FINAL YEAR PROJECT REPORT

(GPS Based Anti-Collision system)

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In The Name of Allah the Most Beneficent and Merciful

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Abstract

The GPS Based Anti-Collision System is basically a vehicle collision preventing system which could be used as Anti-Collision and navigation system in cars while traveling on motorway. Anti-Collision System fitted in the vehicle act as a watchdog in the dark as they constantly remain in lookout for other vehicle bound Anti-Collision System, within the braking distance required for the vehicle to stop. They take inputs from GPS satellite system for position updates and network among themselves for exchanging information using Radio Frequency transceiver. By getting the information through transceiver and GPS, microcontroller suggests the safety distance, and the system alarms the driver after crossing the safety distance. After alarming of the system they communicate through their radios and identify each other. If they happen to find themselves on the same track and coming closer to each other, they could be slowdown and stopped their vehicle respectively, thereby preventing dangerous **head-on** and **rear-end** collisions. The overall delay we countered in this system is 1-2 seconds which is bearable for the system.

Chapter 1

Introduction

1.1 Project introduction

The fatalities attributed to collision of vehicles have been in play since from the very beginning. A major cause of these accidents is that vehicles are not equipped with collision avoidance systems due to their cost. These vehicles only rely on visual acquisition to avoid collisions.

There are limitations to using visual acquisition as a means of collision avoidance even for slow moving automobiles such as. Human vision can also be limited due to many reasons and many conditions such as zero visibility sue to fog, rain or snow etc.

As can be seen, there is a need for vehicles to have a small, reliable and cost effective system for collision avoidance that does not rely heavily on visual acquisition.

Figure 1.1 Car collisions