



**An undergraduate Internship Project of web application development  
on “Car-House”**

By

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Science in Computer Science

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## **Attestation**

I understand the nature of Plagiarism, and I am aware of the University's Policy on this, I certify that the report about "Car-House" is an original work by me during my internship for fulfill the requirement for the Degree of Computer Science and Engineering from Independent University, Bangladesh (IUB). However, following internationally accepted academic guideline of using others written work and/or software (in the form of code) in my university project is properly cited if used in any part of this work.

Signature:\_\_\_\_\_

Date:

Mridul Islam

# Acknowledgement

To begin with the preeminent, I would like to thank Almighty Allah for giving me the continuance and the capacity to do work difficult. It is my benefit that I had the opportunity to do an internship at Aveneur Solutions. I would like to thank all the individuals on whom I carry out my internship. I express my profound gratefulness to my internal supervisor Mrs. Sabrina Alam, Lecturer, Department of Computer Science and Engineering, Independent University, Bangladesh (IUB), for her priceless enlightening persistent direction, valuable reactions and mindful counsel amid seeking after this internship and planning of this report. I express my profound gratefulness to my external supervisor, Mr. Ragib Ibne Hossain (Software developer, Aveneur Solutions).

To express my profound gratefulness to all representatives of Aveneur Solutions, for their participation and making a difference me to total this internship extend and report.

Mridul Islam

June 24, 2021

# Letter of Transmittal

June 24, 2021

Mrs. Sabrina Alam

Lecturer,

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Subject: Submission of Internship report for the completion of Graduation.

Dear Madam,

I am hereby submitting my Internship Report, which is a part of the BSc. Program in Computer Science and Engineering curriculum. It is a great achievement to work under your active supervision. This report is based on, “Internship at Avenuer Solutions”. I have got the opportunity to work at Avenuer Solutions for three months, under the supervision of Ragib Ibne Hossain, Software Developer, Avenuer Solutions.

This internship has given me both academic and practical exposures. The internship has given me the opportunity to develop a network with the corporate environment. I tried to make this report as much informative as possible with the experience which I have gained during my internship period. I sincerely believe that this report will serve the purpose of my internship program.

I shall be highly obliged if you are kind enough to receive this report and provide your valuable judgment. It would be my immense pleasure if you find this report useful and informative to have an apparent perspective on the issue.

Sincerely Yours,

Mridul Islam

ID-1610947

Department of Computer Science and Engineering,

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Independent University, Bangladesh

# Evaluation Committee

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Name:

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Supervisor:

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Internal Examiner:

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Convener

# ABSTRACT

This report highlights about the activity of web application development for a Car showroom by Aveneur Solutions and my contribution to their project. Web-based applications provide a whole range of business advantages. These applications can be accessed from any computer through the internet, instead of having to be individual installed on each computer that we wish to access it from.

By this web application customer will be able to see the product of the car showroom. They can simply go into that and view all the product with all specifications. There will be admin who will control the products of which will show in the car showcase. The system used Model, View, and Controller (MVC) architecture, and implemented using ASP.Net core Framework. C# Language is adding to the application to improve the use of the system. SQLite is used for the Application Database. Insertions, deletions, and changes of data in the system can do straightforward via the designed UI.

The report is broadly categorized into nine different chapters. At first there is an Introduction, Company Profile, Vision, mission and objective, corporate divisions, Details of the product lines or services and Operation details. In chapter two there is Literature Review. And chapter three has project management and financing. In chapter four focused on Methodology. Chapter five is about Body of the project which has system analysis and system design. Chapter six include Result & Analysis. Chapter seven talk about Project as engineering problem analysis. Chapter eight focused on lesson learned. And chapter nine will tell about the Future works & Conclusion of the project. This system will increase the business faster.

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# **Chapter 1**

## **INTRODUCTION**

### **Introduction**

A web application is application software that runs on a web server, unlike computer-based software programs that are run locally on the operating system of the device. Web applications are accessed by the user through a web browser with an active network connection.

I worked with a project called “Car-House”, which is a web application. Before starting the project the car showroom was running manually. After finishing this project they will can be work in online version of their system. Their main goal is to display their product in online.

### **1.1 Background of the work**

Generally in car showroom, The manager of the showroom make a manual list of cars in a notebook. So there has high threat in terms of security issue, because data can be lost very easily, unauthorized people can easily access the information and they don’t have any backup for those data. Again if any customer want to know about the cars, the customer need to go to the showroom and talk to a sales person of that showroom for knowing every information of any car.

The web based real time data record application will solve those problem. Using the web the admin will be able to keep all the information of all products in the database. So data will be stored in a database for further reference. And the customer will be able to see all the products of that showroom via internet very easily.

## 1.2 Objectives

A project objective describes that which will be the results of a project. An objective is specific and measurable, and must meet time, budget, and quality constraints. The main objective of this project is given below:

- It will save all data to a database for any further use.
- The customer will be able to see the product via internet.
- To access the product list from any place and perform the CRUD operation by the admin.

## 1.3 Scope of the project

This web based application system will permit to register a admin. It will also provide a log in page after registration for admin. This web app have different user interface. One is Customer interface, they will be able to see the cars and all the specification about a car. And the admin will have the database access for adding any car product to the list or delete any product. The admin will also maintain the edit operation of any product. Using this system admin will be able to maintain the products of that showroom very easily.

## 1.4 Company Profile

Avenuer Solutions is an aesthetic-first web design, digital content and software development company – serving business both large and small. This is a creative IT company that provides a diverse set of services tailored to specific needs. Avenuer Solutions also promote innovation, develop ideas into reality and provide opportunities for business to grow.

## **1.4.1 Vision, mission and objective**

### **Mission:**

Aveneur Solutions Provides the highest-grade, bespoke web, application, software and technological solutions to its valued client base at an affordable and time efficient manner. They provide services to all type of companies from solo bloggers to large enterprise.

### **Vision:**

Aveneur Solutions are in journey to expand and grow into a ubiquitously trusted name in the fields of digital design and technology. In time, Aveneur Solutions shall span the globe to provide its digital development and technology transfer services in major markets of the world over, such as the United Kingdom, Singapore and the United States. The core values of the company shall always be integrity and social responsibility.

### **Objective:**

Avenuer Solutions Customer's success is the main goal and utmost concern of the Company. They encourage about high level of self-motivation, individual responsibilities and continuously increase the performance in the work place. Some objective of Aveneur solutions is given below:

- To design, develop and program highly responsive website.
- To design, develop and program computer software and mobile software.
- To deliver high quality products and services within the required time frame.
- To provide highly innovative, scalable, reliable and easy maintainable solutions to the clients.
- Creating new jobs in software sector.

## **1.4.2 Details of the product lines or Services:**

Avenuer Solutions is a software firm. It serves different kind of services.

Some services which is provided by the Aveneur Solutions is given below:

### **Design:**

- I. Logo
- II. UI/UX
- III. Business Card
- IV. Book and Magazine Cover
- V. Product
- VI. Packaging and label
- VII. Brochure and flyer

### **Develop:**

- I. Blog Website
- II. E-Commerce
- III. ERP
- IV. Native Application Development(Android/ios)

### **Innovate:**

- I. Business Consultancy
- II. Digital Consultancy
- III. Cloud Migration
- IV. Image processing
- V. AI Chatbot Integration

# **Chapter 2**

## **Literature review**

### **Literature Review**

A literature review or narrative review is a type of review article. A literature review is a scholarly paper that presents the current knowledge including substantive findings as well as theoretical and methodological contributions to a particular topic. Conducting a writing audit includes collecting, assessing and analyzing distributions that relate to your inquire about question.

A literature review is a survey of scholarly sources on a specific topic. It provides an overview of current knowledge, allowing you to identity relevant theories, methods and gaps in the existing research. The literature review strategy is an examination of data on particular subject. It is looking into what is known, and not what is expected. It points to form the ultimate, exact representation of the knowledge and research-based hypothesis accessible theme. This strategy is aiming to be utilized due to require of gathering and preparing hypothetical base. I am aiming to utilize diverse books and articles too other sources like instructional exercises, gatherings and related program. At present web application is very useful thing for many business, because this leads the business to expand very fast.

### **2.1 Relationship with undergraduate studies**

In my project I got help from many things which I learned from my courses which is taught us at university. In Independent University, Bangladesh, department of Computer Science and Engineering organize the courses and syllabus in a very efficient way which help me lot in my project work. These are the some course's which is relevant to my work.

**Object oriented programming:** Basic concepts of the OOP was working with objects, classes, constructors, destructors and many other things. It also work with functions. In my internship period I have to work with C# language which work with objects, classes, constructors and functions. This previous knowledge about object help me to work with objects in my internship project.

**Database Management:** From database management I learned about architectural design of database, data modeling, database security and other different things. In my internship program I need to use database for save and retrieve data to/from database. Previous knowledge of database management help me about save and retrieve data, data model and database security issue in my internship project.

**System analysis and design:** This course is teaches us about system development life cycle, problem solving tools and approaches, system requirements, data flow diagrams and many other things. During my internship project I have to work with system development, acquire system requirements and different types of diagrams which I already learned in system analysis and design course.

**Software Engineering:** Software is a course where I learned about analyzing user requirements, designing, building and testing software application and different kind of methodology to do a project. This learning help me to do work with methodology and requirements part.

**Web application and internet:** web-based client-server architecture concepts, server side program, analyze model requirement, authentication and some other knowledge we gain from this course. It help me to do work with server side validation, model requirement and authentication issue in my internship project.



## 2.2 Related works

Some works which is related to this project is given below:

**Carselection.com:** This is one of the biggest automobile importers, whole-sellers and retailers in Bangladesh. It established at 1997.

**Automuseum.com.bd:** This started its journey in 1991. They import high quality cars include brand new and recondition cars.

**Cargallerybd.com:** This is one of the first and leading company in automobiles business world of Bangladesh which is importing and whole selling brand new, re-conditioned luxurious and best quality cars, microbus, SUVs and other cars. It was established in 1991.

### **Google docs:**

Google's office suite is one of the best web application in the world. Google Docs allows us to create documents, save them on our computer or on our Google Drive account, save them in PDF format, print them, and share them with our colleagues. And most importantly: it enables us to work on the same document with our colleagues.

### **Pixlr.com:**

Pixlr is one of the best web application for photo editing. This app is inspired by the well-known photo editing programme Adobe Photoshop, as the programme's design and its structure let us know right away. This application will, therefore, be very familiar among those of us who are Adobe Photoshop users.

### **Codepen.io:**

This is the perfect tool for those starting out in the web app development industry. It's basically a small HTML code development environment in our browser. Which means it's a really useful tool to test our HTML, CSS and JavaScript codes in real time.

# Chapter 3

## Project Management and Financing

### 3.1 Work Breakdown Structure

A Work Breakdown Structure (WBS) is a deliverable-oriented hierarchical decomposition of the work to be executed by the project team to accomplish the project objectives and create the required deliverables. A work breakdown structure help us to divide the works. A WBS is the cornerstone of effective project planning, execution, controlling, monitoring, and reporting.

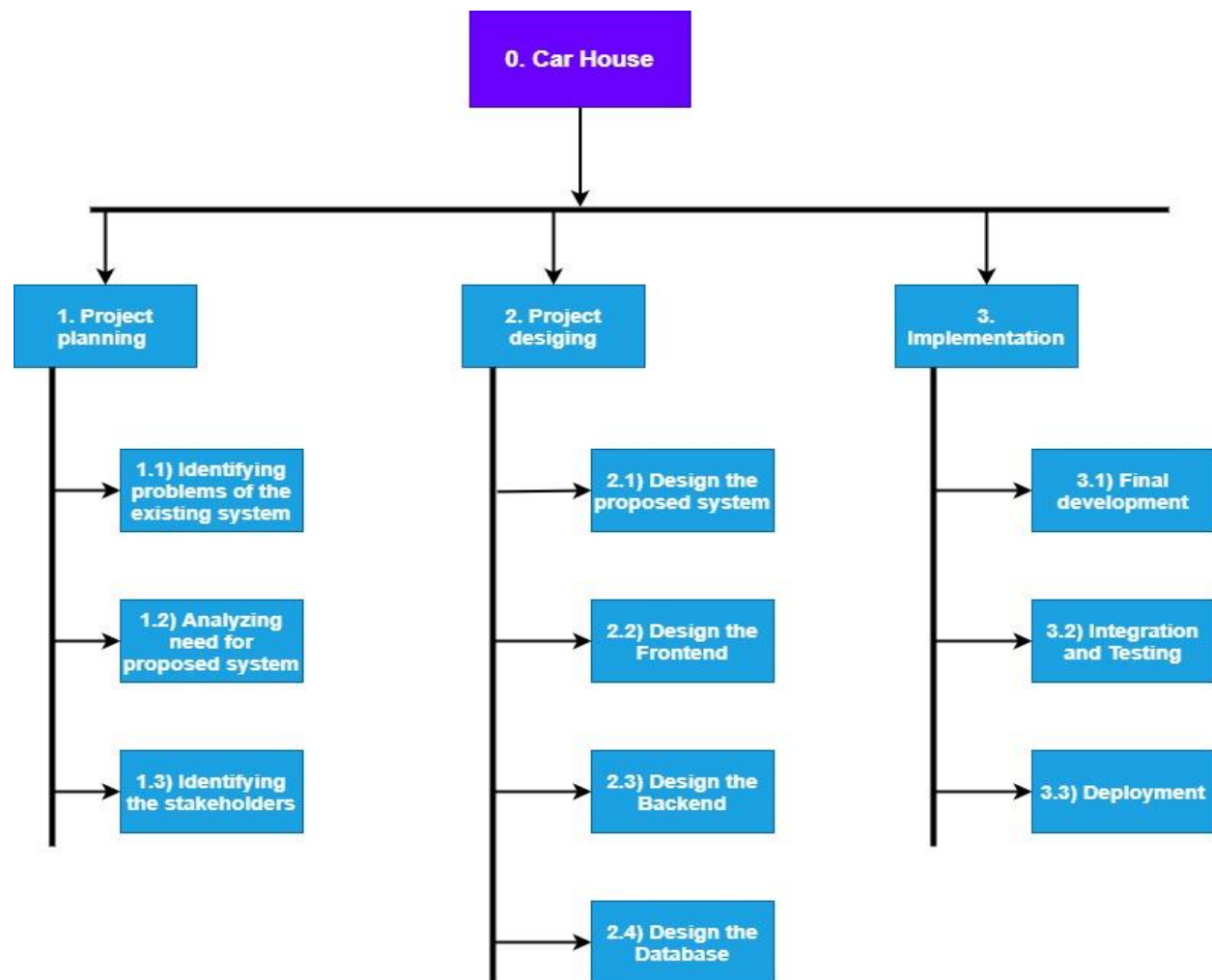


Figure 1: Work breakdown structure

## 3.2 Activity wise time distribution

For my project the time distribution table is given below:

| Activity wise days of work distribution |      |                 |                 |
|---|------|-----------------|-----------------|
|   |      | Expected days   | Considered days |
| Requirement                             | 13%  | 6               | 7               |
| Design                                  | 13%  | 6               | 7               |
| Implementation                          | 56%  | 30              | 30              |
| Testing and deployment                  | 18%  | 10              | 10              |
|   | 100% | Total days = 52 | Total days = 54 |

Table 1: Activity Table

## 3.3 Gantt chart

For my project the gantt chart is given below:

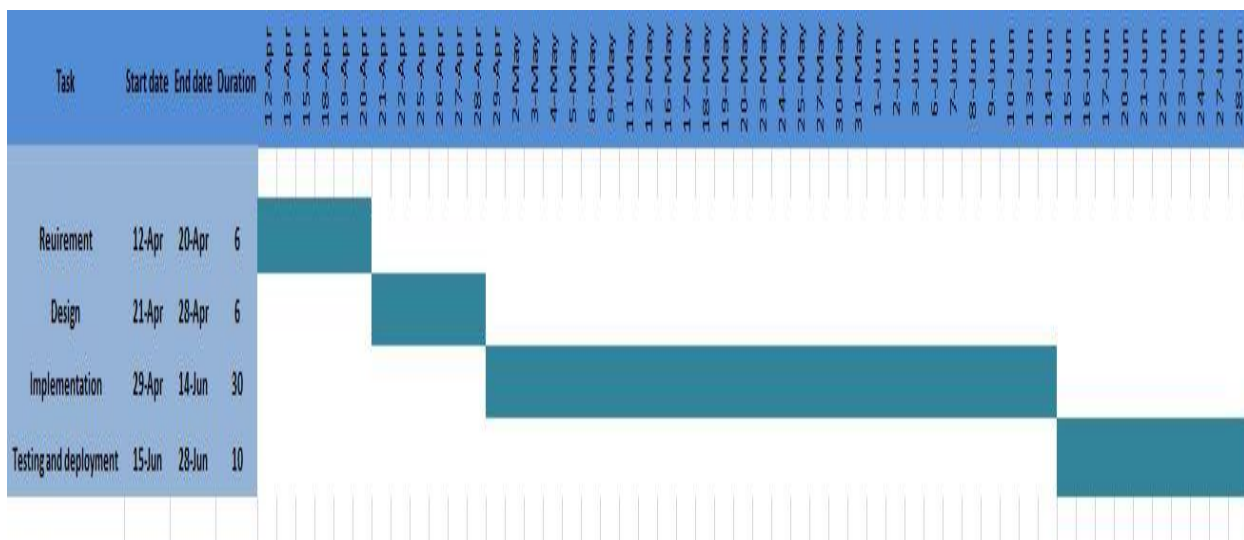


Figure 2: Gantt Chart

# **Chapter 4**

## **Methodology**

### **Methodology**

Methodology terms means the procedure which will be implemented for complete the project. It include how the data will be collected, how to implement the code, the input/output of the system and all the things that will follow to accomplish the project.

### **4.1 System Development Life Cycle(SDLC)**

The system development life cycle is a project management model that defines the stages involved in bringing a project from inception to completion. Software development teams deploy a variety of systems development life cycle models that include waterfall, spiral and agile processes. In our case this is waterfall model.

#### **4.1.1 waterfall Model**

The waterfall model was the first process model to be introduce. It is a very simple to understand and use. Waterfall model has several phases, each phases must be completed before the next phase can begin and there is no overlapping in the phases. This model include Requirement analysis phase, System design phase, Coding/implementation phase, Testing phase, Deployment phase and Maintenance phase.

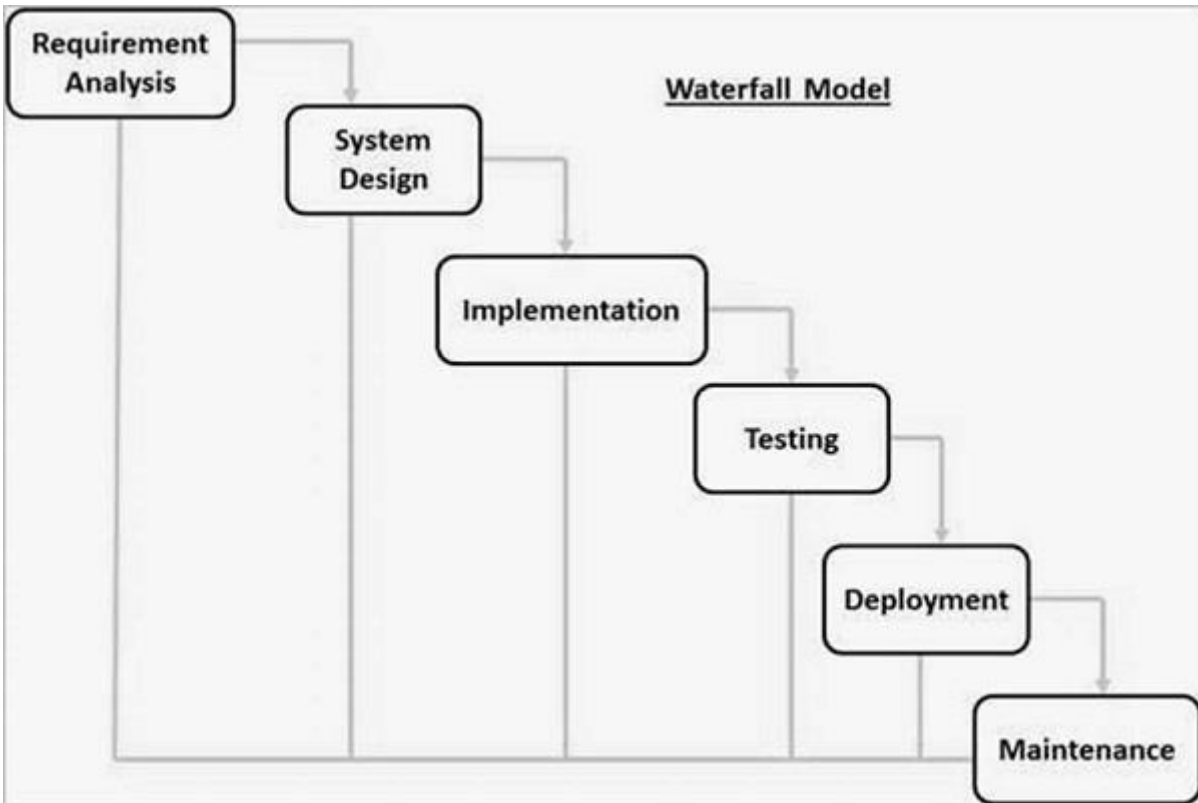


Figure 3: Waterfall Model

#### **4.1.1.1 Requirement analysis**

All possible requirements of the system to be developed are captured in this phase and documented in a requirement specification document. We gather requirement about what the customer needs and what the problem will be solve by this software.

#### **4.1.1.2 System Design**

From the requirement analysis phase the system design is prepared include User interface and database design. This system design helps in specifying hardware and system requirements and helps in defining the overall system architecture. The output of the design phase will be implemented in code phases.

### **4.1.1.3 Coding/Implementation**

In this phase we worked on the coding of the project. With inputs from the system design, first all of us develop a small programs called units, which are integrated in the next phase. Each unit is developed and tested for its functionality, which is referred to as Unit Testing.

### **4.1.1.4 Testing**

In this phase, The testing team tests the complete application and identifies any defects in the application. All the units developed in the implementation phase are integrated into a system after testing of each unit and check the customer requirement satisfaction and ensure that they are error free.

### **4.1.1.5 Deployment**

After finishing the testing phase, if the software is worked properly then we will go for deployment.

### **4.1.1.6 Maintenance**

After the deployment, there will be a team who will ensures that the application is running smoothly on the servers without any downtime. If find any problem in running time they will solve those problems.

### **4.1.1.7 Benefits of waterfall Model**

Some benefits of waterfall model is given below:

- This model is simple and easy to understand and use.
- It is very easy to manage because each phase has deliverables and review process.
- In this model phases are processed and completed one at a time. So, phases do not overlap.

# **Chapter 5**

## **Body of the project**

### **5.1 Work description**

During my internship program at Aveneur Solutions I have acquired new kind of knowledge and experience. In my internship I work with a web application name called “Car-house”. I used ASP.NET Core for develop this web application. After receiving this project, at first we analyze the customer requirements for this project. We contact with the clients again and again and after some days we confirmed the customer requirements for this project. After confirm the customer requirements, we start working for UI design. After some days UI design work has been finished. After finishing the design the design we start working with implementation. Every team members is assigned to different part of the project. I worked with backend code of that project. My part was Admin profile, Brand and Car Controller. First I started work with the model creation for user, brand, car and image. After this I perform the migration operation. Then using this models I worked with Brand controller, Car controller and admin controller respectively. My other team members work with frontend and some other backend coding. After this we combine all different works in one place. Then this project will be test for seeing this project is working properly or not.

## 5.2 System Analysis

### 5.2.1 Six Element Analysis

| Process Name    | Human   | Computing Hardware  | Non-Computing Hardware | Software     | Database                                       | Network and Communication   |
|-----------------|---|---|------------------------|--------------|--|---|
| Registration    | Admin:<br>-Provide valid information to the form.<br>-Then register.                      | -Necessary device's (ex-pc, laptop, phone)<br>-Internet cable | -N/A                   | -Web browser | The information will save to the user table.   | For this operation user must need a internet connection               |
| Log In          | Admin:<br>-Fill the log in form with valid information.<br>-Then click the log in button. | -Necessary device's (ex-pc, laptop, phone)<br>-Internet cable | -N/A                   | -Web browser | Data will be retrieve from the user database   | For this process user must need to connect with internet.             |
| Update profile  | Admin:<br>-Provide information for update.<br>-Click update button.                       | -Necessary device's (ex-pc, laptop, phone)<br>-Internet cable | -N/A                   | -Web browser | Updated information will save to the database. | For update information of a admin a internet connection is mandatory. |
| Change password | Admin:<br>-Provide valid information in change password form.                             | -Necessary device's (ex-pc, laptop, phone)<br>-Internet cable | -N/A                   | -Web browser | Updated will save to the user database.        | To operate this process internet connection must have to provide.     |



|               |   |   |      |              |  |   |
|---------------|---|---|------|--------------|--|---|
| Add new brand | Admin:<br>-Click add new brand button.<br>-Give a brand to the form.<br>-Save the brand name. | -Necessary device's (ex-pc, laptop, phone)<br><br>-Internet cable | -N/A | -Web browser | New brand will save to the brand table.  | For this process internet connection is mandatory.                |
| Edit brand    | Admin:<br>-Click edit button.<br>-Fill the edit brand form.<br>-Save the edited brand.        | -Necessary device's (ex-pc, laptop, phone)<br><br>-Internet cable | -N/A | -Web browser | Updated brand will be add to the brand table and existing brand will be deleted. | For this operation we must provide internet connection.           |
| Delete brand  | Admin:<br>-Click delete button.<br>-Confirm the delete operation.                             | -Necessary device's (ex-pc, laptop, phone)<br><br>-Internet cable | -N/A | -Web browser | Brand name will deleted form the brand table.                                    | For delete a brand name internet connection is mandatory.         |
| Add new Car   | Admin:<br>-Click add new car button.<br>-Fill the form.<br>-Then confirm to add.              | -Necessary device's (ex-pc, laptop, phone)<br><br>-Internet cable | -N/A | -Web browser | New car will add to the Cars table.  | For perform this process we must provide the internet connection. |
| Edit Car      | Admin:<br>-Click edit button.<br>-Fill the edit form with valid information.                  | -Necessary device's (ex-pc, laptop, phone)<br><br>-Internet cable | -N/A | -Web browser | Car information will updated in the cars table.                                  | For perform this process we must provide the internet connection. |

|                   |  |   |      |              |  |  |
|-------------------|--|---|------|--------------|--|--|
|                   | -Confirm to edit.  |   |      |              |  |  |
| Delete Car        | Admin:<br>-Click delete button.<br>-Confirm the delete operation.  | -Necessary device's (ex-pc, laptop, phone)<br><br>-Internet cable | -N/A | -Web browser | This car will be deleted from the cars table.    | To operate this process internet connection is mandatory.          |
| View Car details  | Admin:<br>-Click details button.<br>-View car information.<br><br>Customer:<br>-Go to the Product page.<br>-See the specifications of a car. | -Necessary device's (ex-pc, laptop, phone)<br><br>-Internet cable | -N/A | -Web browser |  | To operate this process internet connection is mandatory.          |
| Set display image | Admin:<br>-Go to car details.<br>-Select one image.<br>-Confirm as a display image.  | -Necessary device's (ex-pc, laptop, phone)<br><br>-Internet cable | -N/A | -Web browser | The image will retrieve from the image table.    | To operate this operation user must provide a internet connection. |
| Delete car image  | Admin:<br>-Go to details of a car.<br>-Delete an image.  | -Necessary device's (ex-pc, laptop, phone)<br><br>-Internet cable | -N/A | -Web browser | That image will be deleted form the image table. | To operate this operation user must provide a internet connection. |

Table 2: Six element analysis

## 5.2.2 Feasibility Analysis

Feasibility analysis in Software Engineering is a study to evaluate feasibility of proposed project or system. Feasibility analysis is so important stage of Software Project Management Process as after completion of feasibility study it gives a conclusion of whether to go ahead with proposed project as it is practically feasible or to stop proposed project here as it is not right to develop or to analyze about proposed project again.

The feasibility study mainly concentrates on bellow mentioned areas. Among these Economic Feasibility Study is most important part of the feasibility analysis and Legal Feasibility Study is less considered feasibility analysis.

### **Technical Feasibility:**

In Technical Feasibility current resources both hardware software along with required technology are analyzed to develop project. This technical feasibility study gives report whether there exists correct required resources and technologies which will be used for project development. In our proposed system we used html, css and bootstrap for frontend design. And we used c# language for backend design. We did this project using ASP.NET Core web framework. ASP.NET Core supports cross platform, so it can be run from windows, macOS, linux and other platform.

### **Operational Feasibility:**

In Operational Feasibility degree of providing service to requirements is analyzed along with how much easy to operate and maintenance after deployment this product.

The customers will be able to use this software from anywhere via internet. So the time of the customer will be saved. And customer and Admin user can use this software from anywhere.

### **Economic Feasibility:**

In Economic Feasibility study cost and benefit of the project is analyzed. Means under this feasibility study a detail analysis is carried out what will be cost of the project for development which includes all required cost for final development like hardware and software resource required, design and development cost and operational cost and so on. The hardware and the software need to provide at the beginning of the project.

### **5.2.3 Problem Solution Analysis**

Problem analysis is the process of understanding and defining the problem to be solved. The solutions are:

- Develop a web app which will be very easy to use for administration of the company.
- Create an effective communication between showroom and the customer.
- Easily maintain the product by the management.

### **5.2.4 Effect and Constraints Analysis**

A constraint is a restriction on the degree of freedom that we have in providing a solution. Constraints are effectively global requirements, such as limited development resources or a decision by senior management that restricts the way we develop a system. This system which is going to be developed is car-house for a car showroom. This application web based, which will save all the data to the database for any use.

## 5.3 System Design

### 5.3.1 Rich picture

Rich pictures are pictorial representations of environmental or social systems. Rich picture for this system-

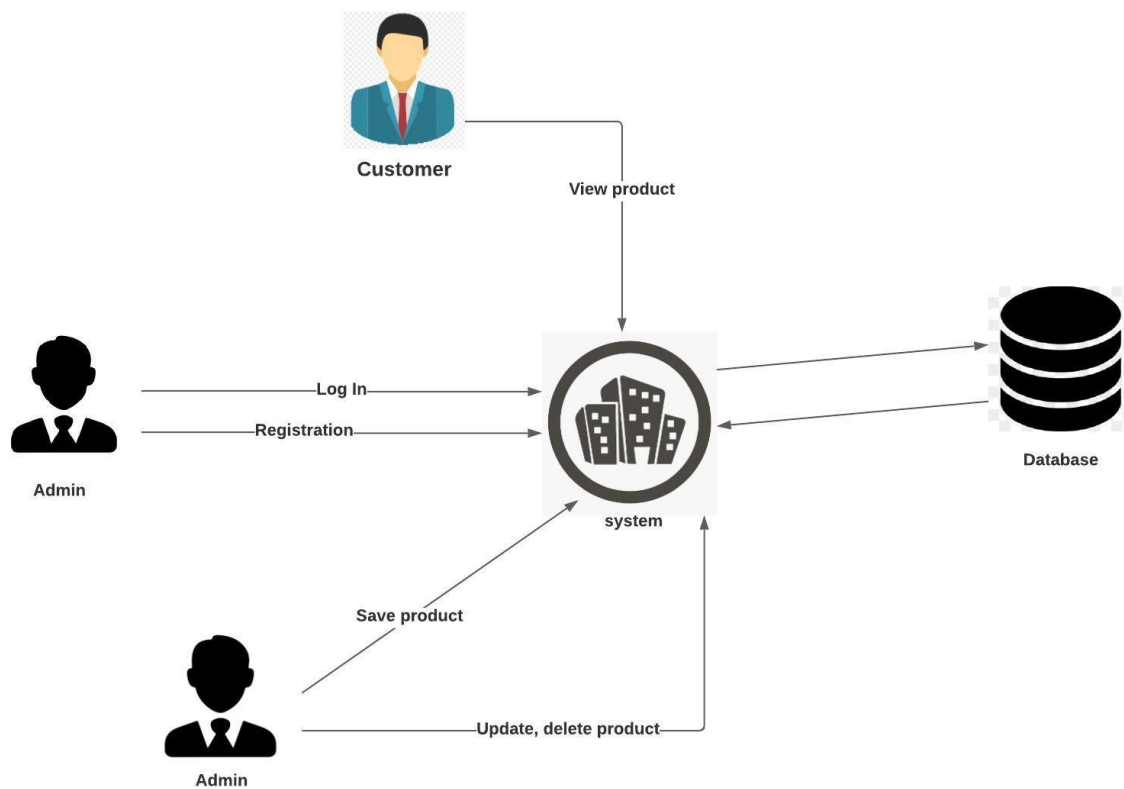


Figure 4: Rich picture

## 5.3.2 UML Diagrams

Use Case Diagram:

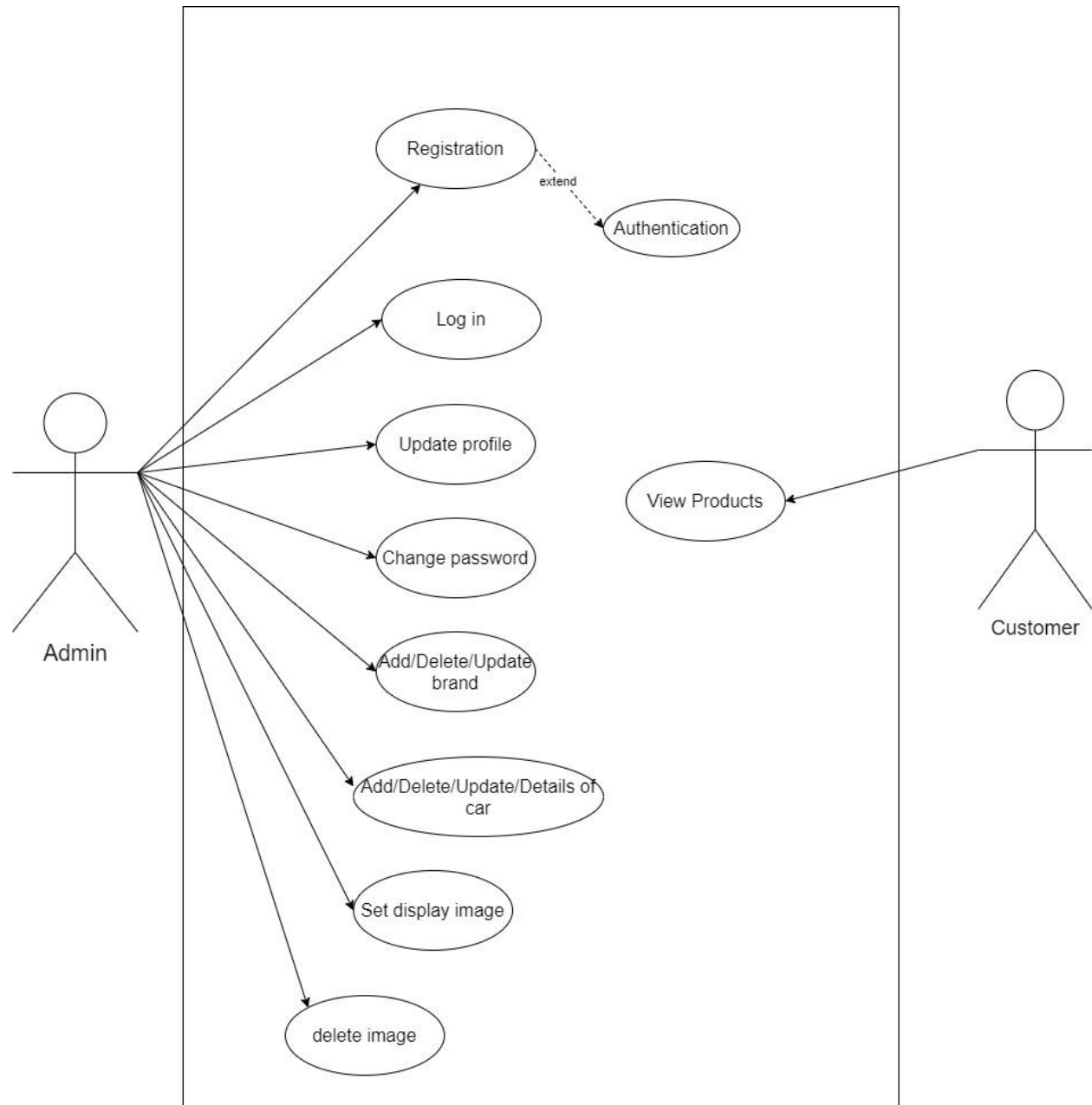


Figure 5: Use case Diagram

**Activity diagram:**

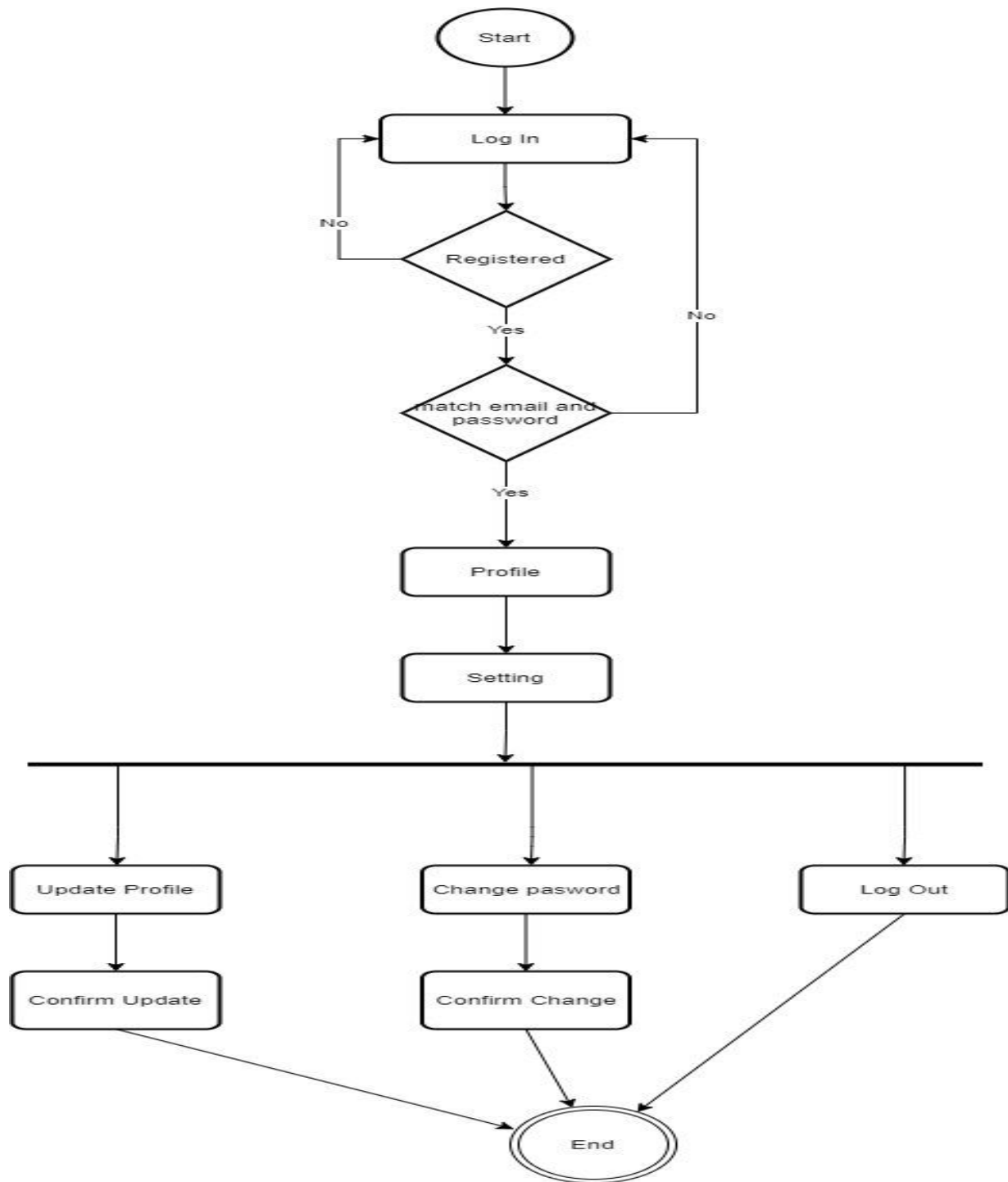


Figure 6: Activity diagram for Admin Profile

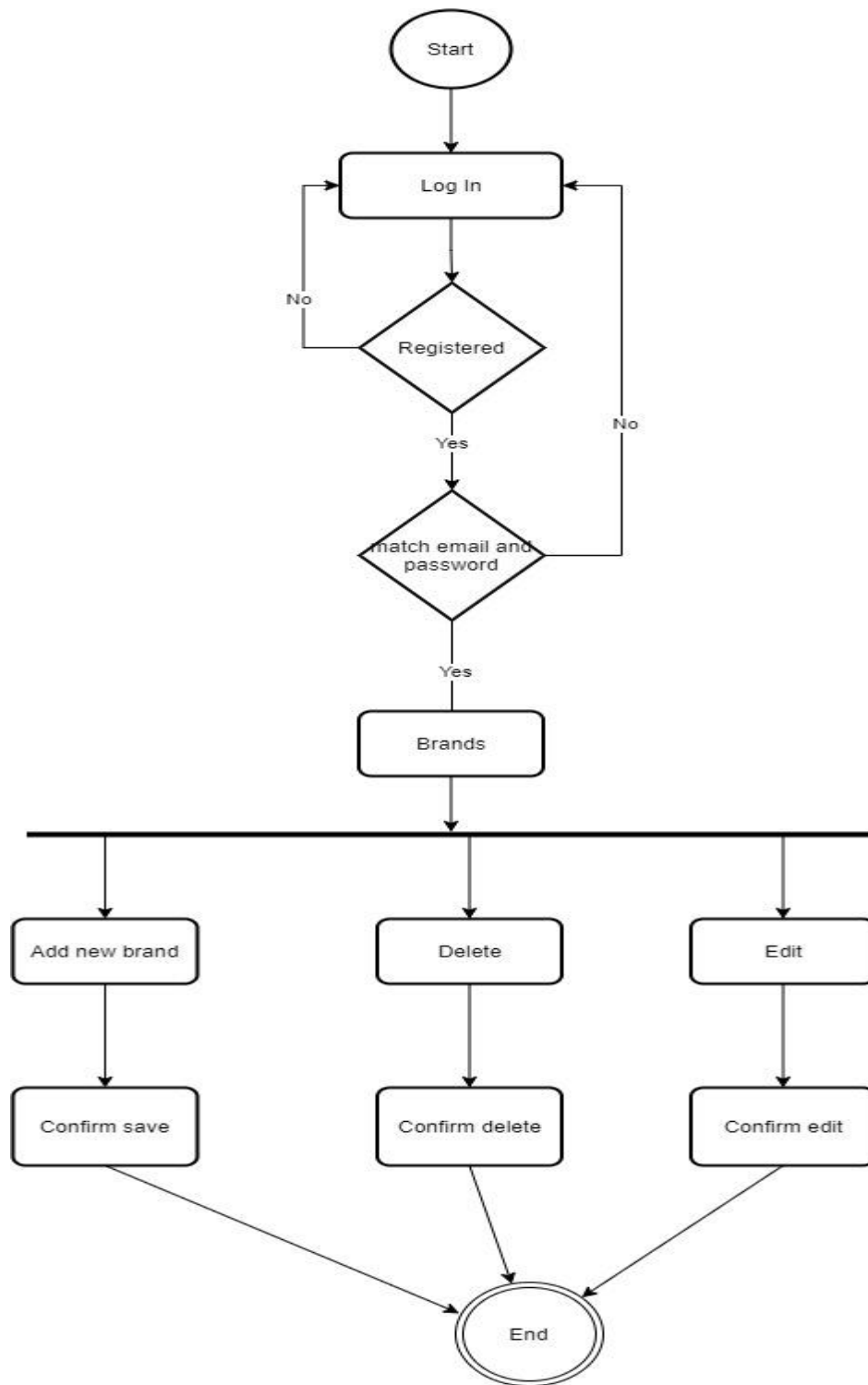


Figure 7: Activity diagram for Brand



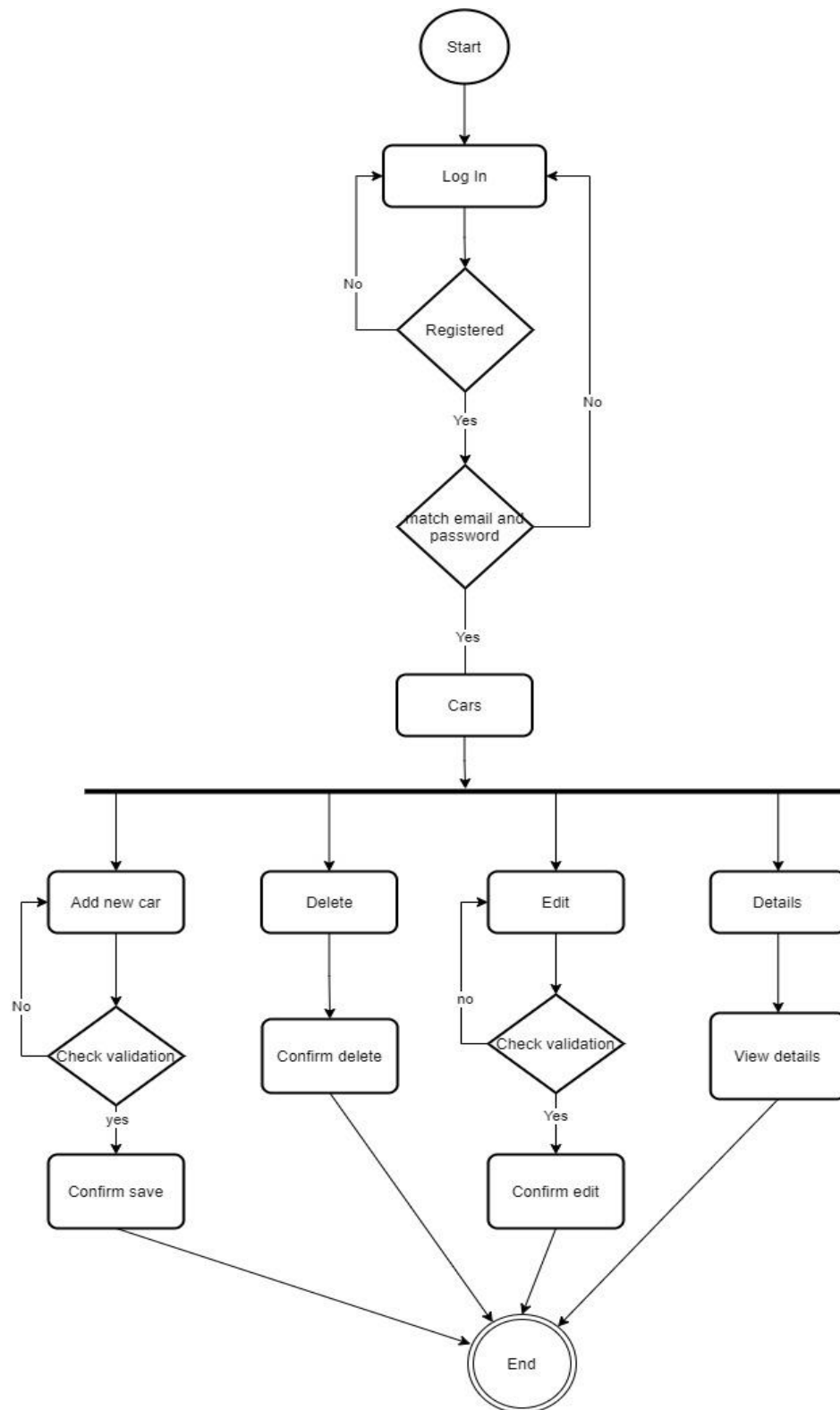


Figure 8: Activity diagram for Car

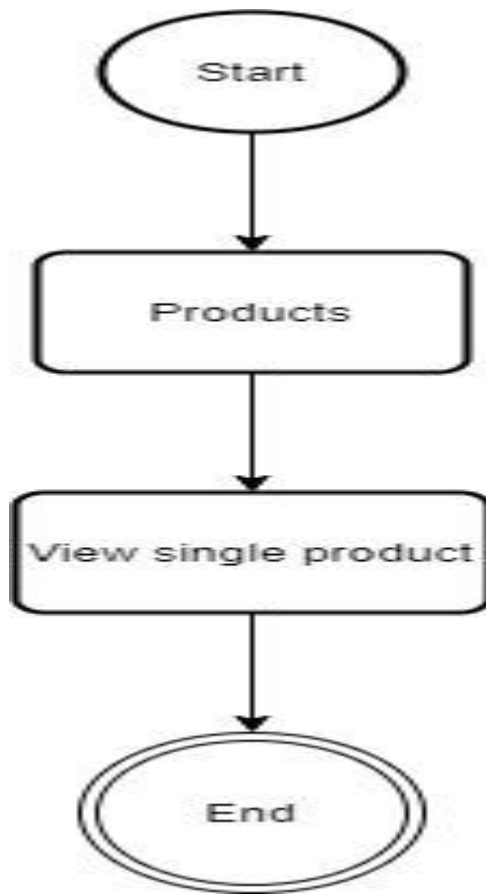


Figure 9: Activity diagram for Customer

### 5.3.3 Functional and Non-Functional Requirements

#### Functional Requirements:

Functional requirements are product features or functions that must implement to enable users to accomplish their task. Therefore the functional requirements is:

| Name of the function: Registration  |  |  |
|---|--|--|
| <b>Input:</b><br>First Name, Last Name,<br>Email, Password                  | <b>Process:</b> <ul style="list-style-type: none"><li>- Fill the registration form.</li><li>- Press the registration button.</li></ul> | <b>Output:</b><br>An account will be created for that email. |
| <b>Precondition:</b> User must have the internet connection.                |  |  |
| <b>Post Condition:</b> User will be able to log in and do their activities. |  |  |
| <b>Alternate options:</b> Showing alert if email and password is not valid. |  |  |

**Table 3: Registration table**

| Name of the function: Log In  |  |   |
|---|--|---|
| <b>Input:</b><br>Email, Password  | <b>Process:</b> <ul style="list-style-type: none"><li>- Fill the log in form.</li><li>- Press the log in button.</li></ul> | <b>Output:</b><br>User will enter into web app. |
| <b>Precondition:</b> User must have to do the registration first and must have a internet connection. |  |   |
| <b>Post Condition:</b> User will be able to do their activities.                                      |  |   |
| <b>Alternate options:</b> Showing alert if email and password is not match.                           |  |   |

**Table 4: Log In Table**

|  |  |  |
|--|--|--|
| <b>Name of the function:</b> Update profile  |  |  |
| <b>Input:</b><br><br>First Name, Last Name,<br>Image                                     | <b>Process:</b><br><br>- Fill the form.<br><br>- Press the update<br>button. | <b>Output:</b><br><br>User profile information is<br>updated |
| <b>Precondition:</b> User must have to log in first and must have a internet connection. |  |  |
| <b>Post Condition:</b> User information will be updated.                                 |  |  |
| <b>Alternate options:</b> N/A  |  |  |

**Table 5: Update Profile table**

|  |   |   |
|--|---|---|
| <b>Name of the function:</b> Change Password   |   |   |
| <b>Input:</b><br><br>Old password, new<br>password, confirm new<br>password              | <b>Process:</b><br><br>- Fill the form.<br><br>- Press the creat<br>button. | <b>Output:</b><br><br>Password is changed |
| <b>Precondition:</b> User must have to log in first and must have a internet connection. |   |   |
| <b>Post Condition:</b> User password will be changed.                                    |   |   |
| <b>Alternate options:</b> N/A  |   |   |

**Table 6: Change password table**

|  |  |   |
|--|--|---|
| <b>Name of the function:</b> Add new brand   |  |   |
| <b>Input:</b><br><br>Brand Name  | <b>Process:</b><br><br><ul style="list-style-type: none"> <li>- Click add new brand button</li> <li>- Give the brand name in input</li> <li>- Click add brand</li> </ul> | <b>Output:</b><br><br>New brand is added to the database. |
| <b>Precondition:</b> User must have to log in first and must have a internet connection. |  |   |
| <b>Post Condition:</b> new brand will be added to the database.                          |  |   |
| <b>Alternate options:</b> N/A  |  |   |

**Table 7: Add new brand table**

|   |   |   |
|---|---|---|
| <b>Name of the function:</b> Add new Car  |   |   |
| <b>Input:</b><br><br>CarID, Description, Model, Brand, Color, Transmission, Condition, FuelType, GearType, BodyType, EngineType, NoOfSeats, price, Mileage, Category, Image | <b>Process:</b><br><br><ul style="list-style-type: none"> <li>- Click add new car button</li> <li>- Fill the form</li> <li>- Click create button</li> </ul> | <b>Output:</b><br><br>New car is added to the database. |
| <b>Precondition:</b> User must have to log in first and must have a internet connection.  |   |   |
| <b>Post Condition:</b> new car will be added to the database.   |   |   |
| <b>Alternate options:</b> N/A   |   |   |

**Table 8: Add new Car table**

|  |  |   |
|--|--|---|
| <b>Name of the function:</b> Edit Car information  |  |   |
| <b>Input:</b><br><br>CarID, Description, Model,<br>Brand, Color, Transmission,<br>Condition, FuelType, GearType,<br>BodyType, EngineType,<br>NoOfSeats, price, Mileage,<br>Category, Image | <b>Process:</b><br><br>- Click edit button<br><br>- change the form input<br><br>- Click update button | <b>Output:</b><br><br>Car information is updated. |
| <b>Precondition:</b> User must have to log in first and must have a internet connection .  |  |   |
| <b>Post Condition:</b> car information will be changed.  |  |   |
| <b>Alternate options:</b> N/A  |  |   |

**Table 9: Edit car information table**

|  |   |  |
|--|---|--|
| <b>Name of the function:</b> View details of a Car                       |   |  |
| <b>Input:</b>  | <b>Process:</b><br><br>- Click details button | <b>Output:</b><br><br>Car information will show. |
| <b>Precondition:</b> User must have to connect with internet and log In. |   |  |
| <b>Post Condition:</b> car details will be showed.                       |   |  |
| <b>Alternate options:</b> Customer don't need to log In.                 |   |  |

**Table 10: View Car details table**

|  |  |   |
|--|--|---|
| <b>Name of the function:</b> Delete a car  |  |   |
| <b>Input:</b>  | <b>Process:</b> <ul style="list-style-type: none"> <li>- Click delete button</li> <li>- Click confirm delete button</li> </ul> | <b>Output:</b><br><br>The product is removed from the database. |
| <b>Precondition:</b> User must have to log in first and must have a internet connection. |  |   |
| <b>Post Condition:</b> the product will removed from the database.                       |  |   |
| <b>Alternate options:</b> N/A  |  |   |

**Table 11: Delete car table**

## Non-functional Requirements

Non-functional requirement specifies the quality attribute of a software system. They judge the Responsiveness, Usability, Security, Portability, and other non-functional standard that are critical to the success of the software system.

- The system prevents unauthorized access to the system with user authentication via login-on system.
- Customer is not able to do any change in the software.
- The system has the user friendly interface, which will help to the user to use this software very easily.
- Only the admin can make the changes in the Product list.
- Admin has the access to control his/her account.

## **5.4 Product Features**

Product features are a product's attributes that deliver value to end-users and differentiate a product in the market. A product feature is a specific piece of functionality that has a corresponding benefit or set of benefits for the user. Benefits are the value that users gain from using that functionality.

### **5.4.1 Input**

Input means anything needed for a project. Input of this project is:

- Money
- Time
- Resources
- People
- Efforts
- Plans
- Documents

### **5.4.2 Output**

In terms of the projects features, service or products that can be used by users is the output. For this projects the outputs are:

- View product
- Log In
- Registration
- Admin profile update
- Change password
- Add new brand
- Update or delete a brand



- Add new Car
- Update or delete a car

### **5.4.3 Architecture**

Software architecture is, simply, the organization of a system. This organization includes all components, how they interact with each other, the environment in which they operate, and the principles used to design the software.

Our system is a web hosted system. Unlike the existing system this will all the data to the database. For developing this system we used ASP.NET Core web framework, which follow the Model-View-Controller (MVC) architecture. Each of these components are built to handle specific development aspects of an application. The model sets the logic to save and retrieve the data to the database. The controller handle the user request and made a connection with model and the view. View is the razor page which render the data after made a call from the user via controller.

Since this new system is web based, so after deploy this application everyone will be to use this app form anywhere using a web browser via internet.

# Chapter 6

## Result and Analysis

Using this web application we can view all the available product and can maintain those product very easily. The customer will be able to see the products and a features a single product. The screenshots of the result we can see below:

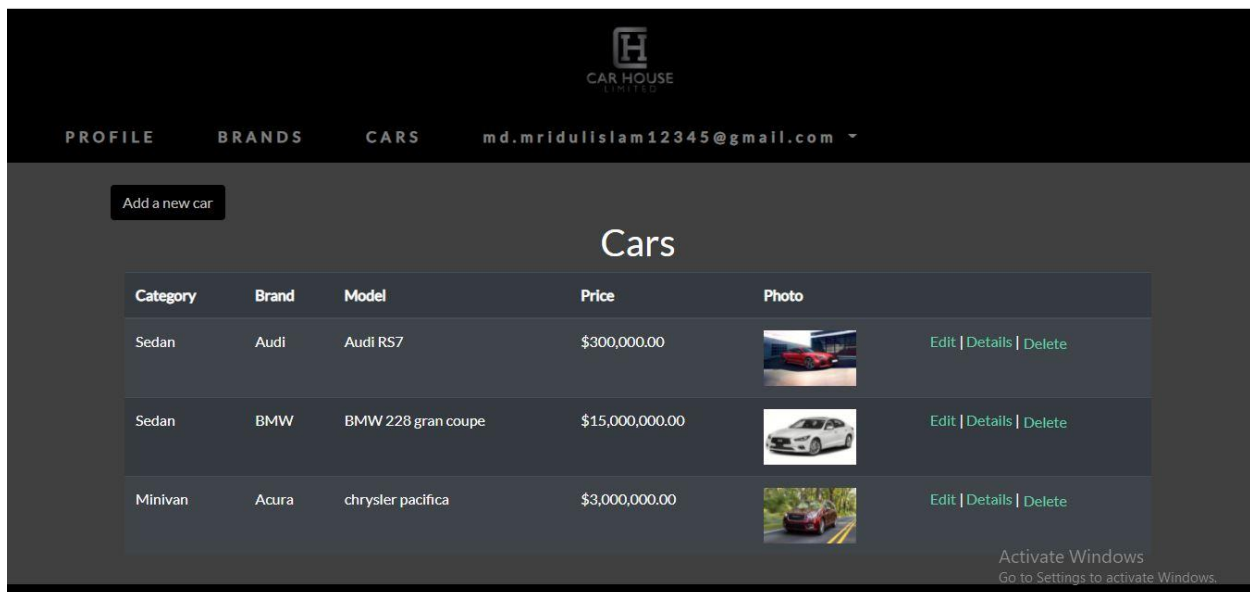


Figure 10: Product list of Admin

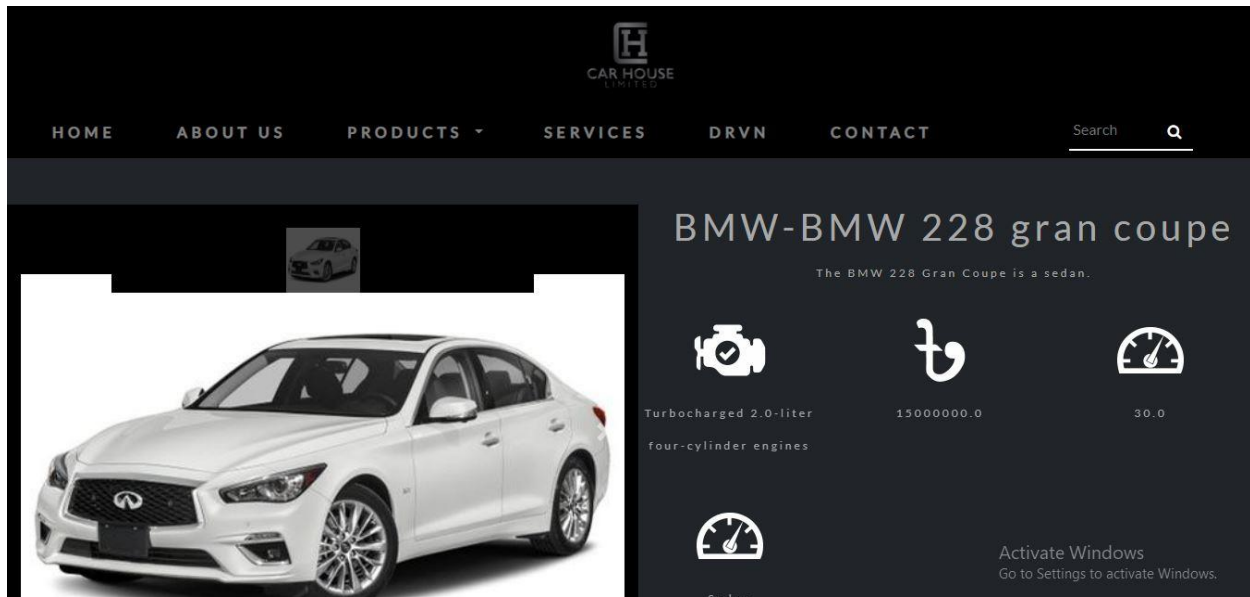


Figure 11: View product features by customer

## Chapter 7

### Project as Engineering problem Analysis

#### 7.1 Sustainable of the work

Sustainability means doing something in such a way as to not deplete natural resources and to support long-term, global ecological balance. Looked at another way, sustainability is often seen as balancing meeting the needs of the present without compromising the needs of future generations to meet theirs.

## **7.2 Social and Environmental Effects and Analysis**

### **Social:**

For the purposes of this article, we will be largely focusing on the environment; however, the social pillar remains an important aspect of sustainability overall. This includes operating in a way that benefits employees and the surrounding community according to the social license. It also means paying attention to your entire supply chain and making sure the people involved in creating your products are treated and compensated fairly.

### **Environmental:**

The environmental pillar often gets the most attention as companies focus on how to reduce their carbon footprints, waste from packaging, and overall environmental impact. Tracking and focusing on reducing impact to the environment can have both a positive impact on the planet and a positive financial impact as more and more consumers come to value the efforts being made.

# **Chapter 8**

## **Lesson Learned**

### **8.1 Problems Faced During the Period**

During the Internship period at Aveneur Solutions I faced many problems and challenges. I tried my best to cope with the problem. And this problems make me confident to face with other problems. This difficult situation and experience will help me in my future to work in corporate life. Some problems and Challenges is given below which I face in workplace:

- Since it is my first corporate work in my life. So the communication with the colleague's in the office was little difficult for me at the beginning of my internship period.
- My office hours is between 9.00 am to 5.00 pm. since I don't have any experience to do work between a specific and long time, concentrate to the work was little difficult for me at the beginning of my internship period.
- Other member of my team is an experienced person and I had not any previous work experience in ASP.Net Core framework, so it was very much difficult for me to moving forward with them and maintain the time limit. Many time I cross my time limit then my team member help me to do my assigned work.
- Due to Covid-19, lockdown was imposed, that time we need to communicate via online platform with my team. That was very problematic for me, because when I faced any problem, I need to communicate via internet and have to share my problem. The level of understanding is very difficult via internet.

## 8.2 Solutions of those problems

In my internship program I face some problem in workplace, which I told in previous section.

Now the solutions of those problem is given below:

- My first problem was being communicate with colleagues. But after passing some days with the help of my supervisor and friendly behavior of other member's of the office I overcome with that problem.
- My second problem was long time work. But when I passed some days, it has become my habit and I was comfortable with that.
- Another thing was sometimes I cross the finished time. Then with the help of my colleagues I overcome with that problem.
- And the last is the understanding problem via internet. That time I had to work hard for finish my work.

# **Chapter 9**

## **Future Works & Conclusion**

### **9.1 Future Works**

The project Car-house will add some new feature. And the Future work of this project is:

- The purchase option for product will add very soon.
- The log In and Registration feature will be add for customer.
- The customer will be able to buy product via online.
- Online payment will be add.

## 9.2 Conclusion

During internship I worked on a web application development. This web application is a electronic version of showcase of car in online. The car showroom has not any online way by which they can display their product in online platform. For knowing about their product customer need to go to the showroom.

Again make the manual list of cars and all specifications of the car is very difficult. By using this Car-house web application the admin will be able to save all the data of all cars with all specifications to the car database. From the database admin can add, delete or edit any product of the showroom very easily.

It has a great opportunity for me to work as a web developer during internship at Aveneur Solutions. This three month internship program was like a step stone to my carrier within the work advertise. Amid internship I learned numerous vital information about IT division. The internship program made a difference me to pick up vital information almost how the IT segment forming in our nation. This program gave me a clear thought around proficient life as a web developer, what I must confront and how to handle those circumstances. During internship, I tried to cover my weakness about web development and tried to become a better web developer.



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