

UNIVERSITI TEKNOLOGI MARA

**ANDROID APPLICATION FOR
MONITORING SOLID WASTE &
PUBLIC CLEANSING INVENTORY
DATA AT ARAU, PERLIS**

MUHAMAD FIRDAUS BIN IBRAHIM

Thesis submitted in fulfillment
of the requirements for the degree of
Bachelor of Surveying Science & Geomatics
(AP 220)

Faculty of Architecture, Planning and Surveying

July 2018

AUTHOR'S DECLARATION

I declare that the work in this thesis was carried out in accordance with the regulations of Universiti Teknologi MARA. It is original and is the results of my own work, unless otherwise indicated or acknowledged as referenced work. This thesis has not been submitted to any other academic institution or non-academic institution for any degree or qualification.

I, hereby, acknowledge that I have been supplied with the Academic Rules and Regulations for Post Graduate, Universiti Teknologi MARA, regulating the conduct of my study and research.


Name of Student : Muhamad Firdaus bin Ibrahim

Student I.D. No. : 2015851574

Programme : Bachelor in Surveying Science and Geomatics
(Honour) – AP220

Faculty : Faculty of Architecture, Planning and Surveying

Thesis : Android Application for Monitoring Solid Waste &
Public Cleansing Inventory Data at Arau, Perlis

Signature of Student : 

Date : July 2018

ABSTRACT

The inventory map of solid waste and public cleansing are very important for E-Idaman Company to calculate the amount of claim of their service to the *Perbadanan Sisa Pepejal*. E-Idaman Company needs to printed map to identify the location of solid waste for verification and to show the inventory data of an area in many times that cause increasing the company costing and it not a handy equipment. This paper presents a study of using Android application to help E-Idaman Company have better platform to display the inventory map of solid waste and public cleansing in Arau, Perlis. The system use geographical information system (GIS) for processing the data of solid waste inventory and display the inventory in Android Application. The development of system is using Android Studio and ArcGIS 10.4.1. The result demonstrated that Android Application is a flexible tool with reasonable speed for developing solid waste management application and the inventory will display. The result feedback from user testing show that the majority of the user are positively agreed with the efficiently of this application in monitoring inventory data. User can easily find the location of solid waste by using this application. The map will display and give the information that need to be verifying after data editing before claim money to *Perbadanan Pengurusan Sisa Pepejal dan Pembersihan Awam, PPSPPA*. This application can help E-Idaman Company has a better platform and increasing the efficient in monitoring progress work include data collection.

TABLE OF CONTENT

	Page
CONFIRMATION BY PANEL OF EXAMINERS	i
AUTHOR'S DECLARATION	ii
SUPERVISOR'S DECLARATION	iii
ABSTRACT	iv
ABSTRAK	v
ACKNOWLEDGEMENT	vi
TABLE OF CONTENT	vii
LIST OF TABLES	xii
LIST OF FIGURES	xiii
LIST OF ABBREVIATIONS / NOMENCLATURE	xv
CHAPTER ONE: INTRODUCTION	1
1.1 Research Background	1
1.2 Problem Statement	3
1.3 Aim	5
1.4 Objectives	5
1.5 Description of Study Area	5
1.6 Scope of Research	7
1.7 Limitations and Challenges	7
1.8 Significance of Study	8
1.9 Structure of Thesis	9
1.9.1 Chapter One – Introduction	9
1.9.2 Chapter Two – Literature Review	9

3.5.1.8	Select Features by Attributes	49
3.5.1.9	Calculate Geometry	50
3.5.1.10	Calculate Inventory	50
3.5.1.11	Data Conversion	51
3.5.2	Process of Develop Android Application using Android Studio	52
3.5.2.1	Design Interface	53
3.5.2.2	Development Phase	56
3.6	Testing Phase	59
3.6.1	Build and Run the Application	60
3.6.2	User Test and Feedback	61
3.7	Summary	61
CHAPTER FOUR: RESULT AND ANALYSIS		63
4.1	Introduction	63
4.2	Result and Analysis of Calculating Space Area	63
4.2.1	Buffer Drain	63
4.2.2	Buffer Grass	64
4.3	Result and Analysis Process of Summary of Space Area	65
4.4	Result and Analysis of Existing Public Cleansing Inventory Management	65
4.5	Result and Analysis of Developing an Android Application for Solid Waste and Public Cleansing Inventory Map	67
4.5.1	User Interface Design	68
4.5.2	Base Map by Google Map	69
4.5.3	Additional Tool in this Android Application	70
4.5.4	Overlay Inventory Data in the Android Application	71