Better Data: Better Testing

1. The course

Testing consumes and produces large amounts of data. Data describes the initial conditions for a test, forms the input, is the medium through which the tester influences the software. Data is manipulated, extrapolated, summarised and referenced by the functionality under test, which finally spews forth yet more data to be checked against expectations. Data is a crucial part of most functional testing - but its importance can be missed in test planning, and is often only appreciated after things have started to go wrong. This course will help delegates improve their testing by improving their test data.

This is a one-day interactive tutorial, and delegates are encouraged to bring real-world examples and problems to the session.

Course Outline

Classification of data types into Environmental, Setup and Input Data - and how this helps.

Classification of data usage into logic flow, computational and display - and how this helps

Overview of data-driven functional test techniques (including exercises)

- Equivalence partitioning and boundary analysis
- Refining equivalence partitioning and boundary analysis with error guessing and combinations
- Combinatorial techniques and ways of reducing the number of tests
- CRUD (create, read, update, delete) tests
- Introduction to basic data flow testing
- Introduction to empirical testing
- Influence of dates on test data
- Functional testing and data corruption

Ways of improving Functional Testing by understanding the influence of data

- 'A System is Programmed by its Data'
- Good data can help testing stay on schedule
- Good data is vital to reliable test results

Typical problems caused by poor data (moderated discussion).

Organising and setting the scope of test data, using:

- Combinatorial techniques
- Partitions
- Clear labels

Advantages of good data; flexibility, reduced maintenance, clarity, fewer errors

Exercises to practice techniques

Sources and techniques for data load

Typical data maintenance issues - and some solutions

Data in User Acceptance Testing

Testing UAT setup data

Ways of using data to communicate with the business and help overall focus

Going to live operation from UAT

Data in non-functional testing;

Setting up data for load/stress testing and user profiles

Avoiding disk/database over-use during volume testing

Setting up data for usability testing

Conclusion

- Many test techniques need good data to succeed
- Poor data in non-functional testing can lead to misleading measurements
- Test setup data as you would test functionality
- Plan the data for maintenance and flexibility
- Know your data, and make its structure and content transparent
- Use the data to improve understanding throughout testing and the business

2. Benefits of attending

Delegates will be given practical advice that can be put to immediate use. At the end of the day, delegates will:

- Realise that test data can be a useful tool, not a hindrance
- Recognise characteristic problems, and effective solutions
- Understand a variety of methods to help organise data and to improve testing
- Understand ways that good data can help diagnosis, communication, and flexibility throughout the testing process
- Have hands-on experience of the methods taught in the course
- Have access to a wide range of web-based / test literature references.

3. Target audience

This tutorial will interest software test managers, test analysts and all those who influence and plan test processes. The ISEB Foundation Certificate is not a requirement, but delegates with 1-2 years experience or more will get most from this tutorial.

4. Short CV

James Lyndsay is an independent consultant with more than ten years experience. After working in analysis, coding and testing at IBM and in the City, he formed Workroom Productions in 1994 (http://www.workroom-productions.com/).

As a Test Strategist, he has spent the last seven years working with multinational corporations, long projects, and even the occasional web start-up. His business experience includes banking, telecommunications, utility billing, logistics, electronic publishing and retail, and he pays keen attention to the way that his clients focus is shifting away from functional testing.

James holds an MA (Physics!), has spoken at conferences in the US and Europe, and is an invited attendee of the WHET group (The Workshop in Heuristic and Exploratory Testing, run by James Bach and Cem Kaner). He's also a SIGiST member and holds an ISEB Foundation Certificate in Software Testing. James is a director of The Manual Ltd. (http://www.the-manual.org/), a not-for profit organisation to gather and publish basic skills.