

# Agile Dev Better Software DevOps **EAST**

A TECHWELL EVENT

## **AT9**

Agile Test & QA

11/17/2016 1:30:00 PM

# The Three Pillars Approach to an Agile Testing Strategy

Presented by:

**Bob Galen**

Velocity Partners

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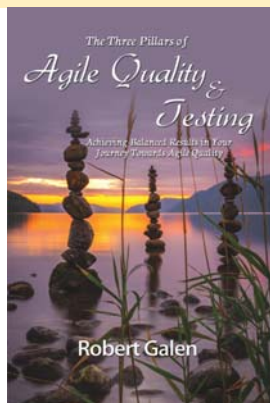
350 Corporate Way, Suite 400, Orange Park, FL 32073  
888-268-8770 · 904-278-0524 - [info@techwell.com](mailto:info@techwell.com) - <http://www.stareast.techwell.com/>

# **Bob Galen**

## **Velocity Partners**

An agile methodologist, practitioner, and coach based in Cary, NC, Bob Galen helps guide companies and their teams in their pragmatic adoption and organizational shift toward Scrum and other agile methodologies and practices. He is director of agile practices at Zenergy Technologies, a leading agile transformation company, and president and head coach at RGCG. Bob regularly speaks at international conferences and professional groups on topics related to software development, project management, software testing, and team leadership. He is a Certified Enterprise Coach, Certified Scrum Product Owner, and an active member of the Agile and Scrum Alliances. Bob authored *The Three Pillars of Agile Quality and Testing*, *Scrum Product Ownership*, and *Agile Reflections*. A prolific writer, blogger, and podcaster, Bob can be reached at [bob@rgalen.com](mailto:bob@rgalen.com) or at LinkedIn.

# The Three Pillars Approach to Your Agile Testing Strategy

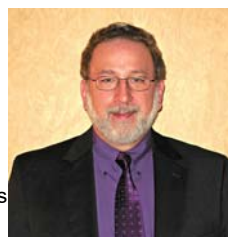


**Bob Galen**  
President & Principal Consultant  
RGCG, LLC  
[bob@rgalen.com](mailto:bob@rgalen.com)



## Introduction Bob Galen

- Independent Agile Coach (CEC) at [RGCG, LLC](http://RGCG.LLC)
- Director, Agile Practices at 
- Somewhere 'north' of 30 years overall experience ☺
- Wide variety of technical stacks and business domains
- Developer first, then Project Management / Leadership, then Testing
- Senior/Executive software development leadership for 20+ years
- Practicing formal agility since 2000
- XP, Lean, Scrum, and Kanban experience
- From Cary, North Carolina



**Bias Disclaimer:**  
**Agile is THE BEST Methodology**  
**for Software Development...**  
**However, NOT a Silver Bullet!**

## Agile Testing & Quality

### Let's explore your strategies?

- What are your current agile strategies towards:
    - Software testing?
    - And towards quality?
  - How are they “linked” together?
  - Anything missing? Challenges?
  - How does it “fit” with your overall agile strategy?
- 
- Get together in “pairs” and chat about this for 5-10 minutes.
  - Then we'll gather your results...



## 3-Pillars

### Genesis

- First of all, I've seen way too many teams who are just “testing” in agile teams without a map or a plan for improvement
- I've also seen that Agile Adoption is mostly a developer-centric or technology-centric play. They “drive” and testing is “along for the ride”.
  - Seatbelts please!
- And where's the focus on “Quality”?
  - And the how or practices & tactics

## 3-Pillars Genesis



- I've learned that **Balance** is important
- A sad tale of:
  - Thousands of ATDD testing; Gherkin run amok
  - All of them are working; continuously testing; increasing "coverage" and life is Good!
- BUT
  - These same teams couldn't write a cohesive User Story to save their life
  - So, where were the Acceptance Tests coming from?

## 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"
  - Knowing the Right Thing to Build; And Building it Right
    - Healthy – Agile Centric Metrics
  - Steering via: Center of Excellence or Community of Practice
- Strategic balance across 3 Pillars; Assessment, Recalibration, and Continuous Improvement

## 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

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## 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

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

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## 3-Pillars of Agile Quality

### 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.

## 3-Pillars of Agile Quality

### 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!

## Software Testing Strategies

- It ALL starts with empowering testers AND creating a Whole-Team view towards Quality
- Critical Early Steps:
  - Creating a sense of empowered Functional Team
  - Applying Testing Standards across all teams
  - Contribute to non-trivial Definition of Done
  - Deploying Exploratory Testing across all teams
  - Defining a core set of Agile KPI / metrics
  - ACTIVE participants in Sprint Planning & Backlog Refinement

## Cross-Functional Team Practices Strategies

- Training
  - Agile / Lean in general, Story writing, Acceptance, Unit testing, etc.
  - Teaming – for example: feedback or 5 Dysfunctions / Trust
- Critical Early Steps:
  - Coaches & Scrum Masters to reinforce: Pairing / Swarming; WIP Limits across teams
  - Define prescriptive and aggressive Done-Ness for ALL teams
  - Implement coding standards & code reviews (appropriate for technology stacks)
  - Release Planning BEFORE allowing a team to start Sprint #1
  - Backlogs have Bug + Refactoring + Automation targets (20%)?



## Organizational Quality Strategies - Tips

### Continuously communicate your unified Vision

- **Your strategy must be aligned/shared across:**
  - Development, Quality/Testing, and Product
- **Keep working your strategy across the pillars**
  - Don't get stuck with too narrow a focus (easy road)
- **Make your strategy visible (Information Radiators)**
  - Show progress (Ex: burn up of test automation coverage...across tiers)
- **Visualize organizational impediments to your Agile Quality strategies**
  - Attack them!
- **Quarterly read-outs on progress, plans and adjustments**
  - Listen to your teams; Celebrate successes!

## Key Goal of the 3-Pillars... What does “good” look like?

- Whole Team (ownership, accountability, respect, quality)
- Build the right thing...and build it right
- Definition of Done; Ready-ness
- Tackling Technical Test Debt
- Just Enough, Just in Time
- Continuous Improvement
- Commitment to Agility (even when the going is hard)
- Results – Value – Working Code
- Context-based Testing
- 3-Amigos (Team and Organizational levels)
- Feedback, Feedback, Feedback
- Balance

## Key Takeaway

### “Balance”

- ✓ Within each of the pillars
- ✓ Across the 3-pillars
- ✓ Across the foundational elements
- ✓ And across the organizational 3-Amigos



Leading towards a broad, incremental, organizational Quality and Testing Strategy. It's that simple...

## 3-Pillars of Agile Quality & Testing

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”

Knowing the Right Thing to Build; And Building it Right

Healthy – Agile Centric Metrics

Steering via: Center of Excellence or Community of Practice

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

## Let's do some planning...

- I've distributed 3-Pillars assessment worksheets.
- Either individually OR at your table/group, I'd like you to consider:
  1. Using the sheet, assess your current organization
  2. Consider gaps and cohesion
  3. Prioritize "next steps" in your continuous improvement journey;
  4. Come up with 3-4 specific items to focus on in the next quarter
- Be willing to share some of your strategies...

## Contact Info

**Bob Galen**  
Principal Consultant,  
RGalen Consulting Group, L.L.C.

***Experience-driven agile focused training,  
coaching & consulting***

Cell: (919) 272-0719

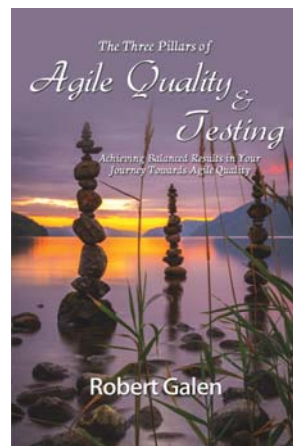
[bob@rgalen.com](mailto:bob@rgalen.com)    [www.rgalen.com](http://www.rgalen.com)  
[bgalen@velocitypartners.net](mailto:bgalen@velocitypartners.net)    [www.velocitypartners.net](http://www.velocitypartners.net)

### Blogs

Project Times - <http://www.projecttimes.com/robert-galen/>

BA Times - <http://www.batimes.com/robert-galen/>

Podcast on all things 'agile' - <http://www.meta-cast.com/>



## References

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- Assessment tool: <http://rgalen.com/s/3-Pillars-Testing-Assessment-v3-9o13.xls>
- Agile Test Automation Pyramid article: <http://rgalen.com/s/V-P-Blog-Agile-Testing-Automation-Pyramid.pdf>
- Blog posts further exploring the Pyramid:
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