W11
Agile Testing
Wednesday, May 2nd, 2018
1:45 PM

Agile Testing in Large Scale Organizations

Presented by:

Mary Thorn

Ipreo

Brought to you by:

Mary Thorn

Ipreo

Chief storyteller of The Three Pillars of Agile Testing and Quality, Mary Thorn is director of agile practices at Ipreo in Raleigh, NC. Mary has a broad agile and testing background that spans automation, data warehouses, and web-based systems in a wide variety of technologies and testing techniques. During her more than nineteen years of experience with healthcare, HR, financial, and SaaS-based products, Mary has held manager- and contributor-level positions in software development organizations. A strong leader in agile and testing methodologies, Mary has direct experience leading teams through agile adoption and beyond.

Agile Testing in Large Scale Organizations

Mary Thron
marythorn@gmail.com

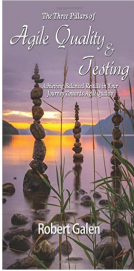Identifier

For internal use only

About Mary Thorn

Chief Story Teller of the book "The Three Pillars of Agile Testing and Quality" written by Bob Galen, Mary Thorn is Director of Agile Practices at Ipreo in Raleigh, NC.

Mary has a broad background that spans agile, testing and automation, of web-based systems in a wide variety of technologies and agile techniques.

During her more than twenty years of experience in Healthcare, HR, Fin Tech, and SaaS-based products Mary has held Director, Manager and contributor level positions in software development organizations.

A strong leader in agile and testing methodologies, she has direct experience leading teams through agile adoption and beyond.

For internal use only

The Problem

- **100 testers (20 onshore and 80 offshore)**
- **Transitioning from waterfall to scrum**
- **25 Products**
- **Most products had 35-75 test cases that were workflows that had anywhere from 10,000-75,000 verification points**
- **Automation was done by vendors and would take anywhere from 1-2 weeks to run serially.**
- **2 Test Managers**

For internal use only

IPREO

Mission

For internal use only

IPREO

Vision

→ **The QA team members are functioning as an equal part of the overall Scrum Team**

→ **They are Subject Matter Experts (SMEs) in the area of the application.**

→ **They are technically competent.**

→ **QA members are accountable, committed, trust their teammates, driven to results, and don't fear conflict.**

→ **They are empowered to be change agents.**

For internal use only

What does success look like?

For internal use only

Three Pillars of Agile Quality

3 Pillars of Agile Quality

Development & Test Automation

- Pyramid-based Strategy: (Unit + Cucumber + Selenium)
- Continuous Integration
- Attack technical infrastructure in the Backlog
- Visual Feedback – Dashboards
- Actively practice ATDD and BDD

Software Testing

- Risk-based testing: Functional & Non-Functional
- Test planning @ Release & Sprint levels
- Exploratory Testing
- Standards – checklists, templates, repositories
- Balance across manual, exploratory & automation

Cross-Functional Team Practices

- Team-based Pairing
- Stop-the-Line Mindset
- Code Reviews & Standards
- Active Done-Ness
- Aggressive Refactoring of Technical Debt
- User Stories, "3 Amigo" based Conversations

- Whole Team Ownership of "Quality"
- Building it 'Right'; Building the 'Right' Thing
- Healthy – Agile Centric Metrics
- Center of Excellence or Community of Practice
- Strategic balance across 3 Pillars; Assessment, Recalibration, and Continuous Improvement

For internal use only

IPREO

Foundation of the 3-Pillars

- Whole Team Ownership of "Quality"

- Knowing the "Right" thing to Build AND Building it "Right"

- Healthy – Agile Centric Metrics

- Steering Required – CoE or CoP

- Strategic balance across 3 Pillars; Assessment, Recalibration, and Continuous Improvement

- Whole team view includes building it right, everyone tests, everyone demo's, etc.

- Focus on features/stories, confirmation, conversation, and getting them staged properly OVER testing

- 4-tier metrics: Quality, Value, Prediction, Team

- Agile strategies need light-handed "steering"; establish a CoE (heavier weight) or a CoP (lightweight)

- Consider finding an assessment framework and then tying it to your strategy measurement, recalibration, and continuous improvement.

- Make the foundation visible thru information radiators and metrics

For internal use only

IPREO

Development and Automation Pillar

Development & Test Automation

- Pyramid-based Strategy: (Unit + Cucumber + Selenium)

- Continuous Integration

- Attack technical infrastructure in the Backlog

- Visual Feedback – Dashboards

- Actively practice ATDD and BDD

A central part of agile adoption is focusing on CI, 3-tiered Automation development, and Dashboards to begin incrementally building coverage for faster feedback on changes.

100% automation is NOT the Goal!

In the interim, Hardening or Stabilization Sprints and having a risk-based Release Train concept help

It's important that Test or QA not 'own' the tooling or all of the automation efforts. The strategy can come from QA, but the tactical automation development is best left to the team.

Mature teams invest in Automation, Tooling, and Technical Debt reduction as part of Done-ness and continually add it to their backlogs

IPREO

Software Testing Pillar

Software Testing

- Risk-based testing: Functional & Non-Functional

- Test planning @ Release & Sprint levels

- Exploratory Testing

- Standards – checklists, templates, repositories

- Balance across manual, exploratory & automation

Exploratory Testing (SBET with pairing) can be an incredibly effective way to establish a whole-team, collaborative view towards quality and testing. It also emerges new tests.

Leverage 'plans' as a whole-team collaboration-conversation mechanism; at Sprint and Release levels.

Do not measure testing or tester progress; instead, measure throughput, output, sprint outcomes, and done-ness escapes at a team level.

You need a balanced test team; not everyone needs to be able to program. But everyone needs to be passionately skilled testers with curiosity.

Agile testing is a Risk-Based play in every Sprint and across a release sequence.

IPREO

Cross-Functional Team Pillar

Cross-Functional Team Practices

- Team-based Pairing

- Stop-the-Line Mindset

- Code Reviews & Standards

- Active Done-Ness

- Aggressive Refactoring of Technical Debt

- User Stories – 3 Amigo based Conversations

One of the hardest areas to get 'right' culturally. It needs leadership alignment from Quality/Testing to Product to Development and a consistent voice of whole-team approaches.

This is where LEAN Thinking lives, where whole-team collaboration happens, where professionalism and craftsmanship are held dear.
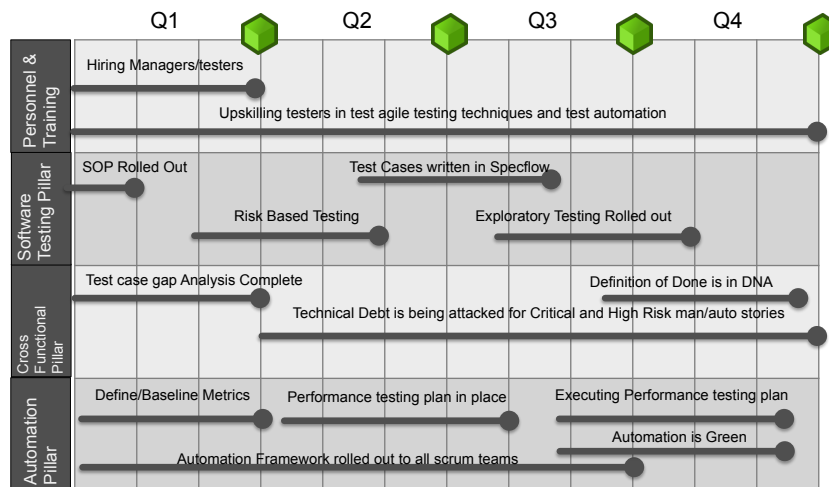
I like the view of testers becoming the VOC, champions of quality, and consistent questioners of what is being build. Are we solving the right problems…as simply as possible. Notions of Minimal Viable Product / Feature help with focus.

And yes Virginia, there ARE standards, templates, and a focus on x-team consistency!

For internal use only

IPREO

IPREO

2016 Roadmap

12

6

Roadmap

➔ **Transparency around areas where improvement is needed within QA, especially around areas of automation.**

➔ **It helps define what success looks like for the QA personnel for the year, and it helps define individual objectives around this.**

➔ **Defines the strategy discussed above.**

➔ **It actually makes you look like you know what you are doing.**

For internal use only

IPREO

Roadmap – Who inputs to them?

➔ **Your QA team(s) or Scrum team**
➔ **You as a leader (your experience, instincts, etc.)**
➔ **Your organizational directives**
➔ **Retro**

For internal use only

IPREO

Roadmap cont.

What are examples of what would be in a roadmap?
➔ **Build automation framework**
➔ **Automate X smoke test**
➔ **Automate X regression test**
➔ **Define/implement performance testing strategy**
➔ **Train/implement BDD**
➔ **Train/implement exploratory testing**
➔ **Write manual regression test cases for x**
➔ **Create QA Standard Operating Procedure document**
➔ **Migrate away from Quality Center/ALM and save the company $100k/year(BEST roadmap item ever)**

For internal use only

IPREO

I have one now what?

Challenges: Multiple backlogs

Single prioritized list

For internal use only

IPREO

I have one now what?

➔ **Once you have your roadmap, you need to work with your product owner organization to create stories, and get them prioritized and injected across your entire team's product backlogs. Make sure that you put all of your work in a "business context", explaining what it will do for "them" or the "customer".**

➔ **Another approach is to allocate a specific percentage of each backlog to this sort of work.**

➔ **If you do not have a global agreement of some kind, you have to allocate your work to the product backlogs on a situation-by-situation basis.**

For internal use only

IPREO

Roadmap for Sale

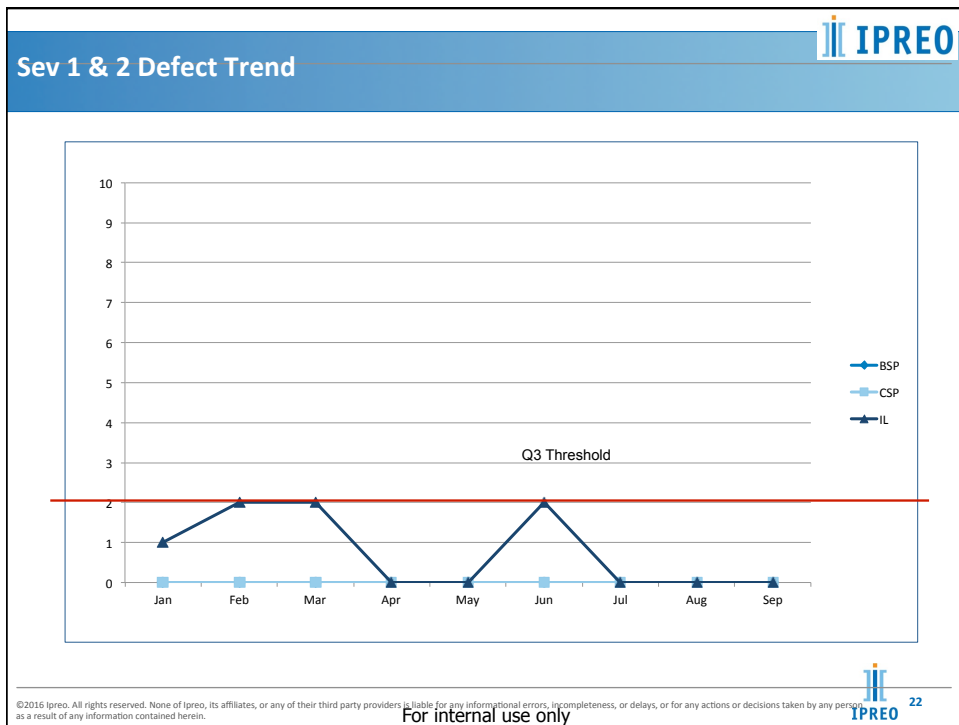For internal use only

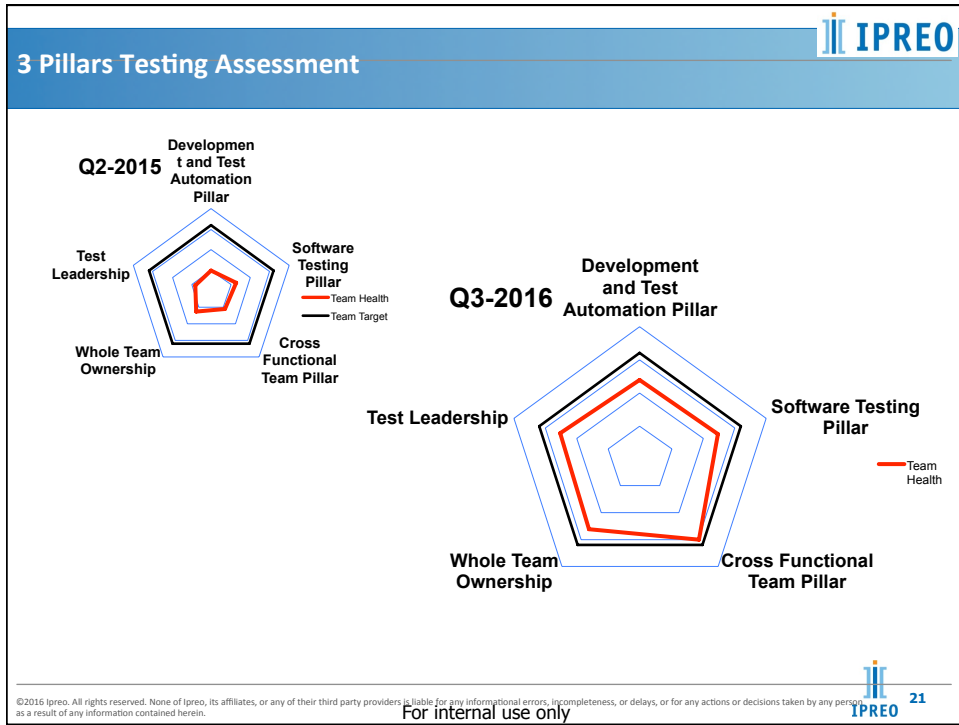**IPREO**

Strategy(eat your own dog food)
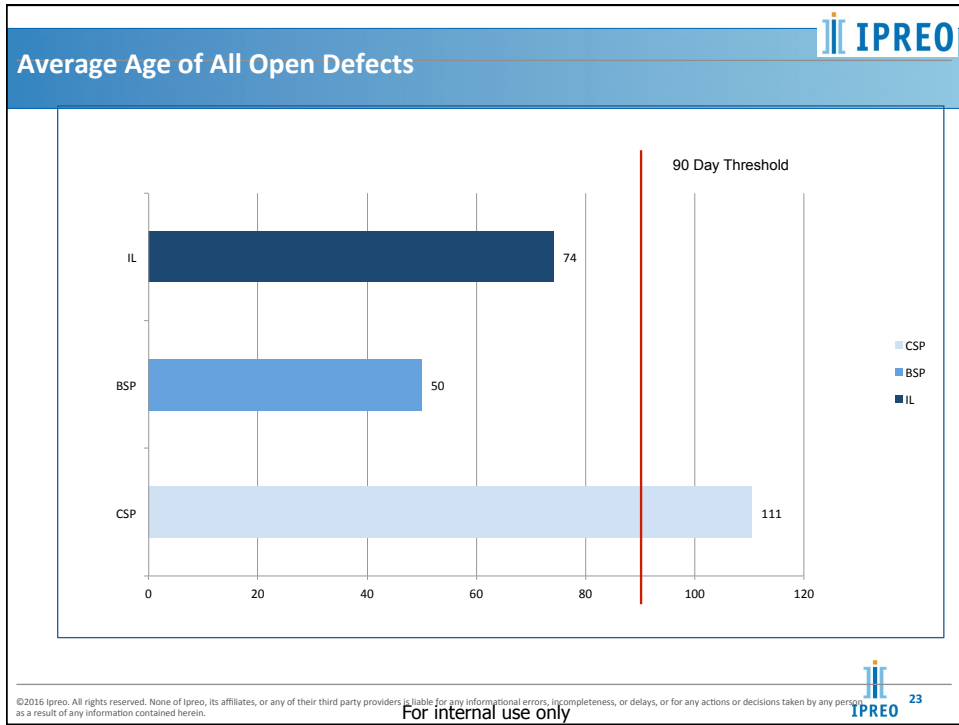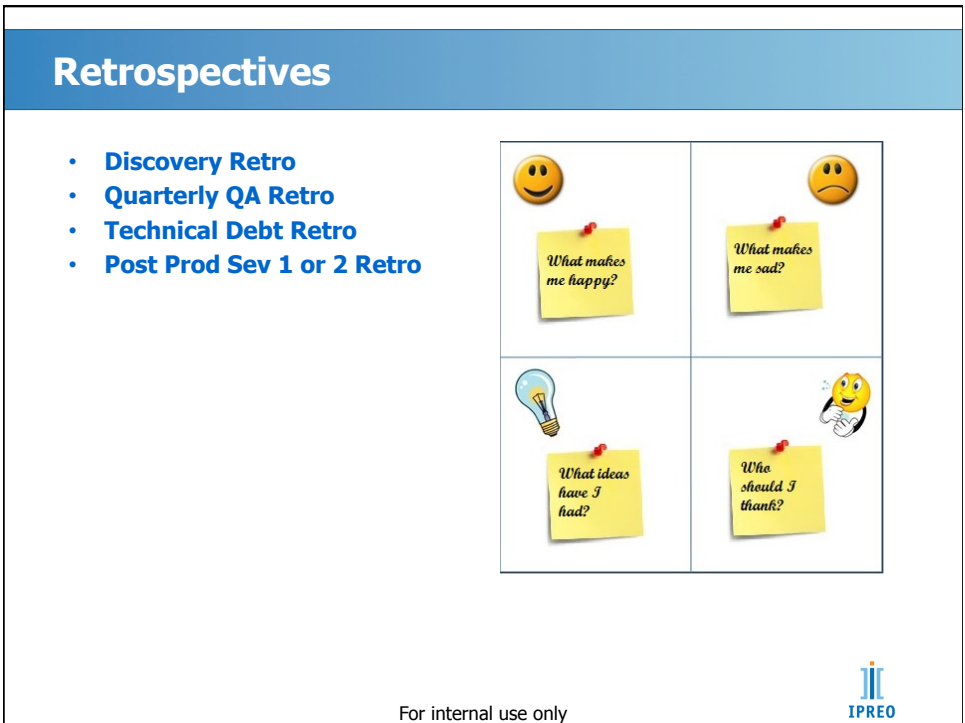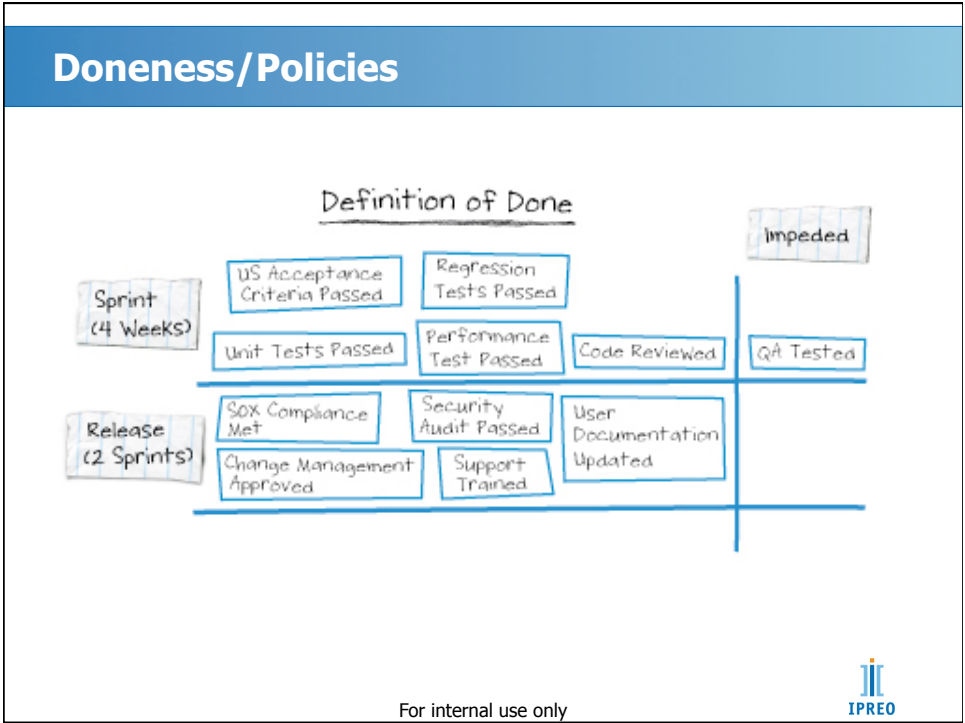

For internal use only

Cross Cutting Strategy

3 Pillars of Agile Quality

Development & Test Automation	Software Testing	Cross-Functional Team Practices
• **Pyramid-based Strategy:** (Unit + Cucumber + Selenium) • **Continuous Integration** • **Attack technical infrastructure in the Backlog** • **Visual Feedback – Dashboards** • **Actively practice ATDD and BDD**	• **Risk-based testing: Functional & Non-Functional** • **Test planning @ Release & Sprint levels** • **Exploratory Testing** • **Standards – checklists, templates, repositories** • **Balance across manual, exploratory & automation**	• **Team-based Pairing** • **Stop-the-Line Mindset** • **Code Reviews & Standards** • **Active Done-Ness** • **Aggressive Refactoring of Technical Debt** • **User Stories, "3 Amigo" based Conversations**

- **Whole Team Ownership of "Quality"**
- **Building it 'Right'; Building the 'Right' Thing**
- **Healthy – Agile Centric Metrics**
- **Center of Excellence or Community of Practice**
- **Strategic balance across 3 Pillars; Assessment, Recalibration, and Continuous Improvement**

For internal use only

3 Pillars Testing Assessment

For internal use only

21

Sev 1 & 2 Defect Trend

For internal use only

22

11

Average Age of All Open Defects

90 Day Threshold

IL — 74
BSP — 50
CSP — 111

Legend: CSP, BSP, IL

For internal use only

23

Automation Pyramid

Legend: Manual Test Cases, Automated UI Tests, Automated Integration Tests, Automated Unit Tests

	Q1	% Change	Direction	Q2	% Change	Direction	Q3	% Change	Direction	Q4	% Change	Direction
Manual Test Cases	1195	0%	–	1551	23%	↑	516	-201%	↓			
Automated UI Tests	247	0%	–	321	23%	↑	338	5%	↑			
Automated Integration Tests	252	0%	–	535	53%	↑	923	42%	↑			
Automated Unit Tests	1959	0%	–	1940	-1%	↓	3141	38%	↑			

For internal use only

24

Doneness/Policies

Retrospectives

- **Discovery Retro**
- **Quarterly QA Retro**
- **Technical Debt Retro**
- **Post Prod Sev 1 or 2 Retro**

Supporting and Protecting the Team

Relationship building

➔ **Project Management – Scrum Masters**
➔ **Architecture and Business Analysis**
➔ **Development**
➔ **Testing**
➔ **UX Design**
➔ **Product Owners**
➔ **DevOps or Technical**
➔ **Documentation**
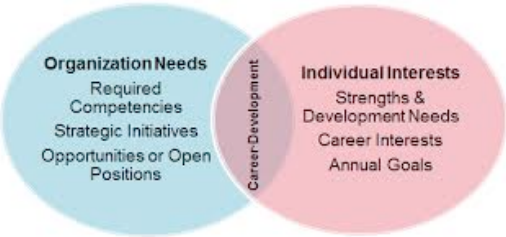➔ **Customer Facing Operational Team(s)**

Hiring

FIRST WHO
THEN WHAT

PEOPLE BEFORE STRATEGY
Get the right people first and
then set the right strategy

For internal use only

People Management

Organization Needs
Required Competencies
Strategic Initiatives
Opportunities or Open Positions

Career Development

Individual Interests
Strengths & Development Needs
Career Interests
Annual Goals

100+
WAYS TO
Recognize
&
Reward
YOUR SCHOOL STAFF

Emily E. Houck

For internal use only

Continuous Improvement

➔ **Trainings – All 3 Pillars**
  - Automation
  - Testing Practices
  - Team(IE Five Dysfunctions)
  - Agile
➔ **10% time**
➔ **Management and Leadership**

For internal use only

Wrapping it Up

For internal use only