# INTRODUCTION

The project is a web-based application designed to provide a platform for car owners, drivers, and admins to manage their daily activities related to vehicle hire and maintenance. The application is designed with a user-friendly interface and divided into three categories of users: car owners/general users, admins, and drivers. Each category has a set of features that cater to their specific needs. The car owner/general user can add and modify vehicle information, hire drivers, track vehicle information, and add emergency numbers. The admin has the power to delete or modify user information, approve or reject vehicle adding requests, and approve or reject driver profiles. The driver can check hire requests, set hiring rates, and see vehicle and car owner information. Overall, the project aims to provide a safe and efficient platform for vehicle hiring and management.

## Background to the Problem

* This project aims to address the increasing need for safe and reliable transportation services by providing a web-based platform for car owners, drivers, and users to connect and engage in a mutually beneficial way. With the rising population and urbanization, the demand for efficient transportation services has grown significantly, but finding trusted drivers and vehicles has remained a challenge. This platform will enable car owners to find reliable drivers, and users to find safe transportation services, while drivers can connect with potential clients and earn a steady income. The platform will also include features for emergency response and vehicle ownership management for administrators.
* The root cause of the problem is the lack of a convenient, safe, and efficient platform that connects car owners with drivers in need of work. This problem is significant because it addresses the safety concerns of car owners, the employment opportunities for drivers, and the need for a streamlined and user-friendly platform for both parties. Additionally, the problem of road safety and the prevalence of unlicensed and uninsured drivers highlights the need for a system that verifies drivers' identities and qualifications. By addressing these issues, the platform aims to provide a solution that benefits everyone involved while improving road safety and creating new job opportunities.

## Solution to the Problem

* The proposed solution is to develop a web-based platform that connects car owners with verified and professional drivers. It will offer features such as adding vehicle information, hiring drivers, searching for drivers, emergency alerts, ownership change, driver verification, and complaints against vehicle rule violations. This solution provides a reliable and efficient way for car owners to find verified and professional drivers and potential employment opportunities. It ensures safety and security by verifying the driver's identity and providing car owners with driver information before hiring. The solution can be a viable option for meeting the needs of both car owners and drivers due to its availability of resources, development costs, and user acceptance.
* The web application being specified is a car management system that serves as a platform for car owners, drivers, and administrators to manage their vehicles, drivers, and related information. The purpose of the software is to provide a convenient, reliable, and safe way for car owners to manage their vehicles, hire drivers, and keep track of important information such as emergency contacts and driver licenses. The system aims to streamline the process of car ownership and driver management, improve safety and security, and reduce administrative burdens for all parties involved. The software's key objectives and goals include providing a user-friendly interface, ensuring data accuracy and security, and enhancing communication and collaboration among car owners, drivers, and administrators.
* However, in general, there are several existing software solutions available to solve various problems. For instance, in the case of ridesharing and car hiring platforms, popular solutions include Uber, Pathao, and In-Drive. These platforms allow users to hire rides from drivers using mobile applications. Additionally, car rental platforms like Hiece-serve, Asho-rent-kori, and Enterprise provide rental cars for users. These solutions have revolutionized the way people hire cars and have made the process more convenient and accessible. However, each solution has its own strengths and weaknesses, and it is essential to evaluate them to determine the most suitable one for a specific problem. To solve those weakness and to overcome the problem of these renown software and mobile applications these do not have any solutions like web application and more developed that is why we developed our projects of Vehicle management system(VMS).

# REQUEIREMNT SPECIFICATION

## System Features

1.System Login

Functional Requirements

1.1 The software will allow users to login with their given username/mobile number and password.

1.1 If the entered username or password is incorrect more than five times, the system will issue a timeout of 30 minutes.

1.2 If the number of login attempts exceeds its limit (10 times), the system will block the user account and an email will be sent to the user's email address. After the verification, he will be able to login again. Priority Level: High

Precondition: The user has a valid user id/mobile phone and password

1. System Registration

Functional Requirements

* 1. At any time, any user can register in the system.
  2. The registering user will provide at least the necessary information to open an account.
  3. The registering user or user should only be able to register using their email address and password.
  4. After the successful registration, a confirmation email will be sent to the user's email.

Priority Level: High

Precondition: The user has a valid email and password

1. Update user information Functional Requirements
   1. Users can update their personal information any time.
   2. Users can change their passwords also.
   3. If any user forgets his password, he can get new password through email verification.

Priority Level: Medium

Precondition: The user must have an account.

1. Car user/general user’s Functional Requirements
   1. Users can add vehicle information, modify information, and add picture.
   2. Users hire driver, search for a driver, can see driver information and terminate driver for his vehicle.
   3. Users can Search vehicle with his number and can see some general information for safety and verification as well as driver information check is he valid driver or not.
   4. Users can add emergency number for provide alert to the registered number and a SOS button.
   5. Users can track some information about his own vehicle like there will be a note.
   6. Users can complain against any vehicle for violating rules using number plate.

Priority Level: High

Precondition: User has to login first.

1. Add/remove/check/charge/sos Functional Requirements
   1. Admin can delete any user and modify their information and view all details.
   2. Admin can Search vehicle with its number and can see all information of a vehicle.
   3. Admin can made Ownership change and can delete vehicle information from previous owner.
   4. Admin can approve or reject drive profile to continue as a driver.
   5. Admin will have a SOS button for emergency response.

Priority Level: Medium

Precondition: Admin has to login first.

1. Drivers Functional Requirements
   1. Driver can check hire request and can accept or reject.
   2. Driver can add and modify his information and add his driving license information.
   3. Driver can set his hiring rate for per hour and can set monthly salary.
   4. Driver can see all information of the car and car owner of that car which will be derived by him.
   5. Driver Can perform 3rd , 4th and 6th number feature of the user character.

Priority Level: High

Precondition: Driver has to login first.