

**UNIVERSITI TEKNOLOGI MARA**

**PROPERTY AND VIOLENT CRIMES DATA  
ANALYSIS USING AN ANALYTICAL  
DASHBOARD**

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**Thesis submitted in fulfilment of the requirements for Bachelor of  
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Mathematical Sciences**

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**SUPERVISOR'S APPROVAL**

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This thesis is prepared under the direction of thesis supervisor, Dr. Khairul Anwar Sedek. It was submitted to the Faculty of Computer and Mathematical Sciences and was accepted in partial fulfilment of the requirements for the degree of Bachelor of Information Technology (Hons).

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## **STUDENT DECLARATION**

I confirm that this report and the research to which it refers are the result of my own efforts, and that any ideas or quotations from other people's work, whether published or unpublished, are fully acknowledged in accordance with the discipline's normal referencing norms.

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## ABSTRACT

One of the main reasons a person commits a crime is the narrowness of life. However, this is not the best way to get on with life. A crime is an illegal activity or action for which people can be punished by law. Our country, Malaysia, does not have such a crime dashboard that people can view it and play with the data. The only report that people can review about crimes is the yearly report by The Department of Statistic Malaysia, but users cannot interact with it like a dashboard. With the current techniques, data visualization is presented by 2-dimension graph only. Using 2-dimension graph make the users hard to get the full overview of the data. It is hard to see the trend of crime using that technique. The objective of this project is to analyze crime trend using data visualization approach. The dashboard prototype has been developed using Balsamiq wireframe in order to give an overview of the web application interfaces. The data dashboard has been developed using Microsoft Power BI which allows users to search for data, convert, visualize, and share the reports and dashboards that users create with other users in the same or different departments or organizations, as well as the general public. The significance of this project will bring advantages to the public users, because they can make conclusions from the data dashboard. This project will also bring significance to the practitioners who may use this project report to develop similar projects. The result of this project is to create a data dashboard that can be access by end-users like public and for practitioners who may use this report of project to develop similar project. The usability testing show that users are satisfied with the dashboard system, according to the two overall measures which are perceived usability analysis and user satisfaction analysis.

**Keywords:** Crimes, Data analysis, Analytical dashboard, Balsamiq, Microsoft Power BI, usability testing.

# TABLE OF CONTENTS

<b>SUPERVISOR'S APPROVAL</b> .....	i
<b>STUDENT DECLARATION</b> .....	ii
<b>ACKNOWLEDGEMENT</b> .....	iii
<b>ABSTRACT</b> .....	iv
<b>TABLE OF CONTENTS</b> .....	v
<b>LIST OF FIGURES</b> .....	viii
<b>LIST OF TABLES</b> .....	1
<b>CHAPTER 1 INTRODUCTION</b> .....	2
<b>1.1 Research Background</b> .....	2
<b>1.2 Problem Statement</b> .....	4
<b>1.3 Objective</b> .....	6
<b>1.4 Scope</b> .....	7
<b>1.5 Research Significances</b> .....	7
<b>CHAPTER 2 LITERATURE REVIEW</b> .....	9
<b>2.1 Introduction of Data Visualization</b> .....	9
<b>2.1.1 Data Visualization Characteristic</b> .....	10
<b>2.1.2 Problem of Data Visualization</b> .....	11
<b>2.2 Crime Data Visualization</b> .....	12
<b>2.3 Type of Data Visualization</b> .....	13
<b>2.3.1 Maps</b> .....	13
<b>2.3.2 Infographics</b> .....	14
<b>2.3.3 Dashboards</b> .....	15
<b>2.4 Type of Data Dashboard</b> .....	16
<b>2.4.1 Operational Dashboard</b> .....	17
<b>2.4.2 Strategic Dashboard</b> .....	17
<b>2.4.3 Analytical Dashboard</b> .....	18
<b>2.5 Technique Used in Data Dashboard</b> .....	19
<b>2.5.1 Bar Charts Technique</b> .....	19
<b>2.5.2 Choropleth Map Technique</b> .....	20
<b>2.5.3 Line Chart Technique</b> .....	21