Enhancing the Reporting on Human Factor/Usability studies of Health Information Technologies

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Abstract. In this workshop, the results of a Delphi study on a framework of good practice reporting of Health Information Technology design, development and usability studies are discussed. By use of appreciative enquiry and a brain writing pool we aim at gaining sight on the positive potential of each item in the framework in contributing to and enhancing the publication quality of Human Factor/Usability studies in Health Informatics. This workshop will stimulate further thoughts, reflections and discussions for publication and application of the Framework.

Keywords. Human Factors, Usability, evaluation studies, guidelines,

Introduction to the topic

The reporting of Human Factor (HF) and Usability evaluation studies of Health Information Technologies (HIT) is gaining significant attention due to publications on user errors and safety risks associated with HIT design and implementation [1]. However, publications of these types of studies appear to lack in reporting consistency and comprehensiveness, thereby complicating the appraisal of outcomes, generalizability of study findings, meta-analysis and harmonization of the available evidence [2]. In a collaborative effort between research team members of HITLAB an Evalab, a framework has been constituted of good practice of reporting on HIT design, development and HF/usability studies. The framework aims to provide a set of principles to follow for comprehensive and unambiguous reporting of HIT design and usability evaluation studies with the objective to reduce variation, improve on the publication reporting quality and proper indexation of these studies. In order to validate the framework and to gain general consensus, a Delphi study approach was undertaken [3].
1. Target audience

For the workshop, focus will be on participants sharing their experience in writing, reviewing and/or reading scientific papers on HF/usability design and evaluation studies. In doing so, we aim to gain sight on the appreciation of the objectives of the framework by a broader audience. The workshop therefore aims to target participants with experience in writing or reviewing HF/usability design and evaluation studies along with participants interested in reading these types of papers. The maximum number of participants for the working group is 25.

2. Aim of the discussion

The overall aims of the workshop are:

1. To discuss and describe the contributions and positive potential of items in the framework in (1) enhancing the scientific quality of publications of HF/usability studies and (2) increase the knowledge on HF/usability design and evaluation practices.
2. To harmonize the descriptions of each items’ positive potential within the categories of the framework.
3. To discuss key issues and challenges in how to distribute the framework, including the most preferable format of the framework either as a guideline, a set of principles or as a checklist.

3. Format of the workshop

Introduction to the Framework

The workshop will start with a 15 min presentation regarding the development of the framework and the results of the second round of the Delphi study. During this first presentation there is room for high-level comments from the audience. The presentation will provide a detailed description of the items generally agreed upon in the framework along with the issues and challenges in writing scientific HF/usability design and evaluation studies. An overview of the items in the framework is presented in [4]. During the workshop the final results of the Delphi study will be presented which include the list of items generally agreed upon by experts in the field.

Appreciative Inquiry of Framework Items

In this workshop we will apply an innovative approach called Appreciative Inquiry (AI). AI is a form of action-research that originates from social/organizational studies [4]. It focuses on studying collectively “the best of what is” in a specific topic in order to imagine the “what could be”. This method allows for collectively designing a desired future state of a specific focus issue. In the present workshop, the desired future state is depicted as the application of the framework in achieving its objectives.

During the workshop, participants’ profile will first be checked (10 min). Special attention will be given to participants experience in HF/usability studies, their activity domain and objective in attending the workshop in order to compose balanced working groups of 3 to 5 participants. During 30 min, each group will perform the AI for all items of a specific section of the Delphi study results (e.g. “Introduction” or
“Discussion”). In each group, one of the contributors of this workshop will facilitate the discussion and collect results of the discussion. The resulting lists of remarks on the AI will be put on a poster on which the items are printed.

**Brainwriting Pool**

This part of the workshop applies a method called *Brainwriting Pool* as an alternative method to brainstorming to encourage a more uniform participation within a group [5]. Groups are split up; one participant in each group stays with the poster regarding results from their AI analysis to enhance the discussion with participants from other groups on parts of the framework. Discussion points are then arranged by groups into clusters and described on post-its on the posters. After 15 min, participants return to their groups in order to synthesize the results (another 15 min).

The workshop will end with an overall discussion on the application of the framework and a summarization of the resulting posters.

**4. Expected results and outcomes**

The result of this workshop is a harmonized framework validated by HF and usability domain experts combined with insights of usability researchers and readers of these type of papers on how to present the framework to be easily and purposefully applied. The outcome of the workshop will be a paper reporting the construction and the validation of the framework which includes the results of the Appreciative Inquiry and Brainwriting Pool techniques for items in the framework.

**Endorsement**

The EFMI Working Group on Human and Organizational Factors of Medical Informatics and the IMIA Working Group on Human Factors Engineering in Health Informatics have endorsed this project.

**References**


