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WELCOME TO SEASON 24!

- All-volunteer **non-profit** with no membership dues!

- Supported entirely by our sponsors…

- Over **1,400** members on LinkedIn, **945** Constant Contact

- More than **400** members have joined our Meetup Group

- Monthly meetings - Sept to June on 2nd Wed of month

- **SQGNE Web site: www.SQGNE.org**

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SQGNE Software Quality Group of New England

Officers / Hosts / Mission

Current Officers:

- John Pustaver – Founder
- Stan Wrobel– President
- Robin Goldsmith – Vice President
- Barbara Wioncek – Treasurer
- David Sullivan– Clerk

At-large Directors:

- Candace Murphy
- Mike Arnold
- Jim Turner

Our Gracious Host:

- Donna Arcand

Mission

- To promote use of engineering and management techniques that lead to delivery of high quality software

- To disseminate concepts and techniques related to software quality engineering and software engineering process

- To provide a forum for discussion of concepts and techniques related to software quality engineering and the software engineering process

- To provide networking opportunities for software quality professionals

SQGNE 2017-18 Schedule

Speaker	Affiliation	Date	Topic
Joe Zec	Shire Pharmaceuticals	2017 Sept 13	Paperless software quality - why kill the forest?
Andrew Pollner	ASTQB	Oct 11	Why Certification? Why Choose ISTQB?
Michael Durrant		Nov 8	Earn Big Dollar Payoffs by Assuring Usability and Accessibility Quality
Johanna Rothman	Rothman Consulting Group, Inc.	Dec 13	Testers and QA as Agile Leaders
Robin Goldsmith	Go Pro Management, Inc.	2018 Jan 10	Proactive Software Quality Assurance (SQA)™ Overcomes SQA's "Traffic Cop" Resistance
Bob Crews	Checkpoint Technologies	Feb 14	Test More, Test Faster, Test Continuously
Mike Sowers	TechWell/SQE Training	Mar 14	The New Normal for Quality and Testing in an Agile and DevOps World
Alexander von Zitzewitz	hello2morrow, Inc.	Apr 11	Revealing Invisible Technical and Architectural Debt Quality Attributes
Ed Lowry	Consultant	May 9	Reverse 45 Years of Obstacles to Language Related Simplification--the Biggest Opportunity to Improve Software Quality
Nikhil Kaul	SmartBear	June 13	SOAP Testing *Annual Election of Officers*

Tonight's Topic

Paperless Software Quality – why kill the forest?

Joseph Zec, Associate Director, Data Systems QA & Compliance, Shire Pharmaceuticals

Abstract: This case study looks at one organization's journey from a paper-based test execution system to a paperless one and how they overcame the challenges inherent in making the switch.

- Barriers to adopting paperless testing
- Planning the paperless program
- Communication
- Leveraging other efforts
- Training
- Implementation support
- Lessons learned

Attendees will come away with a practical approach to implementing a paperless software quality system and various tips and techniques for overcoming hurdles along the way.

Bio: Joe is currently Shire Pharmaceutical's Computer System Validation Lead, R&D. He and his team define and execute software development and validation strategy and policy, and monitor its effectiveness. He has over 30 years of experience in the software industry and is trained as a CMM Assessor. Most of his career has been spent in the areas of software testing and software quality assurance. He has worked in many industries, including financial services, semi-conductor test equipment, telecommunications, commercial meteorology, avionics, and medical devices. He has presented and chaired at numerous conferences, both domestically and internationally. Joe was three times named the Institute of Validation Technology's Speaker of the Year. He is also a contributing book reviewer for the *Software Quality Professional* publication of the American Society for Quality, and a contributing columnist for IVT's Journal of Validation Technology. A native of Massachusetts, Joe received his BA in Economics from Harvard University.

Software Quality Group of New England

Overcoming the Challenges of

Paperless Implementation

A Case Study

Joseph Zec
Technology QA and Compliance Lead
Shire
September 2017

Agenda

"The less there is to justify a traditional custom, the harder it is to get rid of it."

➢ Barriers to adopting paperless validation

➢ Designing the program

➢ Planning the program

➢ Implementing the program

➢ Supporting the program

too much paper!

Barriers to Adopting Paperless Validation

- "We've always done it this way!"
- "QA doesn't trust electronic test results."
- "We can't deal with more change right now."
- "We don't have the time or the money."
- "What's wrong with the current system?"

Overcoming the Barriers

- "We've always done it this way!"
  - "Without deviation, progress is not possible"
- "QA doesn't trust electronic test results."
  - QA trust data with demonstrable integrity
- "We can't deal with more change right now."
  - Change is always disruptive, but change for the better can't be bad
- "We don't have the time or the money."
  - You'd be surprised what you can accomplish with a small investment

Overcoming the Barriers

- "What's wrong with the current system?"
  - It's inefficient!
    - Collecting wet ink approval signatures globally
    - Relationships among data expressed manually
    - Organization-wide visibility is limited
    - Managing hand-written test results is cumbersome and error-prone
    - Limited search and retrieval
    - QA process flow manually enforced
    - Review process not always well-documented

Design for Paperless

- Guiding principle – start small
- Limited scope
  - Initial target was the company's paper-based software test execution system
  - Hand-written test results lead to issues
    - Global distribution and collection of paper
    - Corrections of hand-written entries
    - Illegible handwriting
    - Scanning paper into electronic format
    - Storage of paper

Design for Paperless

- Constraints on the program
  - No budget
  - Had to leverage existing tools
  - No dedicated resources
  - Had to "fit it in" around existing workload
- Began as a bottom-up initiative
  - "There's got to be a better way"

There's got to be a better way!

Design for Paperless

- Given the constraints, Excel was selected as the primary tool
  - Readily available
  - Little to no learning curve
  - Already used for test scripts in some areas
- Existing document management system also leveraged
  - Enterprise document storage solution
  - Electronic signature functionality

Design for Paperless

- Test scripts written in Excel
  - Test step #, Action, and Expected Results columns locked down and made read-only via password protection
  - Test script approved in the DMS
- Tester completes Actual Results, Pass/Fail status, initials and date in Excel
  - Executed test script entered into DMS
  - Test script approved in the DMS

Design for Paperless

- Automated executed test script approval
  - Tester signs to take accountability for test results
  - Technical reviewer signs to attest to the accuracy of test results
  - Quality reviewer signs to attest to the compliance of the testing activity
- DMS must associate roles with names
- DMS must provide meaning of signature

Plan for Paperless

- Need to plan for:
    - Procedure updates
    - Template development
    - DMS Configuration
    - Communication
    - Training
    - Roll-out
    - Support

Plan for Paperless

- Small core project team of 5
- Larger extended team of 20
- Informal documentation of plan
- Ad-hoc team meetings
- Identified deliverables
- Sketched out timeline
- Solicited leadership support

Implementing Paperless

- Completed development work
  - Updated procedures
  - Created Excel test script template
  - DMS needed no changes
  - Created training materials
    - Training slide deck
    - Live demo
    - Golden example

Implementing Paperless

- Chose a pilot project
- Communicated plans
- Sought agreement
- Performed training with project team
- Identified support individual
- Provided "hyper-care" on first attempts
- Provided early and prompt reviews
- Evaluated results of pilot

Implementing Paperless

- As a result of pilot, made some tweaks:
  - Procedures and template
  - Training materials
  - Training approach
- Communicated progress to extended team and leadership
- Received go-ahead for broader roll-out

Implementing Paperless

➢ Conducted train-the-trainer session with extended team

➢ Scaled up support infrastructure

➢ Went live across most of the organization

Training

- By the time full-scale training started:
  - Trainers and support personnel were highly knowledgeable
  - Most of the "bugs" had been worked out of the system
- Live demos were well-received
- Golden examples became useful job aids
- Most users already familiar with DMS review and approval process

24

Communication

- Stressed the benefits associated with the change:
  - Electronic review and approval
  - Global access
  - Enhanced visibility
  - Elimination of hardcopy and its storage
  - No more scanning!!!

Implementation Support

- Set up a group mailbox for support
- Published names and contact info in training materials
- Provided live support across time zones:
  - India
  - Europe
  - USA

Questions?