Introduction to Emergency Response Systems Minitrack

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In its third year, this minitrack deals with any aspect of the analysis, design, development, deployment, operation, or evaluation of emergency response systems (ERS). In particular, the minitrack seeks to encourage research on three areas that are pertinent to ERS: (i) tools, functionality, and/or interface the system that provide to human users involved with emergency and crisis response; (ii) requirements for this environment and/or the impact or relationship of such systems to the behavior of the individuals or organizations involved, and (iii) the underlying technology or hardware of computers, networks, sensors, mobile devices and their improvements in such areas as throughput, accuracy, and security.

Six papers were selected for this year:

Xu, Yuan and Ji operationalize a decision analysis framework for emergency notification. They extend earlier work on template-based workflow using six dimensions: when, where, who, why, what and how. The idea is to enhance both the effectiveness and readiness of crisis management.

Fernandez et al. describe the design and development of a virtual emergency operations center for disaster management. Due to the dynamic, complex, ill-defined and often unique nature of a crisis, they propose that prior decisions be thoroughly documented via post-event action reports. However, these reports may not cover every issue. Frequently, unique and unanticipated events arise during each emergency. Therefore, it is important to train workers before a crisis strikes.

The third paper describes the research activities of Project Ensayo, which is developing a virtual Emergency Operations Center (vEOC) based on one of the Nation's premier EOC's: the Miami-Dade County Emergency Operations Center. Some of the specific research areas of focus for the development of the vEOC include situational awareness, knowledge management, and inferences from dynamic data, disaster management, mechanisms of command, control, communication.

Gongalez reported the findings from a case study of coordination in crisis response. They looked at a series of exercises in the Port of Rotterdam, and discuss, among other things, the dilemma between designing a predefined, well-structured workflow and the ability to improvise in unique crisis situations.

An innovation in this year minitrack is a combined session with the negotiation support system minitrack. The first paper in the second session addresses the issues related to cross-cultural dyadic e-negotiation. Lai et al. use content analysis to study cross-cultural issues in e-negotiations. They collected data from 80 e-negotiations from eight countries and categorize them in nine categories. The idea is to uncover areas where cultural difference might play a role.

Plotnick, Ocker, Hiltz and Rosson explore the nature and roles of leadership in partially distributed emergence response software development teams. A partially distributed team is a virtual team in which some sub-groups are co-located and other dispersed. In their pilot study, they found that leaders adopt a variety of roles to include the broker, coordinator, monitor, producer, and integrator. The also found that the PDT structure led to considerable in-group/out-group divides when time zone differences make synchronous communication difficult. Finally, Doong and Wang present the preliminary results of their online experiment on the adoption of online NSS using Foxall's framework. People who are categorized as being more involved innovators tend to adopt the technology more than others.

All together, the six papers selected for this year, suggest that much research is needed in the filed of ERS.