

# **DEVELOPMENT OF AN ONLINE VEHICLE MANAGEMENT SYSTEM: A CASE STUDY**

By

Syed Abdullah Al Nahin

POST GRADUATE DIPLOMA

IN

INFORMATION AND COMMUNICATIN TECHNOLOGY





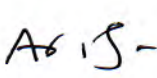
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The Project titled “**DEVELOPMENT OF AN ONLINE VEHICLE MANAGEMENT SYSTEM: A CASE STUDY**” submitted by Syed Abdullah Al Nahin, Roll No.: 0411311007, and Session: April, 2011, has been accepted as satisfactory in partial fulfillment of the requirement for the degree of Post Graduate Diploma in Information and Communication Technology on March 09, 2019.

### **BOARD OF EXAMINERS**

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|--|--------------------------|
| <br>1. <b>Dr. Md. Saiful Islam</b><br>Professor<br>IICT, BUET, Dhaka                      | Chairman<br>(Supervisor) |
| <br>2. <b>Dr. Md. Rubaiyat Hossain Mondal</b><br>Associate Professor<br>IICT, BUET, Dhaka | Member                   |
| <br>3. <b>Dr. Mohammad Arifuzzaman</b><br>Lecturer<br>IICT, BUET, Dhaka                 | Member                   |

## DECLARATION

It is hereby declared that this project or any part of it has not been submitted elsewhere for the award of any degree or diploma.

Signature of the Candidate

*Syed Abdullah Al Nahin*

Syed Abdullah Al Nahin

Roll No.:0411311007

IICT, BUET

## DEDICATION

I dedicate this project to respected teachers, my parents, wife and well-wishers

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## **ABSTRACT**

The Online Vehicle Management System is a system that enables teachers and employees to book vehicle. It also allows the teachers/employees to view the vehicles schedule. The system was developed for **Automobile Shop DAERS, BUET**. Therefore the project aimed at solving such problems by designing a web based system that will enable the teachers/employees to make a booking for vehicle.

After Completion of every task, the system is tested in some different ways and it works successfully.

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## **CHAPTER 1**

### **INTRODUCTION**

## 1.1 Background of Study:

Vehicle management of an organization associates with requisition management, driver management, vehicle financing, vehicle maintenance, fuel management, vehicle tracking and diagnostics, road permit with fitness and insurance management [1]. Advantage of using such management system benefits an organization with reduced operating costs, better maintenance, easy information access and better observability of the vehicles. A web based vehicle management system can offer more advantages. It can make the interaction between the user and the service provider of an organization more distributed [2-3]. Users can access the system “anytime” and from “anywhere” to make, change or cancel a reservation while management can have a better understanding in knowing standby vehicle inventory at a specified time. It also makes the system device and platform independent [4].

In this project work, we consider the “Automobile Shop” of Directorate of Advisory Extension and Research Services (DAERS) office of Bangladesh University of Engineering and Technology (BUET) as a test case [5]. At present “Automobile Shop” which oversees the management of all the vehicles of the institute, lacks an efficient vehicle management system. Therefore, it is struggling to cope with massive volumes of paperwork and total reliance on the manual entry for vehicle requisition, driver management, insurance, tax, fitness, scheduling, cancellation and distribution. In the existing system, a user fills out a requisition form and submits it at the office to request a vehicle. After verifying the availability of a vehicle within the requested timeslot, the reservation is confirmed and a driver is assigned. The whole process is completed manually which often creates confliction, duplication and confusion. Furthermore, the maintenance schedule of the vehicles is done manually through paper works [6-8].

System can be divided into two categories, manual and online. Manual means that you need to do the traditional process like fill in the booking form first before continue with other process. In the other hand, online system works with internet, so user who wants to use it must connect to the internet whether using wireless or through cable connection. As

we know, online system is popular system recently [9-10]. Many systems can be done through online such as transfer money and buy movie ticket.

BUET still uses manually some system such as vehicle booking at Directorate of Advisory Extension and Research Services (DAERS) where the applicant who want to book the vehicle need to get the vehicle booking form from the Directorate of Advisory Extension and Research Services (DAERS), fill in the vehicle booking form, and then continue with other procedure [11-13].

Instead of managing the booking request form manually, DAERS staff also responsible to manage the meeting with driver, organizes the timetable for each driver of vehicle in given time, top up card process and traffic summon record [14].

The main aim of this project is, proposed and develops an online system of vehicle booking at BUET, so that the web based can help the applicant and DAERS staff. The applicant can use the system to book the vehicle, and then ask for approval from verifier staff directly without wait for long time [15-16].

By creating this vehicle booking system at DAERS, and DAERS as the administrator of the system, will help overcome the problem that encounter and also help to reduce the applicant's and DAERS management's burden over the manual process of current system [17-19].

## 1.2 Present state of the problem:

Currently this vehicle booking system at BUET is done manually system, where the applicant need to get the booking form from DAERS office then fill in the vehicle booking form by handwriting, after that they need to get the approval from the verifier staff, then they need to send the booking form to the DAERS office for next process.

This process will use lots of time, space, paper, money and energy. The reason why this system took lots of time is because the applicant needs to fill the booking form early, before wait for the verifier staff to approve the booking form. As we know, the booking form need to submit to the DAERS a week early for nearby activity and two weeks earlier



if the activity is out of the country, so that its easily for the DAERS staff to organize the use of vehicle in time and manage all the request systematically without having problem.

Sometimes the applicant that want to booked the vehicle faced difficulty of choosing the suitable vehicle, then they will choose spontaneous and sometimes realise that they have made a wrong choice after DAERS made the arrangement. This situation can make the usage of the vehicle become messy and improper where the number of passenger wills not suitable with the vehicle chosen.

This also very not proper system to use, because as we know, each person had different type of handwriting, and this manual system need to fill by handwriting. Sometimes, we cannot read some handwriting, so that this will cause problem on managing the booking vehicle, and if we misunderstand the handwriting like number of passengers.

The booking form that had been submits to DAERS for sure need to save and keep on the rack. So that this procedure will need large space to keep the record for further needed. DAERS also have problem to manage the vehicle accurately, like when the paper is cut out or missing.

### 1.3 Objective with Specific Aims:

- i) To develop a web based vehicle management system to empower Automobile shop.
- ii) To handle vehicle requisition, scheduling, maintenance and driver workload more efficiently.
- iii) To provide appropriate interface to the administrator and different level of application users.
- iv) To store and update the detailed information to ensure transparency and accountability.

### 1.4 Possible Outcomes:

- i) An online vehicle management system will be developed.

- ii) A simpler way of managing the vehicles will be possible which will ensure more transparency, more accountability and more efficiency.

### 1.5 Scope of Studies:

To develop the system, the scopes of the project are needed to be identified in order to guide the development process and to ensure the project is a success.

The identified scopes for this project are:

#### a) Applicant

Teacher or staffs of BUET who want to apply the vehicle for official use that can log in to the system using default username and password given, view the vehicle and driver information, fill in the booking form with complete details, request for approval from verifier staff by sends notification via the system. The other function is they can view their booking history.

#### b) Administrator

Staff of Automobile Shop, DAERS as the administrator that can log in to the system using default username and password given, update the available driver and vehicle details, view all request by the applicant and notify the applicant about the arrangement and changes of the application.

#### c) Verifier staff

Verifier staffs that get the notification from the applicant that need to approved or reject the request form by view the details.

### 1.6 Project Report Organization:

This Project Report consists of six chapters.

Chapter 1 is Introduction where the brief descriptions about the entire project including the problem statements that occur, objectives and scopes of study are stated.

Chapter 2 is Literature Review that can be defined as the collected research to gives the complete explanations about the research of the project. The current system is about the research such as the method, device and technology system that are used.

Chapter 3 is Methodology defined as overall work flow of project development using System Development Life Cycle and details about Hardware like is laptop, keyboard, mouse and pen and Software like XAMPP and Adobe Dreamweaver CS3 used to develop the system.

Chapter 4 is Implementation that focuses on to document the design of the project system, and combination of all processes that involve in developing the system.

Chapter 5 is Result and Discussion. This chapter describe on output from the testing result, advantages and disadvantages of the system, constraints in completing the project and assumption for future development of the system. Chapter 6 is Conclusion which concludes all the research, development of the project from the beginning to the end of thesis.

## 1.7 Conclusion:

As a conclusion, the outcomes of this project will act as the basis to the system development generally. The system can provide many benefits in many ways to liMP and the most important thing is that the objective of the project must be fulfilled to ensure the development of the system is an achievement.

## **CHAPTER 2**

### **REQUIEMNET ANALYSIS**

## 2.1 Introduction:

This chapter will briefly explain about research related to the e-Vehicle Booking System at Bangladesh University of Engineering and Technology (BUET). A literature review can best define as a piece of guideline and there is much information regarding this system which is vehicle booking system using online method that can easily be found and search through the internet and also in the journals, paper works and books.

Some of these findings from the previous research that have done by other student or project that already exist in the practical world will be discussed in this chapter. Besides that, the problem occurred at each findings of the research will be fixed by this project.

## 2.2 Vehicle Management System at BUET:

The e-Vehicle Booking System at BUET is developing to help **DAERS Automobile Shop** staff to manage the vehicle booking request and also to notify the applicant, about the status of approval whether they application is approved or rejected. This system also helps the applicant consists of teacher and staff at BUET for booking the vehicle provided by university for formal activity use by using online system. DARES as the form provider also has less burden if this system is use.

Using this system, all of the process of booking will be done easily, and have less problem faces by the user, systematically manageable system and environmental-friendly application as this system is use zero paper to do the process. The e-Vehicle Booking System also saves lots of time, money, energy and space.

Currently at BUET this system is done manually by filling the booking form and need to continue with other process and must be follow the general term that provided by DARES.

This traditional process will be replaced by this proposed online booking system that can help and reduce the DAERS Automobile Shop management system burden instead of manual system. Even though the method is change but still using the same old general term of use in order to make the system run smoothly.

System notification is introduced, as the technology is more reliable, easy and fast to use. The applicant and DARES Automobile Shop staff who can use this new function.

### 2.3 Overview of the Current System:

BUET has an automobile shop its own. It consists of Vehicles, Manpower (Staff), Machine and equipment's. Like the other universities, it has an auto mobile from where a staff of the university can requisite any vehicle for a period. He/she has to pay a fixed rate for using the vehicles (even for withdrawal of requisition as a charge).

The focus of this research is the **Directorate of Advisory Extension and Research Services (DAERS)** vehicle fleet management which is managed by **Automobile Shop**.

The subject of this research is clerk in the **Automobile Shop**, who provides cars and also manages the bookings.

The procedure used is manual. The clerk utilizes a Register and note pad procedure to conduct customer bookings process. Request of car can be made by directly face-to-face by fill up a Form by who want to book the car.

The advantages of this system are the clerks can directly discuss with the customers if there any problem related to the vehicle. As it is the traditional method of recording information, so no training costs are needed.

The disadvantage of this system involves a lot of manual labor with the clerk of the **Automobile Shop** as the main contact. When the clerk is away from his and the Attendant takes messages and leaves it on the clerk's desk, sometimes these messages are lost, or go missing. This manual system also creates problems such as transcription error, copying information from one source to another may allow possible errors to occur in important information.

This traditional manual method also slows down the process of booking a vehicle as the clerk is not always aware of the location of all the vehicles and cannot confirm a booking for several days as the records are checked to locate all available vehicles.

At times it can take several days for a booking to be processed. Forms and permits are lost and need to be requested again, each month a number of bookings are lost or misplaced.

There are also a number of problems related with the operating a register as a main data store including no statistics available. Management is unable to identify if more vehicles are needed or there are too many vehicles.

Only the clerk has an idea of the level of usage. It is difficult to track the vehicle maintenance and the clerk has to check the cars when they return from been used by users.

To improve the management system of DARES Automobile Shop, there are some recommendation such as a need for create software that can take and save all information online. And the information can be tracked by the person who needs to make a booking or by the booking clerk who has to finalize the booking and by' the management so that they can ask for increase in the fleet when needed.

#### 2.4 Existing Procedure of the System:

In present system, The Teacher or Office of BUET who wishes to requisite an vehicle he/she has to fulfill the necessary information in the following form and sent it to the Automobile shop Office for requisition submission to the concern officer. The concern requisition officer then check the form, register all the information in a data sheet and get approval for the requisition.



D A E R S  
Automobile Shop  
Bangladesh University of Science and Technology, Dhaka  
(Vehicle Requisition Form)

Official/ Personal/ BRTC/**Other**

Day..... Morning/Evening

|   |
|---|
| Vehicle Travelling Time From ..... To ..... And Date..... |
|---|

| Vehicle | Car | Microbus |    |    | Minibus | Bus | Other Vehicle |
|---------|-----|----------|----|----|---------|-----|---------------|
| Sits    | 4   | 8        | 10 | 12 | 31      | 52  |               |

Destination: .....

Detail Working Description: .....

Responsible Teacher / Officer/ Staff: .....

Driver Reporting Place:.....

**Assign Vehicle / Driver / Helper**

As per above requirements, It is recommended to provide vehicle.

.....  
Head of Department / Office

Date: .....

Signature: ..... Date: .....

Name: .....

Designation: .....

Department/Office: .....

Telephone- Office: ..... Res: .....

|   |       |
|---|-------|
| Vehicle Provided / Cannot provided because: | DAERS |
|---|-------|

Fig 2.1: Vehicle Requisition Form



## 2.5 Flow chart of information in present system:

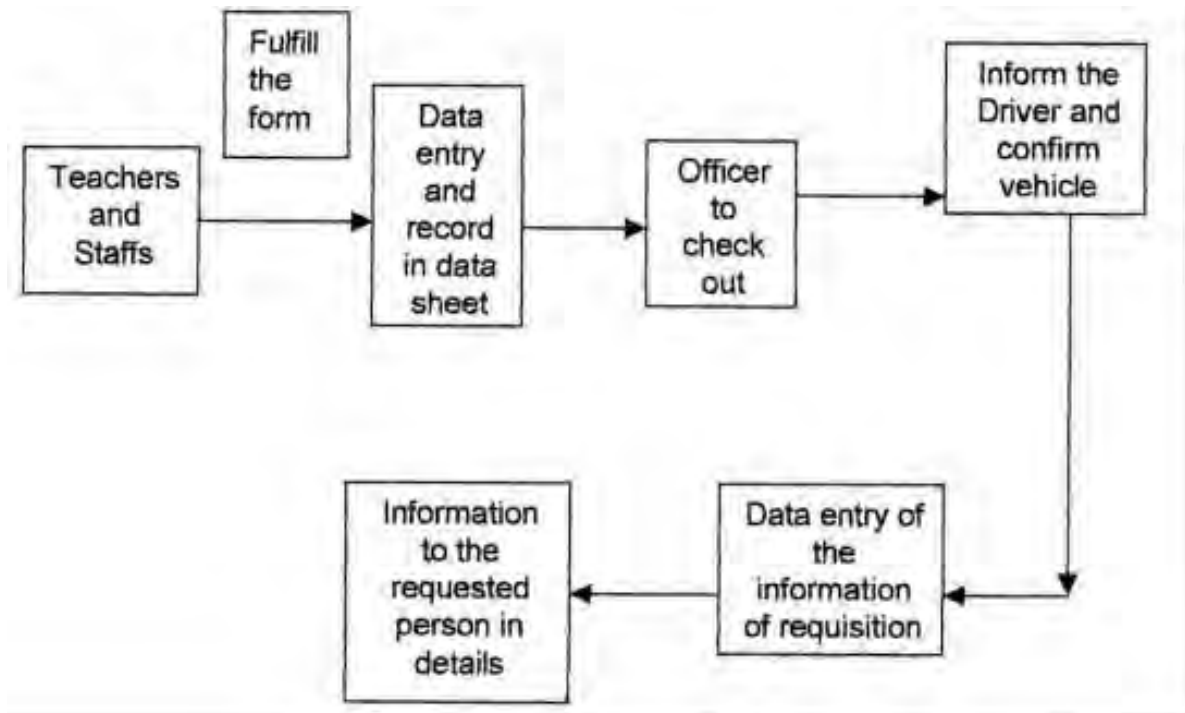


Fig 2.1: Flow Chart

## 2.6 Overview of Proposed System:

Requisition for vehicle can be given for period of time by filling up online requisition form. Requester can see the detail of the vehicle and the name of the concern driver. He/she can also see the requisition status.

According to the system one should be a registered staff of the university as may be a teacher or an officer or others and must get a login name and password. The username should be unique. User Account can be open/close by the Administrator of the system.

Firstly, the applicant needs to login into the system using the default username and password. After that the applicant can view the homepage of the system, where they can change information about themselves if they want to. On the side of the homepage, the applicant can click on the option whether to view the vehicle booking history or to apply the vehicle by filling in the required information.

The Booking History option will show the applicant's name, vehicle type, vehicle quantity, start date and due date of booking, place to go, purpose of vehicle booking, number of passengers, verifier staff name, verifier staff phone number and status of application whether pending, approved or rejected. This option is for view only, and the applicant can view the entire request made by others applicant.

The second option is Apply, where the applicant needs to fill in the required information such as vehicle information, pick-up and return information, place and passenger, driver information, and verifier staff.

## **CHAPTER: 3**

### **DESIGN METHODOLOGY**

### 3.1 Introduction:

This chapter describes the different fact-finding techniques that were used for achieving the goals and objectives of the project such as requirement of a typical management of details of vehicles, transport categories, routes and the requests for vehicles from the employees in this institution, data collection and analysis, system analysis, system design and implementation, system testing and validation.

### 3.2 Project Method:

This project define a method which describe a procedural way of management of vehicles in an organization. By using this application we may enter as an admin or a user in this application. Then we can manage, execute, view and print various types of document. Can find the information both of the driver and the vehicles. An employee will be able to book a car for a partial period of time. It will reduce the redundant booking of same vehicles at the same time from different person.

#### 3.2.1 Data Collection and Analysis:

This research was carried out using both qualitative and quantitative method since I was interested to obtain a well detailed data/information on the study. It provided me information about the study since it shows how things began. I've used the following Data collection techniques: interviews, Observations

##### Interview:

I've used interview technique while collecting data about Automobile shop BUET for example the teachers, officers and staffs were interviewed. This involved an interviewer and a respondent. This technique helped me to obtain accurate information since there was direct interaction with the respondent and he/she was provided with relevant information.

The collected data was inspected, transformed, and modeled with the goal of highlighting useful information, suggesting conclusions, and supporting decision in making the system requirements specification document that was used as an input in designing the system.

### Observation:

Observation is also a method of data collection. In this aspect, I've used an unstructured observation in order to identify problem of Automobile shop BUET such as problem to get office transport proper time, same scheduling problem, wastage of time etc.

After gathering all the requirements from the employees, teachers and stuffs using all the above mentioned data collection techniques, the gathered requirements were analyzed and validated to review user's information which was not always 100% accurate.

## 3.3 System Analysis:

The system analysis is a detailed study of the various operations performed by the existing system and their relationships within and outside of the system. One aspect of analysis is defining the boundaries of the system and determining whether a candidate system should consider other related systems.

### 3.3.1 System Design:

In the design phase the informational, functional, and network requirements identified during the initiation and planning phases will be converted into unified design specifications that will be used to script programs during the implementation phase. The design tools to be used were entity relationship diagram (was used in describing the relationships between entities), flow charts (was used to show the flow of events and how the processes are executed) and the following tools will be used:

#### 3.3.1.1 Font End Design:

Font-end-design required as:

- CSS
- HTML
- JAVA Script
- JQUERY

### 3.3.1.2 Back End Design:

Back-end-design required as:

- MySQL
- Server: Apache
- XAMPP
- PHP

### 3.3.1.3 Determination of Tools & Coding:

For this project work that have selected following tools:

- Front end: PHP Storm 7, Dreamweaver CS.
- Back end: SQL yog V.11.
- Graphics tools: Adobe Photoshop, Illustrator.
- Other tools: Notepad++.

## 3.3.2 System Implementation:

Systems implementation is the process of defining how the information system should be built, ensuring that the information system is operational and used, ensuring that the information system meets quality standard

### 3.3.2.1 Data storage:

We used XAMPP v3.2.1 which stands for Cross-Platform, Apache, PHP and MySQL. It is a simple, lightweight Apache distribution that makes it extremely easy for developers to create a local web server for testing and deployment purposes. it was used to manage record since it is the one which contains the database of the system.

### 3.3.2.2 Interface and Authenticate user:

The technology which was used to design graphical user interface is the HTML which is on client side programming to help the operation to be performed on client's machine, JavaScript was used for client-side validation, CSS was also used as style sheet language for describing the presentation of a document written in a markup language. In the system the server side

programming which was used is PHP which is open source scripting language allows the operation to be performed on server, PHP code was embedded into HTML code. These are the explanation of the information which are on the table above which show us what will used to develop the web based application of Online Vehicle Management System.

### 3.4 System Testing and Validation:

Researchers have carried out unit testing and also have carried out integration testing and full end to end system testing to ensure that few or no bugs found a place in the deployed application.

#### Unit testing:

This was done at the module level where basic components of the software were tested to verify its functionality.

#### Integration testing:

This was used to test the combined modules as a group to identify defects in the interfaces between integrated components.

#### System testing:

The complete integrated system was tested to verify whether all components work efficiently and effectively as a whole.

## **CHAPTER: 4**

### **SYSTEM STUDY, DESIGN & IMPLEMENTATION**



## 4.1 System Study:

During the period of data collection and research study, we saw various types of challenge in current vehicle management system, which has frequently affected its better performance and efficiency and most of them have been underlined and explained in some sections. I've described current system below.

### 4.1.1 Current Vehicle Management System:

Current vehicle management system is a conventional system, because here used different types of ledger and papers for scheduling, maintaining and servicing the cars, buses and mini buses. For getting an information about any vehicle takes much time. Have to schedule the vehicles for teachers and officers manually in papers. The duty of drivers and helpers is also entry manually. Servicing bills also entry in manual ledger. There has a chance to conflict in time scheduling. Moreover a conventional system is not flexible. So one change may increase its smartness.

Some attach file are given below.



D A E R S  
Automobile Shop  
Bangladesh University of Science and Technology, Dhaka  
(Vehicle Requisition Form)

Official/ Personal/ BRTC/**Other**

Day..... Morning/Evening

|  |
|--|
| Vehicle Travelling Time From ..... To ..... And Date ..... |
|--|

| Vehicle | Car | Microbus |    |    | Minibus | Bus | Other Vehicle |
|---------|-----|----------|----|----|---------|-----|---------------|
| Sits    | 4   | 8        | 10 | 12 | 31      | 52  |               |

Destination: .....

Detail Working Description: .....

Responsible Teacher / Officer/ Staff: .....

Driver Reporting Place: .....

**Assign Vehicle / Driver / Helper**

As per above requirements, It is recommended to provide vehicle.

Signature: ..... Date: .....

.....  
Head of Department / Office

Name: .....

Date: .....

Designation: .....

Department/Office: .....

Telephone- Office: ..... Res: .....

|   |       |
|---|-------|
| Vehicle Provided / Cannot provided – because: | DAERS |
|---|-------|

Fig 4.1: Current vehicle management system



**Bangladesh University of Science and Technology, Dhaka-1000 (Automobile shop)**  
**Vehicle Distribution List**

Date:

Day:

| Vehicle No &<br>No of Sits        | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 1           | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|-----------------------------------|---|---|---|---|----|----|----|-------------|---|---|---|---|---|---|---|---|
| D.M. Ga 31-5185<br>(Car) 04       |   |   |   |   |    |    |    | Lunch Break |   |   |   |   |   |   |   |   |
| D.M. Kha 11-5388<br>(Car) 04      |   |   |   |   |    |    |    |             |   |   |   |   |   |   |   |   |
| D.M. Kha 11-7745<br>(Car) 04      |   |   |   |   |    |    |    |             |   |   |   |   |   |   |   |   |
| D.M. Kha 11-9987<br>(Car) 04      |   |   |   |   |    |    |    |             |   |   |   |   |   |   |   |   |
| D.M. Ga 31-2710<br>(Car) 04       |   |   |   |   |    |    |    |             |   |   |   |   |   |   |   |   |
| D.M. Cha 51-1157<br>(Microbus) 12 |   |   |   |   |    |    |    |             |   |   |   |   |   |   |   |   |
| D.M. Cha 51-2501<br>(Microbus) 08 |   |   |   |   |    |    |    |             |   |   |   |   |   |   |   |   |
| D.M. Cha 51-2506<br>(Microbus) 12 |   |   |   |   |    |    |    |             |   |   |   |   |   |   |   |   |
| D.M. Cha 51-3222<br>(Microbus) 15 |   |   |   |   |    |    |    |             |   |   |   |   |   |   |   |   |
| D.M. Cha 51-4147<br>(Microbus) 12 |   |   |   |   |    |    |    |             |   |   |   |   |   |   |   |   |
| D.M. Cha 53-4178<br>(Microbus) 15 |   |   |   |   |    |    |    |             |   |   |   |   |   |   |   |   |
| D.M. Cha 53-4179<br>(Microbus) 15 |   |   |   |   |    |    |    |             |   |   |   |   |   |   |   |   |
| D.M. Cha 53-4180<br>(Microbus) 15 |   |   |   |   |    |    |    |             |   |   |   |   |   |   |   |   |
| D.M. Ka 11-0423<br>(Microbus) 04  |   |   |   |   |    |    |    |             |   |   |   |   |   |   |   |   |
| D.M. Cha 53-6439<br>(Microbus) 12 |   |   |   |   |    |    |    |             |   |   |   |   |   |   |   |   |
| .....                             |   |   |   |   |    |    |    |             |   |   |   |   |   |   |   |   |
| .....                             |   |   |   |   |    |    |    |             |   |   |   |   |   |   |   |   |

Table 4.2: Current vehicle management system

Auto Shop, DAERS, BUET, DHAKA  
Transportation Bill for Vehicle User  
For The Month January, 2014

Bill No: .....  
Name: .....

Dept. /Office: .....  
Designation: .....

| Detail of Vehicle Use                                     |   |                   |
|---|---|-------------------|
| Date of Use: <u>29/01/2014</u><br><u>KALABAGAN</u>        | Type of Use: <u>Personal</u>              | Destination:      |
| Vehicle Type: <u>A/C Car</u><br><u>29/01/2014 09:00PM</u> | Check out Time: <u>29/01/2014 09:00PM</u> | Check In Time:    |
| Vehicle Reg: D.M. Kha 11-5388<br><u>155097 km</u>         | Check Out Reading: <u>155087 Km</u>       | Check In Reading: |

| Bill Details              |              |          |                      |
|---------------------------|--------------|----------|----------------------|
| Item                      | Vehicle Used | Rate(TK) | Total(Tk)            |
| 07:00 AM – 10:00 PM       | 01:00        | 40.00    | 40.00                |
| 10:00 PM – 07:00 AM       | 02:30        | 60.00    | 150.00               |
| Distance                  | 10.00        | 8.00     | 80.00                |
| For A/C (25% of Distance) |              |          | 20.00                |
|                           |              |          | Grand Total = 290.00 |

Amount in words: Taka Two Hundred Ninety Only

\*\* Charge will be deducted from the Salary.

\_\_\_\_\_  
Prepared by Accountant

\_\_\_\_\_  
In-Charge

\_\_\_\_\_  
DAERS

Table 4.2: Transportation Bill



Auto Shop, DAERS, BUET, DHAKA  
Transportation Bill for Vehicle User  
For The Month January, 2014

Name: .....

Office: Automobile Shop

Designation: .....

Month: .....

[illegible]

Accountant

### Four Man Instructor

In-charge, Auto shop

DAERS

Register

Table 4.3: Transportation Bill

#### 4.1.2 Weaknesses of Current System:

During this research about existing system I've established different information from various stake holders such as drivers and staff members, which identified the following weakness:

- Current vehicle management system is a conventional system.
- For getting an information about any vehicle takes much time.
- There has a chance to conflict in time scheduling.
- Have to schedule the vehicles for teachers and officers manually in papers.
- There has a chance to conflict in time scheduling.
- Moreover a conventional system is not flexible.

#### 4.2 System Requirements:

The term system requirements means the minimum hardware and software requirement of a computer. If the computer full fill this minimum requirement then the system will run smoothly from this computer. The requirement specification given below

##### **Minimum Hardware Requirements:**

| Hardware                      | Minimum Requirement | Reason                    |
|-------------------------------|---------------------|---------------------------|
| Processor speed               | 2.0 GHz             | Accommodate most PCs      |
| Memory of user PC             | 1 GB RAM            | Relatively fast           |
| Disk Space of user PC         | 100 GB              | Adequate Storage capacity |
| Bandwidth(network connection) | 15 Mbps             | Relatively Good           |

|                                      |        |   |
|--------------------------------------|--------|---|
| Disk space of server (Not essential) | 200 GB | Adequate Storage for database and application |
|--------------------------------------|--------|---|

Table 4.4: Minimum Hardware Requirements

A fast processor is required because there is need to handle large amounts of data queries. 8 GB memory is required on the server for faster performance because it runs many processes simultaneously, while the memory in the computer should be relatively fast so as to run the processes required. 200 GB storage capacity in the server's hard disk is necessary for storage of huge amounts of data while the disk space in a user computer should be modest enough. Good network connection is vital because the application is majorly internet based and there is need for faster communication and retrieval of information.

#### Minimum Software Requirements:

| Software                      | Minimum Requirement  | Reason                                   |
|-------------------------------|--|--|
| Operating System for computer | Window 7, Windows 8.1, Windows 8, windows XP, Linux, MAC OS, | Globally distributed and widely accessed |
| Database Management System    | MySQL  | Easy to use and scalable                 |
| Browser                       | Opera, Google Chrome, IE, Mozilla Firefox.                   | Standard browser                         |

Table 4.5: Minimum Software Requirements

Shows the software requirements for the web application that define the prerequisites needed for the optimal functioning of the web application. Each of the following operating system can handle the application, windows 7, windows 8, windows 8.1, Linux, those operating systems were chosen because they are affordable and readily

available. MySQL was used in the development of the databases and is relatively cheap, easy to use and scalable. Browsers: any browser including opera, Google chrome, Microsoft Internet explorer and Mozilla Firefox.

### 4.3 System Design:

The major functionality of this system is divided into two categories. Administrative User Functions, General User Functions.

#### 4.3.1 Administrative User Function:

Administrators can perform the following tasks.

- Create new users.
- Change the password.
- Add/Update the details of Employees of the Institution.
- Add the information about the vehicles.
- Can view the information about the employees.
- Can view the information about the drivers and stuffs.
- Can view the information about the bills.
- Can view/generate management reports.
- Cancel or assign vehicles as per requirement.
- Increase or decrease booking time.

#### 4.3.2 General User Function:

General users perform the following tasks.

- Change the password.
- View the details of Employees of the Company
- Can book vehicles for desired time.
- Change user password.
- Cancel booked vehicle.



### 4.3.3 Internal System Architecture:

Users of the web application include; Clients and system administrator. When a client comes to the system (Web application), he/she is able to book a car available and reserved, to read the FAQ, about us a without registration or signing in and he/she can create an account on the system by registering through providing his/her full name, email, password, if he/she is an existing user he can just sign in using his/her email address and password. What system administrator are able to do on the system he/she is able to manage all users in the web application such as add a new user, update, delete a user, to view the detail information of client, managing booking information, updating, viewing different type of parking cancel the booking and also managing the system administrator setting. The logged in user can update his/her password by providing the current password and can log off the system.

#### 4.3.3.1 System Flowchart:

Now I'll shows two flow chart that demonstrates how the system works. It will clear how the system works step by step.

➤ Flow chat on system admin side:

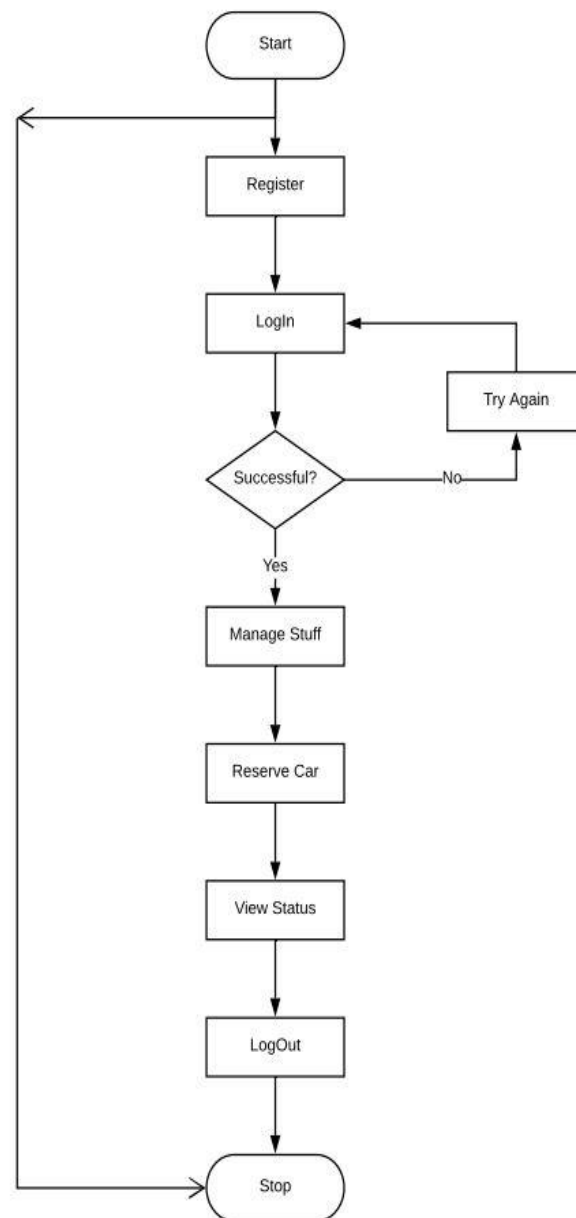


Fig 4.3: Flow chat system admin side

➤ Flow chat on client side:

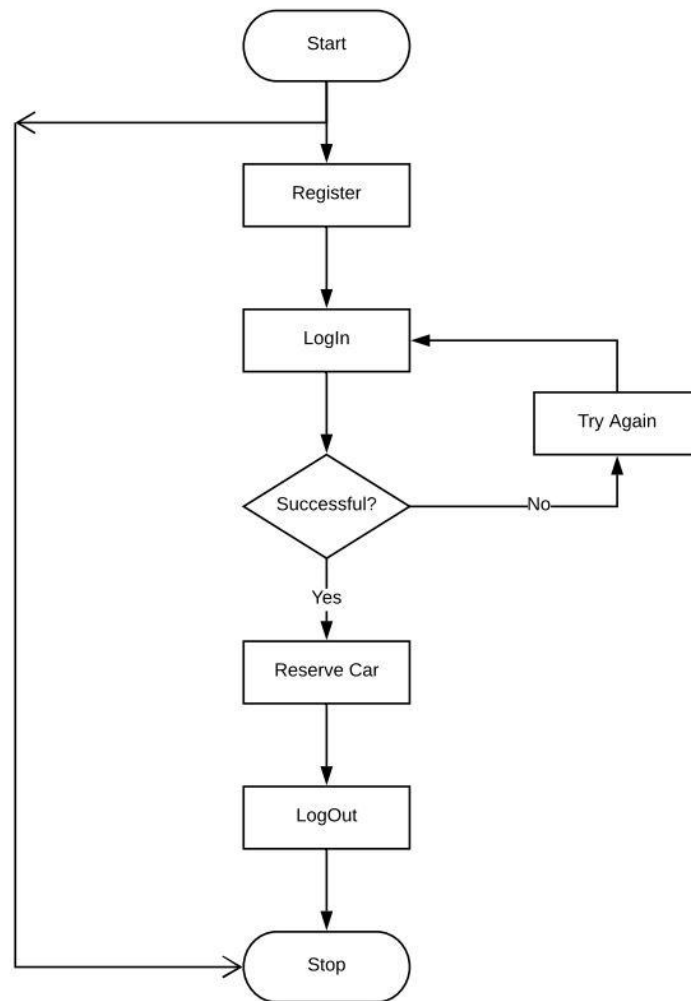


Fig 4.4: Flow chat client side

#### 4.3.3.2 Process Flow:

Now I'll show the flow of processes that demonstrates how the system works. It will clear how the system works step by step.

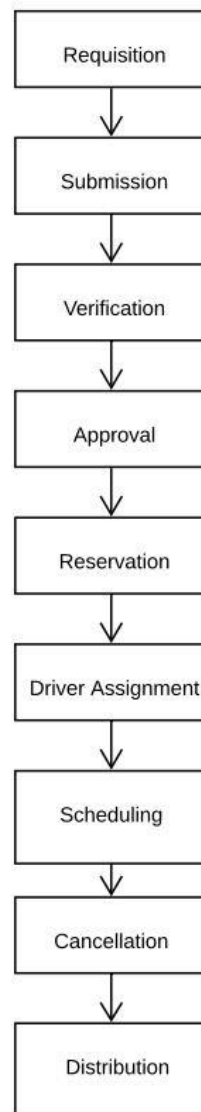


Fig 4.5: Process flow

#### 4.3.3.3 ER Diagram:

Entity Relationship Diagram (ERD), a database design tool that provides graphical representation of database tables, their columns and inter-relationships. This ERD provided a sufficient information for database administrator when I was developing and maintaining database

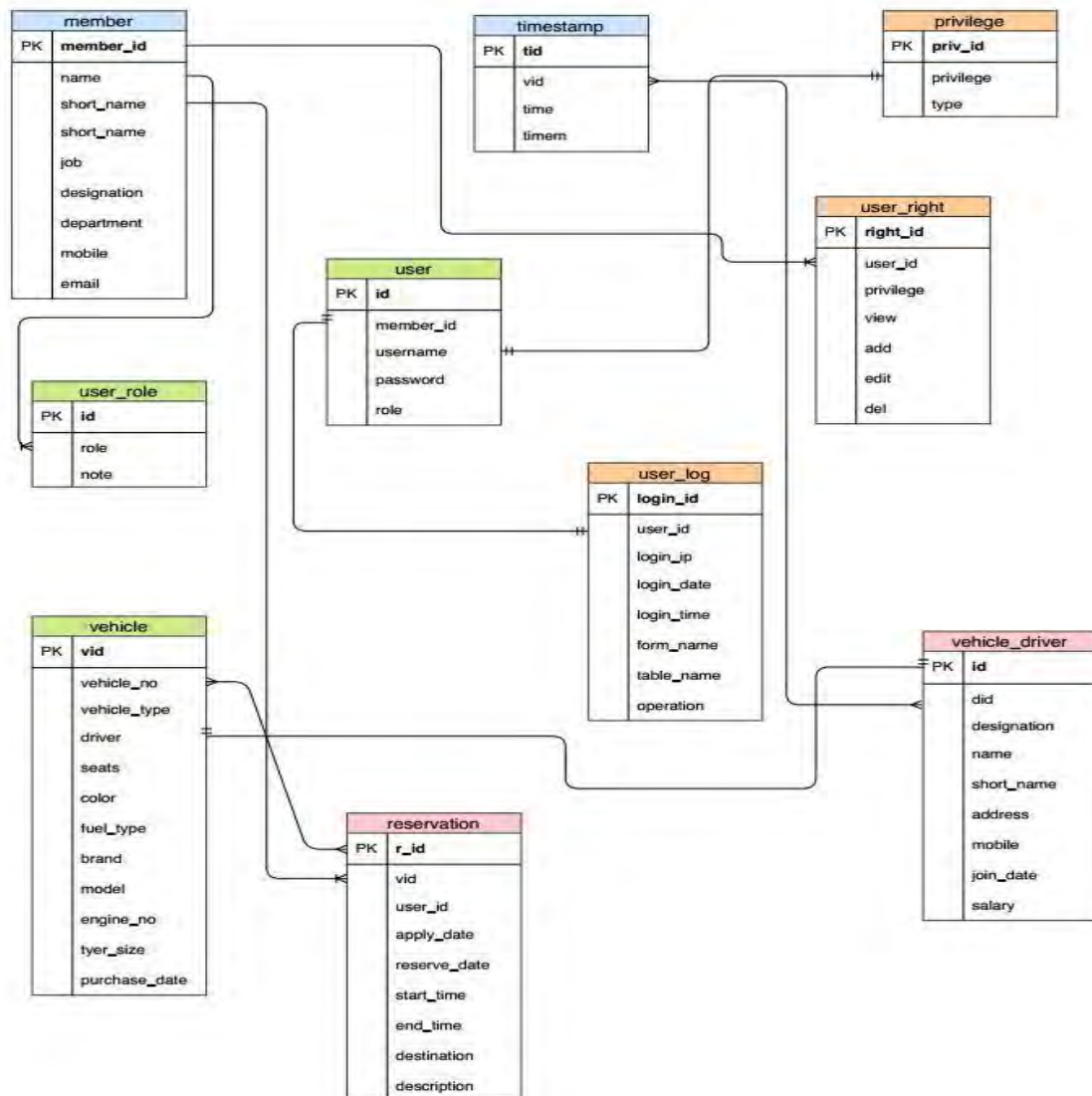


Fig 4.6: ER Diagram

#### 4.3.3.4 Database Schemas:

Tables of Online vehicle management system are given below:

##### Description of member table:

| Column Name | Data Type | Size  | Comment                             | Allow null value |
|-------------|-----------|-------|-------------------------------------|------------------|
| member_id   | varchar   | (255) |                                     | No               |
| name        | varchar   | (255) |                                     | No               |
| short_name  | varchar   | (300  | USN: short name of member for graph | No               |
| job         | varchar   | (255) | Teacher/Officer/Staff               | No               |
| designation | varchar   | (255) |                                     | No               |
| department  | varchar   | (255) |                                     | No               |
| mobile      | varchar   | (255) |                                     | No               |
| res_phone   | varchar   | (255) |                                     | No               |
| off_phone   | varchar   | (255) |                                     | No               |
| email       | varchar   | (255) |                                     | No               |

Table 01: Description of member table.

##### Description of privilege table:

| Column Name | Data Type | Size | Comment          | Allow null value |
|-------------|-----------|------|------------------|------------------|
| priv_id     | varchar   | (10) |                  | No               |
| privilege   | varchar   | (50) | Form/Report Name | No               |
| type        | varchar   | (100 | Form/Report/View | No               |

Table02: Description of privilege table.

**Description of reservation table:**

| Column Name            | Data Type | Size  | Comment                                    | Allow null value |
|------------------------|-----------|-------|--|------------------|
| rid                    | int       | (11)  |  | No               |
| vid                    | int       | (11)  |  | No               |
| user_id                | int       | (11)  |  | No               |
| apply_date             | char      | (11)  |  | No               |
| apply_time             | datetime  | (11)  |  | No               |
| reserve_date           | char      | (11)  |  | No               |
| start_time             | char      | (11)  |  | No               |
| end_time               | char      | (11)  |  | No               |
| stid                   | int       | (11)  | tid.timestamp start                        | No               |
| etid                   | int       | (11)  | tid.timestamp end                          | No               |
| purpose                | varchar   | (11)  |  | No               |
| destination            | varchar   | (255) |  | No               |
| description            | longtext  | (255) |  | No               |
| driver_reporting_place | varchar   | (255) |  | No               |
| accept                 | varchar   | (1)   | w:wait, y=yes, n=no                        | No               |
| execute_by             | varchar   | (255) | Excutive User by whom accept / cancel done | No               |

Table03: Description of reservation table.

**Description of timestamp table:**

| Column Name | Data Type | Size | Comment | Allow null value |
|-------------|-----------|------|---------|------------------|
| tid         | int       | (11) |         | No               |
| time        | varchar   | (6)  |         | No               |
| timem       | varchar   | (20) |         | No               |

Table04: Description of timestamp table.

**Description of user table:**

| Column Name | Data Type | Size | Comment | Allow null value |
|-------------|-----------|------|---------|------------------|
| id          | int       | (10) |         | No               |
| member_id   | int       | (10) |         | No               |
| username    | varchar   | (15) |         | No               |
| password    | varchar   | (25) |         | No               |
| role        | varchar   | (50) |         | No               |

Table05: Description of user table.

**Description of user table:**

| Column Name | Data Type | Size  | Comment | Allow null value |
|-------------|-----------|-------|---------|------------------|
| login_id    | varchar   | (255) |         | No               |
| user_id     | varchar   | (255) |         | No               |
| login_ip    | varchar   | (255) |         | No               |
| login_date  | varchar   | (255) |         | No               |
| login_time  | varchar   | (255) |         | No               |
| form_name   | varchar   | (255) |         | No               |
| table_name  | varchar   | (255) |         | No               |
| operation   | varchar   | (255) |         | No               |
| old_value   | varchar   | (255) |         | No               |
| new_value   | varchar   | (255) |         | No               |

Table06: Description of user table.



**Description of user table:**

| Column Name | Data Type | Size | Comment     | Allow null value |
|-------------|-----------|------|-------------|------------------|
| right_id    | int       | (11) |             | No               |
| user_id     | int       | (11) |             | No               |
| privilege   | int       | (11) |             | No               |
| view        | varchar   | (3)  | y=yes; n=No | No               |
| add         | varchar   | (3)  | y=yes; n=No | No               |
| edit        | varchar   | (3)  | y=yes; n=No | No               |
| del         | varchar   | (3)  | y=yes; n=No | No               |

Table07: Description of user table.

**Description of user role table:**

| Column Name | Data Type | Size  | Comment | Allow null value |
|-------------|-----------|-------|---------|------------------|
| id          | varchar   | (255) |         | No               |
| role        | varchar   | (255) |         | No               |
| note        | varchar   | (255) |         | No               |

Table08: Description of user role table.

**Description of vehicle parts table:**

| Column Name | Data Type | Size  | Comment | Allow null value |
|-------------|-----------|-------|---------|------------------|
| id          | int       | (11)  |         | No               |
| pid         | varchar   | (255) |         | No               |
| spare_parts | varchar   | (255) |         | No               |
| brand       | varchar   | (255) |         | No               |

Table09: Description of vehicle parts table.

**Description of vehicle table:**

| <b>Column Name</b>      | <b>Data Type</b> | <b>Size</b> | <b>Comment</b> | <b>Allow null value</b> |
|-------------------------|------------------|-------------|----------------|-------------------------|
| vid                     | int              | (11)        |                | No                      |
| vehicle_no              | varchar          | (255)       |                | No                      |
| vehicle_type            | varchar          | (255)       |                | No                      |
| driver                  | int              | (11)        | Vehicle Driver | No                      |
| seats                   | int              | (11)        |                | No                      |
| ac                      | varchar          | (255)       |                | No                      |
| color                   | varchar          | (255)       |                | No                      |
| fuel_type               | varchar          | (255)       |                | No                      |
| active                  | char             | (1)         |                | No                      |
| brand                   | varchar          | (255)       | y=yes; n=no    | No                      |
| country_of_origin       | varchar          | (255)       |                | No                      |
| model                   | varchar          | (255)       |                | No                      |
| manufacturing_date      | varchar          | (255)       |                | No                      |
| engine_no               | varchar          | (255)       |                | No                      |
| chassis_no              | varchar          | (255)       |                | No                      |
| tyer_size               | varchar          | (255)       |                | No                      |
| battery_no              | varchar          | (255)       |                | No                      |
| oil_filter_no           | varchar          | (255)       |                | No                      |
| air_filter_no           | varchar          | (255)       |                | No                      |
| purchase_date           | varchar          | (255)       |                | No                      |
| tax_validity_date       | varchar          | (255)       |                | No                      |
| fitness_validity_date   | varchar          | (255)       |                | No                      |
| insurance_validity_date | varchar          | (255)       |                | No                      |

Table10: Description of vehicle table.

**Description of vehicle driver table:**

| Column Name | Data Type | Size  | Comment                             | Allow null value |
|-------------|-----------|-------|-------------------------------------|------------------|
| id          | int       | (11)  |                                     | No               |
| did         | varchar   | (255) |                                     | No               |
| designation | varchar   | (255) |                                     | No               |
| name        | varchar   | (255) |                                     | No               |
| short_name  | varchar   | (255) | DSN: short name of driver for graph | No               |
| address     | varchar   | (255) |                                     | No               |
| mobile      | varchar   | (255) |                                     | No               |
| join_date   | varchar   | (255) |                                     | No               |
| license_no  | varchar   | (255) |                                     | No               |
| salary      | double    |       |                                     | No               |

Table11: Description of vehicle driver table.

**Description of vehicle helper table:**

| Column Name | Data Type | Size  | Comment | Allow null value |
|-------------|-----------|-------|---------|------------------|
| id          | int       | (11)  |         | No               |
| hid         | varchar   | (255) |         | No               |
| name        | varchar   | (255) |         | No               |
| designation | varchar   | (255) |         | No               |
| mobile      | varchar   | (255) |         | No               |
| address     | varchar   | (255) |         | No               |
| join_date   | varchar   | (255) |         | No               |
| salary      | double    |       |         | No               |

Table12: Description of vehicle helper table.

#### 4.3.3.5 Architectural Design of the System:

The architectural design of the system shows how the architecture of OVPRS. The architecture of the system was based on the Niter architecture model, where application is split into different layers. OVPRS is composed of different subsystems which when combined all together form the whole architecture of the system. Data storage occurs in the database which runs MySQL as the database engine. The topmost level of the web application is the presentation layer which displays information such as browsing parking lot, client, system user login, booking, etc. It communicates with other layers by which it puts out the results to the browser/client tier and all other tiers in the network. The Business Access Layer Project is responsible for all the business logic of the application by performing detailed processing, it interfaces the Data Access Layer and the presentation Layer. The Data Access Layer subsystem is responsible for accessing the database for data retrieval and insertion

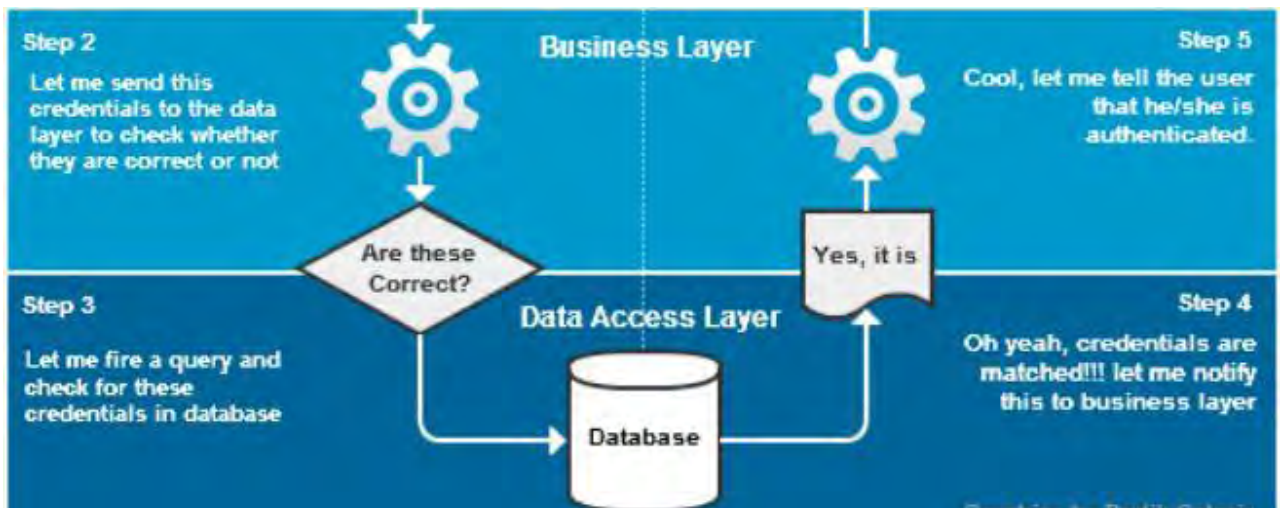


Fig 4.7: Architectural design of the system

#### 4.4 Result of Analysis:

It shows overall progress of a project. The analysis result focus on Results of Implementation, Results of Testing, Achievements of the project, and Limitations of the project. By this analysis we may able to know how much a project efficient or not.

##### 4.4.1 Results of Implementation:

It demonstrates that it will have a web interface where user of the system (Clients/Employees /system admin) can logon and register, where clients can reserve a car, can view vehicle status. Interface where the employee can book a car and also will able to cancel a booking, can update and also can delete the client. System admin can manage all users of the system such us employee and clients.

##### 4.4.2 Results of Testing:

Cross browser testing was done me to ensure that the web application looks the same in major browsers that is Google chrome, Mozilla Firefox, Opera and Internet explorer. The web project is consistent (looks exactly the same) in Google chrome, Mozilla Firefox and Opera but the looks vary slightly in internet explorer.

##### 4.4.3 Achievements of the project:

- Clients can create accounts on the system through registration.
- System Administrator can manage the Employees by creating for them the account.
- Employees are able to book vehicles for their usage.
- Clients can view the vehicles are available in online.
- System Administrators can manage vehicles and also he can manage the clients.
- System Administrator can efficiently and effectively manage all the users on the application and roles.
- The chances of reserve vehicles in the same time will not be held.

## **CHAPTER: 5**

### **SUMMERY, RECOMMENDATION & CONCLUTION**

### 5.1 Introduction:

This chapter discusses about what has been done, recommendations on the system's operations, future scope of this system and the conclusions that are to be made regarding the system's functioning in the current status and that of the future where some improvements are to be made on the system.

### 5.2 Summary:

This project was aimed to improve on the current Vehicle Reservation Systems by creating online vehicle reservation system which enables the client to book vehicle through online. The existing vehicle reservation system was file based where client book the vehicles manually on ledger books. Online Vehicle Management System enables users to locate and reserve vehicles online through accessing it on web platform where client login then she/he start process of booking

### 5.3 Recommendation:

- I recommend that the system be used by other companies because I believes that the system can effectively and efficiently display the vehicles are available, can allow clients, employee to reserve a free vehicle available.
- I recommend that more research should be done such that the vehicles detail should able to be scanned during entering in the parking place.
- More research should also be done to extend this project to include tracking vehicle by using GPS for the purpose of maintaining the security.
- I recommend that through making the web application more responsive the client will be able to reserve vehicles on mobile devices easier.
- The researcher recommend that any module that are not captured in a proposed system will be included during the system upgrade due to the time factor (for example: online payment module, etc.)

#### 5.4 Conclusion:

Online vehicle reservation system improves the existing system since we are in computerized world. With this new system is mandatory, it enables the user of the system (client, employee, System administrator) to reserve vehicles online and this reduces the wasting of time of the clients looking for where to go, increase the safety of the property.

The developed system has been successfully deployed on a web-site. After connected to the system through the Internet, some feedbacks are found. This system's workflow of the front-end is user friendly and efficient enough to work.

The system developed with future development possibilities in consideration. The object oriented approach of this system permits addition of new entities and methods, which will be helpful to interact with existing ones and to extend the functionalities. The developers of this system wishes to continue their involvement and contribution to this system for further development operation. Some new features will be added soon in this system. The developers of this system wish to add a Forum facility in this web-site, where all the registered users will be able to perform desired tasks.

#### 5.5 Scope of Further Development:

The system could be modified suitable to work on a large network. This involves, amount other, resolving used conflicts, protecting database integrity and ensuring consistency of data if it is distributed across multiple location.

The project could be implemented in an average sized organization.

An average company will not be very keep on spending loads of money on ledgers. Whereas these project will greatly reduce the costs which is using common and cheap office items like database and desktop application.

Can possible to improve this project on mobile app version.

In mobile app client will be able to book vehicles through smart phones.



## Appendix: 1

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## Appendix: 2

# User Manual

### 5.6 Project Overview:

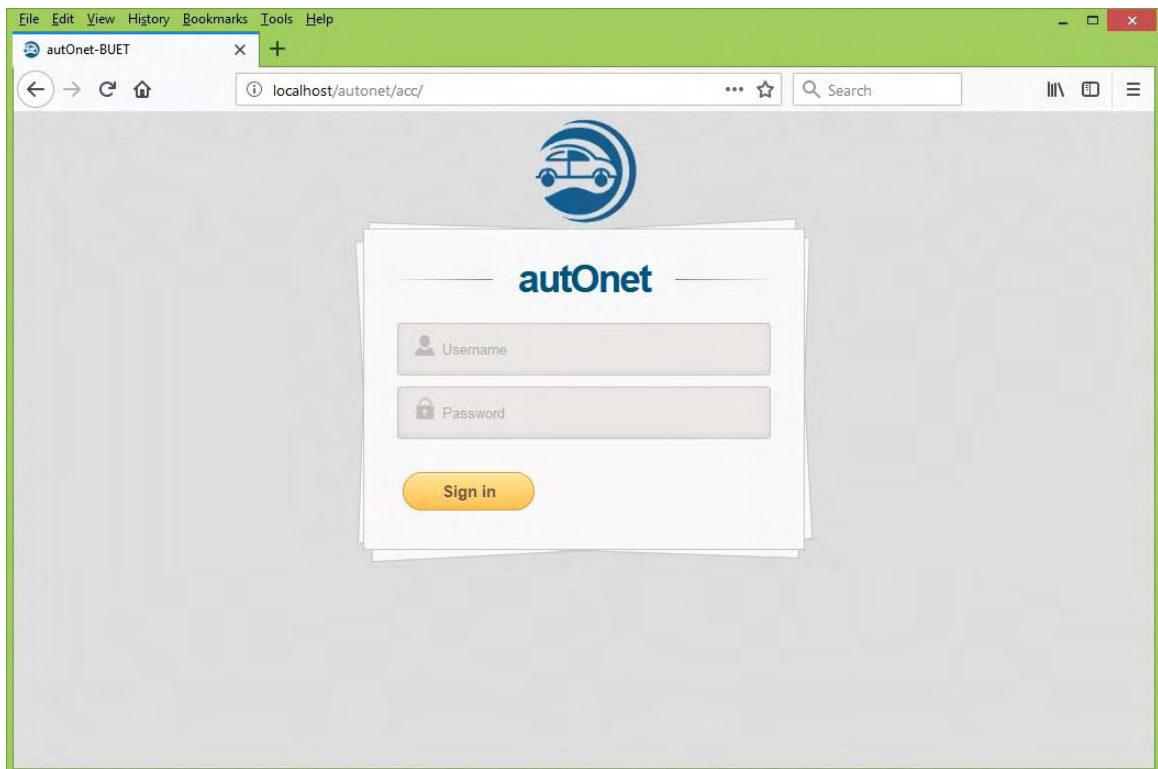


Fig 5.1: Login page

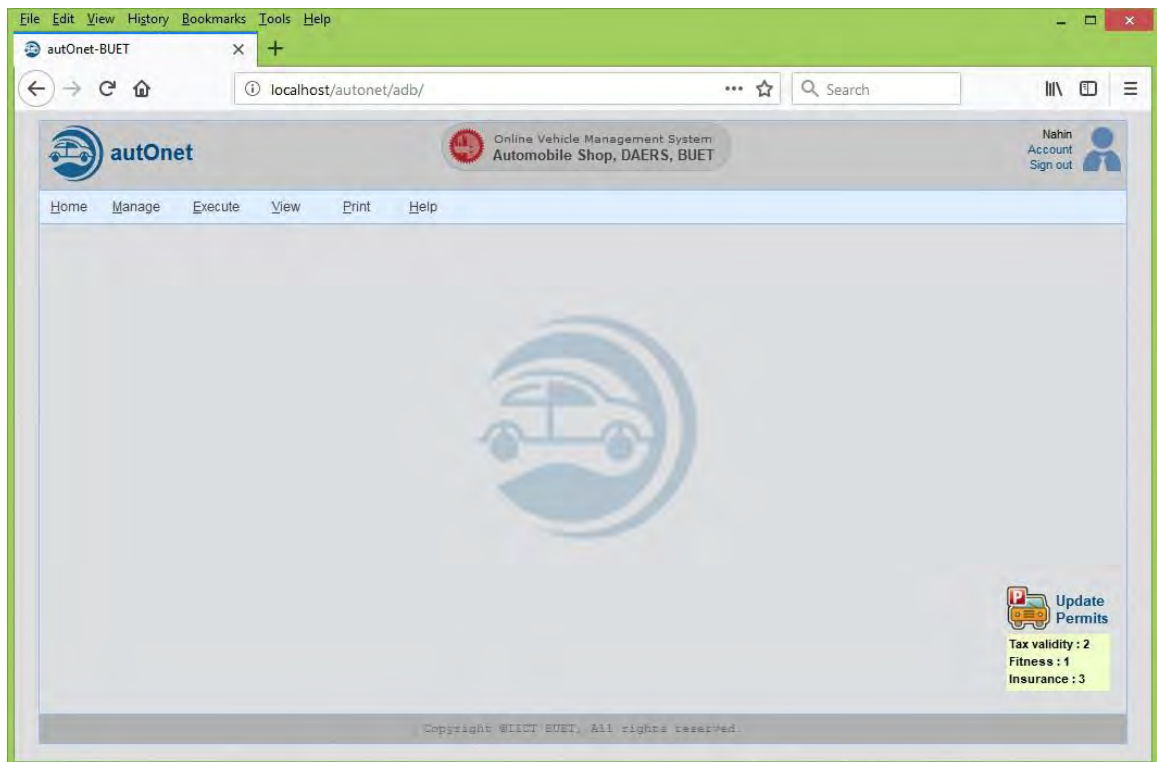


Fig 5.2: Login success page

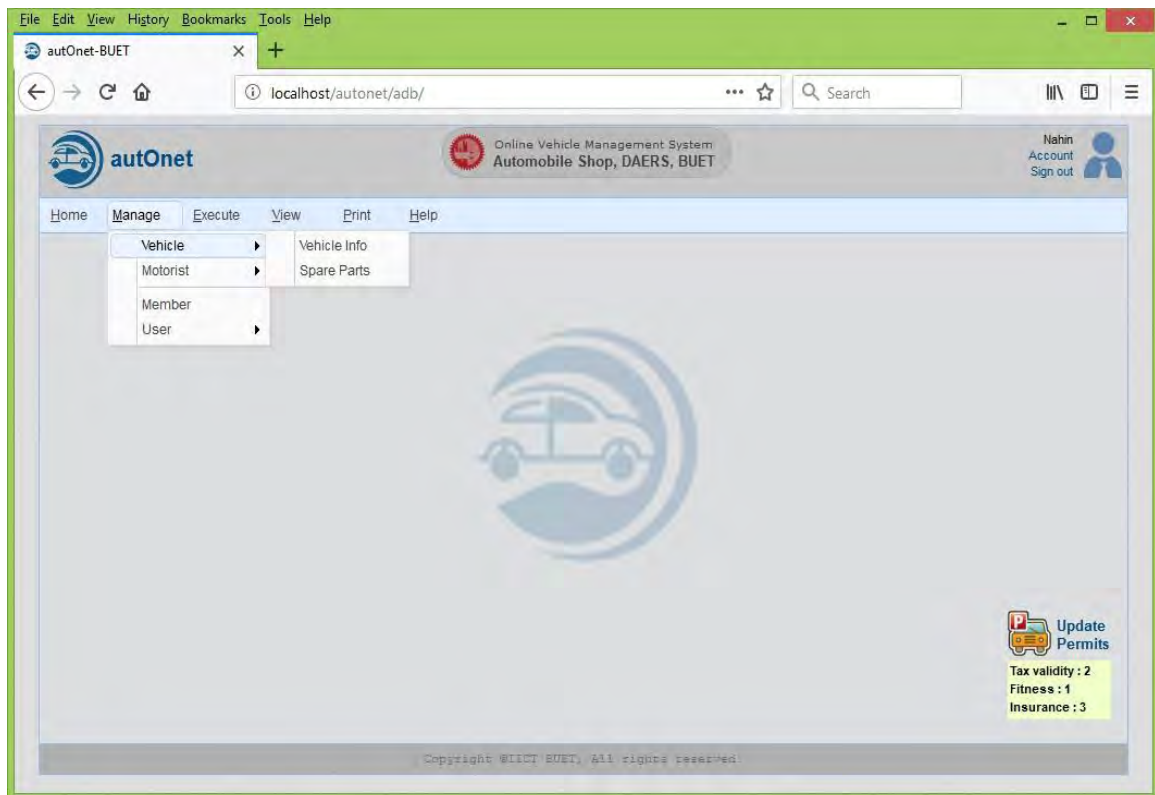


Fig 5.3: Menu bar

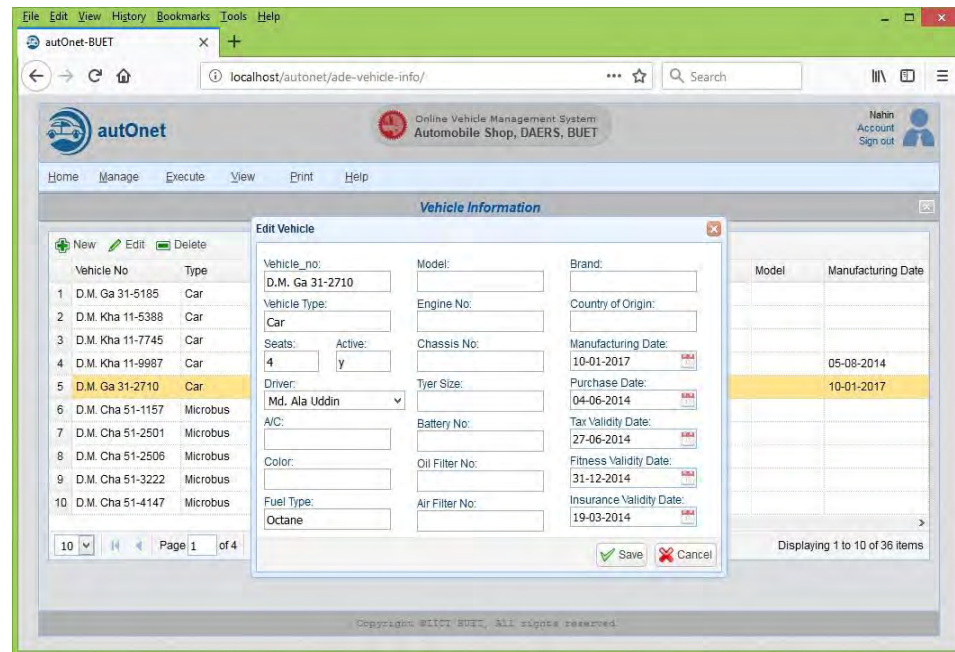


Fig 5.4: Spare parts

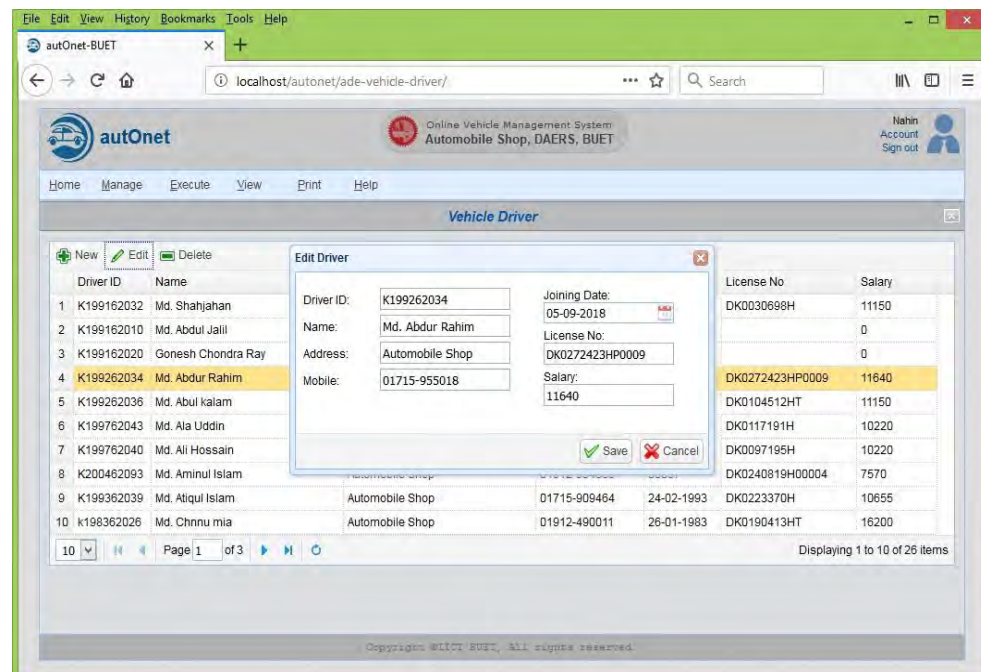


Fig 5.5: Driver Menu

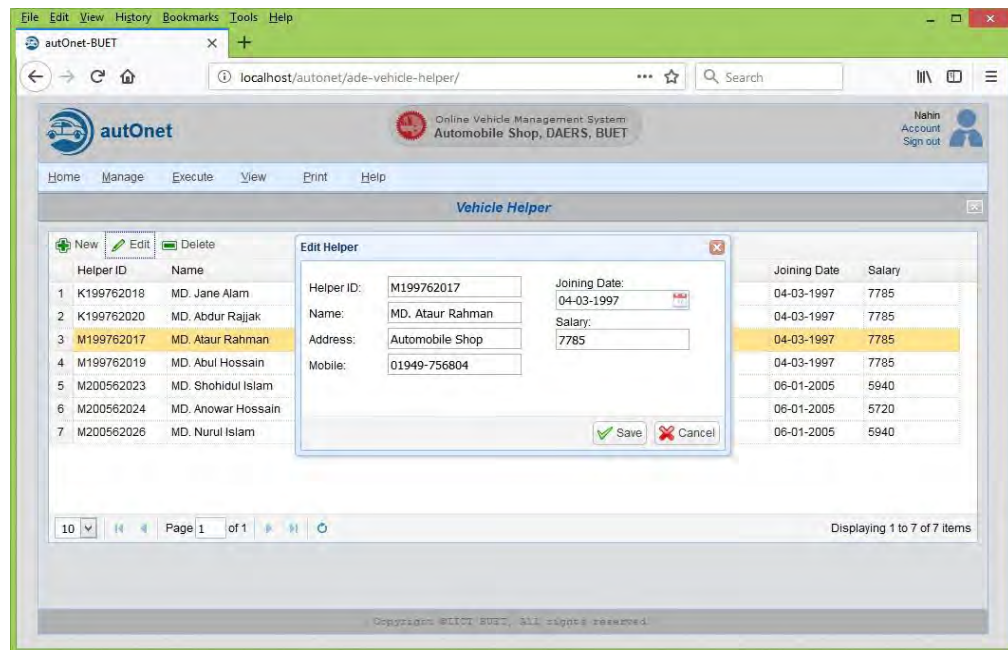


Fig 5.6: Helper Menu

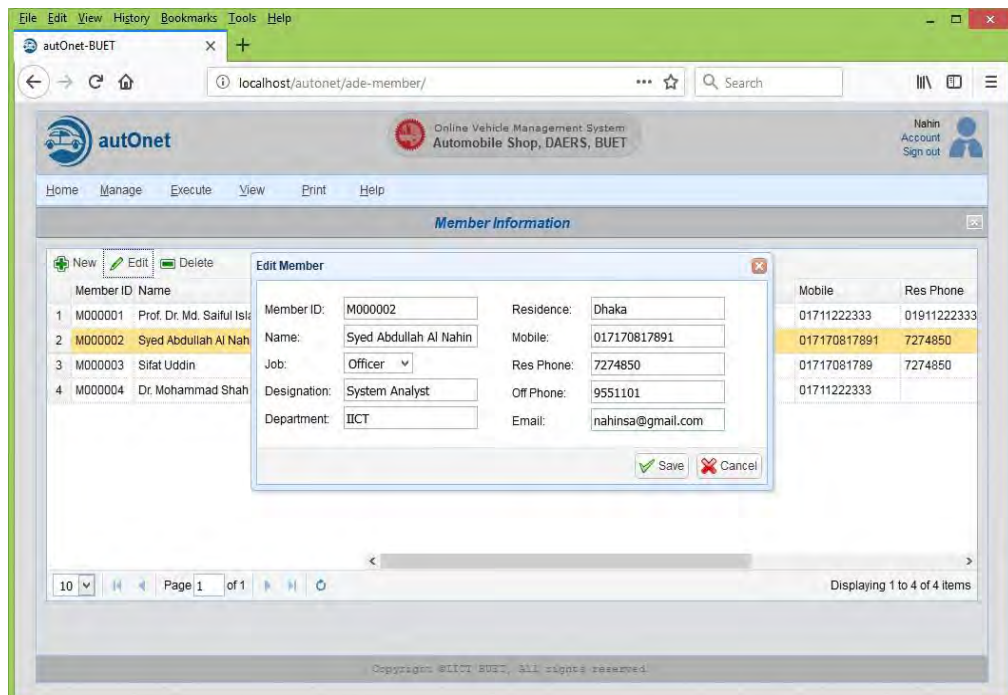


Fig 5.7: Member Menu



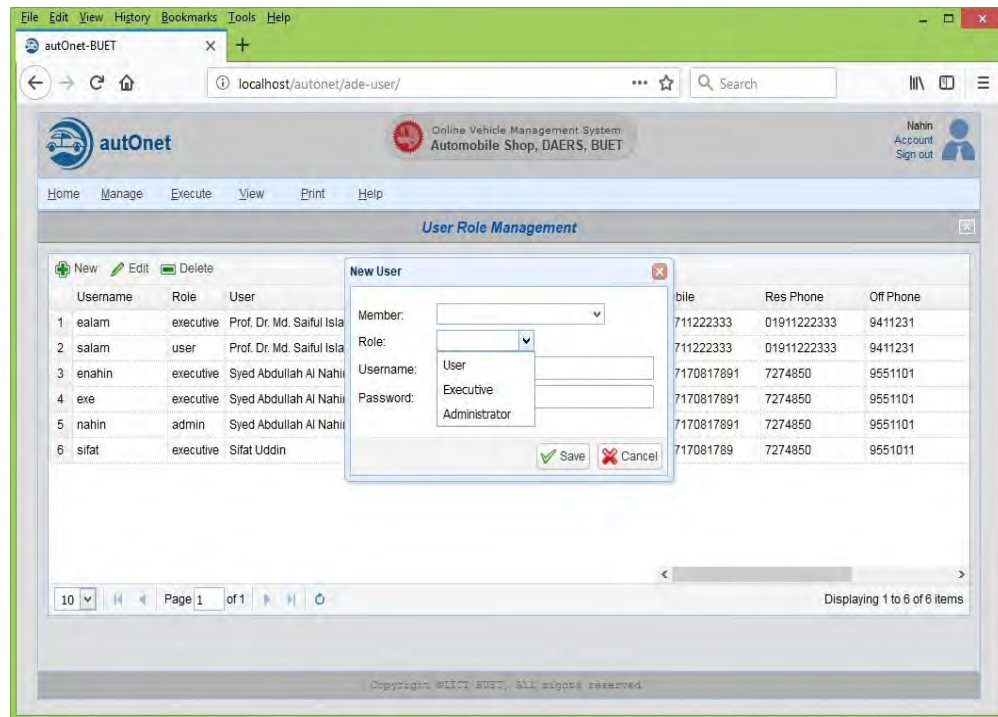


Fig 5.8: User role

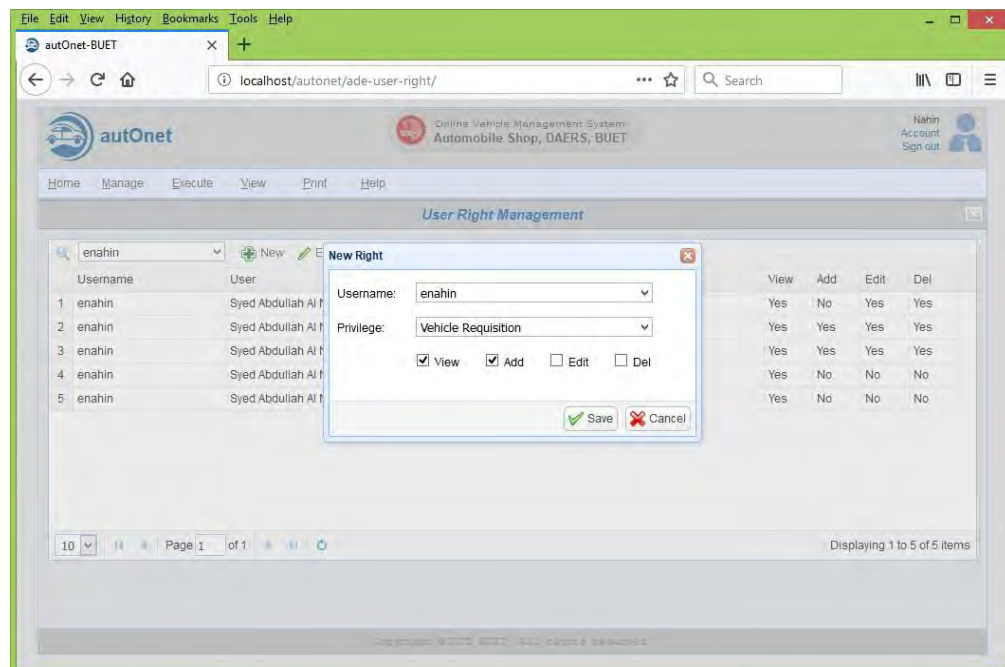


Fig 5.9: User right



File Edit View History Bookmarks Tools Help

autOnet-BUET

localhost/autonet/avu-requisition/index.php?vi=3&vn=D.M. Kha 11-7745

autOnet Online Vehicle Management System Automobile Shop, DAERS, BUET

Nahin Account Sign out

Home Manage Execute View Print Help

**Vehicle Requisition**

Date: 05-09-2018 Day: Wednesday Vehicle: Car Vehicle No: D.M. Kha 11-7745 Seats: 4

6 7 8 9 10 11 12 1 2 3 4 5 6 7 8 9 10 11 12 1 2 3 4 5

Purpose: Official Destination: Responsible Teacher / Officer / Staff: Syed Abdullah Al Nahin System Analyst IICT

Start Time: 06:00 AM Working Description:

End Time: 06:00 AM Driver Reporting Place:

Apply Cancel

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Fig 5.10: Vehicle Schedule

File Edit View History Bookmarks Tools Help

autOnet-BUET

localhost/autonet/avu-schedule/

Search

 autOnet

Online Vehicle Management System:  
Automobile Shop, DAERS, BUET

Nahin  
Account  
Sign out

Home Manage Execute View Print Help

Vehicle Schedule

Date: 05-09-2018 Vehicle: Car

| Vehicle No                 | AM |   |   |   |    | PM |    |   |   |   |   |   |   |   |   |   | AM |    |    |   |   |   |   |   |
|----------------------------|----|---|---|---|----|----|----|---|---|---|---|---|---|---|---|---|----|----|----|---|---|---|---|---|
|                            | 6  | 7 | 8 | 9 | 10 | 11 | 12 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 1 | 2 | 3 | 4 | 5 |
| D.M. Ga 31-5185 (4 Seats)  |    |   |   |   |    |    |    |   |   |   |   |   |   |   |   |   |    |    |    |   |   |   |   |   |
| D.M. Kha 11-5388 (4 Seats) |    |   |   |   |    |    |    |   |   |   |   |   |   |   |   |   |    |    |    |   |   |   |   |   |
| D.M. Kha 11-7745 (4 Seats) |    |   |   |   |    |    |    |   |   |   |   |   |   |   |   |   |    |    |    |   |   |   |   |   |
| D.M. Kha 11-9987 (4 Seats) |    |   |   |   |    |    |    |   |   |   |   |   |   |   |   |   |    |    |    |   |   |   |   |   |
| D.M. Ga 31-2710 (4 Seats)  |    |   |   |   |    |    |    |   |   |   |   |   |   |   |   |   |    |    |    |   |   |   |   |   |

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Fig 5.11: Vehicle Schedule

File Edit View History Bookmarks Tools Help

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localhost/autonet/avu-instance/

Online Vehicle Management System  
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Nahin  
Account  
Sign out

Home Manage Execute View Print Help

Vehicle Instance

Date: 05-09-2018 Vehicle: Car

| Wednesday        | AM |   |   |   |    | PM |    |   |   |   |   |   |   |   |   |   | AM |    |    |   |   |   |   |   |
|------------------|----|---|---|---|----|----|----|---|---|---|---|---|---|---|---|---|----|----|----|---|---|---|---|---|
| Car No           | 6  | 7 | 8 | 9 | 10 | 11 | 12 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 1 | 2 | 3 | 4 | 5 |
| D.M. Ga 31-5185  |    |   |   |   |    |    |    |   |   |   |   |   |   |   |   |   |    |    |    |   |   |   |   |   |
| D.M. Kha 11-5388 |    |   |   |   |    |    |    |   |   |   |   |   |   |   |   |   |    |    |    |   |   |   |   |   |
| D.M. Kha 11-7745 |    |   |   |   |    |    |    |   |   |   |   |   |   |   |   |   |    |    |    |   |   |   |   |   |
| 2 Instance       |    |   |   |   |    |    |    |   |   |   |   |   |   |   |   |   |    |    |    |   |   |   |   |   |
| D.M. Kha 11-9987 |    |   |   |   |    |    |    |   |   |   |   |   |   |   |   |   |    |    |    |   |   |   |   |   |
| D.M. Ga 31-2710  |    |   |   |   |    |    |    |   |   |   |   |   |   |   |   |   |    |    |    |   |   |   |   |   |

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Fig 5.12: Vehicle Instance

File Edit View History Bookmarks Tools Help

autOnet-BUET

localhost/autonet/avu-approval/index.php?ri=65&vi=38&vt=...

Online Vehicle Management System  
Automobile Shop, DAERS, BUET

Nahin  
Account  
Sign out

Home Manage Execute View Print Help

Requisition Approval

Date: 05-09-2018 Day: Wednesday Vehicle: Car Vehicle No: D.M. Kha 11-7745 Seats: 4

| Vehicle No       | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 1 | 2 | 3 | 4 | 5 |
|------------------|---|---|---|---|----|----|----|---|---|---|---|---|---|---|---|---|----|----|----|---|---|---|---|---|
| D.M. Kha 11-7745 |   |   |   |   |    |    |    |   |   |   |   |   |   |   |   |   |    |    |    |   |   |   |   |   |
| 2 Instance       |   |   |   |   |    |    |    |   |   |   |   |   |   |   |   |   |    |    |    |   |   |   |   |   |

Responsible User

Syed Abdullah Al Nahin  
System Analyst, IICT  
Mobile : 017170817891  
Phone: (Off) 9551101  
(Res) 7274850  
Email: nahinsa@gmail.com  
Purpose: Official  
Form: 02:30 PM To: 05:30 PM  
Destination : Gazipur  
Description : Official Meeting  
Driver Reporting : BUET Campus

Approval

☒ Accept From: 02:30 PM To: 05:30 PM  
Driver: Gonesh Chondra Ray [Car(4) - D.M. Kha 11-7745]  
Cancel Reason:  
Note:

Confirm Instance

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Fig 5.13: Vehicle Instance approval

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Nahin Account Sign out

Home Manage Execute View Print Help

**Vehicle Permits**

Update

| Vehicle No          | Type      | Seats | Driver             | Purchase Date | Tax Validity Date | Fitness Validity Date | Insurance Validity Date |
|---------------------|-----------|-------|--------------------|---------------|-------------------|-----------------------|-------------------------|
| 1 D.M. Kha 11-9987  | Car       | 4     | Md. Abdur Rahim    | 03-06-2014    | 26-09-2018        | 26-02-2015            | 21-06-2014              |
| 2 D.M. Cha 51-4147  | Microbus  | 12    | Gonesh Chondra Ray |               | 26-07-2014        | 18-06-2014            | 26-09-2018              |
| 3 D.M. Sa 11-0187   | Bus       | 52    | Md. Abdul Jalil    |               | 22-03-2018        | 23-09-2018            | 30-09-2018              |
| 4 D.M. Chaa-71-1308 | Ambulance | 2     | Md. Atiqui Islam   | 23-01-2001    | 05-09-2018        | 13-01-2014            | 27-09-2018              |

10 Page 1 of 1 Displaying 1 to 4 of 4 items

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Fig 5.14: Vehicle Instance approval

autOnet Online Vehicle Management System Automobile Shop, DAERS, BUET

Nahin Account Sign out

Home Manage Execute View Print Help

**Roster**

Date: 05-09-2018 Vehicle: Car

| Mon, 02/06/2014  | 6 | 7 | 8 | 11 | 12 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 1 | 2 | 3 | 4 | 5 |
|------------------|---|---|---|----|----|---|---|---|---|---|---|---|---|---|----|----|----|---|---|---|---|---|
| Car No           |   |   |   |    |    |   |   |   |   |   |   |   |   |   |    |    |    |   |   |   |   |   |
| D.M. Ga 31-5185  |   |   |   |    |    |   |   |   |   |   |   |   |   |   |    |    |    |   |   |   |   |   |
| D.M. Kha 11-5388 |   |   |   |    |    |   |   |   |   |   |   |   |   |   |    |    |    |   |   |   |   |   |
| D.M. Kha 11-7745 |   |   |   |    |    |   |   |   |   |   |   |   |   |   |    |    |    |   |   |   |   |   |
| D.M. Kha 11-9987 |   |   |   |    |    |   |   |   |   |   |   |   |   |   |    |    |    |   |   |   |   |   |
| D.M. Ga 31-2710  |   |   |   |    |    |   |   |   |   |   |   |   |   |   |    |    |    |   |   |   |   |   |

Waiting for confirmation

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Fig 5.15: Roaster

| 05-08-2018                          |                        | AM |                             | PM |  | AM |  |
|-------------------------------------|------------------------|----|-----------------------------|----|--|----|--|
| Vehicle                             |                        |    |                             |    |  |    |  |
| D.M. Ga 31-5185<br>(Car - 4)        |                        |    |                             |    |  |    |  |
| D.M. Kha 11-5388<br>(Car - 4)       |                        |    |                             |    |  |    |  |
| D.M. Kha 11-7745<br>(Car - 4)       | Syed Abdullah Al Nahin |    | Waiting for<br>confirmation |    |  |    |  |
| Gonesh Chondra Ray                  |                        |    |                             |    |  |    |  |
| D.M. Kha 11-9887<br>(Car - 4)       |                        |    |                             |    |  |    |  |
| D.M. Ga 31-2710<br>(Car - 4)        |                        |    |                             |    |  |    |  |
| D.M. Cha 51-1157<br>(Microbus - 12) |                        |    |                             |    |  |    |  |
| D.M. Cha 51-2591<br>(Microbus - 8)  |                        |    |                             |    |  |    |  |
| D.M. Cha 51-2506<br>(Microbus - 15) |                        |    |                             |    |  |    |  |
| D.M. Cha 51-3222<br>(Microbus - 15) |                        |    |                             |    |  |    |  |
| D.M. Cha 51-4147<br>(Microbus - 12) |                        |    |                             |    |  |    |  |
| D.M. Cha 53-4178<br>(Microbus - 15) |                        |    |                             |    |  |    |  |
| D.M. Cha 53-4179<br>(Microbus - 15) |                        |    |                             |    |  |    |  |
| D.M. Cha 53-4180<br>(Microbus - 15) |                        |    |                             |    |  |    |  |
| D.M. Kha 11-0423<br>(Microbus - 4)  |                        |    |                             |    |  |    |  |
| D.M. Cha 53-6439<br>(Microbus - 12) |                        |    |                             |    |  |    |  |
| D.M. Kha 13-6938<br>(Jeep - 8)      |                        |    |                             |    |  |    |  |
| D.M. Kha 11-0085<br>(Jeep - 8)      |                        |    |                             |    |  |    |  |
| D.M. Kha 11-8784<br>(Jeep - 4)      |                        |    |                             |    |  |    |  |
| D.M. Cha 06-0026<br>(Minibus - 32)  |                        |    |                             |    |  |    |  |
| D.M. Jha 11-0058<br>(Minibus - 30)  |                        |    |                             |    |  |    |  |

Fig 5.16: Roaster Today

autOnet-BUET

localhost/autonet/apr-rosterdvr/

autOnet Online Vehicle Management System Automobile Shop, DAERS, BUET

Nahin Account Sign out

Home Manage Execute View Print Help

Reports

6 of 16

DAERS Automobile Shop Bangladesh University of Science and Technology, Dhaka (Vehicle Requisition Form)

Purpose Official

Vehicle Travelling Time From 06:15 A to 08:30 A

Apply Date 06-08-2014

Vehicle Car

Vehicle No D.M. Ga 31-5185

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Fig 5.17: Print report

## Appendix: 3

### Project Code

#### 5.7 Project Source Code:

##### 5.7.1 Index:

```

    <? include("../inc/config.php");?>

<!DOCTYPE html>

<!--[if lt IE 7 ]> <html lang="en" class="ie6 ielt8"> <![endif]-->
<!--[if IE 7 ]>  <html lang="en" class="ie7 ielt8"> <![endif]-->
<!--[if IE 8 ]>  <html lang="en" class="ie8"> <![endif]-->
<!--[if (gte IE 9)|(IE)]><!--> <html lang="en"> <!--<![endif]-->

<head>

<meta charset="utf-8">

<title><? echo $apps_title;?></title>

<link rel="stylesheet" type="text/css" href="../csd/login.css" />
<link rel="icon" type="image/png" href="../img/favicon.ico" />

</head>

<body>

<div class="container">

    <section id="content">

        <form action="loginc.php" method="post" name="login">


        <h1 style="font-size: 35px;color:#00537e">autOnet</h1>


        <div>

```

```

        <input type="text" placeholder="Username" required=""
id="username" name="username" />

    </div>

    <div>

        <input type="password" placeholder="Password"
required="" id="password" name="password" />

    </div>

    <div>

        <input type="submit" value="Sign in" />

    <?php
    if($_GET[action] == 'error'){
        print('<br/><span style="color: #F00">Sorry! Username or
Password<br/>did not match!</span>');
    }
    ?>

    </div>

    </form><!-- form -->

    <div class="button">

        </div><!-- button -->

    </section><!-- content -->

</div><!-- container -->

</body>

</html>

```



### 5.7.1.1 Login Page:

```

<?php
session_start();
include_once("../inc/config.php");
$username = $_POST['username'];
$password = $_POST['password'];

$login = mysqli_query($conn,"SELECT * FROM user WHERE username =
'".$username."' and password = '".$password."'");

// Check username and password match
if (mysqli_num_rows($login) == 1)
{
    // Set username session variable
    $_SESSION['username'] = $username;

    while($row = mysqli_fetch_array($login))
    {
        $_SESSION['role'] = $row['role'] ;
        $_SESSION['memberid'] = $row['member_id'] ;
        $_SESSION['userid'] = $row['id'] ;
    }
    else
    {
        // Jump to login page
        header('Location:../acc/index.php?action=error');
    }
?>

```

### 5.7.1.2 Logout Page:

```
<?php
// Initialize session
session_start();

// Delete certain session
unset($_SESSION['username']);
// Delete all session variables
session_destroy();

// Jump to login page
header('Location:../acc/');
?>
```

### 5.7.2 User Page:

#### 5.7.2.1 User Index:

```
<?php
include_once('../inc/include.php');
include_once('../inc/header.php');
?>

<link rel="stylesheet" type="text/css" href="screen.css">
<script type="text/javascript" src="script.js"></script>

<div class="content">
  <div class="content-title">User Role Management
    <div style="position:relative; float: right"><a href="#"
onclick="location.href='../index.php'" ></a></div>
  </div>
  <div class="content-details">
```



```

<!--      <table id="dg" title="My Users" class="easyui-datagrid"
style="width:700px;height:250px"-->

      <table id="dg" class="easyui-datagrid" style="width:980px;height:355px;"
        url="get.php"
        toolbar="#toolbar" pagination="true"
        rownumbers="true" fitColumns="false" singleSelect="true">
      <thead frozen="true">
      <tr>
        <th field="id" width="0" hidden ></th>
        <th field="username" width="100">Username</th>
        <th field="password" width="0" hidden>password</th>
        <th field="role" width="60">Role</th>
        <th field="name" width="180">User</th>
        <th field="designation" width="150">Designation</th>
        <th field="department" width="125">Department</th>
      </tr>
      </thead>
      <thead>
      <tr>
        <th field="mobile" width="110">Mobile</th>
        <th field="res_phone" width="110">Res Phone</th>
        <th field="off_phone" width="110">Off Phone</th>
        <th field="email" width="150">Email</th>
      </tr>
      </thead>
    </table>
    <div id="toolbar">

```

```

        <a href="#" class="easyui-linkbutton" iconCls="icon-add" plain="true"
onclick="newData()">New</a>

        <a href="#" class="easyui-linkbutton" iconCls="icon-edit" plain="true"
onclick="editData()">Edit</a>

        <a href="#" class="easyui-linkbutton" iconCls="icon-remove" plain="true"
onclick="removeData()">Delete</a>

    </div>

```

```

    <div id="dlg" class="easyui-dialog"
style="width:350px;height:220px;padding:1px 0px;top:150px;"
        closed="true" buttons="#dlg-buttons">
    <!--    <div class="fitem">Member Information</div>-->

```

```

    <form id="fm" method="post" novalidate>
        <div class="fitem">
            <label for="member_id">Member:</label></td>
            <select id="member_id" name="member_id" class="easyui-
validatebox" required="true">
                <?php
                    $qry="SELECT id, name FROM member;";
                    $result = mysqli_query($conn,$qry);
                    while($row = mysqli_fetch_object($result)){ ?>
                        <option value=<?=$row->id?>><?=$row->name?></option>
                    <?php } ?>
                </select>
                <input name="name" id="name" disabled>
            </div>

```

```

    <div class="fitem">
        <label for="role">Role:</label>

```

```

        <select id="role" name="role" >
            <option value="user">User</option>
            <option value="executive">Executive</option>
            <option value="admin">Administrator</option>
        </select>
        <input id="rolling" name="role" disabled>
    </div>

    <div class="fitem">
        <label for="username">Username:</label>
        <input name="username" id="username" >
    </div>

    <div class="fitem">
        <label for="password">Password:</label>
        <input name="password" type="password" id="password">
    </div>
</form>
</div>
<div id="dlg-buttons">
    <a href="#" class="easyui-linkbutton" iconCls="icon-ok"
onclick="saveData()">Save</a>
    <a href="#" class="easyui-linkbutton" iconCls="icon-cancel"
onclick="javascript:$('#dlg').dialog('close')">Cancel</a>
</div>
</div><!--content-details-->
</div><!--content-->
<?php include_once('../inc/footer.php');?>

```