

UNIVERSITI TEKNOLOGI MARA

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

TENGGU ALIFF FAISAL BIN TENGGU AHMAD

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

Master of Science in Information Technology

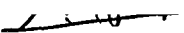
Faculty of Computer and Mathematics Science

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Student's Declaration

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Name of Candidate : Tengku Aliff Faisal Bin Tengku Ahmad
Candidate's ID No. : 2010232772
Programme : Master of Science in Information Technology
Faculty : Faculty of Computer and Mathematical Sciences
Thesis Title : Web Mapping Design Features For Spatial Data Infrastructure (SDI) in Flood Hazard Mapping

Signature of Candidate : 

Date : 20/07/2012

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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TABLE OF CONTENTS

	Page
STUDENT'S DECLARATION	i
ABSTRACT	ii
ACKNOWLEDGEMENT	iii
TABLE OF CONTENTS	iv
LISTS OF TABLES	vii
LIST OF FIGURES	viii
LIST OF ABBREVIATIONS	ix
CHAPTER ONE: INTRODUCTION	
1.1 Background	1
1.2 Problem Statement	2
1.3 Project Objective	4
1.4 Significant of Project	4
1.4.1 Availability of Flood Hazard Map	4
CHAPTER TWO: LITERATURE REVIEW	
2.1 Early Warning System in Malaysia	6
2.1.1 Department of Irrigation and Drainage (DID) Disaster Programs	7
2.1.2 Malaysia Meteorological Department Disaster Programs	12
2.1.3 Department of Environment (DOE)	13
2.2 Flood Hazard Map Challenge in Malaysia Environment.	14
2.2.1 Flood Hazard Map System Identification	14
2.2.2 Aging Infrastructure	16
2.2.3 Interagency Integration	17
2.3 Geographical Spatial Object	18
2.3.1 Vector Data	18
2.3.2 Raster Data	19
2.4 Spatial Analysis	20
2.5 Geo-coding	21
2.6 Conclusion	21