

**Universiti Teknologi MARA**

**ATRASYS –**

**Accident Tracking System with Messaging  
Coordinate using GPS and GSM Technology for  
UiTM Shah Alam**

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## ABSTRACT

Nowadays, UiTM Shah Alam's people use their own transports when they go to work or class. That have the other people use a public transport such as a bus. All people become rushing and because of that, an accident occurs and makes the statistic of accident in UiTM Shah Alam increases. It can give more problem to the driver and also emergency team such as the time for call and wait the emergency team come to the location of accident is wasted and the victim's condition also can be more severe. Furthermore, the emergency teams become hard to identify whether the accident is a minor accident or major accident and also people sent a fake call or information of the accident to the emergency teams is the other problem. The objectives of ATRASYS system is to design, develop and testing the system properly. This system can alert the emergency team when an accident occurs by sending a message via using Short Message System(SMS). This system used to detect an accident that involve car vehicle's driver and the driver also can inform to the emergency team whether an accident is minor or major accident. This project consists hardware and software development. In the hardware development, an ATmega328 Arduino UNO is a microcontroller that used to control the system. A force pressure sensor is used to detect an accident for a car vehicle. The other hardware is Global Positioning System(GPS) and Global System for Mobile Communication(GSM) which is used as a wireless communication that can detect location and send the coordinate of the location via SMS. For the software development, an Arduino IDE software is used to code the system by using C++ language that program in Arduino UNO microcontroller to allow the function of hardware devices. Furthermore, this system has been testing all the sensors to make sure that it has no any problem when combine together. All the sensors were successful testing and combine together.

# TABLE OF CONTENTS

<b>CONTENT</b>	<b>PAGE</b>
<b>SUPERVISOR APPROVAL</b>	1
<b>STUDENT DECLARATION</b>	2
<b>ACKNOWLEDGEMENT</b>	3
<b>ABSTRACT</b>	4
<b>TABLE OF CONTENTS</b>	5
<b>LIST OF FIGURES</b>	9
<b>LIST OF TABLES</b>	12
<b>LIST OF ABBREVIATIONS</b>	13
<b>CHAPTER 1: INTRODUCTION</b>	
1.0 Introduction.....	15
1.1 Background of Study.....	15
1.2 Problem Statement.....	16
1.3 Project Aims and Objectives.....	17
1.4 Scope of Project.....	17
1.5 Significant of Project.....	18
1.6 Summary.....	18
<b>CHAPTER 2: LITERATURE REVIEW</b>	
2.0 Introduction.....	19
2.1 Overview of Literature Review.....	19
2.2 Technology Consideration.....	21
2.2.1 Personal Area Technology.....	21
2.2.2 Navigation Area Technology.....	27
2.3 Related Work.....	29

# CHAPTER 1

## INTRODUCTION

### 1.0 Introduction

This chapter discuss about “An Accident Tracking System with messaging geographical coordinate using GPS Technology for UiTM Shah Alam” system. This chapter contained a background of project, problem statement, project aims and objectives, scope of project and significance of the project.

### 1.1 Background of Study

Nowadays, many accidents have been occurred in the world and the rate of accident is become increasing year by year. Every second people was death because of an accident that they have involved. Therefore, a system that track an accident should be introduced by decreasing the accidents occur in the world. The background of study will discuss about accident and tracking system.

An accident is unexpected things that can cause injury and sometimes it can make people death. Based on current situations, an accident always happens in the world from the south, north, west and east of the world. According to the World Health Organization (2012), the road accidents that occurred in the world have caused 1.25 million deaths in year 2010. The 7% of the population in the world is represent by 28 countries. The motorcycle’s user and a big vehicle like a lorry and bus is the most involved in accident.

A tracking system is a system that used a tracking sensor such as Radio Frequency Identification(RFiD), Global Positioning System(GPS), Real-time Locating System(RTLS) or any sensors to track people or objects based on the movement. The people or object can be track based on coordinate of the location where it is placed. For example, the GPS is used for tracking people or objects that should be combine with Global System for Mobile Communication (GSM) to send the geographical coordinate that detected by GPS to someone.