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Crisis Information Design with a Human Factors/Ergonomics Perspective

Aryana, Bijan; Osvalder, Anna-Lisa
Chalmers University of Technology
bijan@chalmers.se

Workshop: The unexpected events of the past few years highlighted certain shortcomings in the way societies response to crisis. In addition to disease, natural disasters and wars, the world is also facing new challenges that have not been much experienced in the past, such as climate change and cyberwarfare. The way that information is communicated with the society before, during, and after a crisis is critical to any crisis management plan. The information gap due to age, language, trust, and cognitive abilities poses threats to such communication. As a result, an inclusive and universal crisis information design is a vital part of crisis planning in any country, especially those with aging population, and those with residents from various cultural and lingual backgrounds.

Existing universal design methodologies often focus on how disabilities hinder physical and cognitive activities of people. In a crisis, there are also other subjective factors that could contribute to exclusion from information flow, such as trust, everyday life habits, technology acceptance, and temporary lapse of judgment. Each vulnerable group might be impacted by such factors in a unique way. Crisis information design requires development and adaptations of existing tools and methods, as well as informed and active participation of vulnerable groups.

The focus of the workshop will be on tools and methods for crisis information design from a human factors/ergonomics (HF/E) perspective. The main steps of the workshop are as follows: (1) the session starts with an introduction to HF/E design for crisis, and reflection on an ongoing research project on active participation of citizens in crisis management; (2) an ideation activity by HF/E specialists around the role of HF/E in crisis management; (3) exploration of a range of existing HF/E tools, methods and approaches, and matching them to a number of critical scenarios before, during, and after crisis. (4) reflection on possible adaptation of HE/F tools for crisis information design.

The result of the workshop is an elaboration on how existing HF/E tools, methods and approaches can contribute to information design for crisis. Also, how these can show possible gaps, or needs, for adaptation in HF/E tools, methods, and approaches within the context of crisis information design.

The findings can be used in an ongoing research project entitled "User Participation in Crisis and Contingency Work" financed by the Swedish Civil Contingencies Agency

(MSB) and run by Design and Human Factors researchers at Chalmers, Lund University and Linnaeus University. The overall aim of this project is to develop methods, strategies, and guidelines for how groups with varying needs can be involved as active resources in the society's crisis management. Knowledge and experience of people with different types of disabilities can thus be utilized to prevent, manage, and recover from serious events and crises.



This is August 2024. Delsbo in eastern Sweden with approx. 2000 inhabitants is being threaten by a serious flood after heavy raining in the past 24 hours. The area was impacted by flood earlier in 2021.

Think about the following persons who live in this area. How can an improved information design help them in before, during and after the incident?





Linda

is 80 years old and lives alone in a house where she has been living for more than 30 years. Although she suffers from arthritis and some other health issues, she can live independently. She is regularly in touch with her friends in the area who are within the same age range, as well as neighbors. She does not have a smart phone

Jakob

is 40

years old and temporarily lives in the area. He is a technician and works in a construction project until the end of September and then he will return to his homeland. He doesn't speak Swedish and speaks English at work. His only connection to the society is his job. He does not follow Swedish media.





Malin is 30

and lives with her partner. She is a software engineer and usually works from home. She has been using a wheelchair since a couple of years ago after an accident. She is a social person with a large personal and professional network in both virtual and physical worlds.

Identify challenges and risks that they may face through the crisis

Before the flood

During the flood

After the flood

Linda

Jakob

Malin

Shortlist challenges and risks that are directly or indirectly related to information design

Before the flood

During the flood

After the flood

Linda

Jakob

Malin

How can ergonomics/ human factors contribute to challenges and risks? Which methods and tools can be used?

Before the flood

During the flood

After the flood

Linda

Jakob

Malin