Preliminary evaluation results of DigEmergo - a digital simulator prototype for disaster and emergency management training

Objective

This abstract presents early findings on a user evaluation of DigEmergo - a digital training simulator prototype for disaster and emergency management. The overall goal of this research project was to design a flexible tool for training and evaluation of emergency response. Therefore we developed DigEmergo; a digital simulator based on Emergo Train System® (ETS; a globally used tabletop simulator) using electronic whiteboards.

Background

Disaster and emergency response requires competent and coordinated teams. However, training such teams efficiently is complicated. Full-scale high-fidelity simulations are both expensive to perform and difficult to evaluate. Thus, there is a need for scalable environments, such as digital simulations, to train medical decision-making and team coordination.

Methods

The DigEmergo prototype ran on an 87-inch multi-touch digital whiteboard and was evaluated using a training scenario and methodology adapted from ETS. Nine participants with prior ETS experience participated in the evaluation, which was led by two instructors. After completed scenarios first impressions were discussed and questionnaires including open-ended questions were completed.

Results

Preliminary results of the qualitative analysis show that the participants were positive towards DigEmergo. Several participants commented on instructor benefits, e.g. ease of setting up exercises and automatic statistics for after action reviews. Common concerns were potential technical issues, that multiple digital whiteboards are needed to avoid clutter, and loss of flexibility as digital whiteboards are less common than regular whiteboards.

Conclusion

Experienced users of ETS identified both advantages and disadvantages with a digital version of ETS. Identified benefits concerned the instructors' tasks, increased control, and automatic data collection. Perceived disadvantages mainly related to concerns regarding the size of the digital whiteboard and potential technical issues. The participants also identified development potential, e.g. a small-scale tablet version of ETS for frequent training. Future work include analysis of collected evaluation data and additional prototype development.