Universiti Teknologi MARA

Visual Analytic Technique for Waste Collection Management Dataset Analysis

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**Thesis submitted in fulfilment of the requirements
for Bachelor of Computer Science (Hons.)
Multimedia Computing
Faculty of Computer and Mathematical Sciences**

July 2017

ACKNOWLEDGEMENT

ABSTRACT

Waste collection management dataset was collected hardly as it consumes lot of time and cost to finished collecting all the required parameter. However, the dataset is currently stored in Microsoft Excel which is in a static form and hardly to interpret. Aim of this project is to interpret the data visually by converting the static form of data into interactive form. This is for users to analyze the current data for future enhancement to seek the shortest route. By looking at the graphs, users can analyze and predict the pattern of the dataset and use the crossfiltering technique to filter a certain data that users want to see. This project uses visual analytic technique for pie and bar chart graphs using html and java. This project had been tested for its accuracy and functionality through experimentation with few sets of data. As a result, the graphs are functioning well. For the conclusion, the waste collection management dataset become more meaningful as users can interpret the relationship among the graphs.

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CHAPTER 1

INTRODUCTION

This chapter briefly explained the rationality of the study for this project with background of study, problem statement, objectives, aim, scopes and significance of this project are discussed.

1.1 Background of study

Waste collection management is defined as transport and collection of waste by municipal services, public or private corporations or even by general government, specialized enterprises and similar institutions to the place of treatment. Within any city, waste collection is an important logistic activity (Fooladi, Fazlollahtabar, & Mahdavi, 2013). Collection of municipal waste may be selective, which means, carried out for a specific type of product, or undifferentiated, in other words, covering all kinds of waste at the same time.

A prototype that provides the grouping of the same value within parameters as a preliminary study to solve the seeking of shortest route in the future is needed and visual analytic is one of the techniques. Visual analytic is a technique to stimulate information clearly and efficiently via statistical graphics, information graphics, plots or charts (Liu, Cui, Wu, & Liu, 2014). Visual analytic supports the interaction with the graph and due to that the complex and huge data are more reachable, justifiable and applicable via this technique. Discovering patterns and detecting various relationships among the data are achieved using this technique. Some of the analysis methods for visual analytics that can be applied to graphs or charts are brushing, zooming, filtering, scaling and sorting (Stampach, Kubicek, & Herman, 2015).