A Holistic Approach to Testing in an Agile Context

Agile Coach Exchange

Lisa Crispin

With material from Janet Gregory

AGILE TESTING FELLOWSHIP

A little about me

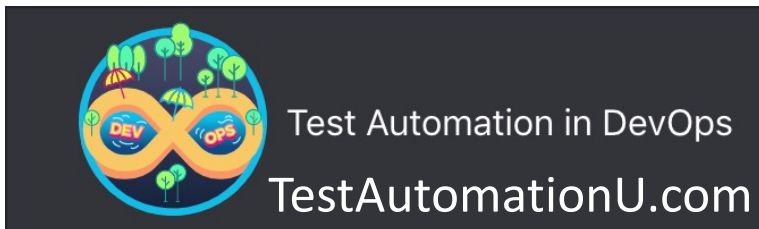**With Janet Gregory**

Holistic Testing: Strategies for Agile Teams
Holistic Testing for Continuous Delivery
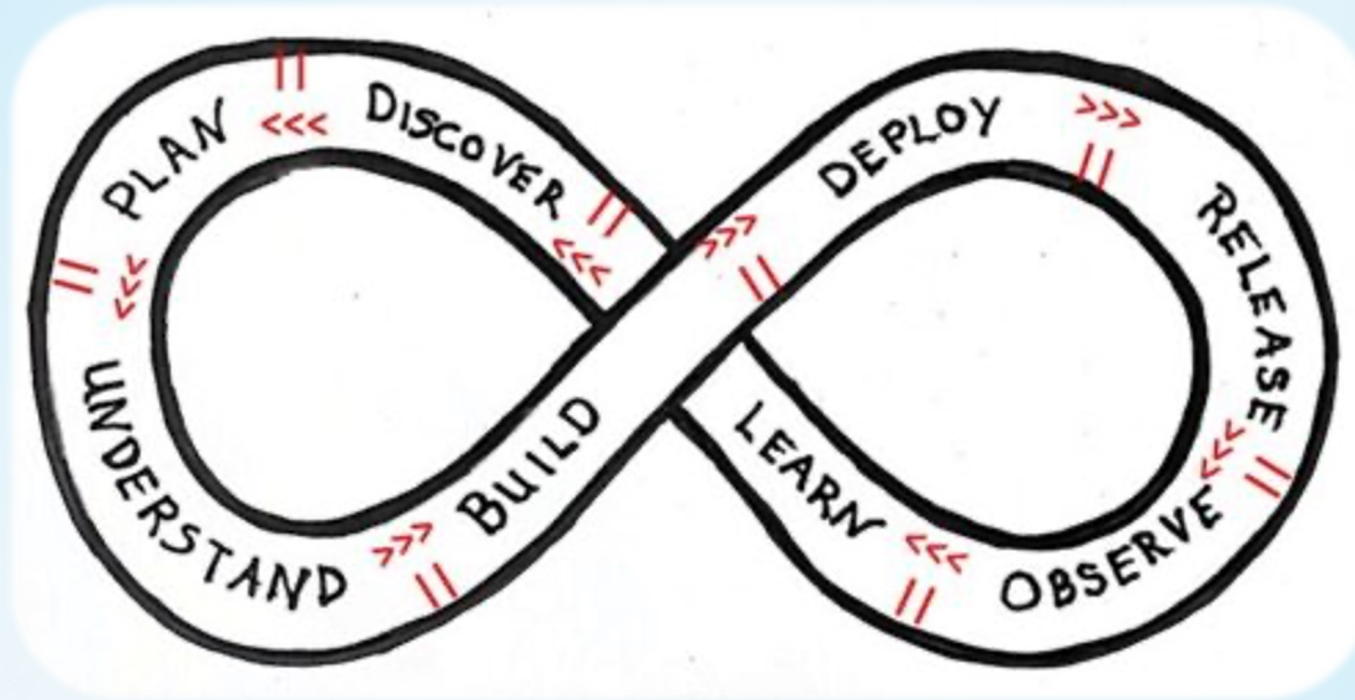AgileTestingFellow.com

Test Automation in DevOps
TestAutomationU.com

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https://lisacrispin.com
@lisacrispin

My message today:

A holistic approach to quality and testing,

that takes in many perspectives and involves the whole team.

Each of us has our own perspective of quality

Just as I hoped – the pictures are well placed for accessibility

All wrong! There is no place to sit down!

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Photo by Zalfa Imani on Unsplash

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Defining quality

What level of quality do we want in our product?

And in our process?

What are the risks?

What does the business care about?

What's good quality – to our customer?

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Stop for a minute and think about the teams you've worked with...

Does the team talk about what quality means to them? What level of quality they want? What are their specific quality goals?

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Software quality - product and process
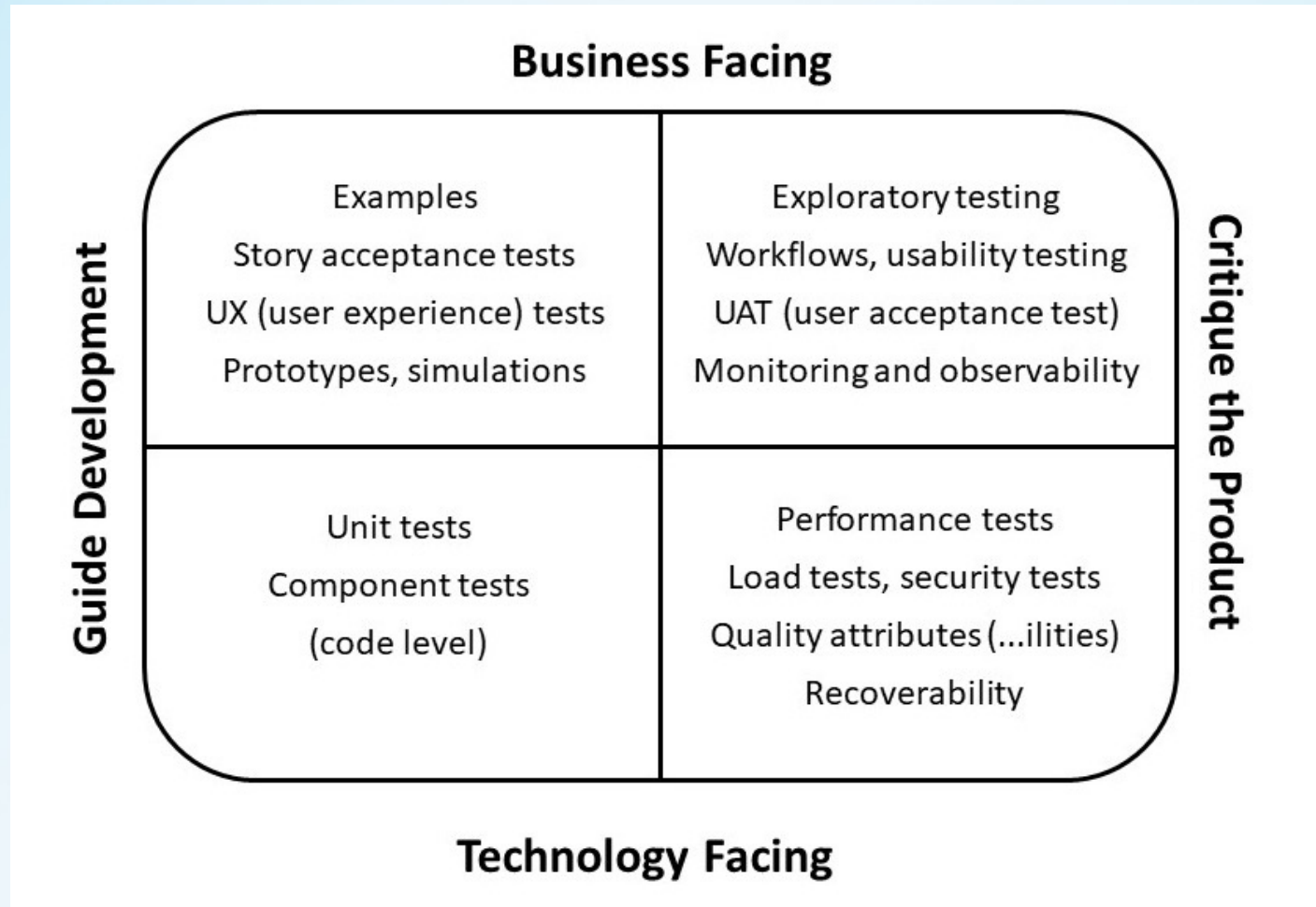
Internal:

- Code correctness
- Maintainability
- Operability
- Testability
- Fast feedback
- Low risk

External:

- Functionality
- Value to customer
- Value to business
- Sustainability
- Quality attributes:
  - Performance
  - Security
  - Reliability
  - Availability
  - Accessibility
  - ...

Plan testing activities to build quality in

Agile Testing Quadrants (originated by Brian Marick)

What is testing?

- Provides feedback
- Identifies hidden assumptions
- Gives information about the state of the product
- Helps identify and mitigate product / business / technical risks
- Assesses quality (assuming we know what that means)

Testing can NOT assure quality! Quality is built in.

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Testing in an agile context:

- Is collaborative
- Is part of the entire life cycle / DevOps loop
- Supports frequent delivery of small chunks of value
- Focuses on defect prevention
- Guides development with concrete examples
- Asks questions to test ideas and assumptions
- Includes all types of automated and human-centric testing activities
- Is the responsibility of the whole delivery team, ultimately the business

https://agiletester.ca/ever-evolving-never-set-stone-definition-agile-testing/

AGILE TESTING FELLOWSHIP

HOLISTIC TESTING

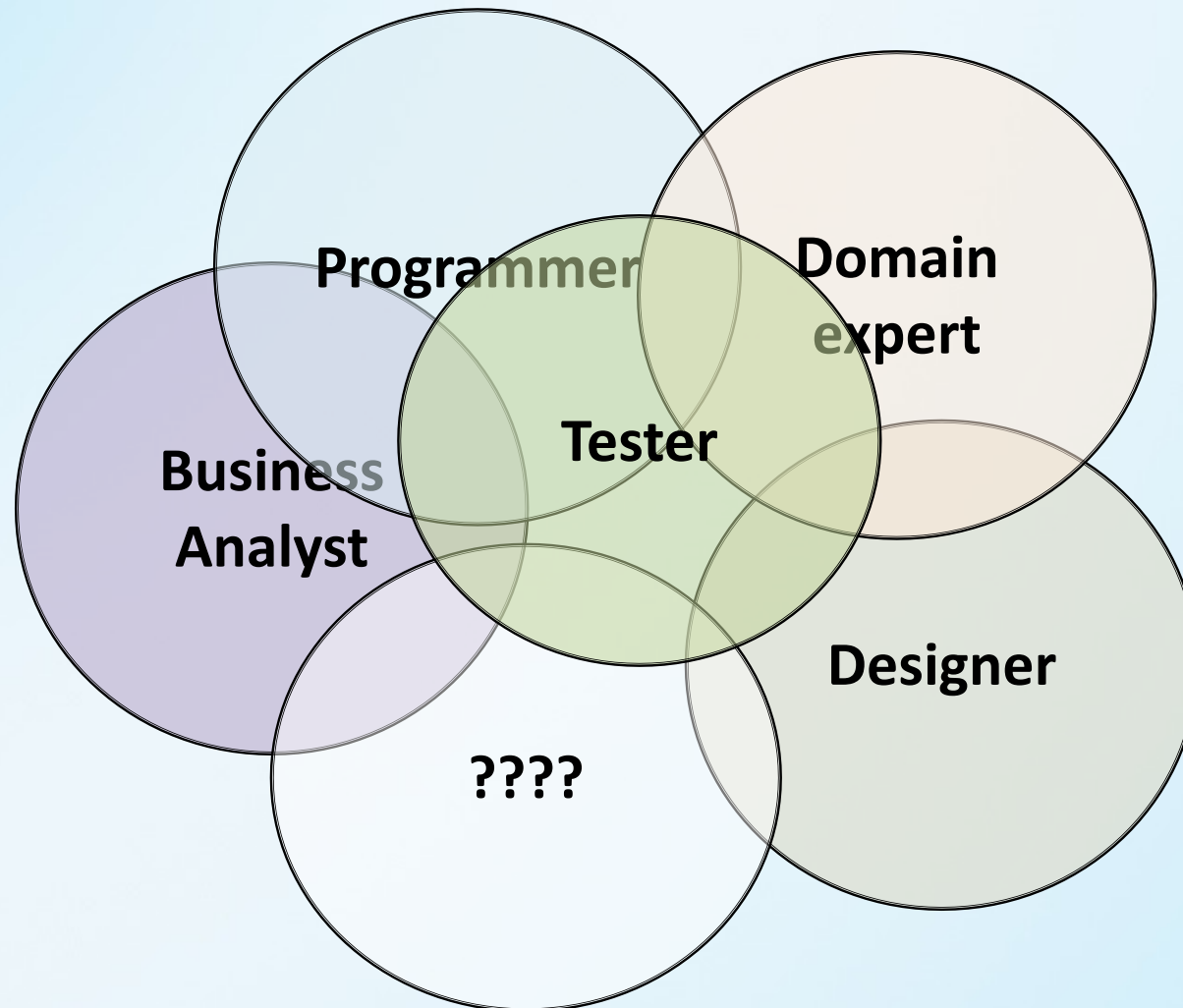# To build quality in...

Think of testing differently.

Testing isn't a phase, it's set of activities that happens throughout the software lifecycle, along with coding, design, reliability engineering...

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Get everyone engaged
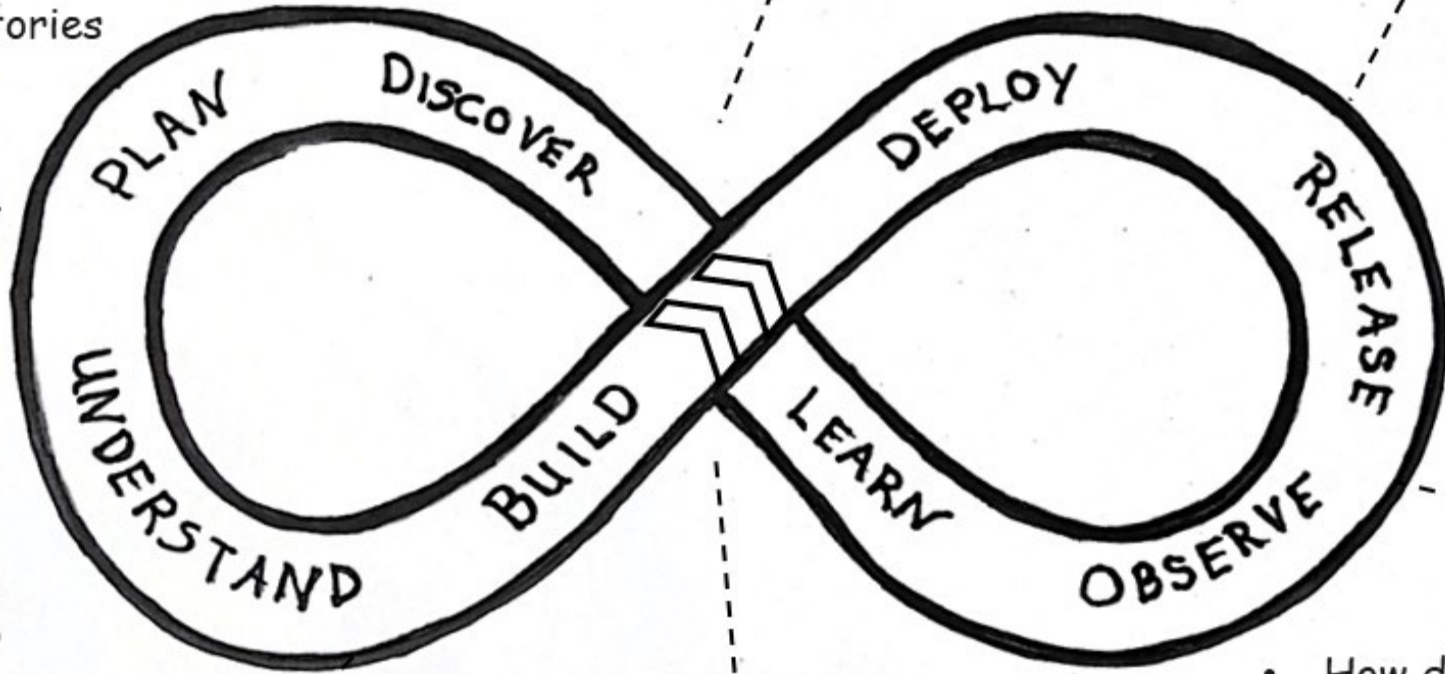
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Holistic Testing

- Identify risks
- Test assumptions
- Create testable stories

- Test the ideas
- Determine value

- Test infrastructure
- Run automated tests
- Test the pipeline
- Test quality attributes
- Test the system

- Test in production
- Use feature toggles or blue/green env

- ATDD / BDD
- Example mapping
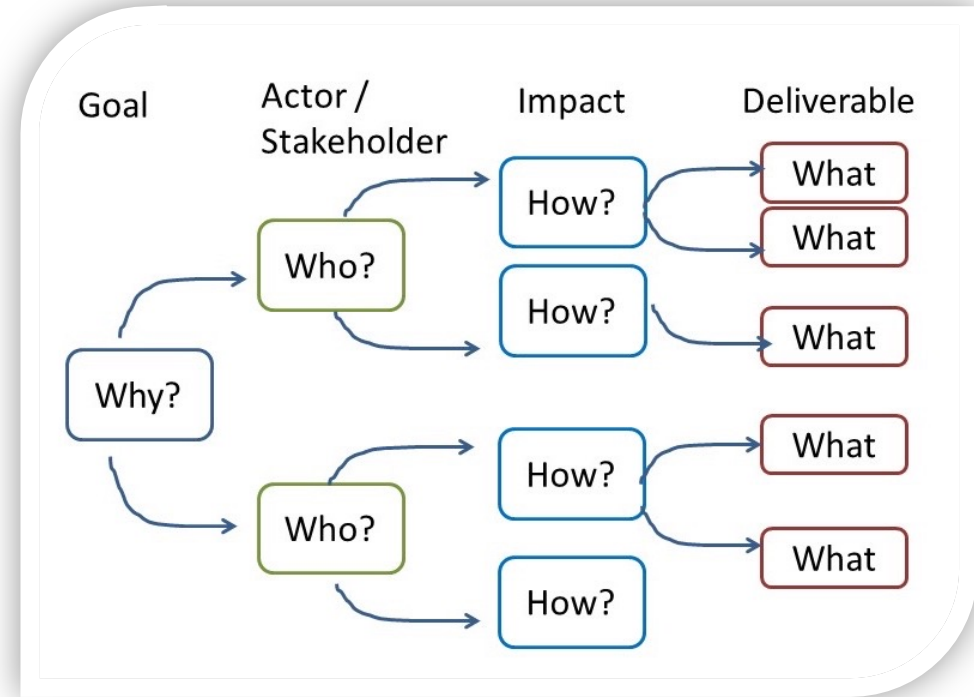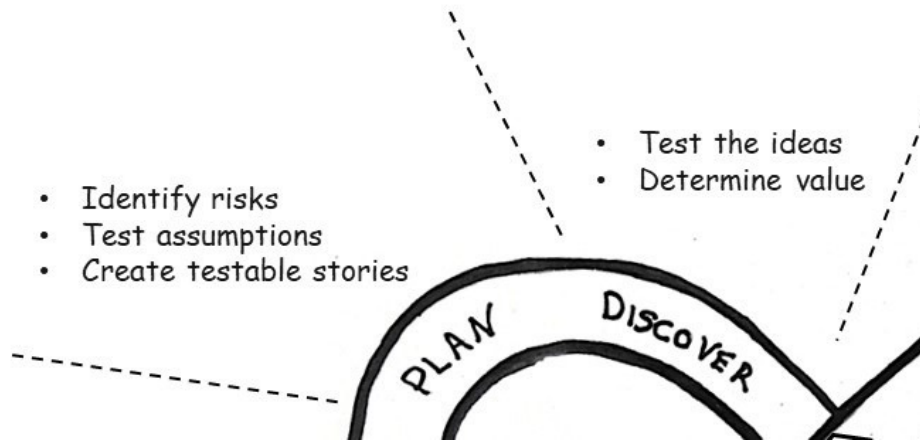- Prototypes
- Determine what to observe or monitor

- Automate tests
- Instrument the code
- Test stories and features

- Hypothesize and adapt

- How do customers use the product
- Monitor for warnings and errors

Download the free mini-book:
https://AgileTestingFellow.com

Discover and plan

- Identify risks
- Test assumptions
- Create testable stories

- Test the ideas
- Determine value

PLAN DISCOVER

Impact mapping

Goal	Actor / Stakeholder	Impact	Deliverable

Why? → Who? → How? → What / What

How? → What

Why? → Who? → How? → What

How? → What

Risk assessment

High risk

Medium risk

Low risk

Probability (vertical axis)

Impact (horizontal axis)

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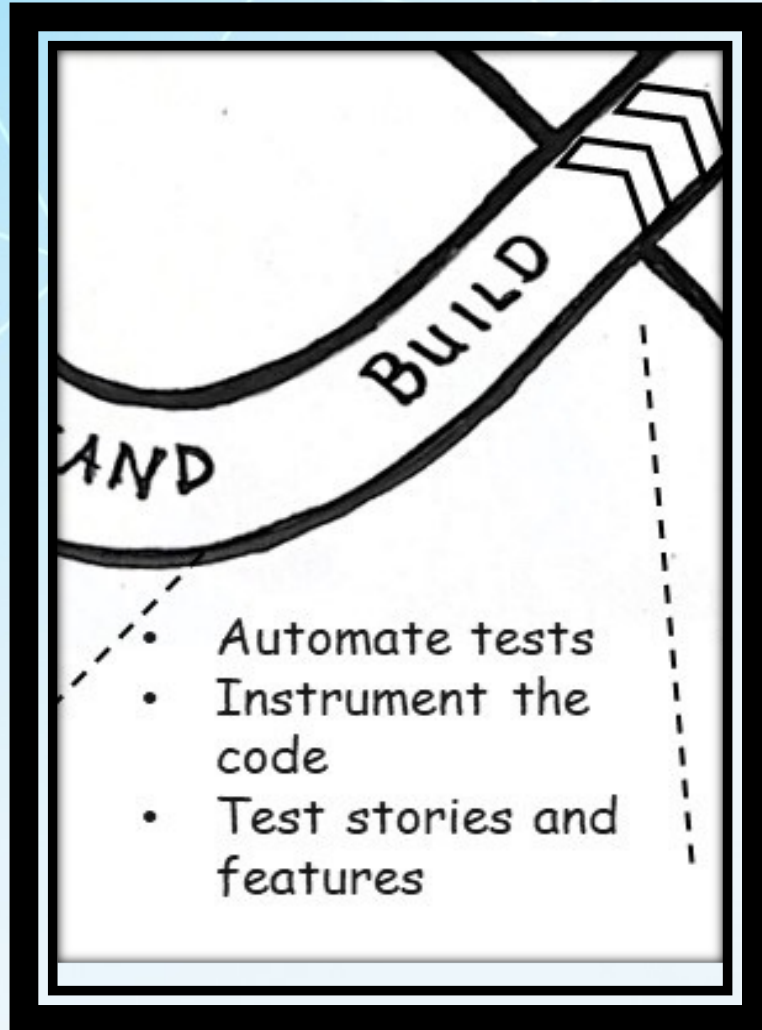
HOLISTIC TESTING

Test early
– test our understanding

- Ask questions
- Uncover hidden assumptions
- Clarify needs (ATDD / BDD)
- Think about testing first
- Give tests to the programmers
  – before coding happens

- ATDD / BDD
- Example mapping
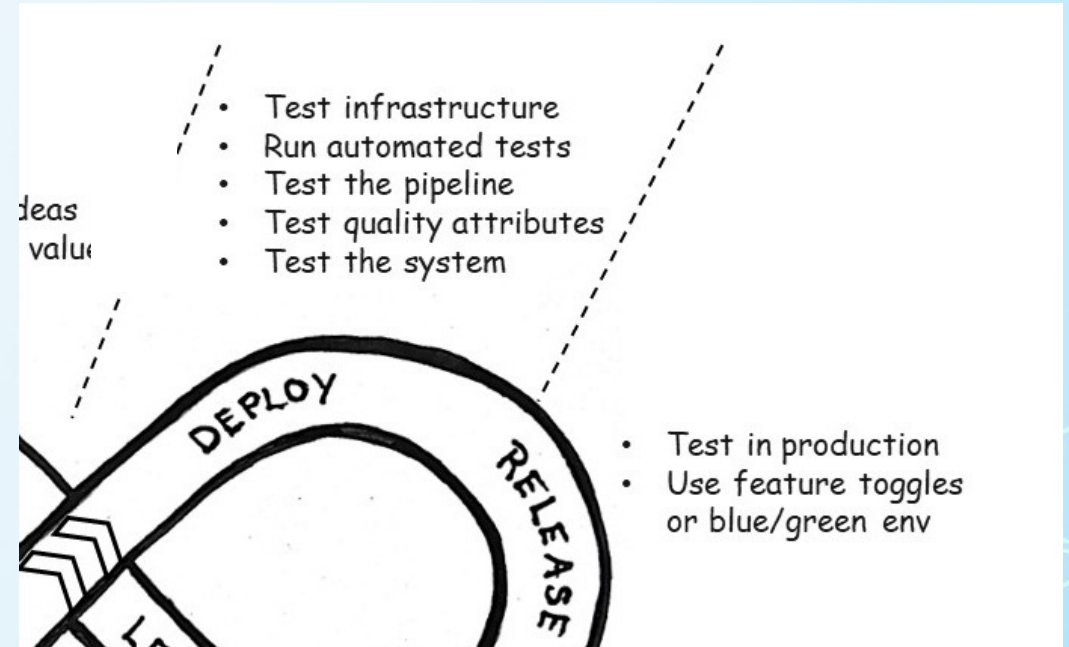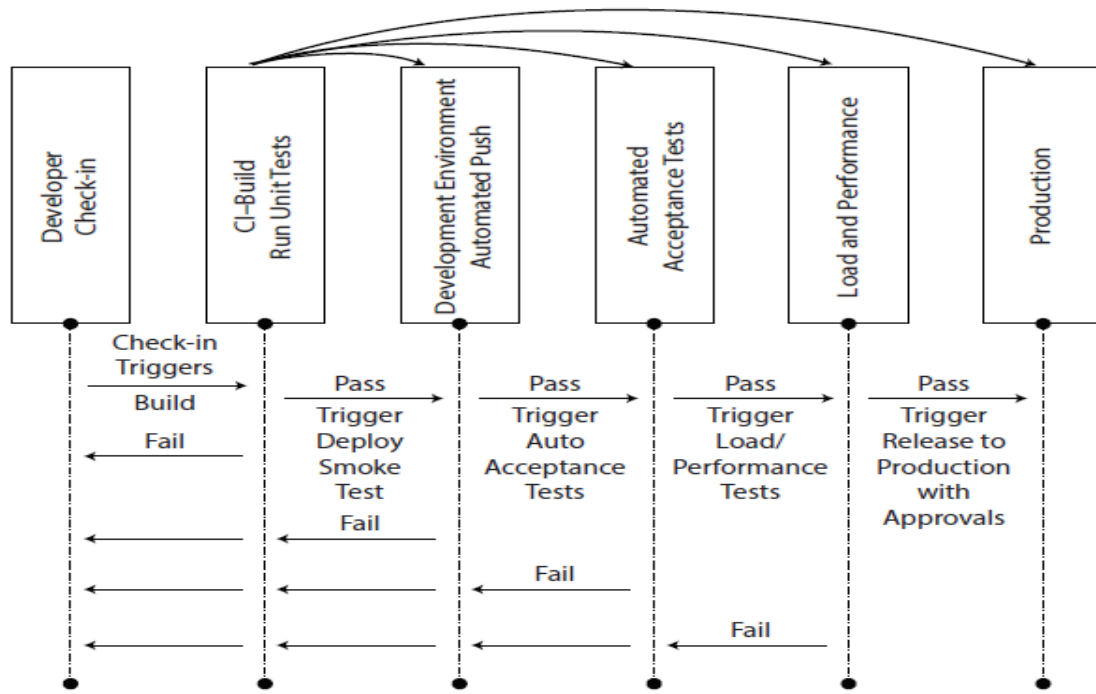- Prototypes
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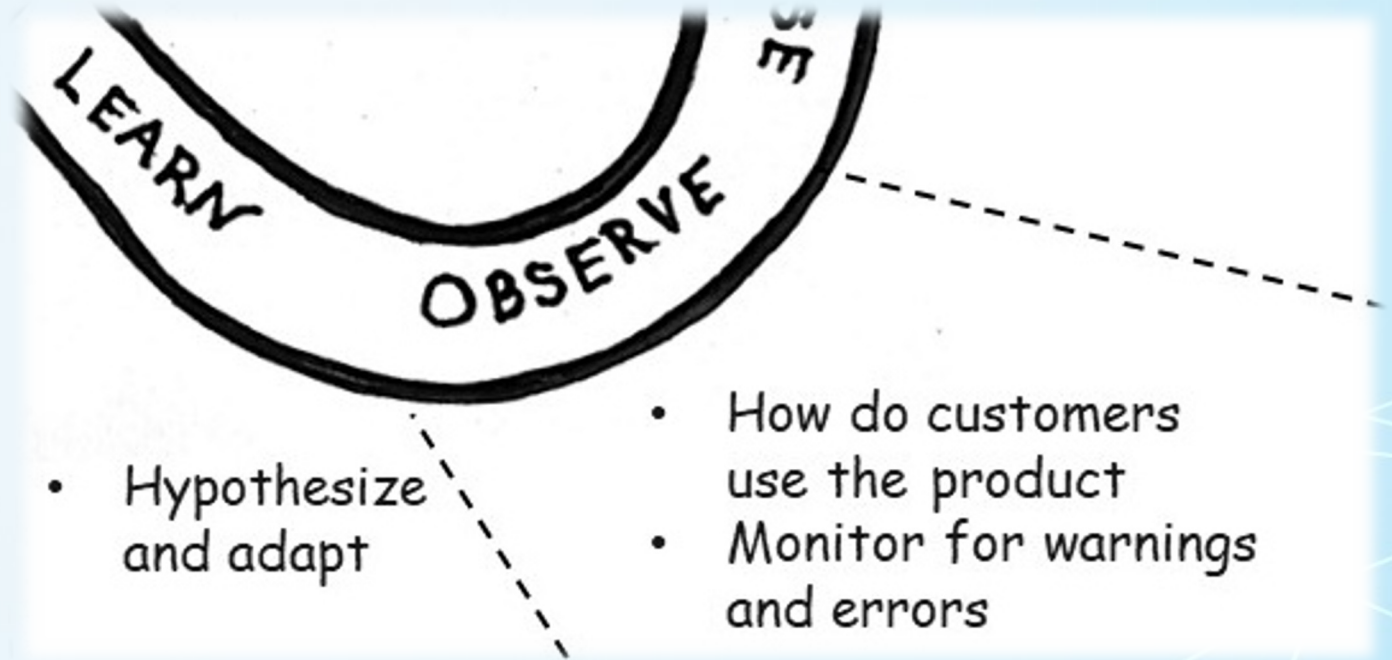
UNDERSTAND

HOLISTIC
TESTING

Testing activities while we build

- TDD (test-driven development)
- Code analysis
- "show me"
- Exploratory testing
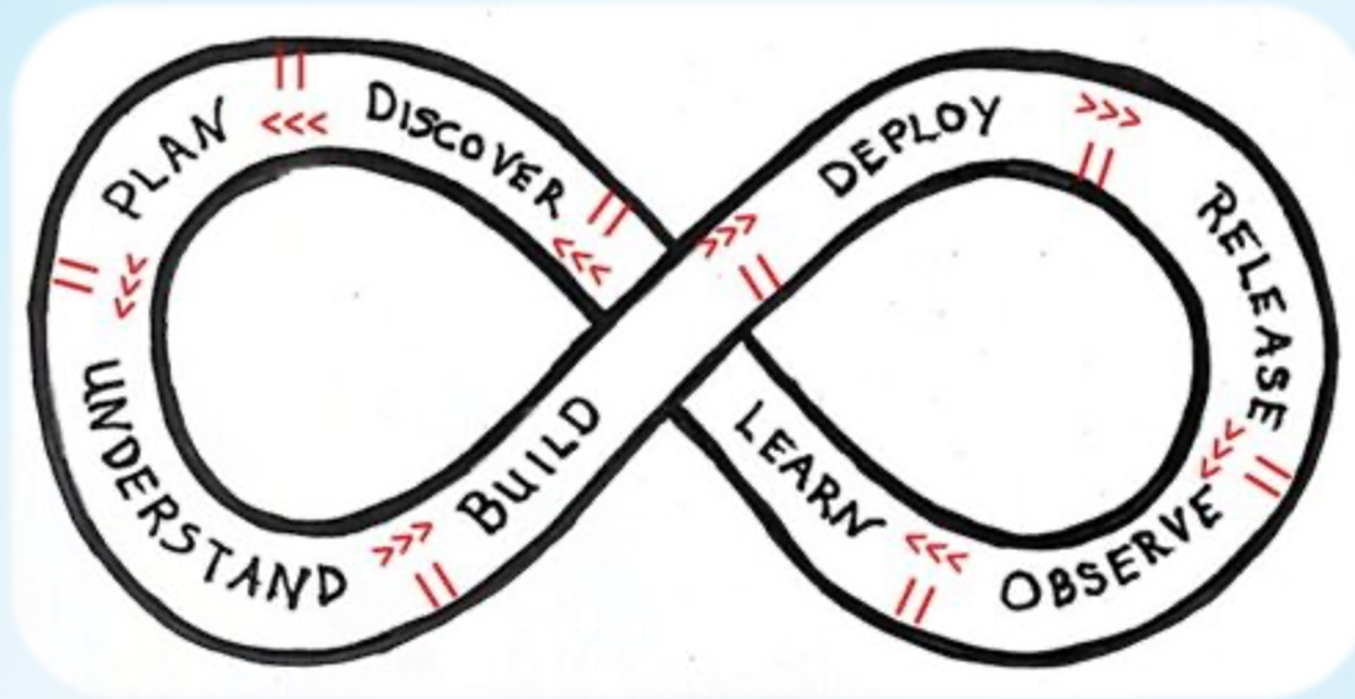- Test automation
- User acceptance testing

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HOLISTIC TESTING

* Test infrastructure
* Run automated tests
* Test the pipeline
* Test quality attributes
* Test the system

* Test in production
* Use feature toggles or blue/green env

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Observing and Learning

LEARN
OBSERVE

- Hypothesize and adapt

- How do customers use the product
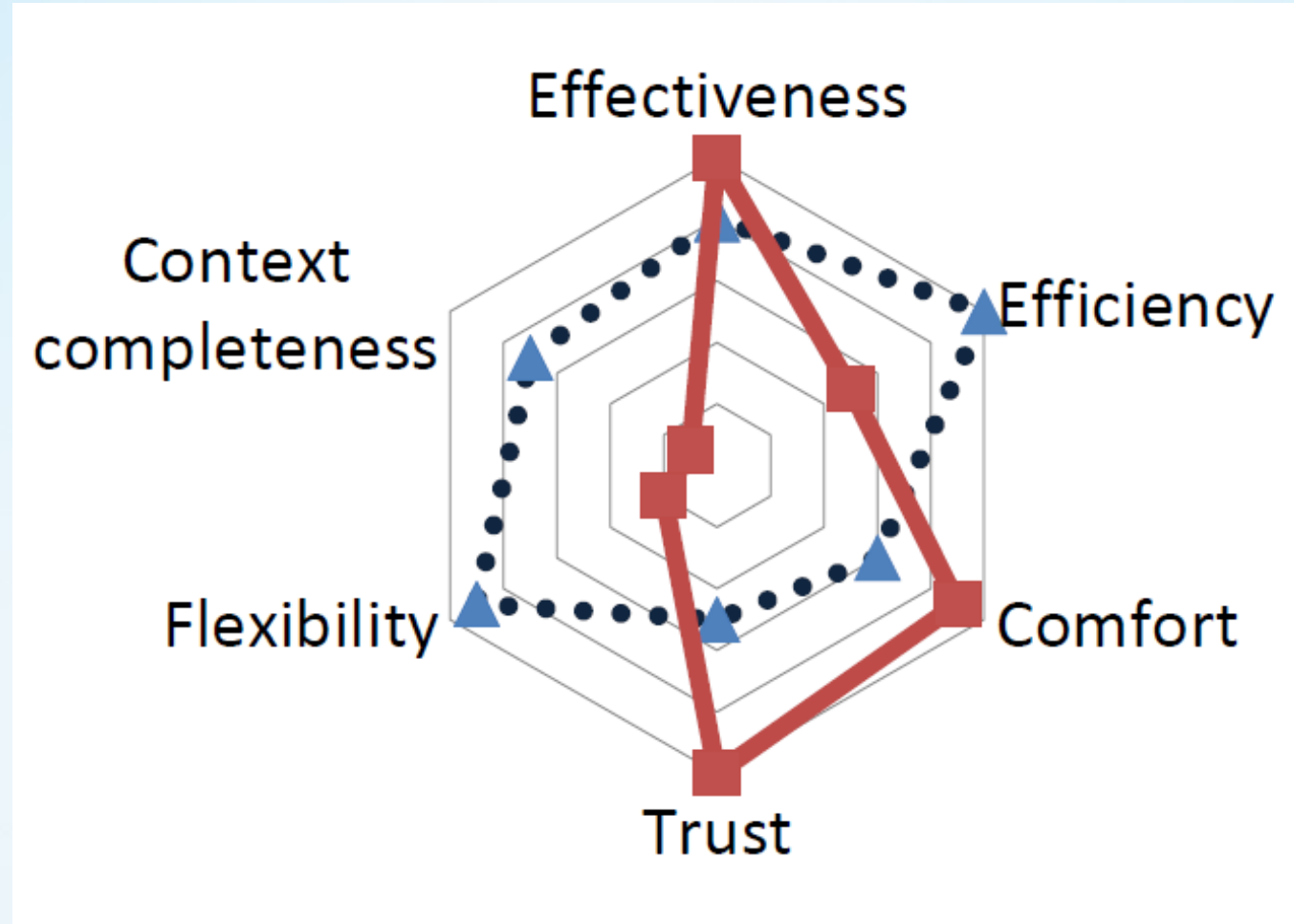- Monitor for warnings and errors

How can you get the whole team engaged in more stages?

What relationships can you build and encourage others to build?
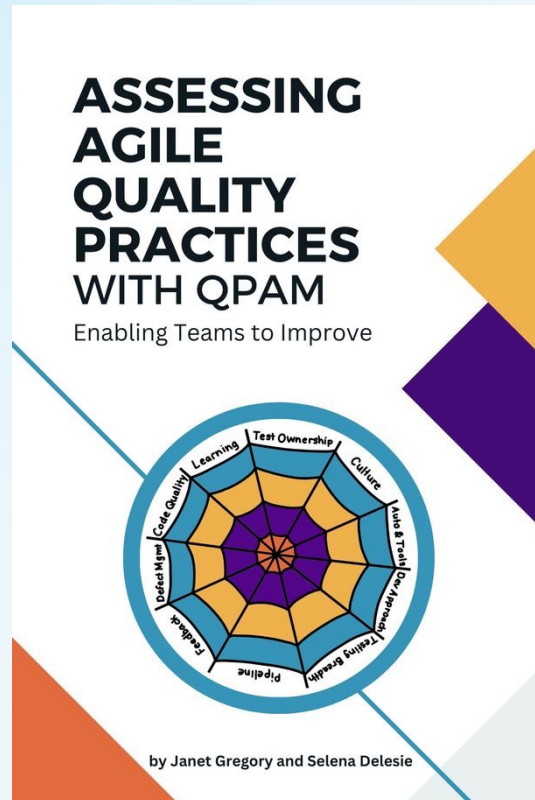
Find ways to measure quality – as you define it in your context

Quality Practices Assessment Model (QPAM)

Model and book from Janet Gregory and Selena Delesie
https://leanpub.com/qualityassessmentpracticesmodelqpam

My blog post on enabling better quality using QPAM or similar models:
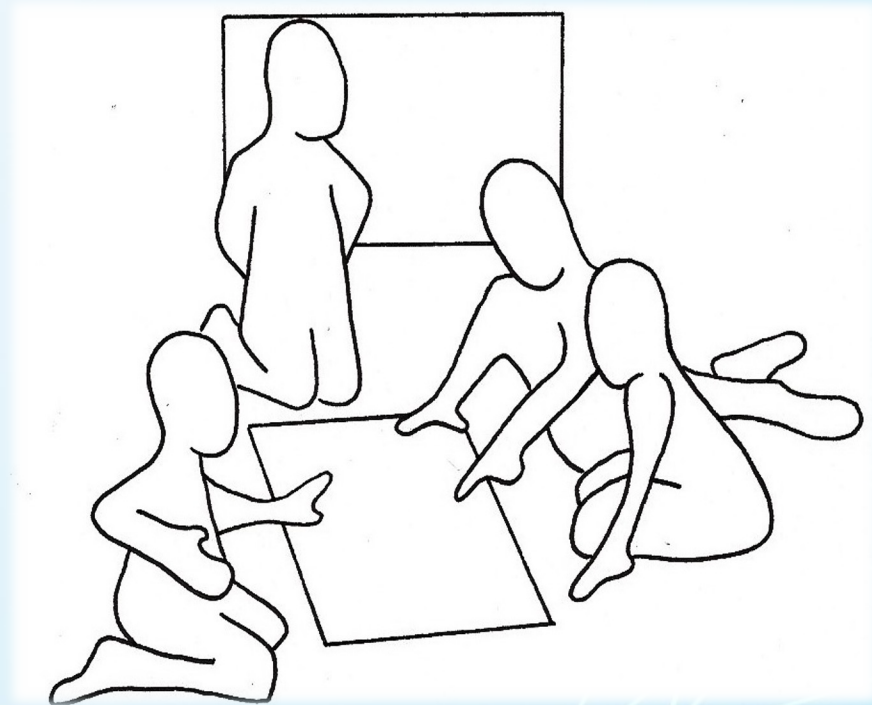*https://lisacrispin.com/2023/01/12/enabling-better-quality/*

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Grow a quality culture

- Focus on quality, not speed
- Whole team responsibility for quality
- Conversations about building quality in
- Visible progress towards quality goals
- Safety to question, experiment
- Each person can contribute

Testing is a team problem

- Developers think about testability

- Testers think about the big picture and what ifs

- Bug prevention over bug detection

- Business stakeholders, product people help team succeed

- Diverse perspectives, skill sets mean better solutions

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HOLISTIC TESTING

Get the whole team together and talk!

What level of quality do we want to deliver? Let's make a meaningful commitment.

How can everyone get engaged in holistic testing?

Holistic Testing: Weave Quality Into Your Product

HOLISTIC TESTING

By Janet Gregory and Lisa Crispin

https://agiletestingfellow.com

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Download the free mini-book from
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Resources for further learning

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- https://agiletestingfellow.com/blog
- https://janetgregory.ca/blog
- Donkeys & Dragons YouTube channel https://tinyurl.com/agiletfellow
- https://lisacrispin.com
- *Agile Testing Condensed, A Brief Introduction*, LeanPub and Amazon
- *Agile Testing* and *More Agile Testing*, Amazon

Questions? Thoughts?