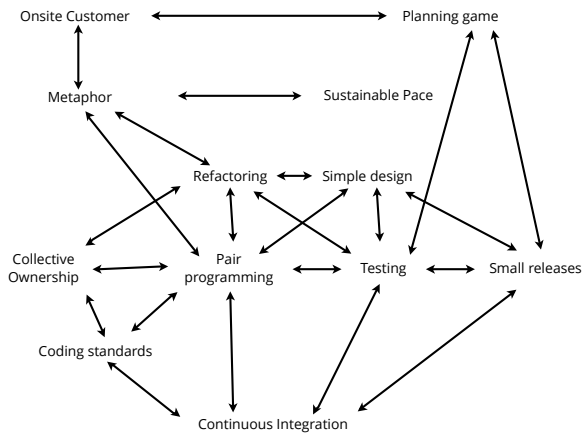
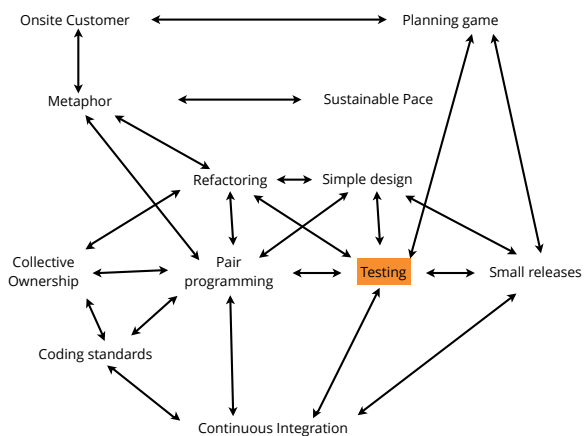


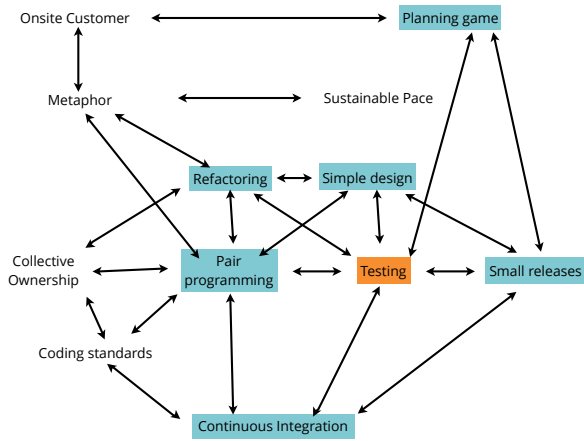
# QUALITY



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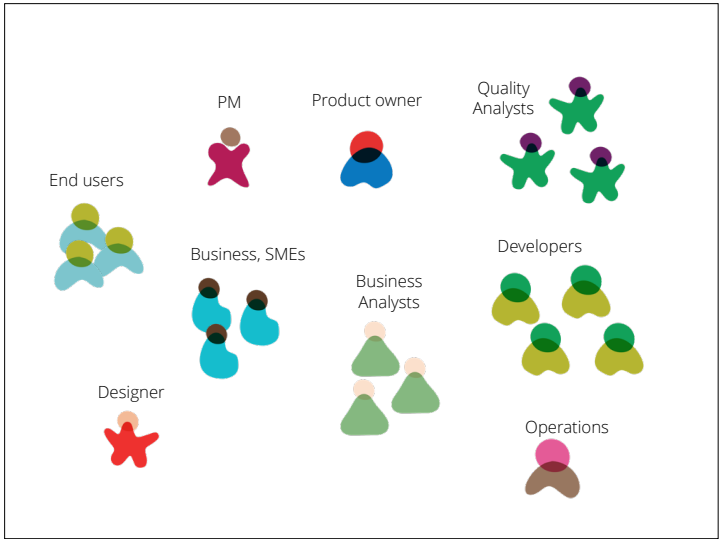
## WHAT IS QUALITY?

- Provide confidence in a product's suitability
- Determined by intended users
- Product quality vs Quality product

5

## WHO OWNS QUALITY?

6



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# HOW WE FOCUS ON QUALITY

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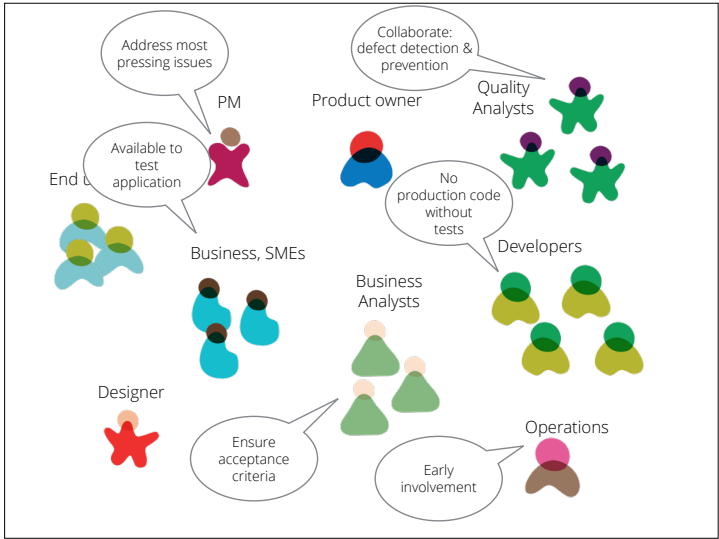
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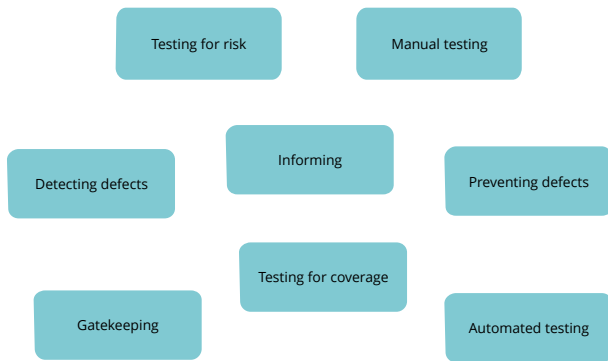
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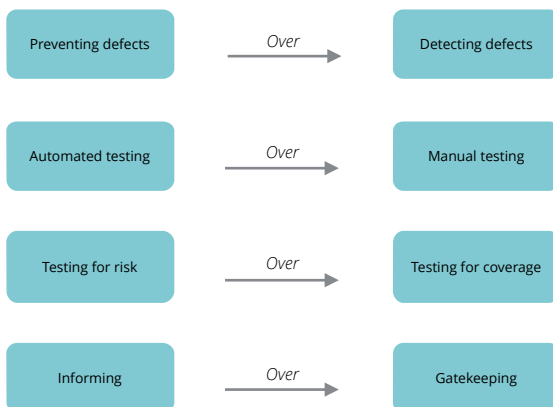
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## THE AGILE QA MANIFESTO



10

## THE AGILE QA MANIFESTO



11

## INFORMING OVER GATEKEEPING

12

## QUALITY IS A PART OF EVERYTHING

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- Business analysts write acceptance tests
- Developers write unit and integration tests
- Testers automate acceptance tests
- Regression suite run as part of every build

13

## QA HIGHLIGHTS RISK

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14

## DEFECT PREVENTION

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15

## CREATING ACCEPTANCE CRITERIA

<b>S</b>	Specific	Explicitly defined, definite
<b>M</b>	Measurable	Can observe, quantify
<b>A</b>	Achievable	Can be done
<b>R</b>	Relevant	Connected to the story
<b>T</b>	Timely	When is outcome observed?

16

## WRITING ACCEPTANCE CRITERIA

17

## ACCEPTANCE CRITERIA

ThoughtWorks  
As an **Internet Banking customer**  
I want to **see the list of my accounts**  
so that **I can choose to see more details of a particular account**

Alternate path

Alternate path

Bad path

**Given** the customer has one transaction account and one credit account  
**When** they have completed logging in  
**Then** the screen should show the names and numbers of the two accounts sorted in account number order

**Given** the customer has just one transaction account  
**When** they have completed logging in  
**Then** the screen should show the name and number of the account

**Given** the customer has no accounts  
**When** they have completed logging in  
**Then** the screen should show a message stating that no accounts are available

**Given** the customer has more than 20 accounts  
**When** they have completed logging in  
**Then** the screen should show the first 20 accounts (in account number order) only

**Given** the customer has some accounts  
**And** they have completed logging in  
**When** the system cannot retrieve the account details  
**Then** the screen should show an error message with associated code and details to contact for support

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## AM I DONE?

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## THE WHOLE TEAM APPROACH

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## POTENTIAL ISSUES

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*Lack of face to face communication?*

22

*Colocation*

23

*No shared responsibility towards  
quality?*

24



*Testing everywhere: acceptance criteria,  
developer testing, automated testing*

25

*Misaligned metrics*

26

*Measure throughput*

27

*Timing of testing / schedule pressure*

28

*Testing in parallel with development*

29

#### **THE TESTERS BILL OF RIGHTS**

- Ask questions of customers and developers
- Bring up quality process issues any time
- Ask for, and receive help from anyone
- The tools needed to do the job

30

## TIPS FOR COLLABORATION

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- Not us vs. them
- No excuses
- Testing is not just for testers!

31

## TESTING IS NOT JUST FOR TESTERS

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- Automation support
- Environment setup
- Management support
- End-to-end scenario creation

32

## EXERCISE: 99 BALLOONS

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33

# AUTOMATED TESTING AND THE CENTRAL ROLE OF QUALITY

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34

# AUTOMATION

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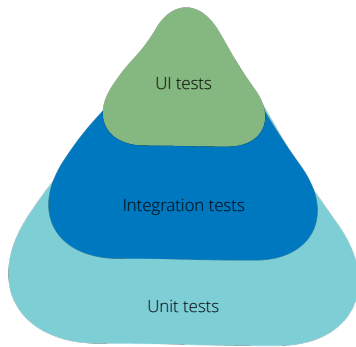
35

# HOW MUCH SHOULD YOU AUTOMATE?

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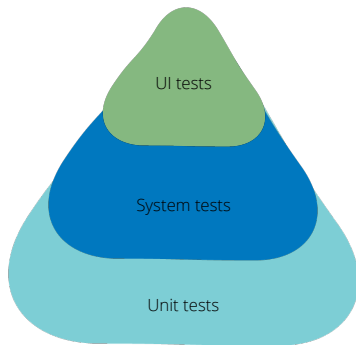
36

## THE TESTING PYRAMID



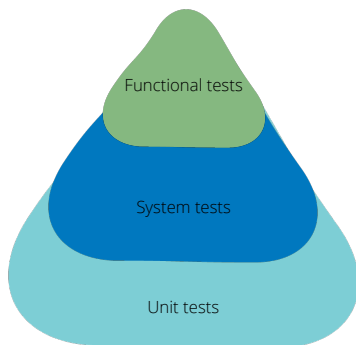
37

## THE TESTING PYRAMID



38

## THE TESTING PYRAMID



39

## UNIT TESTING / TDD

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## FUNCTIONAL TESTING

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## USER ACCEPTANCE TESTING

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42

# REGRESSION TESTING

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43

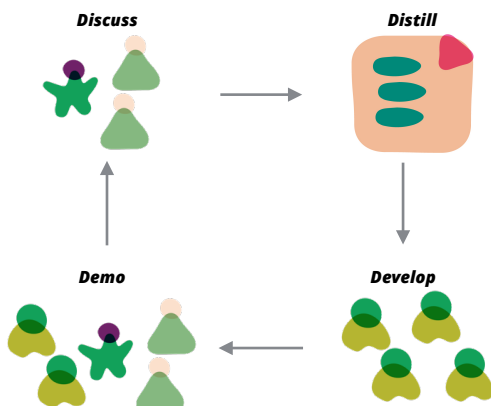
# SYSTEM INTEGRATION TESTING

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44

## ACCEPTANCE TEST DRIVEN DEVELOPMENT

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45

# AGILE AUTOMATION

46

## WHY IS AUTOMATION IMPORTANT?

- Fast feedback
- Confidence to the development team
- Almost impossible to manually test a rapidly changing system

47



*Release 1*



*Release 2*



*Release 3*

48



### AUTOMATION IN AN AGILE TEAM

- Automation in parallel with development
- Automated acceptance tests
- Automated tests add to a regression suite
- Test executed as part of continuous integration

49

### WHEN DOES AUTOMATION FAIL?

- Overengineering test scripts
- Testing everything through functional tests
- Wrong choice of tools

50

### WHAT IS WRONG WITH TRADITIONAL TOOLS?

- Test-last workflow does not fit in with the agile way
- Tools tend to encourage record & play
- Needs test automation specialist
- Tools do not encourage collaboration

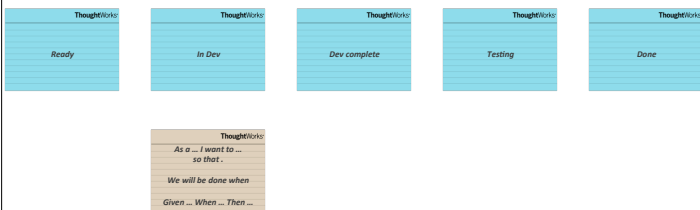
51

# DEFECTS

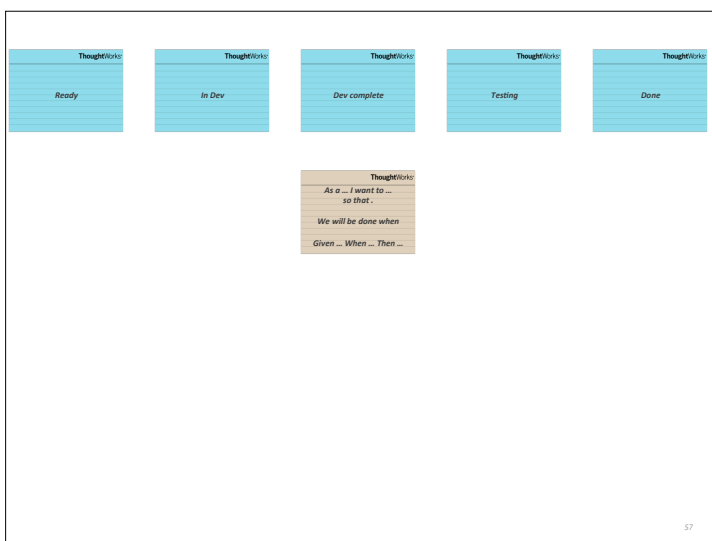
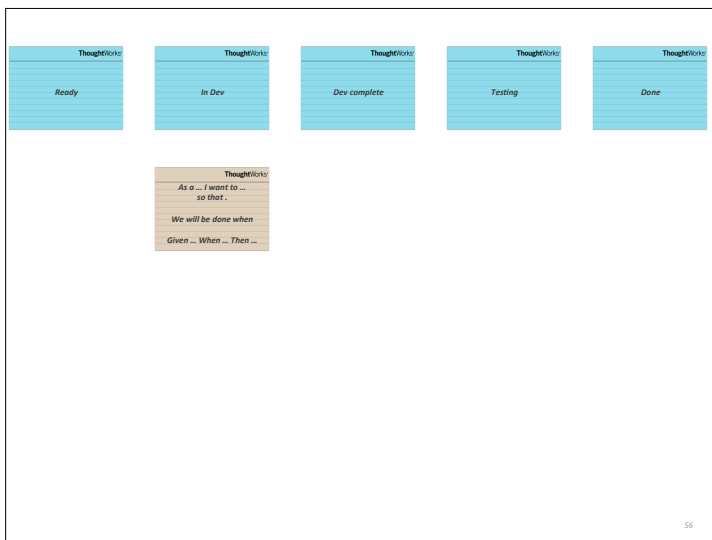
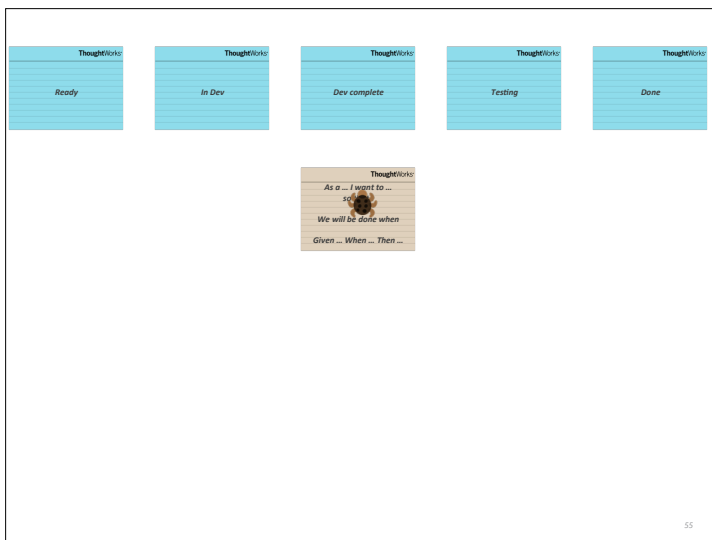
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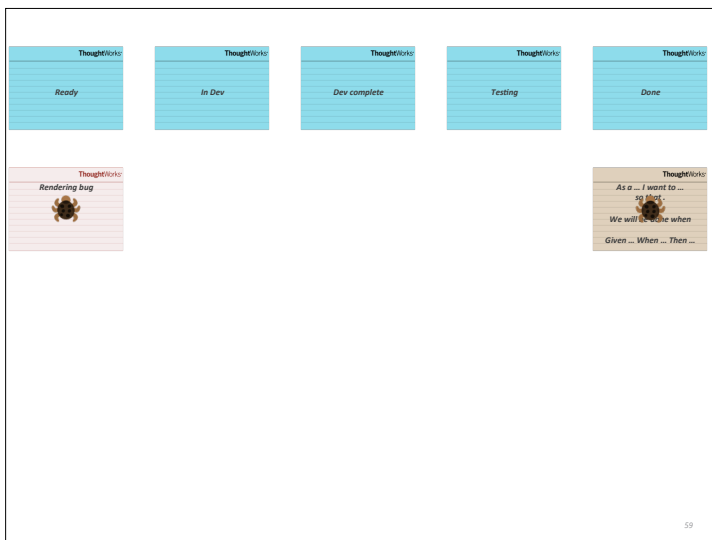
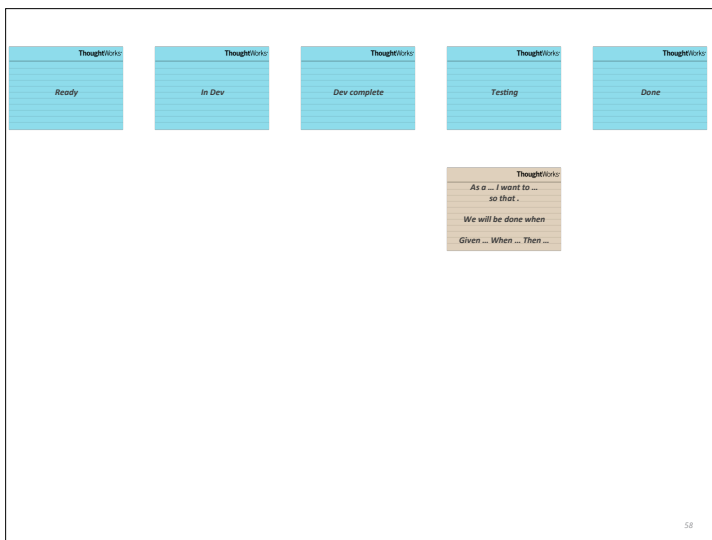
# WHEN TO RAISE A DEFECT

53




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# DEFECTS MANAGEMENT

ThoughtWorks  
As a ... I want to ...  
so that ...  
We will be done when  
Given ... When ... Then ...

ThoughtWorks  
Rendering bug  


ThoughtWorks  
As a ... I want to ...  
so that ...  
We will be done when  
Given ... When ... Then ...

ThoughtWorks  
As a ... I want to ...  
so that ...  
We will be done when  
Given ... When ... Then ...

ThoughtWorks  
Rendering bug  


Should this

ThoughtWorks  
As a ... I want to ...  
so that ...  
We will be done when  
Given ... When ... Then ...

ThoughtWorks  
As a ... I want to ...  
so that ...  
We will be done when  
Given ... When ... Then ...

ThoughtWorks  
As a ... I want to ...  
so that ...  
We will be done when  
Given ... When ... Then ...

ThoughtWorks  
As a ... I want to ...  
so that ...  
We will be done when  
Given ... When ... Then ...

# COMMON TESTING ISSUES / SMELLS

*Is it really a defect?*

64

*Bouncing defects*

65

*Automation failures*

66

*Accepting stories, then raising defects*

67

*Business logic in tests*

68

**QUESTIONS?**

69