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Due to Covid-19, physical emergency management exercise is challenging, especially if it is designed as a full-scale exercise which often resource-intensive, conducted in real time, try to mimic the real incidents, and often as demanding as in a real incident. In such exercise, information sharing and collaboration to reach the common operational picture (COP) is often particularly essential element of the of the exercise. Various technology supports would be deployed, such as emergency communication devices, and emergency management information systems (EMIS). Another alternative model is a Table-top exercise that is simpler, where a leader will lead the session with some scenarios and supply lead questions that trigger the need to assess the situations and decision options, including the consequences of each choice. Table-top exercise is also typically done face-to-face, with fewer participants. The adoption of the physical table-top exercise to be the digital one would be more straight forward, but not for a larger scale of exercise that engaging multi-stakeholder participants.

This article proposes an alternative design for full-scale but table-top in nature, presenting as digital exercise that ensures information sharing, collaboration and achieving Common-Operational-Picture, process, and challenges. The research questions are: 1) how to design a digital exercise that could replace physical full-scale exercise? 2) What processes need to be done to fulfill the satisfying digital exercise model? 3) What factors enable and hinder the successful implementation of digital exercise? This work is a case study, based on a research project incorporating a full-scale exercise in a digital manner, involving 80 participants from 20 organizations. They represent fire services, police, county's crisis manager, municipalities, GIS experts in national and local levels, road authority, critical infrastructure operator. The complexity of the arrangement rather lies in the effort a balance exercise that would engage all involved organizations. The exercise planning were fully collaborative participatory-design processes between researchers, especially the county's crisis manager and chiefs of fire services (between January to March 2021).

One of prerequisites for successful digital exercise was the high degree of engagement and trust among the researchers and practitioner to produce high-quality, satisfactory exercise model. As such digital exercise is a completely new for involved organizations, a pre-exercise preparation for a training for all, were done prior to the real exercise and it seems contribute to the successful implementation, and thus should be considered into the design.

Exploring Future Work Practices for Information Sharing and Achieving Common Situational Understanding in Disasters