 **MBARARA UNIVERSITY OF SCIENCE AND TECHNOLOGY**

**FACULTY OF COMPUTING AND INFORMATICS**

**DEPARTMENT OF SOFTWARE ENGINEERING**

**COURSE: SOFTWARE ENGINEERING**

**ACADEMIC YEAR: 2**

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**NAME: AKANDINDA ARK**

**YEAR OF STUDY: 2024**

**ASSIGNMENT NO: 1**

**TOPIC: DEFINING A PROBLEM WITH AN IT SOLUTION**

**DATE RETURNED:**

**LECTURER:**

**DOMAIN AREA**

Vehicle Leasing and Transportation

**PROBLEM DEFINITION:**

The traditional method of leasing vehicles involves clients contacting the transport company to request a vehicle, after which the company manually manages the booking and delivery process.

**WHY VEHICLE LEASING IS THE DOMAIN AREA**

Currently, many vehicle leasing companies rely on manual or outdated systems for managing bookings, payments and vehicle availability. These leads to several challenges such as:

**Time Consuming:** Clients must contact the company directly to check availability and book vehicles resulting in longer wait times.

**Lack of Real-Time Data:** Companies cannot easily track vehicle locations, availability or client requests, causing delays and miscommunication.

**Inefficient Coordination:** Managing vehicle dispatch and service provision manually leads to inefficiencies, especially when there are multiple clients and vehicles.

**SOLUTIONS THAT THE FUEL MANAGEMENT SYSTEM WILL PROVIDE**

**Increased Efficiency:** Automating the booking process reduces the time and effort of both the client and the company improving service delivery.

**Data Accuracy:** By handling booking information digitally, the system minimizes the risk of human error associated with manual data entry.

**Real-Time Vehicle Tracking:** GPS integration allows clients and the company to track vehicle locations and estimated arrival times in real time.

**Geographical Reach:** By taking the process online, the company can reach clients in geographically scattered areas without needing them to visit the office

**Real-Time Data Access:** The system will provide real time access to data allowing directors and managers to monitor sales, inventory levels and employee performance instantly from any location

**SERVER**

The system utilizes the WAMP server to host the online vehicle leasing platform. WAMP is the ideal choice for this project due to the following reasons:

**Local Development Environment:** WAMP allows the system to be developed and tested locally on Windows, which is useful for building and testing the vehicle leasing application before deploying it live.

**MySQL Integration:** WAMP includes MySQL database. This will allow the system to store and retrieve data such as vehicle bookings, client details, and feedback effectively.

**PHP Compatibility:** The vehicle leasing system will rely on PHP for server side logic and dynamic content delivery making WAMP a perfect fit since it supports PHP natively.