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Title of the Business Solution Development Project (DSE21.3F/CO)	Nolimit head office (Dehiwala), Fleet management system software development	

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DIPLOMA IN SOFTWARE ENGINEERING 21.3F

National institute of business management

NOLIMIT HEAD OFFICE FLEET MANAGEMENT SYSTEM SOFTWARE DEVELOPMENT

INTRODUCTION

1.1 Introduction of the Organization.

NOLIMIT – Sri Lanka's biggest fashion chain offers a wide range of clothes and accessories for Men, Women and Kids. The retail store houses a range of Homeware and Lifestyle products to compliment a comprehensive family shopping experience for all our customers. Our showrooms are located in strategic cities across the Island, in addition to our head office which is located in Dehiwala.

NOLIMIT has been growing from strength to strength over the last 29 years with a team of 1800 people serving millions of customers every year. The retail chain takes pride in its Sri Lankan roots but offers a world-class retail experience that drives customer loyalty while simultaneously setting new benchmarks in customer-centricity to take the art of retailing to a new level.

1.2 Organization Structures.

Nolimit has a hierarchical organizational structure with several departments including Operation Department, Human Resources Department, Financial Department, Marketing and Sales Department, Information Technology Department and Fleet management department services.

The fleet management department is responsible for managing and maintaining the company's fleet vehicle.

1.3 Current Operations in Organization.

The fleet management department is currently relying on manual processes and spreadsheets to track vehicle usage, maintenance, and fuel costs. This approach is proving to be inefficient and ineffective, resulting in operational inefficiencies and difficulties in generating accurate reports on fleet performance. The department needs a more streamlined and automated system to accurately capture and analyze data, enabling them to make informed decisions and optimize their fleet operations.

1.4 Users and Responsibilities Organization.

The users of the fleet management system will be the fleet managers, maintenance managers, drivers, and other administrative staff in the fleet management department. Their responsibilities include vehicle scheduling, maintenance, fuel management, and driver management.

1.5 Problem Definition.

The current fleet management system used by NOLIMIT Logistics is outdated and manual, leading to inefficiencies and inaccuracies in fleet management. There is a need for a modern fleet management system that can automate processes, provide accurate data, and generate custom reports.

1.6 Project Objectives.

The objective of this project is to develop a fleet management web application that will automate the current manual processes and provide accurate data to the fleet management department. The application should be user-friendly, scalable, and customizable to meet the specific needs of NOLIMIT

1.7 Proposal Solution.

The proposed solution is to develop a fleet management web application that will automate the current manual processes and provide accurate data

to the fleet management department. The application will include features such as vehicle scheduling, maintenance tracking, fuel management, and driver management. It will be hosted on a secure and scalable cloud platform to ensure reliability and accessibility.

1.8 Chapter Summary.

In this chapter, we have introduced the organization, its structure, and current operations. We have identified the problem with the current fleet management system and outlined the objectives and proposed solution for the project.

METHODOLOGY.

2.1 Introduction.

In this chapter, we will outline the methodology that will be used to develop the fleet management web application.

2.2 Data Collection Method. (s)

We will collect data on the current fleet management processes, including manual records and spreadsheets. We will also conduct interviews with key stakeholders in the fleet management department to understand their specific needs and requirements.

2.3 Software Process Model.

We will use the Agile software development process model to ensure flexibility and adaptability throughout the development process. The model will include iterative development, continuous testing, and regular feedback from stakeholders.

2.4 Software Development Tools.

We will use modern software development tools such as C#, (ASP.NET CORE MVC) and MS SQL to develop the fleet management web

application. These tools are widely used, well-documented, and have a strong community of developers.

2.5 Testing Strategies.

We will employ various testing strategies, including unit testing, integration testing, and user acceptance testing, to ensure the application is robust and error-free. We will also use automated testing tools such a Selenium to streamline the testing process.

2.6 Implementation Plan.

We will follow a phased implementation plan, starting with a pilot test of the application with a small subset of the fleet. During the pilot test, a small subset of the fleet management department will use the application to evaluate its performance, identify any issues, and ensure that it meets their requirements. If the pilot test is successful and the application meets their needs, the organization will proceed with the full implementation of the application, rolling it out to the entire fleet management department.

By implementing the application in phases, the organization can minimize the risk of any issues or challenges that may arise during the implementation process. This approach allows for a more controlled and manageable rollout of the application, and ensures that any issues can be identified and resolved before the application is fully implemented across the entire department. This can help to ensure a smoother and more successful implementation process, with a higher likelihood of achieving the desired outcomes

2.7 Chapter Summery.

This chapter outlines the methodology that will be used to develop a fleet management web application. Data will be collected on current fleet management processes through manual records, Excel spreadsheets, and interviews with key stakeholders. The Agile software development process model will be used to ensure flexibility and adaptability throughout the development process. Microsoft Visual Studio and Microsoft SQL Server

Management Studio will be used as software development tools, along with C# and the MVC architecture pattern. Various testing strategies will be employed, including unit testing, integration testing, user acceptance testing, and automated testing tools such as Selenium. A phased implementation plan will be followed, starting with a pilot test of the application with a small subset of the fleet and then rolling it out to the entire fleet management department. By implementing the application in phases, the organization can minimize the risk of any issues or challenges that may arise during the implementation process, ensuring a smoother and more successful implementation process