BCS SIGiST September 2016 Programme

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# Agenda September 2016

## Morning Plenary

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<th>Event</th>
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<tbody>
<tr>
<td>09:10</td>
<td>SIGiST AGM</td>
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<tr>
<td>09:25</td>
<td>Welcome by Stuart Reid, SIGiST</td>
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<tr>
<td>09:30</td>
<td>Keynote: Professor Mark Harman “Automated smart test design and its applications in software transplantation, improvement and android testing”</td>
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<tr>
<td>10:30</td>
<td>Networking Session – Jen Wheeler, Networking Secretary, SIGiST</td>
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<td>10:45</td>
<td>Coffee, Tea &amp; Refreshments</td>
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## Morning Track 1 presentations

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
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<tbody>
<tr>
<td>11:15</td>
<td>Chris Cooper Bland, Endava “Riding the wave – testing in the new world”</td>
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## Morning Track 2 workshop

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
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<tbody>
<tr>
<td>11:15</td>
<td>Mark Winteringham &amp; Dan Ashby “The Software Testing Clinic”</td>
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## Lunch

<table>
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<tr>
<th>Time</th>
<th>Event</th>
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<tbody>
<tr>
<td>13:00</td>
<td>Lunch in networking area</td>
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<tr>
<td>13:10</td>
<td>Videos or Vendor presentation in main room, plus</td>
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<tr>
<td>13:10</td>
<td>Birds of feather discussion sessions including Mark Harman on Android testing</td>
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## Afternoon Track 1 Presentations

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
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<tbody>
<tr>
<td>14:00</td>
<td>John Stinson “DevTestOps – Big Bang or Evolution?”</td>
</tr>
<tr>
<td>14:45</td>
<td>John Karn “An overview of conflict in Software Engineering teams”</td>
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## Afternoon Track 2 Workshop

<table>
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<th>Time</th>
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<tr>
<td>14:00</td>
<td>Derk-Jan de Grood, Valori “Subway mapping - Test Progress Reporting in Agile Context”</td>
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<table>
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<tr>
<td>15:30</td>
<td>Coffee, Tea &amp; Refreshments</td>
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<tr>
<td>16:00</td>
<td>Keynote: Derk Jan de Grood, Valori “Testing: it’s fundamental and it’s changing”</td>
</tr>
<tr>
<td>17:00</td>
<td>Closing words – Stuart Reid</td>
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Opening keynote

Automated smart test design and its applications in software transplantation, improvement and android testing by Professor Mark Harman

This talk will review the existing state-of-the-art and practice in automated smart test case design. It will outline exciting emerging technologies that automatically "transplant" and "genetically improve" software, guided by testing. Transplantation transfers code from one system, a donor, into another unrelated system, the host, thereby transferring functionality from donor to host. Genetic improvement automatically improves operational characteristics such as execution time, memory requirements, and energy consumption. We will see how transplantation and improvement can be guided by testing, offering breakthroughs in problems such as reuse, and the simultaneous satisfaction of multiple platforms, environments and stakeholders. The talk will conclude with recent results from a practical automated smart test design tool for Android, called Sapienz, which automatically achieves high coverage and fault revelation, while reducing the length of fault-revealing test sequences.

Three key learning points:

- We can automatically test android code
- We can automatically transplant functionality
- We can automatically improve existing systems

Mark Harman is professor of Software Engineering in the Department of Computer Science at University College London, where he directs the CREST centre and is Head of Software Systems Engineering. He is widely known for work on source code analysis, software testing, app store analysis and Search Based Software Engineering (SBSE), a field he co-founded and which has grown rapidly to include over 1,600 authors spread over more than 40 countries. The UCL CREST centre, which celebrates its 10th anniversary in 2016, is widely regarded as one of the world's leading research centres in software testing. Its research is used by many organisations including Daimler, Ericsson, GCHQ, Google, Huawei, Microsoft and Visa.

Mark Harman has given over 30 keynote talks with various different conferences, both industrial and academic, ranging from small workshops of about 40 or 50 people, to large international events of over 500 participants.

Mark Harman is widely regarded as a world leading expert on software testing scientific results and research state-of-the-art.
Morning track sessions

Riding the wave – testing in the new world by Chris Cooper-Bland, Endava

There has been a wave of new styles and patterns in architecture over the past few years, microservices, event driven, CQRS and responsive, to name a few. These have largely been produced to cope with variability and the unknown, from very high volume unpredictable usage on the internet to very fast release of functionality in a continuous delivery environment.

What do these new styles and patterns mean to how you test the application, is there a similar revolution in the testing world?

This session will describe these architectures, discuss the challenges they address and when they should be used. Then we will explore some of the approaches to testing them, using audience interaction, to try and define some of the corresponding sets of testing styles and patterns. The testing knowledge will come from the audience, so be prepared to contribute.

Three key points:

- Challenges of the digital world
- Description of modern Architecture styles
- Testing approaches in the new world

Chris looks after the Architecture discipline at Endava and also works for clients on enterprise and solution architecture assignments, primarily in the financial services sector. She has worked throughout the product life-cycle from systems programmer, through analysis and design to project management. Her technical interests include: architecture best practice and how this can be shared across the industry, how enterprise architecture can be useful for developers and how to capture and solve the problems posed by challenging quality attributes.
Test data seemed to be the poor relation of the testing artefact family. We had standards and guidance on test strategies, plans, conditions, cases and scripts, with much to consider regarding structure, sequence, level of detail, techniques, format etc. But then: “oh, and get some test data”. Neil will add his personal advice from his long experience on a variety of projects (standing and running, contrived v lifelike etc.), and summarise the apparent positions of agile (TDD, BDD etc) and Context-Driven testing on test data.

Then test data becomes even more interesting when we consider:
- testability of data structures e.g. data flows, entity relationships, entity life histories;
- object orientation;
- the data, information, knowledge & wisdom hierarchy; and
- information science e.g. entropy & evolution.

And test data is changing fast, driven by forces including:
- big data;
- cloud systems;
- internet of things.

Three key points:
1. Test data is (are?) more fundamental than you probably think.
2. Test data is more interesting than you probably think, especially if you take a broader interest in data, information etc. as a science.
3. Test data is changing!

Neil Thompson has worked as an IT hardware salesman, programmer, systems analyst, project manager (not much), maintainer of live systems, and currently information systems consultant. He has spoken occasionally at conferences since 1993, and after ten years with a “big 6/5/4 firm” has been independent since 1998. He still loves and values being part of an international community of software testers.
90 minute Parallel Morning Workshop

Software Testing Clinic by Dan Ashby and Mark Winteringham

The world of Software Testing can be confusing. There are many conflicting views about what testing is and there are so many different training events around. If you’re new to testing, what do you do? Do you learn how to code and write automation, do you learn about Agile, should you be writing test scripts, and what is exploratory testing? Add into this the time and cost of training and it can all be quite a headache for you!

But knowing your craft is important and we at Software Testing Clinic believe that for a Tester to be the best they can be they should have a place to draw from the wealth of experience and knowledge the software testing community has to offer.

That’s why the Software Testing Clinic offers a safe and open environment for people who are new to Testing to come along and ask questions, learn new skills, and get mentoring from experienced testers.

In our workshop at the SIGiST we will run a practical, hands-on, learning session for a small group of people new to testing. This enables you to return to the office the next day with enhanced skills. We’ll work with you in small, mentored groups, answering the questions you bring, and showing you how to improve your craft.

Three Key Points:
- Learn what testing is and what it isn’t
- What skills are needed to be a great tester
- An introduction to critical thinking skills

Originally from Glasgow, Dan is the Deputy Practice Head within Lab49’s Quality Practice in London. He’s been testing for over a decade, working on a wide variety of products from printer software/hardware/firmware, to web and mobile apps and sites of all different shapes and sizes.

Dan is passionate about context-driven testing and is currently focused on testing web-based software while coaching/training people in software testing and agile. Dan loves getting involved in the testing community and regularly speaks at conferences and meet-ups. He also blogs (danashby04.wordpress.com), is the co-host of the Testing in the Pub podcast series (testinginthepub.co.uk) and runs the Software Testing Clinic workshops within London (softwaretestingclinic.com). Follow Dan on twitter: @DanAshby04

Mark is a freelance technical tester, testing coach and international speaker, presenting workshops and talks on technical testing techniques. He has worked on award winning projects across a wide variety of technology sectors ranging from broadcast, digital, financial and public sector working with various web, mobile and desktop technologies. Mark is an expert in technical testing and test automation and is a passionate advocate of risk based automation and automation in testing practises which he regularly blogs about at mwtestconsultancy.co.uk he is also the co-founder of the Software Testing Clinic in London, a regular workshop for new and junior testers to receive free mentoring and lessons in software testing. Mark also has a keen interest in various technologies, developing new apps and Internet of thing devices regularly. You can get in touch with Mark on twitter: @2bittester
DevTestOps – Big Bang or Evolution? By John Stinson

The way software is being developed is changing significantly with the rise of DevOps. Build and deployment are increasingly automated, cloud usage is rising and the way metrics are being gathered is changing radically. John will discuss how testing and test automation are evolving, the speed of change and how we can adapt to thrive in this new world.

Three key points:

- DevOps approaches are revolutionising the software development lifecycle
- This creates new opportunities for testing and test automation
- How can we adapt as individuals to harness this change?

John Stinson has worked in Software Development and Testing for the past 30 years. He has worked in the finance sector since 1994. During this time he has seen huge change in technology and industry. He currently works as a software test automation architect in a major investment bank.
An overview of conflict in Software Engineering teams by John Karn

Software engineering is a team based activity; success is to a large extent dependent on how well team members interact and cooperate with one another. A major issue to contend with during team activities is conflict. The traditional view of conflict is that it is a serious threat to teams both in terms of the relationship between members and on performance. This presentation seeks to challenge this viewpoint and to present a more nuanced view of conflict in software engineering teams. Conflict is of a multi-faceted nature and is not necessarily destructive. This presentation will highlight that it is not conflict per se which is problematic, it is more the form and frequency which can have a bearing on the overall success of a project. Maybe if we accept conflict as fundamental we can change how we see it and use it a tool. There will be a brief discussion on how the methodology can have an impact on levels of conflict within teams with examples used from both industry and academia.

Three key points:

- Conflict is not necessarily an impediment to success
- There are different forms of conflict to consider
- The form and frequency of conflict has a bearing on whether the team is successful or not

John is currently working in the financial sector for Lloyds Bank as a UAT test lead and has previous financial services experience of working as a system tester at Barclays.

Before embarking upon a career in industry his background was spent primarily in academia, first as a PhD student and then as a post-doctoral researcher. His research focused on human factors of software engineering and one of the areas of interest was conflict in teams. He completed MPhil and PhD degrees at the University of Sheffield as part of the Verification and Testing research group working closely in collaboration with the Institute of Work Psychology.

He has presented work at Empirical Software Engineering conferences such as EASE (Empirical Assessment in Software Engineering) and ISESE (International Symposium on Empirical Software Engineering), as well as internally for research colleagues.

He has software testing experience in both industry and academia and knowledge of the theory and research carried out which focuses on conflict in teams.
Test progress reporting can be cumbersome. There is a complex story to be told, but it needs to be done in such a way that the business and project stakeholders get the message quickly and simply. Sequential planning techniques such as critical path analysis won’t work in agile, but stakeholders keep asking for an indication of the progress so far, the work that remains, the bottlenecks and dependencies. Within my current project we solved this problem by introducing a visual progress report, the subway map.

Subway map reports are derived from the London tube map and contain the following elements:

1) Stations: Activities are represented as a station; they have a description of the benefit for the stakeholder upon completion.
2) Date lines provide status information (the train is expected on time, or not)
3) Bridges: Where two or more lines merge, you can define have a quality gate. They provide extra control on the progress (and of course to celebrate success).

In this workshop I will help you make your own subway map and explore how it can be used for your project, program, etc. Within my organization it has been adopted quickly by various projects, due to its simplicity and clearness. Business finally understood testing.

Three key points:
- Stakeholders need to understand test progress but don’t have time for reading reports
- You can report test progress simply and visually on your project
- You can demonstrate progress to goals and quality gates easily

Derk-Jan de Grood works for Valori as senior test manager and agile coach. His drive is to improve the value of testing by sharing his knowledge and experience. He does this on the job, but also by means of training, presentations, workshops and publications. He is a serious game host and leads Agile simulation sessions with 450 participants. He is a regular speaker at conferences like Seoul Testing Conference, EXPO:QA, Freetest and the STAR conferences in Europe and America. He has written several successful books on software testing & agile and frequently publishes articles and columns for the major testing magazines. On his own blog he shares his knowledge and experience for everyone to benefit. In 2014 he won the EuroSTAR testing excellence award. In 2015 he published the eBook: Agile in the real world, starting with Scrum.
Closing keynote

Testing: It’s fundamental and it’s changing by Derk-Jan de Grood, Valori

With the fast adoption of agile the definition of testing and our test approach changes. When deploying daily, there is no room for manual testing and a test report.

It’s time to get back to our fundamentals. Why do we work the way we do, and what needs do organisations have?

In this Keynote, Derk-Jan de Grood will explore the fundamental assets of the test profession, so we can reshape or test approach and make it work in an Agile context.

Although the daily focus shifts from working in silo’s to collaboration, from execution to coaching, from preparing to doing, the test fundamentals remain in place.

In our search we will distinguish unchanged artefacts that we’ll create for a different reason and goals that remain unchanged but will only be achieved if we take a different route.

But bear in mind, not every project is done by using agile methods. Therefore we’ll also explore what concepts of agile testing can we use to improve our traditional projects.

By understanding what is changed and what not we can adopt our approach, guide our stakeholders and colleagues in order to align testing with the company goals.

Three key points:

- Both agile and traditional projects are changing – testing needs to align
- We still need some of the same test fundamentals – but perhaps for a different reason
- We still have some of the same test goals – but we’ need to achieve them in different ways.

Derk-Jan de Grood works for Valori as senior test manager and agile coach. His drive is to improve the value of testing by sharing his knowledge and experience. He does this on the job, but also by means of training, presentations, workshops and publications. He is a serious game host and leads Agile simulation sessions with 450 participants. He is a regular speaker at conference like Seoul Testing Conference, EXPO:QA, Freetest and the STAR conferences in Europe and America. He has written several successful books on software testing & agile and frequently publishes articles and columns for the major testing magazines. On his own blog he shares his knowledge and experience for everyone to benefit. In 2014 he won the EuroSTAR testing excellence award. In 2015 he published the eBook: Agile in the real world, starting with Scrum.