Abstract

In this work we propose a methodology named QUEM (Quantitative Usability Evaluation Model) for quantitative usability evaluation of e-commerce websites. Many e-commerce websites lack user friendliness. The main factor that prevents these firms to conduct usability testing is the high costs and the need for usability experts. In this work, ISO/IEC 9126-1:2001 quality model was selected as a basis for defining usability characteristics of our model. Based on these standard usability characteristics a set of usability factors is proposed specifically for evaluation of e-commerce websites. The usability factors of QUEM model have been extracted from a wide range of usability guidelines and checklists. Since all of the usability factors do not have the same significance in the overall usability assessment of the web sites, the proposed factors have been weighted by adopting AHP (Analytical Hierarchical Processing) approach. In order to demonstrate the efficiency of QUEM model, usability of two e-commerce systems has been assessed by adopting this model. QUEM model enables the e-commerce firms to measure the usability of their sites in a minimum cost and span of time.

**Index Terms**

Computer Science

Information Sciences

**Keywords**

Usability Quality Model e-commerce website QUEM model Analytical Hierarchy Process (AHP)