

# The Development of an Integrated and Context-Aware WebGIS of Alerting Information

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**Keywords:** alert, WebGIS, context-aware, standards

## Abstract:

Natural disaster is a major threat to the people's living in Taiwan. Especially in emergency situations, to promptly collect and convey alert information to people threaten by disaster to reduce causality is absolutely necessary. While a variety of government agencies may issue alert information, users are forced to deal with heterogeneous format of information to establish a correct and complete understanding. Meanwhile, the alert information is both time and location dependent, making it much more complicated to deal with. Efforts for standardizing the distributed information have been conducted in Taiwan over the last few years, for example, Common Alerting Protocol (CAP), Sensor Web Enablement (SWE), etc. This paper discusses the design of an integrated WebGIS system that accesses alert information from responsible agencies and intelligently analyzes and conveys context-aware information according to users' status. The built-in knowledge enables the prototype system to filter and convey only the information that is necessary and helpful to users. Furthermore, the open and standardized framework can provide additional advantages of simplifying the duties and actions of responsible agencies and creating a flexible, expandable and interoperable application infrastructure for the general public. With timely and standardized alert information available, we firmly believe more lives can be saved and damages can be effectively reduced in the future.