

D35.3 Proof-of-Concept Demonstrator for Post-Event-Analysis

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Document name:	D35.3 Proof-of-Concept Demonstrator for Post-Event-Analysis – PUBLIC SUMMARY	Page 1 of 2
Reference:	SCR-WP35-D-FHG-015-PS	Dissemination: PU Version: 4.0 Status: Issued



1 PUBLIC SUMMARY

In emergency situations, the stakeholders responsible for the organization and execution of the emergency management have to cope with complex situations and short time frames for reaction. Therefore, they often have to make quick decisions based on the data available to them. Emergency management systems (EMS) provide the capability to provide crucial information support and to enable disaster forces to manage disaster events, including detection and analysis of incidents (Carver and Turoff 2007).

According to (Ritchie 2004) the lifecycle of a crisis or emergency comprises of several stages:

- (1) a pre-event stage allowing the development of strategy and plans;
- (2) a stage immediately before or after a crisis or disaster occurs which requires the implementation of strategies to deal with its impacts;
- (3) continued implementation of strategies to control or reduce the severity of the crisis/disaster; and,
- (4) a long term recovery or resolution phase allowing for evaluation and feedback into future prevention and planning strategies for destinations and businesses.

Emergency management systems that utilize such components that are available in the public transportation environment anyhow can also provide relevant information during all phases of the emergency lifecycle that can contribute to saving human lives. Therefore, we created a demonstrator for the usage of such ubiquitous components for emergency management that addresses these potentials specifically towards supporting phase (4), which has often been neglected by earlier approaches.

Thus, the main idea for using the post-event-analysis demonstrator is the collaborative review of past events. Here for example alarms and alerts, regular sensor data and specifically messages and photos via a SECUR-ED mobile app can be gathered, selected and reflected.

We base our approach on mobile information gathering components (Zibuschka, Laufs, and Roßnagel 2011). This results in an emergency management system demonstrator based on platform-independent multi-touch technology as an interactive, widely used front-end technology for pervasive sensor and communication components. This combination aims at supporting decision making and analyses during post-event-analysis. From stakeholders providing planning information beforehand to end users communicating via their mobile phones or even distributed sensor networks, the system taps into a wide range of data sources and offers a comprehensive, digestible view on the data using multi-touch surfaces. In order to integrate legacy data sources and to keep the system open for the integration of additional data sources in the future, an intermediate data model is used. Demonstration versions of the system's components are based on current multi-touch frameworks and hardware and allow offline-integration of data from several sources.

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Document name:	D35.3 Proof-of-Concept Demonstrator for Post-Event-Analysis – PUBLIC SUMMARY	Page 2 of 2
Reference:	SCR-WP35-D-FHG-015-PS	Dissemination: PU Version: 4.0 Status: Issued