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CRIME MAPPING SYSTEM PROTOTYPE FOR THE ROYAL MALAYSIAN POLICE

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ABSTRACT

This thesis presents a prototype system development of crime mapping prototype for the Royal Malaysian Police as a decision support system tool. However, the first objective of the study is to determine the crime classification based on the Penal Code. Classification of crime is to determine the type of crime that contribute to the fear of crime among the community. This study also aims to develop data model for crime incidence for the crime mapping system. The development of the prototype system includes the creation of spatial database to cope with the spatial and temporal features exist in the crime mapping system. The main aim of the developed system is to prove the benefits gained from the use of the developed system. As an experimental region studied under the development, police reports data were collected from the Kajang, Selangor Police Department. Data which was used are crime cases which were reported and opened for investigation from February and March 2013. Classification of the type of crime was based on the index crime which is published in the Malaysian's National Key Result Area Report 2010. Based on the visualized data on the crime map, and with manipulation of date range or the type of crime on the system, the administrations is capable of planning for resource allocations and possible of restructuring either permanent or temporarily. Based on the findings the system could be implemented into the organisation, to improve the policing strategies by district level police headquarters.

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CHAPTER 1

INTRODUCTION

1.1   Research Background

Crime is universal in this world. It occurs every single day without a miss. Crime is defined as "*an act or the commission of an act that is forbidden or the omission of a duty that is commanded by a public law and that makes the offender liable to punishment by that law*", by Merriam-Webster (2013) dictionary. Meanwhile Oxford online dictionary (2013) defines crime as "*an action or omission which constitutes an offence and is punishable by law*". Both dictionaries define crime as the act of a person that is forbidden, or wrong, in accordance to the law.

According to Crime Triangle theory by Cohen and Felson (Cohen and Felson, 1979), three elements required to exist for a crime to occur, that is victim, offender and place. Being in agreement to that theory, Spencer Chainey and Jerry Retcliffe in their book, GIS and Crime Mapping, (Chainey and Ratcliffe, 2005), expanded the theory to 4 dimensions of crime. For a crime to occurs, firstly the action has to be against the law, and then there is/are victim(s), the offender(s) and lastly the location of the crime. However, according to Chainey, crime occurrence is not randomly distributed. He believed that, should crime randomly distributed, there are equal chance and possibility that a crime occur anywhere. According to the Crime Pattern Theory, by Patricia L Brantingham and Paul J Brantingham, (Eck and Weisburd, 1995), the offender choice of location is an important major influence in committing crime.

Standard policing strategy is the strategy imposed by increasing the number of police personnel to carry out police routines. This strategy is seen to be insufficient in combating crime. Better systems and more advance tools and techniques are required by the Police organisation for better resource management and planning.

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