



WG11 – Human Factors Engineering for Healthcare Informatics

2018 Report - July 2017 to June 2018
presented in Colombo, Sri Lanka for:

- **IMIA Board Meeting, October 8, 2018,**
- **IMIA General Assembly Meeting, October 9, 2018**

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Brief Background

Human factors can be the difference between systems that function well in the clinical environment and systems that function poorly. The Physician-Patient relationship has now become the Physician-Computer-Patient relationship. Human factors engineering is the field of study, which deals with the cognitive aspects of the human computer interaction. This working group discusses methods for studying the computer-human interaction in health. New research and methods adapted from human factors and usability engineering are needed to evaluate the complex systems facing both clinicians and patients today. Further, this working group engages in discussions regarding optimal interface designs for health informatics software to make the computer a more welcome partner with both the clinician and the patient in the empowered longitudinal care of the individual.

Achievement - Events and projects conducted and publications completed

The WG was one of the main organizers of the Pre-MedInfo conference Context Sensitive Health Informatics that was held in Hong Kong 18-19 August 2017. The contributions from the conference has been open access published on IOS Press in the series: Studies in Health Technology and Informatics (Volume 241).

Andre Kushniruk is on the steering committee and Christian Nohr is on the Scientific Review Committee for the conference Information Technology & Communications in Health to be held 14 – 17 February 2019 in Victoria, BC, Canada. The proceedings will be published on IOS Press in the series: Studies in Health Technology and Informatics.

On behalf of the WG Christian Nohr, Andre Kushniruk and Paul Turner, University of Tasmania, published a paper entitled “Are we there yet? Human factors knowledge and health information technologies – the challenges of implementation and impact” to the IMIA Yearbook 2017.

Participation - Engagement and participation in IMIA and health informatics events and activities

Christian Nohr presented two papers with a human factors engineering perspective at the MIE conference “Building Continents of Knowledge in Oceans of Data: The Future of Co-Created eHealth”. The conference was organized by the European Federation of Medical Informatics (EFMI). The event brought together 800+ participants from data science and health informatics.

At MedInfo 2017 in Hangzhou China in August 2017, the following papers were presented by members of the WG:

“Towards a Usability and Error “Safety Net” : A Multi-Phased Multi-Method Approach to Ensuring System Usability and Safety”, by Andre Kushniurk, Yalini Senathirajah, and Elizabeth Borycki

“Effective Usability Engineering in Healthcare: A Vision of Usable and Safer Healthcare IT”, by Andre Kushniurk, Yalini Senathirajah, and Elizabeth Borycki

“A Comparison of Two Principal Systems for Monitoring of Technology-induced Errors in Electronic Health Records” by Sari Palojoki, Elizabeth M. Borycki, Andre W. Kushniruk, and Kaija Sarant

“Mapping the Electronic Health Record: a method to study Display Fragmentation”, by Yalini Senathirajah, Jinglu Wang, Elizabeth Borycki and Andrek Kushniruk

“The Future of Mobile Usability, Workflow and Safety Testing, by Elizabeth Borycki, Yalini Senathirajah, and Andre W. Kushniruk

“What Will Be Required to Make Sure Healthcare Information Technology Actually Does What Is Expected: Technical and Legal Requirements”, by Andre W. Kushniruk, Elizabeth M. Borycki, Yalini Senathirajah, and Carol Hullin

Outreach - Recruitment and engagement of new members and target communities, publicity and representation at major events and/or on social media

The main outreach from the WG happens in connection to the Pre-MedInfo conference CSHI in Hong Kong with more than 60 participants. It is the first time the conference has been held in Asia which provided a good opportunity to publicity and representation in that region. We were also able to organize a break out session discussing contemporary issues in human factors engineering in Cantonese.

Collaboration - Working with other IMIA WG/SIGs or external organizations or institutions

Our WG is collaborating with the IMIA WG on Evaluation, Organizational and Social Issues, the WG on Patient Safety, and Primary Health Care Informatics WG.