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MULTIPLE MODELING PARADIGMS APPLIED FOR ACCIDENTAL POLLUTION MANAGEMENT

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Abstract

Models are very important in the development of information systems for water management and they concern not only hydrology aspects, but also representations of complex software applications. Their conception requires big and orchestrated efforts of various stakeholders, like hydrologists, software and electrical engineers, emergency professionals, GIS specialists and ecologists. Water management blends multi-disciplinary aspects; therefore software analysis and design for this domain require a multitude of models, to reflect the points of view requested by this diversity of expertise. The article investigates the application of multiple modeling paradigms to the development of a river pollution management system. The models presented here represent the result of interdisciplinary work and they concern aspects like business processes, software architecture, web services, organization structure, pollution maps and integration patterns. They were validated for a pilot implemented on a segment of a Romanian river, close to the capital city.

Key words: geographic information system, pollution monitoring, system modeling, water management

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