

## **Software certification modeling : from technical to user centric approach.**

### **Abstract**

One of the most essential issues in software products is to maintain its relevancy to the dynamics of the user's needs. Many researches and studies have been carried out in the quality aspect of software products to overcome these problems. Several software quality assessment models and metrics have been introduced with strengths and limitations. The current quality models such as McCall, Boehm, ISO9126, Sistic and PQF model are used as the benchmark for product assessment. In order to enhance the assurance and buoyancy of the software products, certification processes and models have been introduced and developed. Previous fundamental and basic software certification models such as SCM-Prod and SPAC were developed to solve the uncertainties in software quality in two views which are the end product and the development process. However, the models are based on specific requirements and have certain limitations. SCM-Prod model focuses on the certification and quality requirements of software products in general. While SPAC model focuses on software certification based on the development process approach. Our previous experiences in conducting certification exercises and case studies collaborating with several agencies in Malaysia, the requirements for a user-based software certification approach are needed and demanded. The emergence of social network applications and other varieties of software in the market has led to the domination of users over the software. As software becomes more accessible to the public through internet applications, users are becoming more critical in the quality of the services provided by the software. Users should be able to assess and certify their own products within their own environment at anytime and anywhere. The quality attributes for software assessment should be based on the user's perspective and view. This new paradigm should be the alternative focus in software product quality assessment and certification. This paper presents the evolution of software certification and assessment from a technical view to a user-centric approach. It discusses the concept of a user-centric approach in software assessment and certification which also focuses on the design and development of the model (ucSoftC), the components and attributes embedded in this model. The development is believed to be beneficial and valuable to overcome the constraints and improve the application of software certification models in the future.

**Keyword:** Software certification; User-centric approach; User-centric attributes.