

# **Software Requirements Specification**

**for**

**Car accident detector and informer**

**Version 1.0**

**Prepared by:-**

**Shubham Kumar Singh  
Jahanvi Sharma  
Vaibhav Singh**

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# 1. Introduction

Now a day's foundation has grown however the quantity of accidents are additionally getting increased despite the fact that numerous accidents are minor however because of absence of medical aid and the range of rescue vehicle to the spot is late so there is countless individuals are losing the life consistently. Twenty people die on every hour in street accidents in India - times India reports on 2012. In the current framework just the human sees that the accidents has happened and they will call to the rescue vehicle and the reach of rescue vehicle to the spot is late because of that there is enormous loss of human life, and also in some of the system they only provided to send the alert message to the ambulance but not the location of victims. And also as per the World Health Organization, an expected 1.2 million individuals lose their life every year because of car accidents. Commonly appropriate medical facilities are not given due to lack of communication thus lead to serious injuries. Our framework help common people as a wellbeing measure in brutal condition scope. To decrease the number of people losing the life in the proposed system, we are sending automatic information (i.e. location and alert message) to the ambulance, and the ambulance will arrive at the spot as soon as possible and can save human life and decrease number of individuals die every day. The proposed framework is to reduce the death race of human every day because of accidents by sending automatic location to the ambulance thus can save human life. And also the issue of vehicle theft has increased tremendously, mostly at gunpoint or car parks. In view of these, there is a need to recover theft vehicle, identified and recovered vehicles which are not readily available in our society and as such very important. We are going to add in proposed so that we can get the location of vehicle.

In our proposed system, we are sending the live location of victim through damage of the cars, if somewhere accident happen then then there must be damaged in the cars so we are going to **detect the damage** of the car through using **CAN module** or we are using **SenseEC sensor** after detecting the damage the data, data send to the **microcontroller** that the accident has occurred and the **GPS modem** continuously receives the co-ordinates and gives the data to microcontroller after that information obtained from GPS module sends to the operating centre, basically operating centre used to detect the spot and search for nearby ambulance and send the location to the ambulance and also sending the location to family members and nearby police station and also sound release after the accidents so that ambulance, police, and family member easily locate the place. From this module we can also detect the **theft vehicle** through GPS modem and microcontroller and easily locate the theft vehicle. From this proposed system we can save many lives everyday by providing timely aid to the victims if accidents has happened.

## 1.1 Purpose

This SRS document is to render a comprehensive overview of the automation of accident detection and notifying the hospitals, police stations about the accident data. It provides the primary requirements for the team of developers to complete their tasks and will state how the goals will be met. This is to ensure clear verifiability with our client. The intended audience for this document is for those that are familiar with automotive software systems.

## **1.2 Document Conventions**

In the above document we use text format as Times New Roman bold (16pt) for headings and bold (14pt) for sub-heading and the rest body part text format is Times New Roman(12pt).

## **1.3 Intended Audience and Reading Suggestions**

This project is for the Accident detection and targets car manufacturing industry for implementation and is restricted to the accident suspect.

## **1.4 Project Scope**

The proposed device is for accident notification system (A.N.S). This product will be used in vehicles to get the data of accident and further notifying police station and hospitals.

Goal: It will reduce the no of deaths in accident cases and will help to track data of car .Including, will help to solve various cases of road accident and will able to find the culprit.

## **1.5 References**

[http://www.processimpact.com/norm\\_kerth.html](http://www.processimpact.com/norm_kerth.html)

# **2. Overall Description**

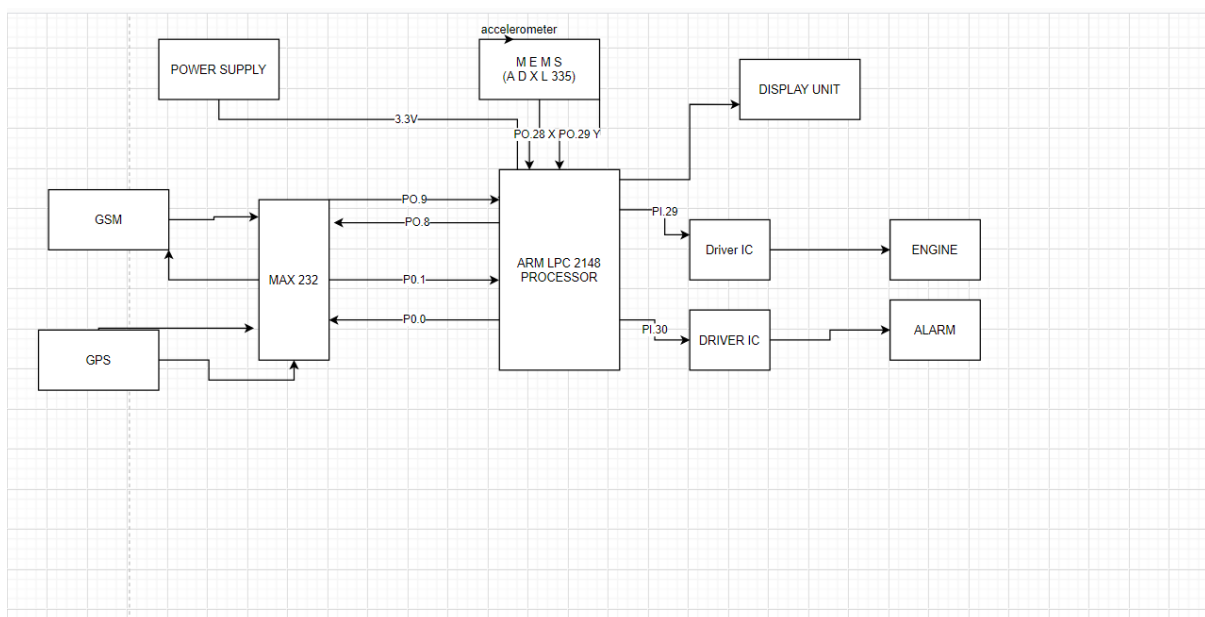
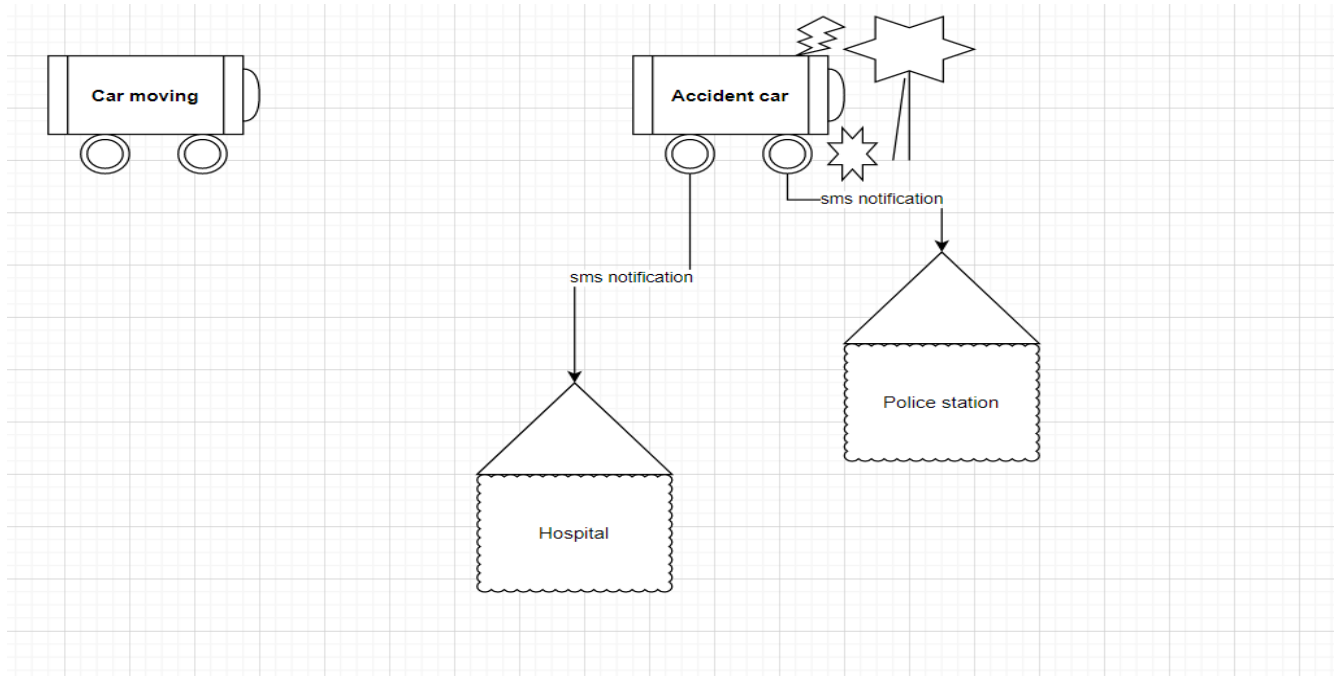
## **2.1 Product Perspective**

Currently we don't have any system to send notification to Hospitals and police station.

There are few more systems which can be integrated with this system to make it more flexible:

1. Voice enabled first aid instruction system.
2. Air-bagged system.

## 2.2 Product Features



## 2.3 User Classes and Characteristics

**USER:-**The user or driver with co-passenger can get emergency help in case of accident.

**Police station:** Can get notification about the accident and track device using gps tracker.

**Hospital:** Hospital can provide instant emergency support in case of accident to the victim.

**Family:** can be notified about the damage.

## **2.4 Operating Environment**

- All BDS Engines.
- All vehicles with global positioning system enabled.
- All vehicles with Air bag system enabled.

## **2.5 Design and Implementation Constraints.**

- Enabling system with the Old cars.
- Adaptability of current market.
- Cost effective ways.

## **2.6 Assumptions and Dependencies**

Let us assume that this is a distributed Accident detection system and it is used in the following application:

Application to track vehicle.

Application to detect location of vehicle met accident.

# **3. System Features**

## **3.1 Description and priority:**

The accident notification System notifies or informs about the accident spot, time to the nearby hospital, police station and family members .Of course, this project has very high priority in order because will save life in road accident.

## **3.2 Stimulus/Response Sequences**

3.2.1 Accident will be detected by accelerometer.

3.2.2 Engine stops.

3.2.3 Alarm starts.

3.2.4 Gsm model activates and send notification.

# **4. External Interface Requirement**

## **4.1 User Interface**

→ Car Driver with car

## 4.2 Hardware interface

1. Power supply with processor
2. Accelerometer with processor
3. GSM with Processor as input and output.
4. GPS with processor as input and output and device tracker .
5. Display unit for output from processor.

## 4.3 Software Interface

- Attaching and integrating message system with Display .
- Calling Api of google map and converting longitude and longitude to location.

## 4.4 Communications Interfaces

- The device uses latest messaging apps ex. messenger
- Location sent can be used by any browser.

# 5. Other Nonfunctional Requirements

## 5.1 Safety Requirements

If there is any damage to the device then the second part attached with airbag inflator starts working which when gets excess of nitrogen pumps and on the sensor which further send the notification.

Device should be properly fitted and attached properly to the vehicle

## 5.2 Security Requirement

Security Requirement requires proper maintenance and check after installation. Testing the system prototype before use is needed.

## 5.3 Software Quality Attributes

Availability of proper hospital and police station should be near to easily track and notify