UNIVERSITI TEKNOLOGI MARA

WEB MAPPING DESIGN FEATURES FOR SPATIAL DATA INFRASTRUCTURE (SDI) IN FLOOD HAZARD GIS

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IT Project submitted in fulfillment of the requirement for the degree of

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Student's Declaration

I declare that the work in this thesis was carried out in accordance with the regulations of Universiti Teknologi MARA. It is original and is the result of my own work, unless otherwise indicated or acknowledged as referenced work. This thesis has not been submitted to any other academic institution or non-institution for any other degree or qualification. In the even that my thesis be found to violate the conditions mentioned above, I voluntarily waive the right of conferment of my degree be subjected to the disciplinary rules and regulations of Universiti Teknologi MARA.

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ABSTRACT

The method in delivery information about hazard warning in Malaysia has been issued not effective and efficient for the public knowledge and awareness. This method also is one of the main challenges of disaster management concerns to proper flood risk management during the crisis time. Besides unstandardized in data collection, dissemination, access and usage of spatial data/information for disaster management, current studies showed that the platform design of hazard warning systems practised in Malaysia were different with the international standard requirement such as system features and data in managing the hazard preparedness. The mentioned issues become more serious during disaster response with its time-sensitive and dynamic nature where reliable and up-to-date information must be available to decision-makers and managers. The aim of this research is to create an information system which can make the vital information related to appraisal and preparedness available and accessible to the users, keeping in mind the ubiquitous and situational criticality of the information. The objective of this research project will focus on the flood hazard GIS design that address the role of Spatial Data Infrastructure (SDI) as a framework for the development of a web mapping system as a tool for facilitating flood risk management by resolving current problems with spatial data. For this study one stream reach, Kelantan River Hydrological Information, was chosen for analysis. Some analysis from three types of disaster early warning system that were practised in Malaysia will be the finding of this research project and from the result, the RAD Methodology is used in demonstrate the practicality and benefits of applying probabilistic techniques to flood hazard map models which are sufficiently to be considered used as a flood hazard early warning system in Malaysia.

Keyword: Spatial Data Infrastructure (SDI), flood hazard web mapping, flood risk management, disaster management system, early warning system, Geographical Information System (GIS)

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