# Background

The algorithm of the DVT Drivestats application will return a score from 0.0-10.0 as an evaluation of the driving ability of the driver in question.

This score is calculated based on sensor input regarding a particular trip the user took. The sensors involved are:

* GPS coordinates
* Speed
* Accelerometer (one for each of the x, y, z axes)

# Implementation

# Considered implementations which were decided against

## Neural Network

### Description

A neural network would have been constructed on the server side which would make use of backpropagation to shift weightings the in score-calculating equation to ensure that future trips would more closely approximate a value of 5.0.

### Why this was not implemented

Neural networks, although demonstrably powerful, do not allow for mathematically sound statistical measurements of the accuracy of the algorithm. Because of their high complexity they are not easily shown to be useful (a core requirement stated by DVT).

Furthermore, neural networks would guarantee an average of around 5.0, but would not properly judge which variables best reflect good driving. It is very likely that a neural network may mistakenly place to great an emphasis on GPS coordinates or underestimate the effect of harsh acceleration on the quality of a person’s driving.