Quality of human-computer-interaction – Results of a national usability survey of Hospital-IT in Germany

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Abstract and Objective

Due to the increasing functionality of medical informatics it is hard to imagine day to day work in hospitals without IT support. Therefore, the design of dialogues between humans and information systems is one of the most important issues to enable IT in health care. This survey presents an analysis of the current quality level of human-computer interaction of healthcare-IT in German hospitals.

Keywords:

Hospital Information Systems, Usability, Human-computer interaction, Human factors of software systems

Methods

One part of our national survey investigated human-computer-interaction. It is based on the IsoMetrics inventory, an assessment tool for dialog principles according to EN ISO 9421-110 [1]. Due to the extent of the questionnaire, IsoMetrics was truncated to the three most relevant principles for clinical IT: suitability for the task, suitability for learning and conformity with user expectations. Survey participants were asked which IT system they mainly use: Clinical Information Systems (A), Radiology Information Systems and Picture Archive and Communication Systems (B), Laboratory Information Systems incl. microbiology, pathology, etc. (C), Patient Data Management Systems for use on ICU (D), Anesthesia Information Management Systems (E), Operating Room Information Systems (F), systems for medical controlling (e.g DRG-Grouper) (G) and Others.

Results

4521 persons from 371 hospitals visited the start page of the survey, 1003 persons from 158 hospitals completed the questionnaire, 992 completed the IsoMetrics Inventory. The results are shown as box–and-whisker plots in Figure 1.
scale 5 = good, 1= poor

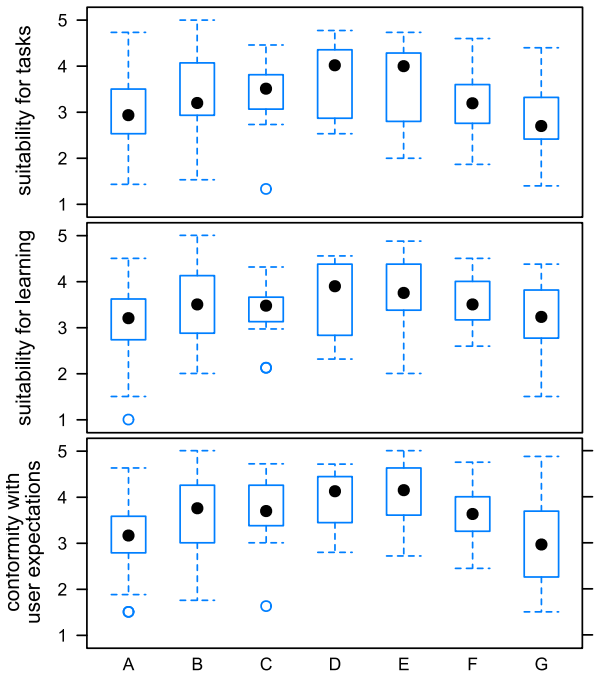

Figure 1-Human-computer interaction survey

Conclusion

This study was not representative. The results do not reach any conclusions about individual products, but permit statements about differences between product groups of IT systems used in German hospitals. Moreover specialized systems in single fields, with well defined and structured spectra of use, do better than those with a broad spectrum of use.

References

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