UNIVERSITY OF SCIENCE AND TECHNOLOGY

COLLEGE OF GRADUATE STUDIES AND ACADEMIC ADVANCEMENT

Usability Evaluation of E-learning Systems

Using ISO Quality Model

A Thesis

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Abstract

The basic characteristics in e-learning is the usability. There are many definitions in literature. In HCI field, usability is more to usable user interface or in other word to make system easy to learn and easy to use. Based on ISO 9241 – 11 in HCI field, usability is defined as the extent to which a product can be used by specified users to achieve specified goals with effectiveness, efficiency and satisfaction in a specified context of use. The ISO 9126 standard definition is capability of software product to be understood, learned, used and attractive to the user, when used under specific conditions.

This research examine usability quality in e-learning system using adaptive usability model with e-learning. The Extended ISO/IEC 9126 quality model with e-learning quality has been selected. The evaluation and validation has been conducted.

المستخلص

الخصائص الأساسية في نظم التعليم الالكتروني هي سهولة الاستخدام.هنالك تعريفات كثير في الأدبيات. في مجال التفاعل بين الإنسان والحاسب ، يتم تعريف سهولة الاستخدام الي ISO 9241 – 11 مصطلحات ال الكفاءة , أي مدى يتم استخدام المنتج بواسطة مستخدم معين لتحقيق الأهداف المحددة مع الفعالية القياسي هو ISO 9126 يتم تعريف سهولة الاستخدام في نموذج ال. والرضا في سياق معين من الاستخدام مقدرة منتج البرمجيات علي قابلية الفهم، و التعلم، الاستخدام و جاذب للمستخدم، عندما يستخدم تحت ظروف معينه.

هذا البحث يوضح جودة سهولة الاستخدام في نظام التعليم الالكتروني باستخدام نموذج استخدام متوافق مع التعليم الالكتروني . ISO/IEC 9126مع التعليم الالكتروني. ولقد تم اختيار نموذج الاستخدام الموسع تم التقييم و التحقق من هذا النموذج.

1. Introduction & Background

Last year's Quality of e-learning systems become one of the important topics that the researchers are investigating. The emergence of the Information and Communication Technology (ICT) in academia environment has contributed to the development of the e-learning systems. They have received a considerable attention in education and provided significant advantages such as convenience, flexibility and global learning community. While e-learning systems are growing significantly, there is a pressure on educational institutions and organizations to ensure the quality of e-learning systems. ISO 9126 is the most recognized and applied quality standard to specify and evaluate attributes of the software product[1]. The exponential growth of Information and Communication Technology (ICT) has changed the education systems and contributed to the improvement of the learning process. The e-learning has reached a wider target audience of learners who are:

1) Geographically dispersed with limited time and/or resources to travel;

2) Busy with work or family commitments;

3) located in conflict and post-conflict areas and restricted in their mobility;

4) Facing difficulties with real-time communication (e.g. foreign language learners)[2].

1.2. Problem Statement

Using induction method to validate and evaluation introduce extended ISO/IEC 9126 Quality model with E-learning system for usability attribute.

1.3. Main Research Objectives

The main goal of the research study is to validate and evaluate the usability of an e-learning system using adaptive model in this case ISO 9126 model.

1.3.1. Other Research Objective

a) By measuring the usability quality of e-learning system we can improve it.

b) Developed e-learning system.

c) Find usability problem.

d) Investigate the previous models for evaluating quality of the usability for e-learning systems.

1.4. Research Structure

This research contains five chapters. Chapter two review the literature of software quality, usability model, quality in e-learning and usability quality in e-learning. Chapter three describes the research methodology chapter four illustrates results. Chapter five states the conclusion and recommendations for future work.