, Risks & Quality/Test Strategy

Automation: Faster you move forward, faster you get feedback and can role back

Explore & Experience: Talk to customers, Use & Experience your product

Geoffrey van der Tas

Lets be Quality Rebels and stand for Quality Software!

E-mail: Geoffrey.van.der.Tas@Ordina.nl
Twitter: @Gavdtas
LinkedIn: https://nl.linkedin.com/in/geoffreyvdtas

ORDINA ICT voor mensen