

te testing experience

The Magazine for Professional Testers

printed in Germany

print version 8,00 €

free digital version

www.testingexperience.com

ISSN 1866-5705



Play the game, test the Game!

Quality, what does it mean?

by Erik van Veenendaal

Let me start by making clear that I'm not in the games corner. I do not have a game room where I spend evenings playing like some fathers do. My personal interests are very different. However, I have three children, a 3-year old, a 6-year old and a 9-year old. The latter two are boys and of course have their Nintendo-DS, which they love to play with. If it was up to them they would play for hours and hours.... We also have a Wii in our house, so we can play golf, baseball, table tennis, cycling etc. I must admit, I enjoy the occasional Wii games with my sons. We have bought expensive games, low-price games, games oriented towards younger children etc. One can clearly experience the difference in quality. Some games need rebooting more often, some are just easier to play (more user friendly), some have a better performance, some my sons just like (I sometimes do not have a clue why), etc. For these various reasons we have bought them as being interesting, good quality games (at least that is what we expected). So quality seems to imply different things, what do we mean when we speak of a quality product? This question gets even more interesting if we compare the game industry to other industries. Clearly a medical product has a higher level of quality than any game. And if so, what exactly do we mean or not mean by "a higher level of quality"?

Quality definitions

Before starting testing activities, e.g., defining the test strategy and test approach, there must be consensus about what quality really means in a specific business context. The objectives of the project in terms of quality must be clear. Otherwise what are we aiming for? Only then can wrong expectations, unclear promises and misunderstandings be avoided. Garvin showed that in practice generally five distinct definitions for quality can be recognized [Garvin]. I will describe these definitions briefly from the perspective of testing based on an earlier publication [Trienekens and Van Veenendaal].

The product based definition

Quality is based on a well-defined set of software quality attributes. These attributes must be measured in an objective and quantitative way. Differences in the quality of products of the same type can be traced back to the way the specific attributes, e.g., reliability, performance, maintainability, have been implemented. This is highly related to what is often called non-functional testing. Discuss with stakeholders which attributes are of importance and need to be tested. Often the mere existence of the attributes makes the difference.

The user based definition

Quality is fitness for use. This definition says that software quality should be determined by the user(s) of a product in a specific business situation. Different business characteristics require different "qualities" of a software product. Quality can have many subjective aspects and cannot be determined on the basis of only quantitative and mathematical metrics. This is related to the validation process. It is related to testing with use cases, end-users, beta testing etc.

The manufacturing based definition

This definition points to the manufacturing, i.e. the specification, design and construction, processes of software products. Quality depends on the extent to which requirements have been implemented in a software product in conformance with the original requirements. Quality is based on inspection, using formal test design techniques and (statistical) analysis of defects and failures in (intermediate) products. In this definition testing is covered by verification, e.g., using formal test design techniques such as decision tables and classification tree method, and applying traceability from test design to requirements.

The value based definition

This definition states that software quality should always be determined by means of a decision process on trade-offs between time, effort and cost aspects. The value based definition emphasizes the need to make trade-offs, this is often done by means of communication with all parties involved, e.g. sponsors, customers, developers and producers. This quality definition relates to risk-based testing and the good enough paradigm. How much testing is enough? Which product risks must be mitigated, etc.

The transcendent definition

This "esoteric" definition states that quality can in principle be recognized easily depending on the perceptions and the affective feelings of an individual or group of individuals towards a type of software product. Although the least operational one, this definition should not be neglected in practice. Often a transcendent statement about quality can be a first step towards the explicit definition and measurement of quality. I have always found this one very difficult to use in testing, but perhaps to some extent it is related to the games industry. Why is a game appealing to my sons, I sometimes just do not understand: the transcendent definition?

Using the definitions....

The existence of the various quality definitions shows that it is difficult to determine the real meaning and relevance of software quality and thus the focus of the testing activities. Testing practitioners have to deal with this variety of definitions, interpretations and approaches. I have learned over the years that in discussing the test strategy and test approach, it helps to also start a discussion about product quality. What does it mean for the stakeholders and what is expected? The framework as presented in this column has proven to be highly useful and easy to apply. Of course in practice it is often a mix, the discussion however makes things much clearer to all, and expectations become more aligned. Such a discussion should take place on a project level, but also on an organizational level to drive (test) improvement activities. What does product quality mean for your stakeholders?

[Garvin] D. Garvin, "What does product quality really mean?", in: *Sloan Management Review*, Vol. 26, No. 1, 1984

[Trienekens and Van Veenendaal] J. Trienekens and E. van Veenendaal, "Software Quality from a business perspective", Kluwer Bedrijfsinformatie, 1997, ISBN 90-267-2631-7

> biography



Erik van Veenendaal (www.erikvanveenendaal.nl) is a leading international consultant and trainer, and a widely recognized expert in the area of software testing and quality management with over 20 years of practical testing experiences. He is the founder of Improve Quality Services BV (www.improveqs.nl). At EuroStar 1999, 2002 and 2005, he was awarded the best tutorial presentation. In 2007 he received the European Testing Excellence Award for his contribution to the testing profession over the years. He has been working as a test manager and consultant in various domains for more than 20 years. He has written numerous papers and a number of books, including "The Testing Practitioner", "ISTQB Foundations of Software Testing" and "Testing according to TMap". Erik is also a former part-time senior lecturer at the Eindhoven University of Technology, vice-president of the International Software Testing Qualifications Board (2005–2009) and currently vice chair of the TMMi Foundation.

Probador Certificado Nivel Básico Tester profesional de Software

Formación para el Probador Certificado - Nivel Básico de acuerdo al programa de estudios del ISTQB[®]

República Argentina



Docente: Sergio Emanuel Cusmai

Co - Founder and QA Manager en QAustral S.A.

Gte. Gral. de Nimbuzz Argentina S.A.

Docente en diplomatura de Testing de Software de UTN - 2009.

Titular y Creador de la Diplomatura en Testing de Software de la UES XXI - 2007 y 2008. (Primer diplomatura de testing avalada por el ministerio de Educación de Argentina).

Team Leader en Lastminute.com de Reino Unido en 2004/2006.

Premio a la mejor performance en Lastminute.com 2004.

Foundation Certificate in Software Testing by BCS - ISTQB. London – UK.

Nasper - Harvard Business school. Delhi – India.



Casa Central: + 54 0351 4817951 - **Tel Bs As Argentina:** 011 53685847 - **Tel Londres UK:** 00442033183814
Tel San Francisco. EEUU: 001 14157041515 - **E-mail:** info@qaustral.com