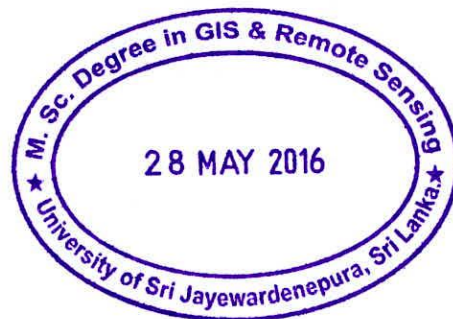


Developing a Surveillance Management System
for the Military Intelligence

By

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DECLARATION

The work described in this thesis was carried out by me under the supervision of Mr. C.L.K. Nawarathna and Mr. Prabath J. Malavige and report on this has not been submitted in whole or in part to any University or any other institution for another Degree/Diploma.

.....20 March 2016

Date


.....

HWW Ranasinghe

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ABSTRACT

At present Sri Lanka Army doesn't have a computer based surveillance management system for the usage of day today surveillance operations. Therefore surveillance troops on the ground always depend on the manual file registry system. The details in the manual surveillance information system also not updated periodically due to difficulties of handling information in a systematic order. On the other hand huge manpower required for maintain the existing system which contains with paper documents in manual registries. Hence development of an advanced information system is an essential requirement for achieve the aims of the army in an efficient manner. Both the operational commanders in operational headquarters and the ground troops who are involving in ground operations get the benefit from the Surveillance Management System.

The researcher selected the Puttuvettuvan Grama Niladari Division in Thunukkai Divisional Secretariat Division in the Mulleitivu district as the study area due to the diversity of Ex-Combatants. The study sample includes 110 Ex-Combatants who were the members of different kind of organizations. The spatial distribution patterns of the Ex-Combatants were analyzed and identified in the research.

Developing of this system includes the theories of Geographic Information System (GIS), Global Positioning System (GPS) and Web GIS applications. SMS has developed using PHP, MySQL, (XML), JAVA Scripts with AJAX, HTML and CSS. It consists of a comprehensive web application which allows the users to manage their surveillance management operations. The system facilitates the users who are involving in surveillance management process, to get required essential information at any location all around the country. It was used a set of algorithms and web tools for automating attribute data. Finally the research produces a user friendly Web GIS application. Surveillance

troops could save their time, organize their day to day operations in an effective manner and able to maintain a proper database of the Ex-Combatants by using Surveillance Management System. The user friendly interfaces allow developers to visualize the power of displaying information without having complex designs. The study not only focus to develop a system but also it discusses the pros and cons of the system.

Key Words: GIS, GPS, Web GIS, Surveillance Management System.

ABBREVIATIONS

AJAX	-	Asynchronous JavaScript and XML
AOI	-	Area of Interest
BTF	-	British Tamil Forum
C4I	-	Computerized Command, Control, Communications and Intelligence
C4ISR	-	Command, Control, Communications, Computers, Intelligence, Surveillance and Reconnaissance
CSS	-	Cascading Style Sheet
DII	-	Defence Information Infrastructure
EPDP	-	Eelam People's Democratic Party
FCSBS	-	Future Combat Systems - Battle Command software
GIS	-	Geographic Information System
GTF	-	Global Tamil Forum
GPS	-	Global Positioning System
GND	-	Grama Niladari Division
GIG	-	Global Information Grid
HTML	-	Hypertext Markup Language
INGO	-	International Non-Government Organizations
INT	-	Intelligent
IRNSS	-	Indian Regional Naval Satellite System
IT	-	Information Technology
LOG	-	Logistics
LTTE	-	Liberation Tigers of Tamil Eelam
MOD	-	Ministry of Defence
NATO	-	North Atlantic Treaty Organization
NGO	-	Non-Government Organizations
NIC	-	National Identity Card
PDA	-	Personal Digital Assistant
PHP	-	Hypertext Preprocessor
PLOTE	-	People's Liberation Organization of Tamil Eelam

POW	-	Prisoners of War
RS	-	Remote Sensing
SMS	-	Surveillance Management System
SDDCTEA	-	Surface Deployment and Distribution Command Transportation Engineering Agency
TELO	-	Tamil Eelam Liberation Organization
TGTE	-	Transnational Government of Tamil Eelam
IRRIS	-	Intelligent Road Rail Information Server
UAC	-	User Account Control
UDA	-	Urban Development Authority
UK	-	United Kingdom
USA	-	United States of America
WAN	-	Wide Area Network
WINT	-	Warfighter Information Network Tactical
WWW	-	World Wide Web
XML	-	Extensible Markup Language
VOIP	-	Voice Over Internet Protocol

Chapter One

INTRODUCTION

1.1 Introduction

Armed forces of the faced a lot of difficulties during the past three decades due to the civil war with the most dangerous terrorist organization in the world. The Liberation Tigers of Tamil Eelam (LTTE) is regarded as the most ruthless and dangerous of the Sri Lankan Tamil combative groups. Due to its military successes, strategies, call for national self-determination and constructive Tamil Nationalist platform the LTTE was supported by major sections of the Tamil community (Wilson, 2002).

Thousands of innocent civilian lives lost due to the brutal war. Amnesty International quoted UN figures to say that a total of 39,883 people had been displaced in the north and east adding that a total of 314,378 people were displaced by the conflict (Dilip, 2006). Amnesty international also accused the LTTE of breaking the international law by using civilians as buffers against the army. A researcher for the organization stated that there were cases where militants had forced people to stay in rebel-held areas to hamper army operations (BBC, 2008). The United Nations reported more than 20,000 civilians were killed in this recent war (CNN, 2009). It is a great achievement to defeat terrorism in the name of the peace and essential to maintain it in the country for the better future of the nation.

Though the LTTE was militarily defeated there are so many extreme organizations such as Transnational Government of Tamil Eelam (TGTE), British Tamil Forum (BTF) and Global Tamil Forum (GTF) are trying to unstable the country's situation. Hence military organizations in the country should have to continue their alertness same as the earlier. In this aspect it is very clear that intelligence organizations in the country should have to play an important role.

With the development of technology warfare today is of that information age and is largely dependent on Information Technology (IT) (Maddumage, 2011). Hence, using of