

Issue
20 **THE TESTER**
June 2007 Issue

NEXT CONFERENCE

**Wednesday
13 June 2007**

**Testing – a Risky
Business**

- Risk Management – A Testers View
- Testing Software for Accessibility
- Testing Hats
- Test Patterns
- The Six Hats of Software Testing
- Top Ten Tips to Improve Your Testing Process
- Overwhelm them With Estimates

IN THIS ISSUE:

FROM THE EDITOR

NEXT MEETING – PROGRAMME

BCS SIGIST – TESTING – A RISKY BUSINESS?

SIGIST ELECTION PROCESS

NOMINATIONS

ANNOUNCEMENTS

WE ALL HAVE A STORY TO TELL, AND I NEED TO HEAR YOURS

ABSTRACTS AND BIOGRAPHIES

ARTICLES



Please note that any views expressed in this Newsletter are not necessarily those of the BCS.

FROM THE EDITOR

It's AGM time again and this will take place during the morning of the conference on 13 June.

There are two important roles to fill, those of Programme Secretary and Secretary as Lloyd Roden and Julie Gardiner are both standing down from the respective roles. We are grateful to both for the time they have given whilst serving on the SIGiST committee.

You will find included here a reminder of the election process, so we hope that you will consider taking an active part in ensuring that the SIGiST continues to thrive in the future. The roles are voluntary, of course.

We have had a nomination of Mike Hendry for the role of Secretary. Mike is a regular attendee of SIGiST conferences and has an excellent background in testing. He has produced his manifesto which is included in this newsletter.

If you would like to discuss what is involved in either role then please contact either our Chairman Stuart Reid at s.c.reid@cranfield.ac.uk or our Vice-Chair geoff.thompson@experimentus.com

We look forward to welcoming new members to the committee - it is a good opportunity to bring new ideas to the table.

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Communications Secretary
Tel: 01483 881188 (Leysen Associates)
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BCS SIGIST website: www.SIGiST.org.uk

SIGIST Standards Working Party: www.testingstandards.co.uk

SIGIST UML Testers Forum: www.umltesters.org

Future SIGiST conference dates

19 September 2007

13 December 2007

BOOKING INSTRUCTIONS

1. Download a booking form from:
<http://www.SIGiST.org.uk/bookingForm.pdf>

FAX TO:

Phil Dyson
01793 417444

OR POST TO:

Phil Dyson
Specialist Groups Officer
First Floor, Block D
North Star House
North Star Avenue
Swindon
SN2 1FA

NEXT MEETING – PROGRAMME

BCS SIGIST – Testing – a Risky Business? Wednesday 13 June 2007 Royal College of Obstetricians and Gynaecologists 27 Sussex Place, Regent's Park, London NW1			
08:30	Coffee & Registration, Exhibition opens		
09:15	Introduction and Welcome <i>Stuart Reid, SIGIST Chairman</i>		
09:20	Featured Speaker Risk Management – A Tester's View <i>Tim Lister, Atlantic Systems Guild, Inc.</i>		
10:20	AGM		
10:30	SIGIST Best Presentation Award		
10:35	Networking session and commercial break		
10:50	Coffee & opportunity to visit the exhibition		
11:20	Testing Software for Accessibility <i>Sally Cain</i> <i>Royal National Institute of the Blind</i>	Featured Speaker Workshop: Workshop: Test Patterns <i>Tim Lister, Atlantic Systems Guild, Inc.</i>	Workshop: The 6 hats of Software Testing <i>Julian Harty,</i> <i>Google</i>
12:05	Testing Hats <i>Andrew Goslin,</i> <i>Marks and Spencer Plc</i>		
12:50	Lunch & opportunity to visit the exhibition		
14:00	ISEB/ISTQB Advanced Level explained <i>Brian Hambling & Geoff Thompson</i> <i>UK National Executive</i>	Workshop: Accessibility Testing <i>Sally Cain,</i> <i>Royal National Institute of the Blind</i>	Workshop: The 6 hats of Software Testing (continued) <i>Julian Harty,</i> <i>Google</i>
14:30	Top ten tips to improve your testing process <i>Declan Kavanagh</i> <i>Insight Testing Services</i>		
15:15	Tea & opportunity to visit the exhibition		
15:45	Tips for Testers <i>Peter Morgan, Nicemove Ltd</i>		
16:00	Featured Speaker Overwhelm Them With Estimates <i>Tim Lister, Atlantic Systems Guild, Inc.</i>		
17:00	Closing Remarks		

The SiGiST committee reserves the right to amend the programme if circumstances deem it necessary. Workshops will have limited places, to avoid disappointment try to book in advance.

SIGIST ELECTION PROCESS

Elections will normally take place at the SIGiST Annual General Meeting (AGM) in June. In extraordinary circumstances (e.g. early resignation) the SIGiST committee has the power to invite someone to take on any of the vacant roles until either the AGM or an Extraordinary Meeting when the role will be filled using the election process described here.

Elections are required in 2 sets of circumstances:-

1. Automatically after a SIGiST Committee member(s) has held a position for 3 years.
2. If a SIGiST committee member resigns before the completion of their 3 year tenure.

The basic process to be adopted for any election follows:-

Task	Timescales
When an election is to take place at an AGM the available positions (including a short job specification – 3 lines max.) should be announced prominently within 'The Tester' (normally in the edition advertising the AGM). Otherwise, for an Extraordinary Meeting, an email will be sent to all registered email addresses on the SIGiST database announcing the election(s).	Maximum 8 weeks prior to election.
Candidates must register their interest in standing for one of the positions with the SIGiST Secretary and provide an accompanying short manifesto (no more than a page of A4) describing what they expect to bring to the role. Anyone who has attended a SIGiST event in the previous 12 months may stand for any position (each application must be seconded by one other person who has attended a SIGiST event in the previous 12 months).	At least 4 weeks prior to the election (after this point no more applications will be accepted).
A list of applicants for each job is released to the whole SIGiST database via email together with their manifestoes.	3 to 4 weeks prior to election.
Eligible voters (anyone who has attended a SIGiST event in the previous 12 months) who cannot attend the meeting send in their proxy votes to the SIGiST Secretary.	At least one week prior to the AGM or Extraordinary Meeting.
Election takes place during AGM or Extraordinary meeting.	At the AGM or Extraordinary Meeting.

Rules
1. Each candidate may stand for as many positions as they want (and can vote for every position available), but may only hold one position. In the event that someone is elected to more than one role then they must immediately decide which one role they wish to take up and vacate the other positions. The second-placed candidates for the vacated positions are then elected to those roles.
2. All those that have attended a SIGiST event in the previous 12 months may be a candidate for any position.
3. Each candidate must create a short manifesto describing why they feel they are the right

person for the role and send it to the Secretary of the SIGiST when they register their interest in standing for that role.
4. A simple majority is required to be elected to a position.
5. Anyone who has attended a SIGiST event in the previous 12 months is eligible to vote.
6. Votes are allowed via email if someone eligible to vote cannot attend the AGM or Extraordinary meeting. Such proxy votes must be received by the Secretary of the SIGiST at least one week prior to the meeting.
7. The formal voting process will take place on the day of the meeting (a simple show of hands) plus any received proxy votes.

NOMINATIONS

Secretary role

Nomination – MIKE HENDRY

Mike's manifesto:

I have a number of reasons for wishing to become the Secretary for the BCS Specialist Group in Software Testing.

- I am passionate about testing and believe in testing as a professional discipline.
- I have a desire to improve testing and the service that it provides to all of its customers.
- I want to be more involved in the profession and start giving something back to the profession.
- I am an avid supporter of the BCS and SIGiST in particular and wish to help it fulfil its objectives.
- I want to continue to learn and develop in this discipline.
- I have been successful in promoting the importance of testing in all of the organisations that I have worked for and would continue to do this on a wider scale if a member of the committee.

What would I bring to the role? Well apart from my passion and desire I will bring the following:

- 15 years experience in IT of which 12 have been in testing and the other 3 in management either of development teams or projects.
- I have worked as a contractor and as a permanent employee, as a hands on tester, test manager and more recently as a senior manager heading up testing departments.
- I have always worked for commercial organisations and would provide a balance on the committee that is predominantly made up by people in consultancy, training or academia.
- I have a personal assistant who would help me fulfil my role at no cost to the BCS.

Programme Secretary role

Nomination – STEVE ALLOTT

Steve's manifesto:

I am a chartered information technology professional, specialising in software testing and quality assurance, with 25 years experience of major software development and testing projects at both UK and US financial institutions. I am currently working as an independent software testing specialist for a number of organisations in the banking, insurance and travel sectors. As executive director for IT Integrity International, a not for profit organisation, I'm helping to direct research in IT Security, Workforce Education, IT Governance and the software testing body of knowledge.

I was treasurer and then programme secretary for the SIGIST between 1996 and 1999 and helped design the group's first web site. I developed the technical programme and chaired the EuroSTAR conferences in 2000 (Copenhagen) and 2001 (Stockholm).

If elected as programme secretary for the SIGIST, I would try to build on the successful format developed to date, only introducing new speakers and ideas depending on the requirements of the membership. There are good stories to be heard throughout the UK and Europe and I have many connections through involvement in the European SIGs and conferences over the years so can promise a very varied and exciting programme in the years to come. Of course you need good processes and technology support in a typical software testing project, however my personal interests are firmly focused on helping the people involved in software testing to succeed within their own chosen discipline and organisation.

ANNOUNCEMENTS

SIGIST Library

Looking for a testing book but not sure which topics are covered? Or are you trying to decide which testing book to buy? Or do you simply want to increase your testing knowledge? If the answer to any of these questions is 'yes' then the SIGIST Library could help!

The SIGIST Library has lots of testing books covering a variety of topics and they are available to borrow for a period of 4 weeks - free of charge. Extended loans are allowed as long as the book has not been requested by another SIGIST member.

Topics include (amongst others) Requirements testing, Reviews/Inspections, Test Management, Techniques, Test Process Improvement

If you would like to know more about the library and books available, or for any queries, please contact Julie Gardiner on 07974 141436 or email her at gardinerjulie@yahoo.co.uk. Alternatively, download the book loan form on the SIGIST website www.SIGiST.org.uk. Happy Reading!

Please Complete our Survey

A request from Mike Holcombe, Chair in Computer Science in the Department of Computer Science, Sheffield University.

Our research, which aims to investigate the relationship between the level of professional skills and testing ability, is based on a questionnaire in which you will be asked to select the tests that are necessary when Category Partition and Branch Coverage are used. I would appreciate it if you complete this questionnaire as it is very important for our research.

You will find the questionnaire at:

<http://www.surveymonkey.com/s.asp?u=491633500982>

SPECIALIST GROUP FOR CHANGE, CONFIGURATION AND RELEASE MANAGEMENT

The 3rd Conference of the Specialist Group for Change, Configuration and Release Management of the British Computer Society (BCS CMSG) will be held 15 & 16 May, 2007, at the Oxford Belfry Hotel, Thame, Oxford.

This year our programme focuses on life-cycle management across the supply chain, and the vital role of configuration and change management in that process. Enforcing mandatory process steps, meeting auditing and compliance goals, ensuring proper approvals, communicating and managing change globally across distributed teams and supply chains - these are some of the biggest challenges that organisations face as they seek to deliver higher levels of quality for their services, systems and products. This includes requirements for implementing ITIL (BS15000/ISO20000) and CMMI.

There are presentations and workshops by practitioners and world leaders in the field, such as our keynote speaker Sharon Taylor, ITIL Refresh Chief Architect and Chief Examiner for ITIL v3. We also have excellent networking opportunities and a range of industry sponsors at the accompanying exhibition, making this is a great chance to find out the latest in this field.

For more information, including programme/timetable and registration options, please see:

www.bcs-cmsg.org.uk/conference/2007/index.shtml

The Financial Services Testing Group (FSTG) cordially invite you to attend the JWG-IT seminar

Tested and Ready for MiFID

to be held between 5.00-6.30pm on Thursday 10 May 2007 at 60 Cannon Street, London, EC4N 5BN

"It is critical that firms get their testing strategies and plans together early as the longer they wait, the more costly it will be downstream. Research suggests that the cost of MiFID IT implementation, in the UK alone, is set to surpass £1 billion, with typical UK investment banks spending upwards of £10 million," **PJ Di Giammarino, Founder and CEO of JWG-IT.**

MiFID will be enforced from 1 November 2007. Join other senior decision makers responsible for the implementation of MiFID and hear how your business can test its MiFID-readiness more effectively and with less risk now. Hear the collective insights of industry experts including **Intel, Oracle, JWG-IT and the Financial Services Testing Group.** Discuss your MiFID issues during the drinks and networking session to be held directly after the event.

During this seminar learn about:

- the implications of the MiFID legislation and its impact on IT infrastructure
- how technology leaders are collaborating in the development of IT reference architecture to support MiFID implementation, and
- how the FSTG member organisations are delivering the testing solutions.

Even though industry debate continues, it's now time to prepare for the implementation. We believe you will find this seminar vital. Whether you are a COO, CIO, Compliance Officer, Programme Manager or Test Manager, MiFID will have a big impact on your working life. **So this is an event you should not miss.**

Places are limited! Register now [<http://www.jwg-it.eu/fstg>](http://www.jwg-it.eu/fstg) **or email us at:** fstg@jwg-it.eu

WE ALL HAVE A STORY TO TELL, AND I NEED TO HEAR YOURS

If you have worked on a software project for more than 3 months, or have worked on more than one project, then you probably have a story to tell. In case it has escaped your notice, experience is one of the best teachers available. Whereas personal experience is a good tutor, we can all learn from the path others have taken. That's the reason to appeal for your story.

"Hold on", I hear you saying, "surely there are lots of people out there who can create a good PowerPoint presentation, and/or have written books on Testing". That is true, but you are a unique individual, and there is no-one who has trodden the same path. There are lots of really good talks at conferences, and articles on software testing on the web, but we all need to hear from coal-face workers, who have a story to tell, and a passion with which to tell it.

I call some of those who write and speak about testing 'the professionals'; they are regulars on the speaking circuit, and often work for a test consultancy, or for a training provider. These people have got significant things to say to us all, and we can all benefit enormously from their input. My debt of gratitude extends not just to those from the "Testing Hall of Fame", but to the people who have taken time to teach me from their experience over a lunch-time walk, or a chat around the coffee machine.

Along the testing career path, some of what I have done has worked well, and some things have been dreadful. If I have had a disaster, it has been painful. I would rather that the painful lessons are shared, to help others avoid the same pitfalls, and learn from my experience. My pain is lessened by your gain!

There are several things you can communicate in a presentation at SIGiST, or article in 'The Tester'. Although not always at the same time, I am looking to be:

1. Inspired
2. Encouraged
3. Provoked
4. Warned
5. Taught

I still remember a testing friend remarking how he deals with totally missing requirements: he writes what he sees as requirements, and plays them back to the business. Sometimes, he will deliberately indicate that a list is displayed on screen in post-code order, when this is totally inappropriate. The reaction he is looking for is to get the business to say that this is wrong, and indicate what the correct order should be. This from business representatives who previously had no time to define requirements!

I hope that this example indicates that a little snippet can have a massive personal impact on friends and colleagues in the larger testing community. Your story may be about how to turn the theory that you have heard into practice, to make a real difference. Some of 'the professionals' began their path to being a regular presenter by sharing their small story, and for them, the rest is history. I need to hear your story. For you, it might just be the beginning!

Peter Morgan

Peter Morgan is a freelance tester. He can be contacted by e-mail at morganp@supanet.com, and would be honoured to help you clarify your thoughts for wider distribution. However, he is no PowerPoint expert!

If you would like to present a paper at the SIGiST (for 20 or 40 minutes) please contact:

Pam Frederiksen pam@leysen.com

ABSTRACTS AND BIOGRAPHIES

Featured Speaker:

Tim Lister, Atlantic Systems Guild Inc.

Featured Presentation: Risk Management – A Tester’s View

All software projects are full of risk. It comes with value of the project, and is unavoidable. In this session Tim will discuss his view of software risk management, and then will focus the group on a discussion of the most common testing risks and what contingency and mitigation is possible.

Featured Presentation: Overwhelm Them With Estimates

We live in a world of finite funding and resources, and reasonable estimation can keep projects out of troubled waters. Most organizations are not very good at estimating, and as such, allow expectations to get a bit out of hand. Tim Lister will discuss an estimating strategy to help everyone stay realistic.

Workshop: Test Patterns

Six Guild members have been working on a book to come out later this year on Project Management Patterns. Tim Lister will describe some of the patterns that relate to testing, and will get the group to divide up to find patterns of their own.

Tim Lister

Tim Lister is a principal of the Atlantic Systems Guild, Inc., based in the New York office. He divides his time between consulting, teaching, and writing. Currently he is working on tailoring software development processes using software risk management techniques. He has been an invited speaker at the Agile Development Conference for each of the last three years. Tim was a guest lecturer on software risk management at the Stanford University School of Business, and gave the Dean’s Lecture at the Rochester Institute of Technology. He was a member of the Airlie Software Council, a group of industry consultants, advising the DoD on best practices for software development and acquisition, and is a member of the Cutter Business Technology Council.

Tim is co-author with Tom DeMarco of the text, *Waltzing With Bears: Managing Software Project Risk*, (Dorset House, 2003), which won the Jolt Award for best general computing text in 2003-2004. Tim and Tom are also co-authors of *Peopleware: Productive Projects and Teams*, 2nd ed. (Dorset House, 1999). *Peopleware* has been translated into ten languages. Tim Lister and Tom DeMarco are also co-editors of *Software State-of -the-Art: Selected Papers*, a collection of 31 of the best papers on software published in the 1980’s (Dorset House, 1990). The two partners have also produced a video entitled *Productive Teams*, also available through Dorset House.

Tim Lister has over 30 years of professional software development experience. Before the formation of the Atlantic Systems Guild, he worked at Yourdon Inc. from 1975 to 1983. At Yourdon he was an Executive Vice President and Fellow, in charge of all instructor/consultants, the technical content of all courses, and the quality of all consultations.

Tim Lister lives in Manhattan. He holds an A.B. from Brown University, and is a member of the I.E.E.E. and the A.C.M. He also serves as a panelist for the American Arbitration Association, arbitrating disputes involving software and software services, and has served as an expert witness in litigation proceedings involving software problems.



Sally Cain, Royal National Institute for the Blind

Presentation: Testing Software for Accessibility

"Accessibility - isn't that a legal requirement for websites?"

"I've heard colleagues talking about it, but surely usability is more important than accessibility?"

"I don't think disabled people are going to use this software, anyway."

In fact, lots of disabled people use computers, even people whom you might at first assume could not possibly use one. And unless you're testing systems for pilots or surgeons, people with physical and sensory impairments will need to be able to use your software effectively.

This presentation will give you an insight into the relationship between accessibility and usability for disabled people. We will review the different accessibility standards, and see some real world accessibility testing. You will also have the chance to experience access technology in action, and then you can start doing your own testing in a follow-up workshop.

Workshop: Accessibility Testing Workshop

Here's your chance to get some hands-on experience of testing software for accessibility. This workshop will get you started on basic testing, and send you on your way with plenty of guidance about how to find out more. In this workshop you'll see what the main barriers are for someone with a disability trying to use software applications. Then, with nothing more than a laptop running Windows, you can have a go at accessibility testing for real. We'll use some of the rudimentary tools that are built into MS Windows to test the MS Address Book, and find some of the accessibility flaws in Microsoft's programming.

No prior knowledge or experience required. Bring a laptop with MS Windows.

Sally Cain

Sally Cain has been with the Royal National Institute of the Blind (RNIB) since 1999, working in the area of technology and sight loss.

Initially Sally wrote and compiled resources around technology and sight loss, and was the creator of the Technology area of the RNIB website. For several years, she organised the management of Techshare, RNIB's international technology conference. In more recent times, Sally has been working in the area of software accessibility, undertaking testing and working with developers to improve the accessibility of their products. This has included projects for the procurement of internal systems within RNIB, and also external consultancy.

Sally's publications include an RNIB booklet 'See to IT at work: a practical handbook for employers' and the RNIB book 'Accessing Technology: using technology to support the learning and employment opportunities for visually impaired users'. As well as having written many articles in the specialist press, Sally is also the Editor for the monthly technology column in the popular RNIB magazine 'NB'.

Julian Harty, Google

Workshop: Six hats of software testing

Software still has bugs, lots of them, and even though software testing is now recognized as one way to help identify bugs, the testing is seldom satisfactory for anyone involved in the process. This interactive workshop provides fresh ideas and techniques to help improve the effectiveness and efficiency of software testing by combining some of the best ideas from both inside and outside the testing industry.



The six hats are:

- Green: Explore, be creative in searching for bugs
- Yellow: Risk-based testing, be positive, what's the risk of releasing the software NOW. If the risks are too great, focus the testing on finding and mitigating risks.
- Blue Management overview with a QA focus, software development as a 'factory routine'
- Black Cautious, judgemental. The quality school: process oriented, policing the developers
- White Analytical, scientific, e.g. white-box testing
- Red Passionate, committed: Putting testing first e.g. Test-driven development (TDD) and test-first development (TFD) where development doesn't start until tests have been written

The material includes examples from within Google and from elsewhere in the industry.

Notes: the concept of 'six thinking hats for testing software' draws on:

- Material and ideas from Edward de Bono, who coined the idea of 'lateral thinking' and 'six thinking hats' used throughout the business world.
- Work by Bret Pettichord on the four schools of software testing
- Discussions, ideas, and debates with some of the leaders and visionaries in software testing.

Andrew Goslin, Marks and Spencer

Presentation: Testing Hats

Even although software testing is now recognised as one way to help identify faults, testing is seldom satisfactory for anyone involved in the process. Yet, we are told that test teams will be faced with ever greater challenges: new technologies; increasing complexity and integration; tougher deadlines, with ever shorter concept to market cycles. How will we as test professionals cope?

Are you comfortable in your role? If so, that's great! But are you complacent, too? Are you aware of the constant changes around you? Changes in your office? Changes in the testing and IT industry? Are you ready for change?



How can we become more effective? How can we maximise the potential of our teams? What motivates us and our teams? Why are some people so passionate about testing? How can we inspire and motivate others?

This inspirational talk draws on ideas from within the testing industry and outside it. There are many facets to testing. We will look at how easily we condition ourselves mentally and challenges which we might face in trying to introduce ourselves and others to new ideas. This presentation will explore ideas from Edward de Bono's "Six Thinking Hats", from Spencer Johnson's "Who moved my cheese?" and from visionaries within the testing industry. Ideas that will be presented are drawn from personal experiences, from various branches of psychology and organisational psychology, theories about learning and learning styles, and include a variety of analogies.

Come and gain fresh perspectives on testing and on your view of yourself. You will be challenged and inspired. You can make a difference. You can choose to make a difference. Let your passion inspire you.

If you take away just one seed of an idea from this talk and you nurture it and let it grow, indeed flourish, then your participation will have been worth it.

Andrew Goslin

Andrew Goslin is a programme test manager at Marks & Spencer. The role encompasses testing on key programmes. He has also been responsible for test strategy, methods and standards; ensuring that test practices are integrated with project delivery processes and exploiting test tools to meet current and future business objectives. He has over 15 years IT experience in various roles and has worked in Retail and Financial Services industries. He holds a BSc in Computer Science, is a certified ISEB Test Practitioner and is a trained CMMi Assessor. He is active in promoting professional testing, speaking regularly at conferences, working with ISEB and the TMMi Foundation.

Declan Kavanagh, Managing Director, Insight Test Services

Presentation: Top ten tips to improve your testing process

Based on assessing and supporting improvements in the test processes of many organizations, Insight has compiled a 'top 10' of recommendations that are frequently identified as 'quick wins'. These are practical suggestions that are typically low cost but high benefit in terms of solving problems with the testing process and helping to achieve improvement goals such as improved test effectiveness, reduced test execution time, etc.. Many of these principles and approaches are embedded in industry standards/models such as TPI and TMM(i) but this presentation will provide a practical view on their use with examples.



Declan Kavanagh

Declan has 28 years experience in IT , he held hardware test engineering, test/quality management positions up to CEO level in US multinationals and SME's. He has set up Software Development and Software Test business units providing services across Europe and the USA. He founded Insight Test Services in 2003.

ARTICLES

Integrated Testing

By Sarah Saltzman, ADM Solutions Manager, Compuware

It's over 50 years since the first applications were developed, yet the problem of software quality still continues to plague the industry. Week in week out we continue to hear stories of applications failing or new software being ridden with bugs. It's not simply just an IT problem any more; software failure has resulted in millions of pounds being wiped off the balance sheets of major organisations across the globe. The National Institute for Standards and Technology has stated that the cost of poor software quality to the US economy alone is £40billion annually.

Although the impact of poor software quality continues to leave business leaders up in arms, it's a problem that has not been addressed at its core, with testing still perceived as a discrete function – undertaken as a separate phase after code has been developed. At one time, IT had the luxury of focusing on building the best applications possible, often without severe time-frame limitations. However, budget constraints and highly competitive markets have resulted in increasing pressure to develop and deliver applications as quickly and cost-effectively as possible, leaving little margin for error. The same factors that make extending testing time impossible also mean the business cannot afford to implement unreliable or untested applications. A compromise must be found that helps businesses ensure the quality of their applications without extending timelines.

What needs to happen is that quality needs to be inherent throughout the entire application development process, so that it is considered and prioritised by the development team from the initial specification onwards. In traditional development models, application testing is a distinct phase that does not start until after development is completed. Changing this approach to adopt application testing as soon as development starts results in continuous test cycles that enable developers to isolate application problems as they are introduced and take corrective action immediately, rather than passing them over the wall to testing, where it may take several cycles to detect the error. By employing a method of Continuous Integrated Testing (CIT), developers can check the quality of their code as it is being developed. Far from increasing the time taken to deliver new applications, this can actually reduce the time needed for systems-testing after development has been completed. Identifying issues with specific sections of code as soon as they arise means they can be addressed straight away.

By testing code as it is written, developers can ensure the code they pass to the quality assurance team is of a certain standard. This has not previously been a big priority for developers as they have traditionally been rewarded only for delivering the right quantity of code on time and on (or under) budget. Organisations need to ask themselves whether rewarding developers based on quantity rather than quality is really the right approach. Surely, the software quality conundrum could be addressed in part if developers were rewarded or assessed based on the quality of the code they produce.

Recognising the importance of providing code that has been tested for a basic level of functionality and quality requires a cultural shift, most notably for developers, but also for testers and business managers who must encourage development teams to make the change. Developers and testers have traditionally had little in common, sitting on two very different sides of the fence, and so development teams have had little empathy with the role of the tester. As such, one approach to encouraging this cultural shift is to get the two to work more closely together by placing testers in the development team to help them run continuous testing cycles throughout the development process. By taking this approach developers will benefit from the wealth of knowledge and experience testers have; likewise testers will understand the many challenges faced by software developers.

As with any cultural change though, much of the impetus must come from the top, otherwise software quality will continue to be a problem for the next 50 years. Developers and testers need to see that quality, not just cost, is a big priority for the company. Business managers can demonstrate this by introducing rewards for the quality of code, not just delivering code on time. In addition, managers cannot expect developers and testers to automatically embrace the change, and understand the role of the other. Few testers or developers have any great knowledge of the way the other works, and most developers will have attended courses that barely touched on the subject of testing. As such, managers must recognise the need for education – giving developers and testers an insight into the

role and working practices of the other. Finally, managers must make sure staff are provided with the relevant tools to objectively assess the quality of an application.

Another important change needed to encourage developers to prioritise quality is the introduction of quality gates, or some kind of service level agreement (SLA). A quality gate is a process through which a deliverable must pass before it is accepted by developers as ready for systems testing. Developers need to assess the code they are delivering against quality targets to see if it can pass through the quality gate. If it does not meet the quality targets then the developer needs to take it back for further work, otherwise it can be passed on for systems testing. By implementing this kind of system, businesses are putting in place a formalised process for ensuring the quality of applications, and giving developers the message that they must deliver code written and tested to a basic, pre-agreed standard.

Essentially we are talking about a continuous approach to quality; rather than quality being an afterthought it needs to be a forethought. Quality needs to be written into requirements, and development teams must be given the tools, skills or resources to ensure that testing is integrated into what they do. This isn't something that can happen overnight, but with sponsorship and commitment from the top of the organisation, and changes to the way developers are rewarded, businesses should be able to finally get a handle on the software quality problem.

Gonzo QA III: Fear and loathing after dark

By Martin Cunningham

During the day stuff happens and I deal with it, but when the sun goes down and the shadows lengthen, doubt sets in. Andy Grove said only the paranoid survive. What did he mean by that? Should I read his book? What if I don't?ⁱ Certainly it always worries me to have nothing to worry about. What have I overlooked? What disaster should I be preparing for rather than complacently sitting here watching a Norwegian ski down the up escalators at Angel on YouTubeⁱⁱ? Getting fired, obviously. As Head of QA, it isn't enough for my group to be more or less fully utilised testing stuff for the next quarter. I must plan for what needs to happen next! I need to lead from the front and do some real work! I need to check it's all happening according to plan and take corrective action accordingly! I got that from Deming and he got it from Shewhart and they both seemed to know what they were talking about, so it's good enough for meⁱⁱⁱ.

The economist in my head tells me that I'll get fired and my department will close for ever if I over-price my services (i.e. don't add enough value to justify the cost) or sell services that nobody wants to buy at any price. One defence against the dark might be to develop an extended marketing mix for quality assurance, so with props to Philip Kotler et al, let's have a go at that^{iv}.

Product. Mine is a service department offering pre-sales input into new business pitches, post-sales pre-production services such as testing CD-ROMs before duplication and post-sales post-production services such as monthly web site audits. When MRM was very young, the specification of these services used to fluctuate wildly as we fought to define and agree what we did. Things have calmed down in the past few years, thanks to the continued existence of a company engagement methodology and our gradual take up of external best practice such as PRINCE2, the W3C web accessibility initiative, ISEB software testing certification and various ISO, IEEE and BS standards in what can best be described as a great big MRM mashup. The QA Department at MRM is pragmatic and not only includes quality assurance and testing services but content management system training and bulk-email systems management too. I guess you have to be there.

Price. The price of QA services is basically the number of hours I quote in the project scope multiplied by the charge-out rate. Since the charge-out rate is fixed on an annual basis at the company level, I can vary the price only by varying the hours. I have learned that if I under-estimate in the paid-for, pre-production development and testing phases, we end up incurring a whole lot of unpaid-for costs in the post-production support phase, fixing issues I really should have found and had fixed earlier; total cost of ownership works both ways, you know. The price of my services to MRM is my salary multiplied by a constant which varies little from year to year. It is therefore quite easy to work out whether or not MRM is making any money on me and my staff (and it had better be); agency life is transparent that way. The value of what I offer is not easy to quantify. However, I have not met a member of staff who does not want to deliver quality, nor a client who does not want to receive it (who is still a client) and my group has an excellent reputation for finding defects. There is no future in not doing it properly as long as we can agree on what properly is, how long it takes and how much it costs.

Place. Although MRM QA staff are available for face-to-face consultation in the office or at the client site, most work takes the form of written deliverables such as test plans or defect reports. This tends to push QA services into the shadows, so to remain in the light, constant promotion is a necessity.

Promotion. I constantly work to inform my colleagues what my group does both face-to-face, for example during new hire inductions, and via company-wide email announcements. I then need to persuade them to use the services on offer, usually via informal case studies with a strong bottom line, i.e. what *we* can do for *you*. Front-line staff enjoy having a group behind them making sure that what they have to deliver is up to the mark. I sustain interest via company-wide email updates. To maintain visibility, I also take an active interest in wider issues not necessarily related to quality assurance per se, e.g. intellectual property ownership and international data protection law. Although clients like the reassurance of an MRM QA facility, it does not win pitches. Promotion to clients is therefore achieved indirectly via our front-line staff. I could do more of this. I have discovered that I can promote what I like, e.g. automatic regression testing and accessible Flash sites, but my customers continue to demand more mundane things like Flash banners that click-through to the right target page and bulk-email sends that go to the right distribution list. I think I need to continue to offer both.

People. MRM is a service-organisation and what is a service organisation without people? Just a few desks, computers and discarded Yo! To Go sushi boxes^v. MRM QA staff and documents come into contact with customers from time to time. This touch point is tangible. Company deliverables that have been subject to QA processes come into contact with customers every day. This touch point is intangible only until something goes wrong and someone asks "hasn't this been QA'd?"

Process. Ah yes, my favourite. In my ideal world, my group is responsible only for verifying that everyone-else in the production cycle has defined their processes and is following them. Thus all groups successfully test their own deliverables and my group simply verify that it is so before retiring gracefully to the pub for the rest of the afternoon, or perhaps tending our allotments, or share portfolios, it doesn't matter which. I have some way to go in this area.

Physical evidence. The Wikipedia says this so well there is nothing I can add: "Unlike a product, a service cannot be experienced before it is delivered, which makes it intangible. This, therefore, means that potential customers could perceive greater risk when deciding whether or not to use a service. To reduce the feeling of risk, thus improving the chance for success, it is vital to offer potential customers the chance to see what a service would be like. This is done by providing physical evidence, such as case studies, or testimonials."^{vi} I have some way to go in this area.

It always worries me to have nothing to worry about. Looks like I have plenty to keep me up at night. I'll just watch a few minutes of cheese on Cheddarvision^{vii} and then it's time for bed.

Next episode: I've learned so much from my mistakes, I'm thinking of making a few more.

About the author



Martin Cunnington is Head of Quality Assurance at MRM Worldwide, a leading digital marketing agency servicing some of the world's bluest of blue chip companies. Martin joined MRM Worldwide (then Zentropy Partners) in 2000 from HP (then Compaq) after 10 years Marketing IT service in Munich (then München), Germany. A recently Chartered IT Professional, his influences include Grace Hopper, René Magritte, Gary Numan and Hunter S Thompson.

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