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Letter to the Editor

Simple and Efficient Measurement of the User Experience in Health Information Systems: A Persian Version

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Dear Editor-in-Chief

Health and medical information systems were studied focusing on various domains such as usability (1). Usability and user experiences (UX) problems cause users' dissatisfaction and have negative effects on acceptance and effectiveness of the clinical and public health information systems (HIS) (2). The idea of UX consolidate understood aspects like efficiency and effectiveness with extra parameters like aesthetics, and attractiveness.

The first factor is referred as pragmatic quality, while the second is called hedonic quality (3). UX is a significant factor to determine whether an HIS has gained sufficient points by its users (4). It refers to all experiences a user had before, during, and after use of a software product and can be measured by qualitative tools. Some popular checklist and methods were introduced which the newest is user experience questionnaire (UEQ)(5).The UEQ provide us a feature to apply a rapid evaluation for experience of the user for each health related informatics system. The measures of the questionnaire are focused to support an extensive impression of experience of the user. The questionnaire format supports the user immediate response to express impressions, feelings and attitudes that are aroused from product use (3). If a new designed HIS was planned to evaluate or if an existing software is evaluated for the first time, then some common questions would be 'Does the software make a positive experience?' or 'How do stakeholders percept about the software?'. To answer these questions, we needs a subset of software users to complete the UEQ (3).

It is another application is the continuous quality evaluation of a software product within a development process of new versions of HIS (3, 6). UX is a glimpse of the present application that a software has. Also, it is a sentimental concept that involves the users. Moreover, the user's judgment starts before using a new system. The UEQ is semantic differential. For such questionnaires it is particularly important that users could view and fill the items in their native language (3). In current letter, we will explain the creation of the Persian language version of the UEQ, briefly.

The questionnaire was used for the Information Systems of Tabriz University of Medical Sciences. In the first step, the questionnaire was translated from English to Persian. The two English fluent person did the translation individually. Then, the translation of the questionnaire was provided by two other persons than the ones who participated in the first stage of the translation process. The translated version of Persian to English was compared to the original copy. Finally, an English fluent person as a coordinator, completed the final Persian edition of questionnaires. In the case

of approval, the questionnaire was provided to the health information management and medical informatics specialists. In addition, for determining the reliability of the questionnaire, 17 questionnaires were provided to users of information systems. Then Cronbach's alpha was calculated. In the present study, Cronbach's alpha coefficient is equal to 813, which shows acceptable correlation and high consistency between translated and final approved items.

To reduce the effort for data analysis a Microsoft Excel file is created, doing all the necessary calculations. Only the raw data of the questionnaire results have to be recorded into the tool. Then the tool creates some statistical charts to imagine the results, computes the measured values, also calculates some necessary basic statistical indexes for a description of the data, for example confidence intervals for the scales.

Another advantage of UEQ is benchmarking method. Different HISs or different versions of a HIS can be easily compared upon their UX by comparing the scale means. The UEQ questionnaire is free and friendly to all medical informatics applications such as HISs, decision support systems, and virtual and augmented reality. Now all researchers in human computer interaction can download UEQ Persian version from official website of UEQ (www.ueq-online.org).

Conflict of interest

The authors declare that there is no conflict of interest.

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