UNIVERSITI TEKNIKAL MALAYSIA MELAKA

DEVELOPING A PRISONER ESCAPE DETECTOR SECURITY SYSTEM USING VERY HIGH FREQUENCY IMPLEMENTATION FOR JABATAN PENJARA MALAYSIA

This report submitted in accordance with requirement of the Universiti Teknikal Malaysia Melaka (UTeM) For The Bachelor Degree Of Engineering Technology (Hons) In Electronic (Telecommunication).

by

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Yang benar,

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ABSTRAK

Hampir setiap kes kelarikan diri daripada penjara telah di rekod oleh Jabatan Penjara Malaysia.Ini membimbangkan Jabatan Penjara Malaysia masa hadapan jika kes itu akan berterusan. Apabila banduan melarikan diri daripada penjara ia adalah sangat merbahaya kepada masyarakat. Kerana apabila banduan melarikan diri daripada penjara, kebarangkalian banduan akan mencari mangsa untuk membalas dendam. Banyak kes berlaku, banduan melarikan diri dan cuba membunuh mangsa yang menyebabkan ia masuk ke penjara. Dan kes-kes lain, banduan melarikan diri melakukan jenayah yang sangat merbahaya.Jadi saya mereka alat ini, untuk mengurangkan dan mencegah banduan melarikan diri daripada penjara.

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ABSTRACT

Practically every case escape of prisoners was record by the Prison Department of Malaysia. This worrying the Malaysian Prison Department upcoming if the case is ongoing. When prisoners escape from prison it is very dangerous to society. Because when prisoners escape from prison, the probability of the prisoners will find the victims other as Revenge. Many cases have come out, the prisoners escaped and attempted murder victim causing it in prison. And other cases, prisoners escape do very extreme crimes. So I designed this tool, to reduce and prevent prisoners escape from prison.

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DEDICATION

I want to dedication at my beloved my father, Sahard"din Bin Haji Mohd Hashim and my mother, Siti Khatijah Bee Binti Mohd Hashim.Because them was given positive supportive advice when while I doing this project. Many problems I was ahead because of them I was success to solve it every each problems I was ahead.

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LIST OF ABBREVIATIONS, SYMBOLS AND NOMENCLATURE

Al	-	Aluminium
KIK	-	Kumpulan Inovatif Kretif
TPP	-	Timbalan Penguasa Penjara
WP	-	Warder Penjara
LED	-	Light Emitting Diode
NPN	-	Negative Positive Negative
PNP	-	Positive Negative Positive
LAN	-	Local Area Network
GSM	-	Global System For Mobile
VDC	-	Voltage Direct Current
ADT	-	American District Telegraph
UHF	-	Ultra High Frequency
%	-	Percent
-	-	Negative
V	-	Voltage
≤	-	Small Than
/Min	-	Per Minute
PSM	-	Project Sarjana Muda
Ic	-	Integrated Circuit
RFC	-	Radio Frequency Coil
Mhz	-	Mega Hertz

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CHAPTER 1
INTRODUCTION

This chapter is about the project background, the objective of the project, and work scope this project.

1.1 Background

This project is have a collaborative project with the Prisons Department of Malaysia. In Malaysia, there are 27 prisons across Malaysia, 18 in Peninsular Malaysia and 9 more in Sabah and Sarawak. Each prison is headed by a Director of Prisons different ranks according to a prison capacity. With this project it was collaboration with the Prisons Department of Malaysia, Taiping at Perak Darul Ridzuan.

This is a small background the Prisons Department of Malaysia. Taiping prison built in 1879, with 513 staff, 9 workshop and 9 block of prisoner. Below this is organizational chart of Prisons Department of Malaysia, Taiping:

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Figure 1.1.0 : Organizational Chart Prison Department Of Malaysia.

At Jabatan Penjara Malaysia, Taiping have group in " UNIT PRA BEBAS". From this "UNIT PRA BEBES" have 1 more small group where their call KIK group. Every department government have a group call it "Kumpulan Inovatif Kretif". I was took this opportunity at Jabatan Penjara Malaysia, Taiping to present this project for them be sponsor this project. Them was agree to be sponsor this project after present about this project to KIK group. And KIK group giving an opportunity for this project to communicate and discuss about this project condition and expected the device them needed and budget to make this device or tool. Facilitators in this group KIK is Sir TPP Ahmad Fikri Bin Safiar. As below is organization chart of special group from " UNIT PRA BEBAS":

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Figure 1.1.1 : Organizational Chart Special Group "PRA BEBAS".

Until nowadays, cases prisoner try to escape and cases prisoner escape still happen in Malaysia. The aim of the proposed work is to improve the Prison Officers observing of prisoner , improve the system of care prisoner in Malaysia and improvement technology to the Prisons Department of Malaysia.

1.2 Objective

Nowadays less technology produced in the Prisons Department of Malaysia to improve the surveillance of prisoners. And with this project, this project was create a new device or tool for improve system security when Prison Officer on duty. This project was created to the next prisoner who is attempting to escape would be reduced. Therefore, this device is designed to tracking of prisoners who tried to escape and facilitate the officers to search for the prisoner escape. By using this technology tools, from this project with have a partners at the Prisons Department of Malaysia can guarantee for execution prisoners based on system of punishment criminal justice, ensuring the safety of prisoners in undergoing punishment, restore

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character and attitude of prisoners to implement effective rehabilitation program and always give to the management of cooperation smoother administration

The Most Of Important Objective In This Project:

1) Reduce negligence case of Prison Officer in charge.

Nowadays, with the Prison Officer in duty they can"t careless however for 1 second. But I can say as human mistake, It can be have careless the Prison Officer when in duty sometimes. That"s why the prisoner can run their self when careless the Prison Officer when in duty. With this tool I create, It can avoid from any careless.

2) Facilitate the tracking of prisoners who escaped from the officers.

Before this, when happen the prisoner escape so hard for the Prison Officer to find the prisoner escape because their good in hidden. By using this tool I create it can help the Prison Officer to tracking of prisoners if far from 15 meters. When the device UHF Transmitter and Receiver (with relay and alarm circuit) near with the Prison Officer, the Prison Officer will know the prisoner in around near the Prison Officer. With this technology tools make easy for the Prison Officer to tracking where the prisoner hidden.

3) Reduce run-prisoner cases in Malaysia.

With this tool, the prisoner can"t easy to run away again. Because with this technology, it will be hard a prisoner escape from the Prison Officer anymore. However the Prison Officer careless, the Prison Officer can know the prisoner escape from them. And with far 15 meters the Prison Officer can catch it back and can track it if the prisoner hidden.

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1.3 Problem Statement

Such as below is pure statistic of cases prisoner try to escape and cases prisoner escape in Years 2006 until 2013 at Malaysia from the Prisons Department of Malaysia:

STATISTIK KES KELARIAN DAN CUBA LARI TAHUN 2006 - 2013

BIL	INSTITUSI	TAHUN																JUMLAH
		2006		2007		2008		2009		2010		2011		2012		2013		
		LARI	CUBA	LARI	CUBA	LARI	CUBA	LARI	CUBA	LARI	CUBA	LARI	CUBA	LARI	CUBA	LARI	CUBA	
1	ALOR SETAR	1							1				2				2	6
2	SG. PETANI		1															1
3	P. PINANG			1														1
4	PRA BEBAS KEMTA					1												1
5	SG. BULOH									1								1
6	KAJANG	1				1									1			3
7	J.BAHRU									1			1					2
8	SPG. RENGGAM		1															1
9	P. CHEPA		1									1			1			3
10	PENOR					1				1							1	3
11	SG. UDANG														1			1
12	DDM														1			1
13	KOTA KINABALU												1					1
14	KOTA KINABALU (W)											1				2		3
15	TAWAU									1			1					2
16	P. BORNEO	1					1											2
17	SIBU										1							1
18	MIRI						1							1				2
19	PPA SPG. RENGGAM	1																1
20	PPA KAMUNTING					1												1
21	SHG TELOK MAS			1							1	1						3
22	SHG KENINGAU	2				1		1								14		18
23	PPP SULTAN ABD HALIM															1		1
24	DEPOT PATI	19	4	5	2													30
	JUMLAH	25	7	7	2	5	2	1	1	4	2	3	5	1	4	17	3	89
	JUMLAH PENUH	32		9		7		2		6		8		5		20		89

Figure 1.3.0 : Statistic Of Cases Prisoner Try To Escape And Cases Prisoner Escape In Years 2006 Until 2013 At Malaysia.

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From the statistic cases prisoner try to escape and cases prisoner escape find years problem need to settle by using pareto diagram:

1) Total value each year"s cases prisoner try to escape and cases prisoner escape.

2006	2007	2008	2009	2010	2011	2012	2013
32	9	7	2	6	8	5	20

2) Arrange the highest value until lower value .

2006	2013	2007	2011	2008	2010	2012	2009
32	20	9	8	7	6	5	2

3) Find cumulative percentage.

cases of the escape and the escape trial for 8 years

Year	Count	Cumulative Count	Cummulative %
2006	32	32	36
2013	20	52	58
2007	9	61	72
2011	8	69	77
2008	7	76	85
2010	6	82	92
2012	5	87	97
2009	2	89	100

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