WEB-BASED SPATIAL DATA INTERACTION MECHANISM SUPPORTING OPEN-SOURCE GIS APPLICATION FOR GIS IN SCHOOL

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Letter of report submission

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PENYERAHAN LAPORAN AKHIR SKIM GERAN PENYELIDIKANRAGS

TajukProjek	: Web-Based Spatial Data Interaction Mechanism Supporting Open-Source GIS Application For GIS in School
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Dengan hormatnya perkara di atas dirujuk.

Dimaklumkan bahawa saya telah menyerahkan laporan akhir bagi Geran Penyelidikan RAGS kepada Bahagian Penyelidikan dan Jaringan Industri (PJI) UiTM Perlis untuk tindakan pihak Research Management Institute (RMI) UiTM.

Bagi melengkapkan laporan akhir penyelidikan, saya sertakan satu salinan softcopy dalam bentuk CD dan borang tamat projek.

Sekian, harap maklum.

Yang Benar,

(Mohd Khairy Kamarudin)
Ketua Projek Geran RAGS

3.2   Enhanced Executive Summary

Geographical Information System (GIS) is a computer system for capturing, storing, querying, analyzing and displaying geospatial data. GIS is synonymous with geographical subjects in school. Geography Interactive Training Module (GISKIT) would be created to be used by teachers and students in the academic session. The module was created using spatial and attributes data that was collected during the study. Actually, GIS can enhance geography teaching and provides information about useful resources. So, the purpose to the study is mainly to create a module GISKIT using web based application for the teaching and learning geography subjectthat will develop a spatial thinking availability among students using web based applicationThis project also to study the effectiveness of the module GISKIT compared with current method where only used geography textbook to teach students. Hopefully this module also will be used widely to all schools in Malaysia.

4.1 Introduction

In Malaysia, Geography was introduced in Malay Vernacular school since 1927. It was officially introduced in primary and secondary English school in a year 1928 (Bikar Singh, Grant and Penny, 2013). In the year 1988, integrated secondary curriculum was introduced and Geography subject becames compulsory for lower secondary school students (Form 1, Form 2 and Form 3). However, it becames an elective subject at the upper level of secondary school, Form 4 and Form 5.

Geographic Information System (GIS) integrated with software, hardware,managing, analyzing and displaying all forms of geographically referenced information (ESRI, 2012). The integration of ICT allows GIS to be applied in Geography studies. Unlike Malaysia, GIS in Geography teaching well developed between schools in various countries such as Jamaica, USA and Australia (Habibah and Vasugiammai, 2010).In the rapid development within the system now, there are various methods that can be used to help improve understanding for mastering the subject of Geography. ArcGIS software is used to display the database for spatial and non-spatial geography. In Malaysia, GIS in education school is still in discussion on the paper work. Capability of GIS system in education system in Malaysia still becomes questionnaire. Various issues such as appropriate extent of GIS in schools, the effectiveness of the students using GIS, the suitability with students and also teacher's ability to handle GIS system often arise (HabibahLateh and VasugiammaiMuniandy, 2011).

GIS in Geography teaching and learning allowed students to explore new information, reshape and reconstruct knowledge and make students aware of different ways of seeing things. This encourages students to explain and to connect cross-disciplinary knowledge through the identified spatial patterns / relationships (Yick, Matthew and Hui, 2011). The research evaluating the implementation and effectiveness of GIS-based application in secondary school Geography lessons was carry out by Demirci, (2008). The results from the study shows more than 80% of the students found the GIS-based application useful