# 1 Vision and Scope

All quoted information that follows represents an extract of the requirements document provided directly by the customer for the Drivestats application (DVT). These are neither modified nor abstracted and are presented directly as specified (DVT, 2015).

## 1.1 Project Background

The DVT DriveStats Application is a mobile tool which aims to increase the safety of driving on South African roads by providing a simple and effect way to measure the efficacy of the driving of individuals. This is achieved via the use of an Android mobile application and communication with a privately hosted Azure Server.

## 1.2 Project Vision

*“Many people believe that they are outstanding drivers. Studies have shown that the majority of people believe that their level of safety while driving is above average - a statistical impossibility. [Svenson, 1981] To overcome this bias, an objective measure of driving safety for company vehicles is needed.*

*DVT would like to procure a mobile app that has the capability of objectively measuring the level of safety of a trip taken by a driver. The application will be used by fleet managers, car rental companies and by insurance companies to ensure that the vehicles belonging to or managed by the company are not being driven recklessly or irresponsibly.*

*The app should the sensors embedded in the mobile device, such as the GPS and accelerometer to determine different measures of driving safety, such as:*

* *Speed of the vehicle relative to the speed limit*
* *Cornering speed*
* *Braking and acceleration forces*
* *Overall smoothness of the drive, measuring the number of speedbumps and/or potholes encountered*

*The app should be able to calculate an overall safety rating (“score”) for each trip measured. The rating, a score out of 10 with one decimal place, should incorporate all of the above factors, weighted according to a formula which will determine an objective metric of safety of the driving session.”*

## 1.3 Project Scope

*“The project will consist of 2 main components[[1]](#footnote-1):*

* *Mobile Application*
* *REST service API*

The requirement is to create a system that will, through the use of sensors within smartphone devices, be able to measure and report on the safety level of the driving activity in a vehicle.

Attention should be dedicated to designing an algorithm which will incorporate as input the data from all of the sensors identified. The output of the algorithm will be the overall driving score for an individual trip.

A driver-specific score for an individual user of the app should be calculated by taking the average of all the trip scores for that driver.”

# 2 Use Case Prioritisation

3 Use Cases

4 Domain Model

5 Access Integration Channels

5.1. Access Channels

5.1.1 Human Access Channels

5.1.2 System Access Channels

5.2 Integration Channels

6 Architectural Responsibilities

8 Architecture Constraints

9 Technologies

1. It must be noted that a scope reduction was granted due to the loss of several team embers, and the requirement for a web interface was dropped. [↑](#footnote-ref-1)