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Improving the Test Process

How do you become an Agile tester?

by Sandra Güttig, Martin Großmann & Heiner Grottendieck

What brought us to CAT?

The independent Test and Integration Center (TIC) of T-Systems Multimedia Solutions GmbH (T Systems MMS) with its over 100 ISTQB-certified test experts and 25 security specialists works to ensure the quality and security of web applications. Our accreditation by the Deutsche Akkreditierungsstelle has made us an officially recognized software testing laboratory for the Internet and multimedia industry in Germany since 2003. In the past we have therefore mainly followed traditional software development procedures.

As our TIC performs some of the testing services for the software developing business units of T Systems MMS, we are regularly in-

spired from within our own company to explore the latest trends and technologies. Therefore we testers were also involved from the very start when coaching on Agile methods using Scrum first began in early 2009. Our human resources department organized a cross-business-unit coaching programme for two large projects and booked Jutta Eckstein, a recognized expert in Agile methods, to deliver it.

Numerous projects and programs have since been successfully completed within our company following the Agile method. Of course there were also difficulties and disappointments. These practical experiences allowed us to clearly recognize that things are very different when testing in Agile projects compared to

Day 1 Agile Methods and Process	Day 2 Planning	Day 3 Testing	Day 4 Teams	Day 5 Assessment
Introduction	Requirements & Specifications	Continuous Integration	Test Automation	Practical Assessment
Daily SCRUM	Iteration 0	Version Management	Non Functional Testing	Written Exam Revision
Problems with Traditional	Release Planning	Pairing	Debt Technical & Testing	Written Examination
Agile Manifesto & Principles	Task Board	Acceptance Criteria	TDD	
Agile Methods	Test Strategy	Regression Testing	Teams	
Agile Process Option	Estimation	Defect Management	Agile For Large Projects	
Roles	Iteration Planning	Testing Exercises	Summary Testing Exercises	
Intro to Agile Exercise	Burndown Charts	Sample Questions	Sample Questions	
Sample Questions	Sprint Practice Exercises	Sample Questions		
	Sample Questions			

Fig. 1: Training plan (source: http://www.agile-tester.org/syllabus.html)

following the ISTQB textbook. We therefore sought ways to specifically increase our Agile testing know-how. An initial step was taken in the spring of 2010 in the form of coaching provided by a consultant from Díaz & Hilterscheid (D&H) (project interviews and action recommendations), followed by a lecture for the entire TIC and a brief Scrum crash course. However, we were somehow still missing targeted instructions from the testing perspective.

Therefore the suggestion from our training partner D&H came at just the right time, and we participated in the preparation for the "Certified Agile Tester" (CAT) programme. The aim of the CAT programme is to close the gap between ISTQB and Agile development. In October 2010, a colleague from the management team took part in the first CAT pilot day in Berlin, which ran through day one of the CAT programme. It was clearly apparent that this was an ambitious programme with a large proportion of practical exercises. In January 2011, a tester from the TIC took part in a full pilot run in Potsdam. He gave us the green light for our first live training course. Together with D&H we prepared the internationally first training course and certification. From 28 February to 4 March 2011, ten testers from T Systems MMS in Dresden took the course with two lecturers from D&H.

Training procedure

As a pilot course, the "Certified Agile Tester" training course was held with its actual target group for the first time. Most participants were experienced testers who had previously worked with more traditional testing methods and otherwise had little or no experience in the Agile environment. Two colleagues who were already familiar with the Agile method rounded off the group.

The training plan is shown in Figure 1. The course and the accompanying exam are currently offered only in English. The fact that the lecturers taught in English acquainted us with the specific vocabulary, expressions and required terms, allowing us to better prepare for the written part of the examination.

As additional exam preparation we were given exercises every day which we could work through at home. The following day we jointly reviewed the solutions and discussed some of them extensively. This also gave us an indication of the type of questions we would have to deal with and an idea of what points were considered particularly important in developing a solution.

For many of us, a course held in a foreign language was a rather unusual way to learn and engage in discussion. However, we were also expressly invited to switch to German if we were un-

certain, so that the discussion would not be limited due solely to language constraints.

The course was taught by lecturers Werner Lieblang and Heiko Köppen of D&H. One lecturer was responsible for presenting the course content, the other for the practical exercises; they complemented each other very well.

The practical exercises allowed us to immediately apply what we had just discussed. For this purpose our group was divided into three teams which completed the respective exercises together.

Fig. 2: During the CAT exam

Planning iterations, that is, recurring procedures, and estimating required effort were practiced by constructing buildings and vehicles using building blocks. A second exercise focused on testing. We accompanied the virtual development of a web application through several iterations, planning and carrying out the necessary tests at each point. The objective was also to find discrepancies from the software specifications.

The aim of also familiarizing those participants with the Agile processes and methods who had previously worked only in traditional environments was fully met. Open questions were clarified in discussion sessions, so that by the end absolutely every participant had understood the Agile method of thinking. In future, however, more time should be set aside for this, as participants' prior knowledge varied very widely. This was in contrast to the rather extensive syllabus, which had to be worked through in four days and allowed little leeway.

Due to the course's pilot status certain aspects were not yet running entirely smoothly. Particularly the use of technology for an exercise proved more difficult than expected because the required software was not immediately available. The lecturers handled any difficulties that occurred very well and showed great dedication in ensuring the successful outcome of the course.

The examination

A distinctive feature of the Certified Agile Tester training course was the three-part assessment. Throughout the week we were observed in how we worked together in our teams and whether we were capable of taking responsibility for certain tasks ("soft skills assessment"). This section was evaluated by the two lecturers.

The examination day itself was divided into a practical and a theoretical section. The exam was administered by an employee of iSQI GmbH. First, the participants had to plan and execute a test over several iterations based on a web application. It was particularly important to document each step in order to make it possible to assess participants' performance.

The following theoretical section required us to answer questions in sometimes very extensive text. No multiple-choice questions were asked.

For many of us this type of examination was a new experience, which also gave rise to some insecurities beforehand. Having to answer the questions entirely in English also required a greater amount of time, which should not be underestimated.

The use of technology during an examination poses a certain risk, as specific factors such as problems with the application or the hardware cannot be influenced by the examinee and may therefore negatively affect the outcome. It must also be ensured beforehand that any required devices are available and suitable for carrying out the examination. For example, booting from external media such as USB sticks is often not permitted in corporate environments. Our colleagues at T Systems MMS were, however, able to unbureaucratically provide assistance by lending us brand new notebooks.

› biography

Sandra Güttig
holds a Diplom in Media Computer Science, is ISTQB- and CAT-certified, and has many years of experience as a software developer and tester in various traditional development projects. She had been working as a tester on an Agile project of T Systems MMS for over one and a half years and has come to value the advantages of Scrum. Her core responsibilities are in the field of test automation.

Martin Großmann
holds a Diplom in Business Informatics (BA), is ISTQB- and CAT-certified, and has been working as a test designer at T Systems MMS for several years. As a test automation specialist he has worked on several Agile projects and thus gained a lot of experience in this environment. In addition to project work he manages the development of the automation framework for the Test and Integration Center of T Systems MMS.

Heiner Grottendieck
holds a Diplom in Communications Engineering, is IREB/CPRE certified, and has been working in industry hardware and software development projects for 18 years. For four years he has been managing the Technical Test department of the T Systems MMS Test and Integration Center, where in addition to load and performance tests and application monitoring, test automation plays an important role in numerous customer projects. He has been working with Agile testing in this context since 2009.