Universiti Teknologi MARA

FLEXIBLE MULTIVARIATE GEOSPATIAL DATA VISUALIZATION SYSTEM

FATIN FARHANA BINTI BADRUL HISHAM
2015827046

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By

FATIN FARHANA BINTI BADRUL HISHAM
2015827046

This thesis was prepared under the supervision of the project supervisor, Mohammad Bakri bin Che Haron. It was submitted to the Faculty of Computer Science and Mathematical and was accepted in partial fulfilment of the requirement for the degree of Bachelor of Computer Science (Hons.).

Approved by

……………………………..
Mohammad Bakri Che Haron
Project Supervisor

JULY 24, 2017

STUDENT DECLARATION

I certify this thesis and the project to which it refers is the product of my own work and that any idea or quotation from the work of other people, published or otherwise are fully acknowledged in accordance with the standard referring practices of the discipline.

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FATIN FARHANA BADRUL HISHAM

2015827046

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ABSTRACT

Geospatial data visualization is a point marked in a map where the points were determined by longitude and latitude. Visualization are needed because it can give pattern of the attributes in much variety other than viewing the raw data that can cause overlook. To use the visualization technique, user must have a knowledge about two or more programming language as well learn on how to work or maybe build one from scratch. To overcome this problem, a platform to visualize multivariate geospatial data were made to ease the user. This system required user to upload the data set and it will automatically visualize it in either symbol map or dot map and allowed user to interact with the data as well as reduce user's time to build or to learn to code the visualization. Symbol map is a map that visualize attribute values for the location and the size of the marker is corresponding to the value meanwhile Dot map are based on spatial point data where information consist location are given. 57% of the user shows that they are strongly agree about the system was easy to use with the other 43% of the user are agreeing together. The limitation of this system is that user must convert into either JSON or CSV file format first before uploading the file for visualization process. Finally, this flexible multivariate geospatial data visualization system is significant in areas of user in any background who want to visualize a multivariate data.

Keyword: *geospatial data, visualization, symbol map, dot map, distribution dot map, flexible interaction feature*

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