

**GLOBAL POSITIONING SYSTEM (GPS):
THE UTILIZATION OF GPS IN
LEMBAGA PELESENAN KENDERAAN PERDAGANGAN (LPKP)**

A dissertation submitted to the Graduate Department of Information Technology, College of Art and Sciences in partial fulfillment of the requirement for the degree Master of Science (Information Technology), MSc (IT), Universiti Utara Malaysia

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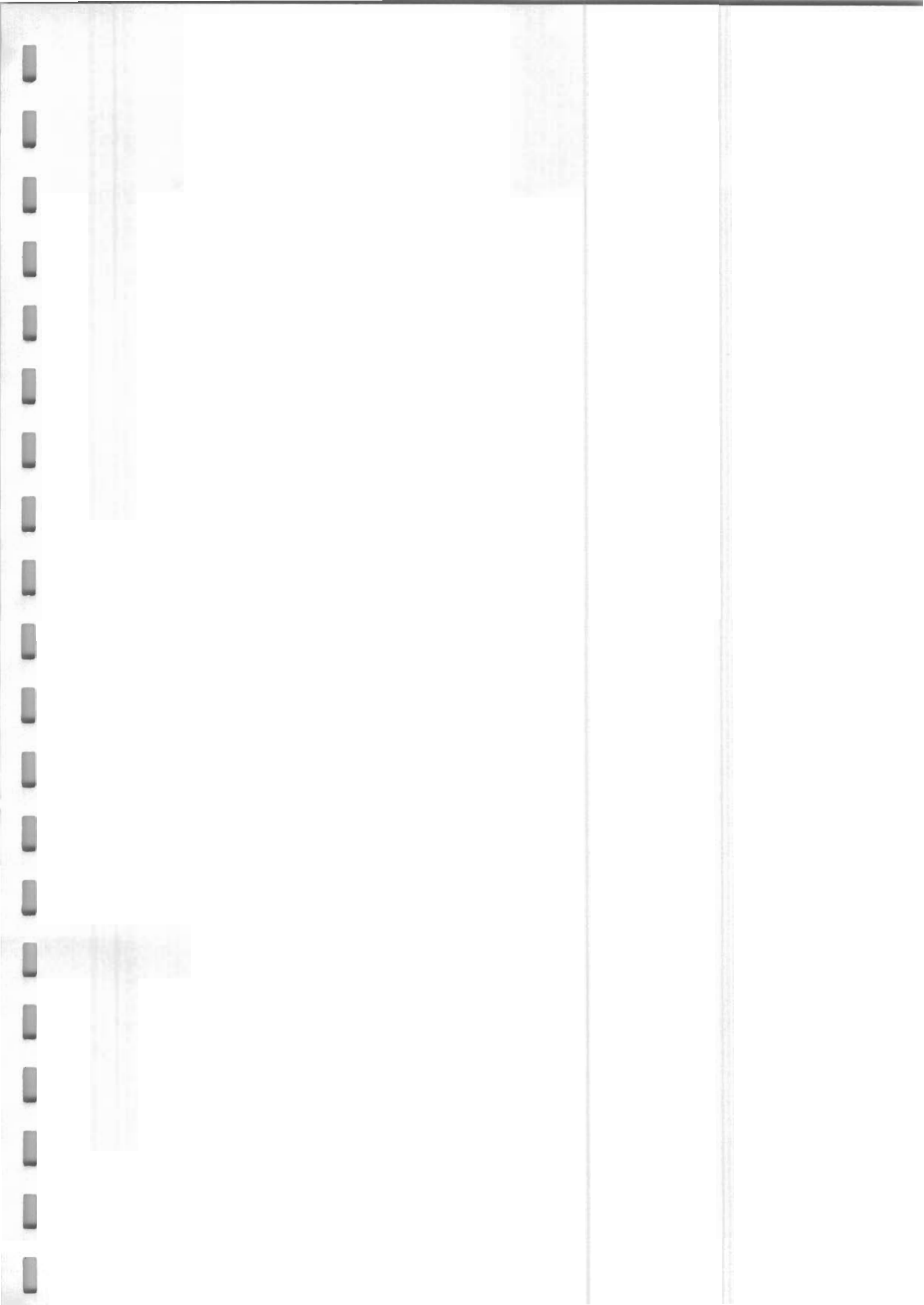


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ABSTRACT

This research is a feasibility study on the utilization of Global Positioning System (GPS) in Lembaga Pelesenan Kendaraan Perdagangan (LPKP). GPS is a widely use technology in various sectors such as military, civilian and others, however in this research the focus would be on the transportation vehicles that are being registered with LPKP. The GPS will not only be used for tracking and controlling but it will be used to locate the location of the vehicle and capable in recording the handling errors of the drivers. The objective of this research is to find out any issues that will arise from the future utilization of the technology, focusing on the transportation's operators, or else later being address as entrepreneur. Thus, it could be used as feedback for the LPKP to take into consideration of the issues, soon.

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CHAPTER 1

INTRODUCTION

1.0 Background

Lembaga Pelesenan Kenderaan Perdagangan (LPKP) is a government body under the administration of the Ministry of Entrepreneur and Cooperative Development (MECD). The core task of LPKP is to produce and governance goods transportation licenses as well as public transportation licenses. In Malaysia, the distribution of the portfolio is divided accordingly to geographical areas which are Peninsular LPKP, Sabah LPKP and Sarawak LPKP. In this research the focus area of implementation is in Peninsular LPKP which then being narrowed down to Northern Regional LPKP that is located in Sungai Petani, Kedah.

In order to understand more about LPKP, it would be better to clarify that LPKP licenses and Jabatan Pengangkutan Jalan (JPJ) licenses are different in terms of its principle. JPJ licenses are licenses that authorize the vehicles to be on the road where as LPKP licenses are licenses that authorize goods that will be carried out using the vehicles, where it can be goods or people (especially for services). Both LPKP and JPJ are working together to ensure the goods and services transportation operate in a good condition abide by some rules following the act from JPJ and LPKP.

Currently LPKP is only responsible on the buses, trucks or taxies that are registered with LPKP. Therefore, the safety and condition of the vehicle and public that used them has become the responsibilities of LPKP as well. The chairman of LPKP, Datuk Haji Markiman bin Kobiran has come out with a thought of compulsories GPS on tracking and controlling vehicle which will reduce accidents and errors of vehicle, and also road handling among drivers. It is hoped that these matters will ensure public safety (Singh, 2005) while using the public transportation.

Based on the news reported by (Bernama, 2007), Datuk Haji Markiman bin Kobiran said the proposal to make it compulsory for express buses to be installed with the GPS device was still being studied and the LPKP hoped to implement it as soon as possible. He also added that drivers exceeding the speed limit, driving dangerously, applying the emergency brakes or not following the travel schedule could be detected by the bus companies' officers via the hand phone and recorded. With the help of GPS, it is for detecting the misconduct of bus drivers in an effort to reduce accidents involving public transport vehicles.

Besides that, as described by (Ahmad *et.al.*, 1998) where the advanced of information technologies have brought the government to new number of information system in Malaysia, which include in the transportation sectors. Since the

rapid economic growth in Malaysia, the number of new vehicles on the road, new roads, and highways are expected to increase (Umar, 1994), thus with the use of GPS on tracking and controlling will help to reduce the number of casualties among public transportations.

Managing the licenses in Malaysia solely would be very complicated. Therefore LPKP have organized the regional by distributing the state regionally. With the purpose of managing licenses in Peninsular Malaysia, four regional offices have been operating which are Northern Regional LPKP, Middle Regional LPKP, Eastern Regional LPKP and Western Regional LPKP. Retrieving data from the LPKP, it is reported that by 2007 the licenses that being produced by LPKP in Malaysia are 500,368 licenses. Referring to the data, there are some countries such as Brunei, Indonesia, Singapore and Thailand that owned the licenses. This situation happens because the vehicles that are registered are operating in those countries due to providing services or undergoing projects. The details of the distribution of the licenses are:

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