
**DECEMBER
2009**

What's Inside

**Dinner Meeting for
December 2009**

Quality Process Update

Scholarship Application

**Be sure to visit our section
website:
<http://www.asq0905.org>**

Section 0905 Mission Statement

The mission of Section 0905 is to develop and provide a strong organization for exchanging knowledge and ideas necessary for the growth and development of quality professionals in a manner that benefits the membership, business, and the Northeast Indiana Community.

Mailing Address:

**American Society for Quality
Northeastern Indiana Section 0905
P.O. Box 11887
Fort Wayne, Indiana 46861-1887**

The Histogram **N e w s l e t t e r**

December Meeting

December 10, 2009 (Thursday)

Tour the Auburn Cord Duesenberg Museum

Bring your Spouse/Significant Other

Arrival: 5:00 - 5:30 PM

Appetizers and Dessert: 5:30 - 6:30 PM

Tour: 6:30 PM

Cost: \$15/Person

Auburn Cord Duesenberg Museum

1600 Wayne St.

Auburn, IN 46706

For reservations contact James Smith :

james.e.smith@baesystems.com

Telephone: 260-434-5464

Have a

Merry Christmas

and a

Happy New Year

QUALITY PROCESS UPDATE

December 2009

WINDOWS 7 QUALITY ASSURANCE/TESTING: CHANGES FROM VISTA

Vista, billed as the largest project since the Hoover Dam, was the product that people shunned. Microsoft touted how they worked with applications firms to avoid incompatibilities and had scads of testers. Doubtless, the quality system was world-class, but the Service Packs rolled out just the same.

What lessons learned did Microsoft gain and apply to Windows 7? According to an automated testing company, compatibility is still a big issue. Between 60% and 80% of applications need some magnitude of tweaking. But, Microsoft and the world at-large are more comfortable using forums and discussion tools to ferret out issues. As of launch about 8-12% of the applications would run on Vista, but not Windows 7.

Reportedly, Microsoft has introduced several innovations to the quality assurance and quality testing processes for the roll out of Windows 7. Among them are the following:

- Test Process Assessment
- Model-Based Quality Testing
- Event-Flow Models

Test Process Assessment

Test Process Assessment is a structured evaluation of testing practices within the soft-

-ware developers. After the assessment, a quality assurance and testing SWOT analysis is drafted. An improvement plan issues from the Weaknesses and Threats segment of the data.

The data arise from assessors reviewing test plans, strategy plans, quality policies, test tools, etc. Individual case studies of recent projects are analyzed.

Test improvement models are not new. They date tom the 90's. There are at least ten different models in active consideration. The most prevalent are the Test Model Maturity (TMM) and the Test Process Improvement Model (TPI). Both have traditional quality elements. For example, TMM hoves to ISO methodology with 13 Key Process Areas (KPA's) such as assessing the maturity (1-5 anchored rating system) for Test Planning, Test Training, Software Quality Evaluation, Review Programs, Test Process Optimization, Quality Control, and Defect Prevention.

The more practical is TPI which uses checklists for its assessments. There are 20 KPA's and 13 levels of maturity. The extra KPA's include Test Environment, Office Environment, Testware Management, Metrics, Life-Cycle Model, and Static Test Techniques.

The results of the assessment yield a roadmap to change from the current state found by the assessment to a future state, partially derived from the metrics for achieving the next level of qualifications.

Model Based Testing

While Microsoft advanced an existing methodology in Test Process Assessment, it introduced a new methodology first published in 2005: Model Based Testing (MBT).

MBT revolves around the Protocol Quality Assurance Process (PQAP). PQAP is another version of Plan-Do-Check-Act:

- Strategy Study Phase
- Plan Phase
- Design Phase
- Final Phase

Like a stage-gate or phase-gate approach, the transition to the next step is a milestone review step. The cumulative output is the Protocol Quality Assurance Report (PQAR).

In PQAR, the Strategy Study Phase documents the proposed study, the test strategy, the initial requirements, and the estimates of efforts. These data feed the Plan Phase where the specifications are finalized, and a test plan is established for the architecture and possible scenarios of use/abuse (remember QPU's discussions of scenario planning).

The plan rolls out into a test designs (the experiments of a DOE), which are executed. These results provide the test logs and case code which are then reviewed for glitches and artifacts.

One aspect of the model-based test suite development process for creating the model and the tests is the "Adapters." Adapters address customer requirements not covered by the model. For example, there is encryption, low-level data types of checking and conversion, and security application protocol interfaces (APIs).

How does Microsoft know that MBT is better than traditional testing approaches? They don't. Microsoft is currently running double-blind studies to do the comparisons. Maybe the quality profession will hear the results over the next 2-3 years.

Event Flow Models

Event Flow Models are a method to consolidate specialized model-based solutions into one scalable model allowing automated testing of software.

An event flow model contains two parts: each event modeled is described in terms of a SIPOC

- preconditions (what is needed for the event to occur and when) (I)
- effects (what actually occurs) (O)

Developing by hand the event-flow graphs of the model can be tedious and error prone. Recent innovations include "semi-automatic" reverse-engineering software tools.

Ultimately, test cases are run against the event-flow graph to find instances where the properties of the application do not equal those that are expected. Fixes, well they're still a human job.

Models of the Human Body

Drugs require clinical trials to show that they work and do not particular harm. These take years and beaucoup bucks. Yet, the genomic revolution is showing that some future drugs may function only for people having certain genes. That means smaller populations, more time to find them, and more bucks.

Wired magazine had an article about a physician-computer software specialist who has developed a model of how the body reacts to some drugs associated with diabetes. The model is base on numerous simultaneous equations describing drug-metabolite- organ interactions. The model requires a small fraction of the time and no patients, i.e. less bucks. The initial accuracy against clinical trials is encouraging. Double-blind studies remain to tax the program, but modeling may solve the dilemma of "personalized medicine."

Are you ready to do Quality Assessments on Model-Based Testing? Healthcare is a rapidly growing field for Quality Professionals. Begin migrating today by following the subject to learn more.

NEXT MONTH: NEW NDT METHODS; ARE ALL TEAMS EQUALLY EFFECTIVE?

Advanced ASQ Membership

Leadership and professional achievement do not go unnoticed by ASQ. The Society offers advanced levels of membership—Senior and Fellow—for individual members who represent the upper echelon of the quality profession and serve as the backbone of the Society. ASQ Senior and Fellow membership rewards members with enhanced benefit selections.

Senior membership status may be awarded to those individuals who have been ASQ members in good standing and meet the following criteria:

Have been an individual member for one year

Have 10 years of professional experience. Up to 4 years may be satisfied by graduation from an accredited university.

Have qualified in one of the following ways:

1. Conducting quality-related engineering, inspection, or statistical work, or applying quality on the job for at least 2 years.
2. Teaching quality or related arts or sciences at an accredited institution for at least 2 years.
3. Being a Senior Member or comparable grade in an American Society for Association Executives' list of recognized organizations.
4. Currently holding an ASQ certification that requires recertification.

To apply for Senior membership status log-in with your membership number and password at <http://www.asq.org>, click on the Membership tab, scroll down to Senior, click on UPGRADE, and download the application.

Scholarship Time

It is scholarship time again! This year the Northeastern Indiana ASQ section 0905 will again be awarding scholarships to deserving students. These scholarships will be awarded on criteria including enrollment in a qualifying major, grade point average, financial need, extra curricular activities, and presentation of the application. Applications and official transcripts must be received by February 1, 2010. The scholarships will be awarded during the March 2010 meeting.

**ASQ SECTION 0905
SCHOLARSHIP APPLICATION
DEADLINE FOR SUBMITTING: (FEBRUARY 1 OF AWARD YEAR)
MAIL TO:
Milt Gallmeyer, SCHOLARSHIP CHAIRMAN
6548E 1000N
Ossian, IN 46777
Email: mgallmeyer@generalaluminum.com**

1. MEMBER'S NAME _____

	LAST	FIRST	MIDDLE
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 ADDRESS _____
 CITY _____ STATE _____ ZIP CODE _____
2. NUMBER OF YEARS OF ASQ MEMBERSHIP _____
3. STUDENT NAME _____

	LAST	FIRST	MIDDLE
--	------	-------	--------

 ADDRESS _____
 CITY _____ STATE _____ ZIP CODE _____
 EMAIL ADDRESS _____ TELEPHONE NUMBER _____
4. UNIVERSITY ATTENDING _____
5. CLASS STANDING CHECK ONE: ___ SO ___ JR ___ SR
6. NAME OF DEGREE PROGRAM _____
7. HOURS COMPLETED* _____ SCHOLASTIC AVERAGE _____
PLEASE ATTACH LATEST OFFICIAL COLLEGE TRANSCRIPT (REQUIRED)-2.70/4.0 MIN. REQ.
8. I WOULD LIKE TO RECEIVE THE SCHOLARSHIP BECAUSE (INDICATE NEED) _____

9. LIST ALL OTHER SCHOLARSHIPS AND AID YOU WILL RECEIVE FOR THE ACADEMIC YEAR

10. UNIVERSITY EXTRACURRICULAR/COMMUNITY ACTIVITIES (PLEASE LIST) _____

ELIGIBILITY for one annual \$800 renewable scholarship (Limit of three)

1. Must be sponsored by an active ASQ Section 0905 member in good standing, and have completed one academic year * prior to the applicable date and who will be a full time student (12 sem. hrs. or more) during award use.
2. Must be enrolled in a program leading to an Associate, or Bachelors degree in Engineering, Technology, Physical or Natural Sciences, Mathematics, Statistics, Business-Administration., Health Sciences, and Education at a recognized (ABET or equiv. accredited) college or university.

* (30 Sem. hrs. or 45 Qtr. hrs. minimum)

APPLICANT'S SIGNATURE _____

DATE _____

NOTE: Winner selection will be made at the February Board meeting.

NOTE: SCHOLARSHIP WILL BE AWARDED DURING THE REGULARLY SCHEDULED MARCH MEETING.

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ASQ
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