



Development of an Android App for notification and reporting of natural disaster such as earthquakes and tsunamis

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Disasters like the Tohoku tsunami in March 2011 and the earthquake in Haiti in January 2010, have shown clearly that the rapid detection of possible negative impact on population and infrastructure is crucial for the rapid organization of effective counter measures integration activities.

It has turned out that effective planning of relief and rescue measures requires both information provided by governmental authorities and feedback of the general public. Every citizen experiencing the events directly on site becomes a potential witness and can provide valuable information about the disaster. Citizens can use various information channels to communicate and share their experiences. During the last years, the crowdsourcing approach has gained the attention of users of modern communication and information systems. The term crowdsourcing describes the interactive collaboration of voluntary users on the Internet, working on a common topic. A similar approach is mobile crowdsourcing which evolved in the quickly growing community of smartphone users: Crowdsourcing platforms provide additional application scenarios for modern smartphone. Smartphone users are enabled to compose and share reports immediately at the scene of the disaster. A growing number of modern smartphones also includes sensors for taking pictures and to determine the current geographical position. This additional content can significantly enhance the value of a disaster event report.

The project Collaborative, Complex, and Critical Decision-Support in Evolving Crises (TRIDEC), co-funded by the European Commission in its Seventh Framework Programme, is focused on the management of crisis situations. Part of the project is the development of an application for the Android smartphone platform. This application enables access to an continuously updated situation report for current natural disasters like earthquakes and tsunamis based on incoming crowdsourced reports. The App is used to immediately sent eyewitness reports, to an instance of the crowd mapping platform Ushahidi, which is used repeatedly since the devastating 2010 earthquake in Haiti to collect eyewitness reports in natural disasters and thus optimally supplements the conventional sensors and sensor systems. Crisis reports which include geographical information can be directly visualized in a geographic information system for the benefit of the crowdsourcing community and the individual user as well as national and international authorities.