6COSC023W – Final Project Report

BGWarranty: Digital Warranty Management System for Automobile Batteries

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This report is submitted in partial fulfillment of the requirements for

the

BSc (Hons) Business Information Systems

at the University of Westminster

School of Computing & Engineering

University of Westminster

5th May 2022

Abstract

The Automotive Battery Industry is a high-value industry in Sri Lanka with thousands of batteries sold daily around the country. These vehicle batteries are sold with a limited time warranty as guarantee to the customers to repair or replace defective goods. With the large amounts of batteries being sold daily by multiple manufacturers, the current warranty management system which is traditional and paper-based, is not sufficient for the effective management of warranty provisions. Warranties cost large amounts money for manufacturers annually. Additionally, the current warranty management system used by battery manufacturers in the country, persists of various issues such as fraudulent warranty claims, human errors made during the processes, large processing times and various other practical issues that happen with the use of a Warranty Card. Therefore, the aim of the project has been to analyse factors contributing to the current issues in the manual Warranty Management System of the Automobile Battery Industry and to develop a mobile application and an admin portal that will manage warranties digitally.

Deep background research has been carried out by literature research with the use of various different sources such as books, journals and websites. The complete set of requirements for the proposed solution needed to be gathered from stakeholders. For this purpose, interviews, questionnaires with the intended end-users and literature researches have been utilized. Carefully analysing the gathered requirements, mock-ups have been created for the design of the applications. With design feedback from end users, the final designs have been achieved and development for the implementations have been done. User Acceptance Testing sessions have been conducting to get feedback on the prototypes and further changes and improvements have been done accordingly to achieve the final solution which is the BGWarranty Mobile Application for the dealers and a Web Portal for the company system administrators.

The project has used an Iterative and Incremental development approach in general. The Project Management has followed the PRINCE2 approach while the Software Development has been done in Object Oriented Programming model. The deployed solution has shown great potential in addressing all mentioned issues in the current system while ultimately achieving a milestone in the industry.