ICT tools and services for avoiding and mitigating safety risks in urban environments: The City.Risks Paradigm

Nikolaos Bakalos

Institute of Communications and Computer Systems – ICCS (Greece)

Antonis Litke, Nikos Papadakis

INFILI Technologies

Socrates Costicoglou, Nikolaos Papadakis, Nikolaos Koukoulas

Space Hellas SA

This paper report describes the different elements involved in the City.Risks system, as well as their deployment and configuration. It presents the complete system architecture, describes all the back-end and front-end tools.

City.Risks aims at increasing the perception of security of citizens in cities by activating in a more transparent and sustainable way their participation in communities, through which information and interventions can be provided both to proactively protect citizens from falling victims to criminal activities as well as to reactively provide more timely and effective response and assistance. In order to do so, City.Risks leverages a set of innovative technologies, city infrastructures, and the Web, but more importantly aims at making the citizens' smartphones the modern tool for increasing their personal and collective sense of security.

To achieve the aforementioned mission, City.Risks has developed a prototype platform that utilizes data and technologies to offer a number of services to citizens such as, theft detection sensors, incident reporting tools, channels for keeping the citizen informed, safe routing services and communication capabilities. All these services are provided through the use of smart-phones and web browsers.

The City.Risks platform is comprised by the Core Platform, the Risk Management and Response Engine (RMRS), the Data Management Layer, as well as two front-end clients for the citizens, namely the City.Risks mobile application and the City.Risks web portal, as well as a front-end client for the city operator (police department, city manager, private company), the City.Risks operation center.

The City.Risks core platform is the persistent back-end service of City.Risks that provides the City.Risks Database and spatial Database, Logging and Reporting

tools, and Business Process Management Mechanisms. It also hosts the City.Risks video server where citizens can act as reporters to the operation center through the use of live streams

The RMRS is a service layer module that is responsible for filtering all the incoming reports and incidents, classify those reports and disseminate the information back to all other citizens as well as the operator and the City.Risks operation Center.

The Data Repository provides services to the users regarding historical data and safety-related points in cities. This is especially suited to users that are not native to the City.Risks cover cities (e.g., tourists). A tourist user may use these services to find statistics, crime related data and safe harbours in cities that she is visiting and that are covered by City.Risks.

Moreover, the Data Repository provides the data required for the safe routing service.

All these services are disseminated to the citizen and through the web portal and the mobile app that were designed specifically for the project.