Cover page

Driving analysis application for commercial fleet sustainment and replacement selection

College of Engineering and Informatics

Bachelor of Science(Computer Science & Information Technology)

Project Report

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Table of contents:

List of figures

List of tables

Graphical user interface, text, application

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Chapter 1. Introduction

1.1 Project Overview

The purpose of this report is to provide an account of the processes and procedures that were implemented to construct my final year project. These included but were not limited to research, planning, resource implantation, software development, testing and evaluation of results.

The purpose of this project is to create a provocative, useful, and innovative data analytics tool The report centres on the development of a driving analysis application for commercial fleet management; the ultimate end being fleet sustainment and providing data driven decision making with regards to replacement selection. Factors that we will consider will be the type of vehicle being used along with its characteristics such as fuel type and transmission, the average distance per trip and the type of routes used among other considerations

1.2 Document Structure

X amount of chapters

Chapter 2 Research

2.1 Introduction

This chapter details the sources behind the research alongside analysis of competitors application in the markets. The sources will include snippets of functionality we are trying to recreate but also will point how our application differs.

2.2 Research sources

Research into this project began with discussing the problems of fleet management with logistics Officers in the 2nd Brigade Transport unit in Cathal Brugha Barracks in Rathmines, Co Dublin who are the brigade’s lead unit with regards to heavy logistics tasks along with the vehicle maintenance and driver training which are part in parcel of these activities. They employ a wide range of vehicle with different capabilities and roles. Fleet management apparatus does exist in headquarters but it based on manually collated information by unit personnel and lacks a lot of useful detail. Details for a logistics trip which are mostly brief with point of origin, destination, vehicle and registration used, distance travelled as per odometer and the amount of litres of fuel required to return the tank to full.

What are we missing?

The research involved prior to beginning the project included reading many informative articles and explanations of what is and how blockchain works such as the one on Investopedia.com [7] and in the journal “A blockchain future for internet of things security” (Banerjee, Lee and Choo, 2018) [53]. These in dept explanations provided valuable information on how blockchain works, what it is used for and its perks and pitfalls. This Material was very provocative and inspired more research into the cryptocurrency aspect of blockchain. Bitcoin, the most popular of the current cryptocurrencies was the most prevalent in the research conducted. Great websites exist on explaining Bitcoin and its innerworkings such as bitcoin.org [8] and journals such as “Bitcoin: Economics, Technology, and Governance” (Böhme, Christin, Edelman and Moore, 2015) [54] provide a myriad of examples and use cases of Bitcoin. Investigations were conducted into price fluctuations of Bitcoin at a high level and a lot of movement was discovered before and during the current pandemic. This led to a belief that there must be some correlation between the two and that more research at a low level needs to be done