

INTERNSHIP AT “DIGITAL HUB SOLUTIONS LTD”

JASMINE ARA



INTERNSHIP AT “DIGITAL HUB SOLUTIONS LTD”

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A report submitted

in partial fulfilment of the requirements

for the degree of

Bachelor of Science in Computer Science and Engineering

UNIVERSITY OF LIBERAL ARTS BANGLADESH

Dhaka, Bangladesh

23<sup>rd</sup> April, 2020

## **DECLARATION**

I declare that this project entitled “Training Management System” is the result of my own effort and a report on this that I did work at Digital Hub Solutions Ltd to complete my Internship period. I prepared my internship report after finishing three months of work. I confess that this report is originally completed for my academic requirements.

**Signature** :

**Name** : JASMINE ARA

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**Date** : April 23, 2020

## **CERTIFICATE OF APPROVAL**

The project report entitled “*Training Management System*” is submitted to the Department of Computer Science and Engineering at University of Liberal Arts Bangladesh (ULAB) in partial fulfillment of the requirements for the degree of Bachelor of Science.

Dated: 23<sup>rd</sup> April, 2020

**Md. Abdul Mottalib, PhD**

Professor and Head

Computer Science and Engineering

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Computer Science and Engineering

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Signature & Date

## **DEDICATION**

By the grace of Almighty, all the love, trust and respect I dedicated this report to all of my superiors.

To my parents who gave me endless love and care and gave me encouragement in every sphere of my life.

To my mentors, peers, faculties and all the person who supported me for my academic and personal life to uphold myself.

To my Supervisor, my colleagues, my classmates who helped me to make my internship a successful one.

With due respect from the core of my heart, I dedicated this thesis paper/ Internship report to all of the loving people of my life.

## **ACKNOWLEDGEMENT**

At first, I desire to express my deepest sense of gratitude to the Almighty that he gave me the ability to upright myself and to uphold my work with ambience and patience. The gratification that accompanies that a successful work of mine would be impossible without the help and effort of some important persons of my work life. The people whose unconditional encouragement and guidelines gave me the right way to accomplish my work. This Internship Report is an important part of the program criteria that fulfill the requirement of a Bachelor degree in Computer Science and Engineering at the University of Liberal Arts Bangladesh.

I would like to give my heartiest thanks to my Supervisor Abul Kalam al Azad, PhD who accepted my project and gave me the guidelines of how to work in progress. The time, support and unlimited care with encouragement that I got from my Supervisor which inspire me to moving forward and to make this report and project successfully.

I would like to thanks Saied Rahman my organizational Supervisor who gave me enough time to correct my mistakes and to look forward for a better solution in every sector.

I would like to thanks to Md. Abdul Mottalib (HOD) for the support that he gives to the Students. At last, I would like to Thanks my Parents who gave me the unquestionable love for my life and every sphere of joy and for the support.

## **ABSTRACT**

This Internship report shows the contribution that I gave for three months at Digital Hub Solutions Ltd. After visiting all the sector of Digital Hub Solutions Ltd I got this opportunity to build a software. The project is named “Training Management System” which is a web based application. It is built for making the work easier for a training center. By this system one can easily register the students and all their information will save in this system. Also they can add teachers and make schedules for the teachers and students. All the payment processes will also save in this system. So it’s very easy and very efficient to use for a training center. It will help a training center to work as more digitalized way.

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## **CHAPTER 1**

### **INTRODUCTION**

#### **1.1 Overview**

This field attachment report is about the lesson learn, relatedness covered of theory knowledge skill attained, challenge and during my internship of Digital Hub Solutions Ltd. Digital Hub Solutions Ltd is outstanding amongst other industries in Bangladesh for IT services. And have many to motivate the opportunity to investigate their advancement strategies, modern conduct, working models, and arrangements. I was proposed to think about the product business and their condition and working process so that I can understand how they collaborate their standards, security. In this organization, there are many colleagues most friendly and they are always motivated me.

Digital Hub Solutions Ltd provides the knowledge and skills to capitalize on their skill experience as a web developer, software developer, networking, marketing, and job placement. Actually, I found the opportunity for this organization. At first, I learn the language in which I worked on web development. In this internship, I complete my tasks. During my short time internship, I create a training management system project. I have attempted to my academic knowledge, coding programming language in this internship worked improve to my recent courses. In this short time, I always give priority to my work and I regularly attend the office. This report also represents my experience, recommendation, functionality, job related coding, and benefit to practical work experience.

## **1.2 Objectives**

The objectives of my Report and Project is based on my experience for long three months. Though the time is not sufficient to gain more, I tried to gather as much as possible. Within this three months working at Digital Hub Solutions Ltd, I gather the experience of organizational, official, deadlines, and also the value of working. Digital Hub Solutions Ltd gave me the opportunity to work on my project and I tried myself to follow the footsteps on that. Actually, this internship's main intention is how to learn job related requirements practically oriented programs that competence of their future employees.

### **1.2.1 Objectives**

Other than the fundamental or wide target, the report additionally has some explicit goals that are given below:

- To enable my real life working experience also get the opportunity to get in touch in the web advanced area.
- To provide an opportunity to apply the principle of technically, functionally, theoretically learned to solve the real life problem.
- To know the chronicled foundation of business and how the business meetings are held.
- To get a genuine clear crystal idea of web improvement part.
- To get to know how the issues are explained by them.
- To clarify my activity duty of understudy and describe exercise.
- I learn while functioning as an intern at Digital Hub Solutions Ltd.
- Working with documentation and customization.
- To talk about the different difficulties as an Intern in at Digital Hub Solutions Ltd.
- Understanding the programming support.



### **1.2.2 Broad Objective**

The principle target of this report is to distinguish the connection between innovation and business community, to know the business work is identified with innovation, how make appropriate application on a business peripheral. How to test product on representatives, how could a worker can cooperate with the new programming and finally to introduce an outline of Digital Hub Solutions Ltd foundation using technology.

### **1.3 Scope of the Report**

This Report is identified as the POC (proof of confession) for an academic reason to fulfill the requirements of the program of Bachelor of Computer Science and Engineering at University of Liberal Arts of Bangladesh. The Report has anchored prompt and unusual parts of web enhancement division for trouble and limitations. The report is centered around programming improvement and all the more web based application advancement. With the progression everywhere throughout the world, Bangladesh is additionally endeavoring to adapt.

### **1.4 Methodology**

For setting up the Report data accumulated and both essential and optional sources. This Authors are clarified underneath.

#### **1.4.1 Primary Sources**

For essential information, a few eye to eye interviews have been led with authorities with various divisions of Digital Hub Solutions Ltd. The data given by them for essential for the report. I coordinated with the accompanying expertise:

- ❖ Muslim Uddin, Executive HR and Supervisor
- ❖ Saied Rahman, Senior Web developer

A significant number of information and data that were gathered from my work experience and from supervisor and web as well. I got the chance or full freedom of asking anything if I ever had any confusing regarding my gathered information to my Team and Supervisor.

#### **1.4.2 Secondary Sources**

As I gathered information from the Organization and from my expertise. Also got enough information from-

- ❖ Digital Hub Solution Ltd official website
- ❖ Internet through

#### **1.5 Limitations of the Report**

In my analyzing and addressing data I found some difficulties. The standard issue for me in the midst of the progression of the system is the lack and nonattendance of openness of the required data. This is a result of the security course of the action of the affiliation ...

- Difficult to get the most recent information about the interior task.
- To meet the task, convey my due time was not sufficient for me to work as an intern at Digital Hub Solutions Ltd.
- I couldn't uncover some information and data in this report because of the administrative privacy that Digital Hub Solutions Ltd follows.
- Some of our colleagues didn't continue the job while working so I got the deletion over on that.
- Diagrams are best to convey the project properly but couldn't put the all kinds of diagram because of the time limitations.
- Because of the current situation of our country, I couldn't finish my work properly.

## **CHAPTER 2**

### **COMPANY PROFILE**

#### **2.1 Company Overview**

Digital Hub Solutions Ltd is an Ecommerce Website Development Company in Bangladesh. Digital Hub Solution provides the most innovative e-commerce software technology to accelerate their business. Today e-commerce has completely changed your lifestyle because you don't have to spend time and money on market travel. The rising software and e-commerce sector in this country demands an enormous digital marketing support as it's been a very new thing for the people in this country. Through e-commerce you can buy and sell virtually everything at your doorstep. The E-shop offers many advantages for you to expand and explore. Digital Hub Solution is one of Bangladesh's top providers of ecommerce services.

A remarkable e-commerce service provider in Bangladesh Digital Hub Solutions Ltd has dedicated team members who develop design, app, digital marketing campaigns running e-commerce websites, SEO for startups, retailers, vendors, brands and any manufacturing & service companies. This will help you achieve your respective targets for online business in this competitive world. They also provide a safe and secure platform for payment so their customers can quickly turn over their money and buy their products and services without facing complications. They can help you design and develop a result-oriented e-commerce service for your business in a very efficient and effective manner. [1]

An enormous scheme of “Make your reading desk as a workroom” is designed by this company which can be a real key changer in the region of business. A group of highly trained digital marketing experts and business development executives are taking part in providing a lot of services being the employees of this company.

### 2.1.1 General Information of Company:

<b>Company name</b>	Digital Hub Solutions Ltd.
<b>Address</b>	House-8, Road-4/A, Dhanmondi, Dhaka.
<b>Year of Establishment</b>	2015
<b>Contact Number</b>	01750 375327
<b>Email</b>	<a href="mailto:saied@digitalhubltd.com">saied@digitalhubltd.com</a>
<b>Company Website</b>	<a href="http://www.digitahubltd.com">www.digitahubltd.com</a>

**Table 2.1: General Information of Digital Hub Solutions Ltd.**

### 2.1.2 Types of Organization:

There are major types of organization

- Private
- Public
- Private limited

Digital Hub Solutions Ltd. is a private limited company in Bangladesh.

## **2.2 Mission:**

Digital Hub Solutions Ltd mainly focus on E-commerce sector and their mission is to make people awaken about E-commerce sector, solving contemporary technological problems and making its weak technological sites strong, filling up the blank sites of E-commerce sector of Bangladesh with expert manpower. Above all, they want to present their E-commerce sector to the world as a well-developed sector.

## **2.3 Vision:**

Digital Hub Solutions Ltd make their company shrewder, smarter and tactical than your competitor and more trustable to the customers. That too, in a simple mathematic; choose the best, do the best and get the best.

## **2.4 Digital Hub Provided:**

- Software Development
- Website Design and Development
- Graphic Design Services
- Technology Consulting

## **2.5 Development Tools and Languages**

Digital Hub Solutions Ltd keeping up a very good aspect on programing arranged with different proficient languages.

### 2.5.1 Programming Languages:

This Table shows the Web Technologies List of Digital Hub Solutions Ltd.

No.	Web Technologies
1	HTML5
2	Css3
3	XML
4	JavaScript
5	PHP

**Table 2.2: Web Technologies List**

### 2.5.2 Web Frameworks:

This Table shows the Web Frameworks List of Digital Hub Solutions Ltd.

No.	Web Frameworks
1	Bootstrap
2	Laravel

**Table 2.3: Web Frameworks List**

### 2.5.3 Database Systems:

This Table shows the Database Systems List of Digital Hub Solutions Ltd.

No.	Database Systems
1	MySQL

**Table 2.4: Database Systems List**

### 2.5.4 Servers:

This Table shows the Servers List of Digital Hub Solutions Ltd.

No.	Servers
1	Web Server

**Table 2.5: Servers List**

## 2.6 Services Offer to the Customer

There are many kinds of services that can provide to the Digital Hub Solutions Ltd offer to a customer. Digital Hub Solutions Ltd has international clients as well along with vast amount of Local clients.

### **2.6.1 Software Development**

Digital Hub Solutions Ltd provides the innovation of softer and many software to their clients with the hope of achieving a vast trust and appreciate. Customer's satisfaction is their main motto. They also do many government projects.

### **2.6.2 Web Development**

Digital Hub Solutions Ltd is very known for their website build up. They are doing very well in website development. They are also benefited for their web developments.

### **2.6.3 Website Maintenance**

Digital Hub Solutions Ltd provides Website maintenance and support services to manage websites.

### **2.6.4 Web Hosting**

Without hosting, no one can see your website, Digital Hub Solutions Ltd also provide Domain and web hosting services.

### **2.6.5 Graphics Design**

Digital Hub Solutions Ltd provide the Graphics related work.

## **2.7 Working Environment**

Digital Hub Solutions Ltd has a wonderful and very friendly working environment for a software development company. As an intern, I found an interesting thing that the working environment is totally different from what I thought. Everyone in the office is very helpful, especially with the interns. They have high security and maintenance. It's a dream place to work for anyone.



## **CHAPTER 3**

### **TOOLS AND TECHNOLOGIES**

#### **3.1 Overview**

During my internship period, I have gained the opportunity to learn a lot of things. Working with the expert experienced team had given me the real life feeling to work in the programming field. I achieved my own working area in the office which helped me to think like a proficient engineer. In Digital Hub Solutions Ltd, I have chipped away at web engineers by whom I learnt a more about web based applications and databases. First of all, I had no idea about the tools and technologies they used but I learned myself. I have got many visiting to see how engineers work and how the technologies are going. I came to know that which technologies they used more for web based application.

Before working on the main project, they gave me some PSD to convert it into html. I used html, CSS, JavaScript and bootstrap to covert the PSD. They gave me that for practice the frontend which helped me in my main project. They also gave me some tutorials for practice and it helped me a lot to do my project.

#### **3.2 Major Clients**

Since Digital Hub Solutions Ltd started its journey from 2015 as national and global wise so it has a lots of client till now. So their major clients are:

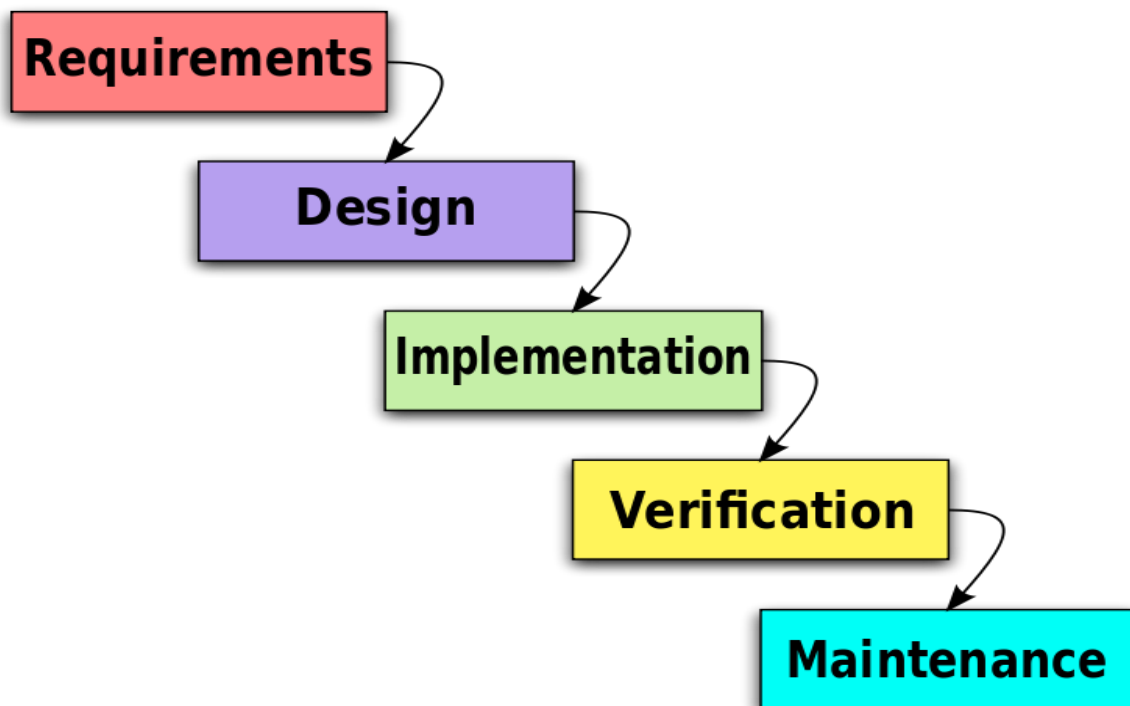
- Ciber
- T- mobile
- Aepona
- NES
- FreebeePay

### 3.3 Software Model

The most used Project Management Software model in Digital Hub Solutions Ltd are Waterfall model ND Agile model.

#### 3.3.1 Waterfall Model

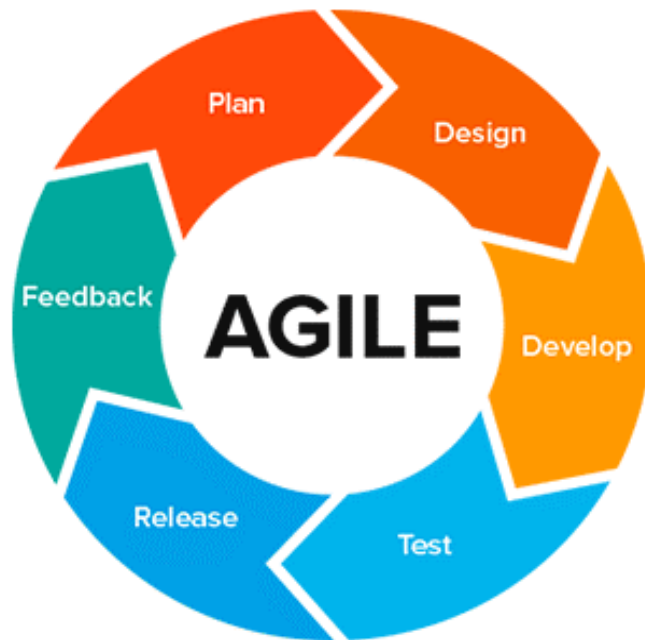
When any project comes which is security sensitive and high command of work, the IT team fall the project under Waterfall model.



**Figure 3.1: Waterfall Model**

### 3.3.2 Agile Model

When any project needs everyday feedback with the client requirement and need a quick response from developer, then the team runs the project under Agile method.

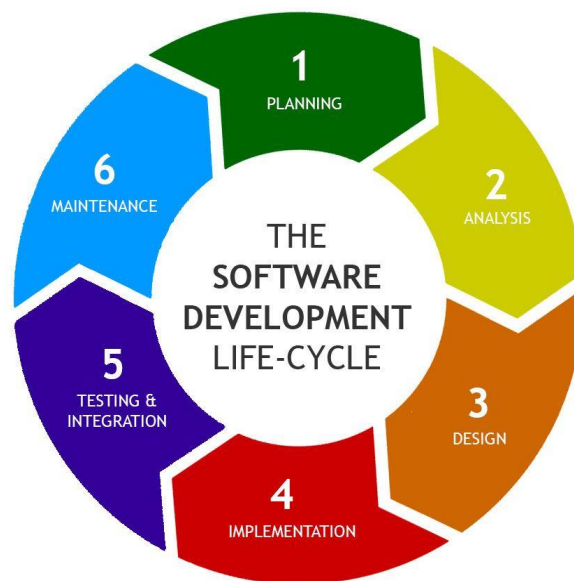


**Figure 3.2: Agile Model**

### 3.4 Software Develop Process Life Cycle

Software development is a complex a complex process in many stages. Each stage requires a lot of work and documentation. Software development isn't tied in with composing code yet every software development project must experience as least the following stages:

- ✓ Requirement Gathering or Planning
- ✓ Analysis
- ✓ Design
- ✓ Implementation and Coding
- ✓ Testing and Quality Assurance
- ✓ Maintenance



**Figure 3.3: Software Development Life Cycle**

### **3.4.1 Requirement Gathering or Planning**

In order to build a project first things that is very important that to gather enough information and ideas about that project of how to build that. For gathering information, we need to search in web, we need to talk with the experienced people and also need to see some demo as well. When all the information will be under the roof then need to go for searching the requirements and need to start planning of how to do that. Without gathering the requirement and without doing a proper planning a project never be a successful one.

### **3.4.2 Analysis**

Analysis is the second part and also much more important before starting. In this part we need to work or decide about the framework and also need to analyze the customer's need and their want of interest. Need to check some examples and some demos first and after seeing or analyzing all the stuff project can be started.

### **3.4.3 Design**

It's very important and essential for any project. It will be first things that will be shown to the customer. If the design is not good, then can't achieve the customer's satisfaction. This is the basically the front end looks and it's very important to look good and classy. We can use here html, CSS for web application and for desktop based we can use some templates and all, windows form desktop.

### **3.4.4 Implementation**

The starting part after doing all the stuff and this is the logical part of the development process. The developers take all the designs and development tools and start the software writing. Developers start to write the code and compile the code for their individual software components.

### **3.4.5 Testing and Quality Assurance**

The most kick part is testing. Client won't take the items if the test part falls and it won't work properly. If the items can't be sold to the other one for testing failures. So when the software is started to build it needs to keep in mind that it must goes for testing and need to pass. After completing to build the item some particular software or people test the software and tries to find out bugs/ error to see if the items are running smoothly or not. Some testing parts are:

- **Unit Testing**

Testing one section or one part of the item is unit testing. In the wake of finishing the composition code for the piece of the item, the engineer typically does this.

- **Sanity Testing**

This testing is very basic check that all the software components compile with each other without a problem. This testing is that developers have not defined global variable definitions or multiple functions.

- **Functional Testing**

Functional testing is to make sure that the software is doing exactly what it is to do. Before any software is released to customers this testing is a must. Functional testing is the job of a software tester, not the developers.

### **3.4.6 Maintenance**

Then end part, If the software is good to run and quite efficient then a good maintainer need to run/ maintain that software. It a small part of fixing bugs. So it is an important fact for web developer.

### **3.5 Web Based Application**

A web based application is any application that uses a website as the interface. Users can easily access the application from any computer connected to the internet using a standard browser. There is a lot of confusion created by the use of terms like web-based, internet-based and cloud-based when referring to applications. Web-based applications actually encompass all the applications that communicate with the user via HTTP. [3]

### **3.6 Database Application**

The Database Application is a computer program which primary purpose is entering and retrieving information in a computerized database. Modern database application facilitates simultaneously updates and queries from multiple users. The information would be pulled from database and transmitted over network and then arranged by program running on the PC. It became more common to build database application with a web interface.

### **3.7 Technologies**

There are many technologies I used in my project. Some are already I introduced in my web development course and some technologies are new which I leaned for my project.

#### **3.7.1 Languages**

In my project I used many languages. The languages are:

- **HTML5**

HTML5 is the latest version of Hypertext Markup Language, the code that describes web pages. HTML provides the structure of a web page. HTML5 has been designed to deliver almost everything you'd want to do online without requiring additional software such as browser plugins. It does everything from animation to apps, music to movies, and can also be used to build incredibly complicated applications that run in your browser. [4]

- **CSS3**

CSS stands for Cascading Style Sheets. CSS describes how HTML elements are to be displayed on screen, paper, or in other media. CSS saves a lot of work. It can control the layout of multiple web pages all at once. External stylesheets are stored in CSS files. [5]

- **JavaScript**

JavaScript is a scripting or programming language. We can implement complex features on the web page with the help of JavaScript. By using JavaScript, we can show timely content updates, we can add maps and 2D/3D animated graphics and videos.



### 3.7.2 Frameworks

In my project I also used frameworks. The frameworks are given below:

- **Bootstrap**

Bootstrap is a CSS framework. It's very important to create a website properly. By using bootstrap, we can make our website responsive very easily. In CSS we have to write a lot of code for create any design but we can make it very easily with a few line codes by the help of bootstrap.

- **Laravel**

Laravel is an open-source PHP framework created by Taylor Otwell. It is robust and easy to understand. It follows a model-view-controller design pattern. Laravel reuses the existing components of different frameworks which helps in creating a web application. The web application thus designed is more structured and pragmatic.

Laravel offers a rich set of functionalities which incorporates the basic features of PHP frameworks like CodeIgniter, Yii and other programming languages like Ruby on Rails. Laravel has a very rich set of features which will boost the speed of web development.

If you are familiar with Core PHP and Advanced PHP, Laravel will make your task easier. It saves a lot time if you are planning to develop a website from scratch. Moreover, a website built in Laravel is secure and prevents several web attacks. [6]



**Figure 3.4: Laravel**

- **History of Laravel**

Laravel was developed and created by Sir Taylor Otwell as an attempt to give an excellent substitute for the older PHP framework named CodeIgniter. And this was because CodeIgniter did not offer such great features like support for built-in customer authentication and proper user authorization. On the 9th of July, 2011 Laravel released its first beta version, and later in the same month, Laravel 1 got released. Other than authentication, Laravel also has built-in support for localization, views, dealing with sessions, routing the request to the specific controller, and other amazing features. [7]

- **Advantages of Laravel**

Laravel offers you the following advantages, when you are designing a web application based on it –

- ❖ The web application becomes more scalable, owing to the Laravel framework.
- ❖ Laravel saves our time because Laravel reuses the components from other frameworks in developing web application.
- ❖ Laravel uses namespaces and interfaces, so it helps to organize and manage resources.
- ❖ It has numerous libraries which are object-oriented along with the default libraries. The Authentication Library is also advantageous for users.

- **Features of Laravel**

Laravel offers the following key features which makes it an ideal choice for designing web applications –

1. Modularity
2. Testability
3. Routing
4. Configuration Management
5. Query Builder and ORM
6. Schema Builder
7. E-mail
8. Authentication
9. Queues
10. Event and Command Bus

- **Why Should We Use Laravel?**

Mostly, people recommend using Laravel Framework due to the following reasons:

- ❖ It makes the app development process easy and quick.
- ❖ It acts as a functional core which is easy to extend.
- ❖ The routing process remains simple.
- ❖ Proper unit for conducting the tests standing out of the frame.
- ❖ Long-term tasks can be performed with the help of the async queue.
- ❖ The database layer is extremely effective for the users.
- ❖ It creates a simple integration process with the third-entity libraries. [8]

## **CHAPTER 4**

### **IMPLEMENTATION OF “TRAINING MANAGEMENT SYSTEM”**

#### **4.1 Project Description**

Digital Hub Solutions Ltd has many clients in Bangladesh. So one of their customer wanted to make them a web based application for their training center. So our head decided to give me the project. So I named the project as Training Management System. Training Management System is a web based system. We all know that in a training center, there are many students and teachers. Students admitted there as batch wise. There are many batches in a training center. And also there are many teachers who teaches the students. So they have a class routine with duration. They also have a payment process.

So the Training Management System will be used in a training center to keep all the records of the students and teachers. Here will be one admin who can login the system. Also user can login this system with admins permission and by using admins username and password. Here students have to fill up a form for registration. Also there is a payment options where all the payment process can be recorded. After registered a student profile will be created where one students all the information will be shown. Admin can also update all the information. Admin can also print the information within a printer.

The Training Management System can save their time, efficient student and teacher allocation, clear payment records.

## **4.2 Requirement Analysis**

In this stage, I analyzed all the requirements for the web application. After my analyzation, I decided to make this web application more simple so that the users can easily interact with the web application. Here I found that I need some users account. User can create an account with the admins username and password and registered as a user. So after registering users can login the system. Students and teachers can access the web application by their account if needed. Also there is an admin who can control the web application. admin can add students and courses and also can delete. And that is how I started to build it after following all the requirements.

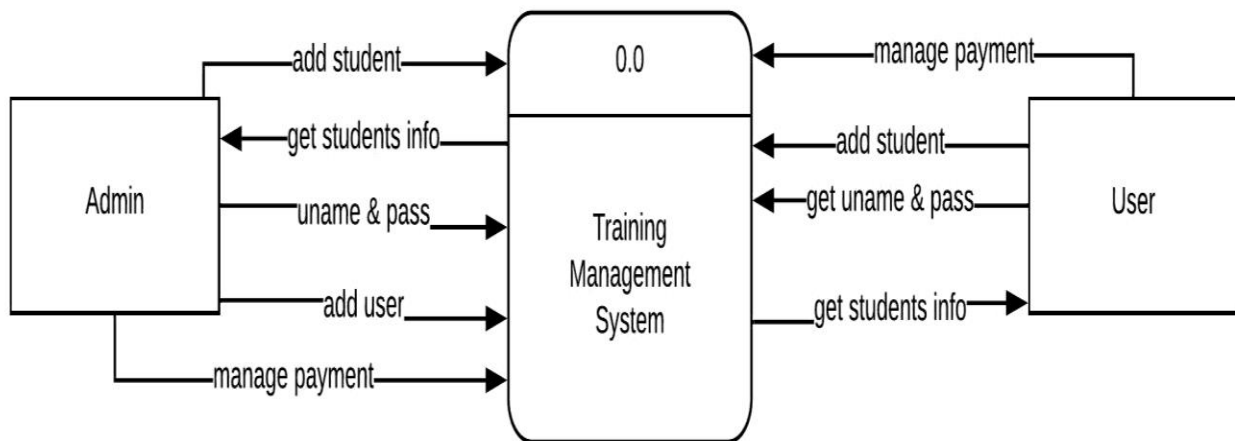
## **4.3 System Architecture**

Every development needs an Architecture before building it. A system architecture is an innovation proficient that helps to create and executes software frameworks and system for association. Characterizing the engineering could mean diving the framework into parts, numbering segments into connections and interface or potentially settling on the advancement and assets to be exploited in the structure. The person characterizes the framework in order to achieve the satisfaction of the user.

#### 4.4 Data Flow Diagram (DFD)

Data flow diagram is a way of representing a flow of data of a system. It is a processed system in terms of inputs and outputs.

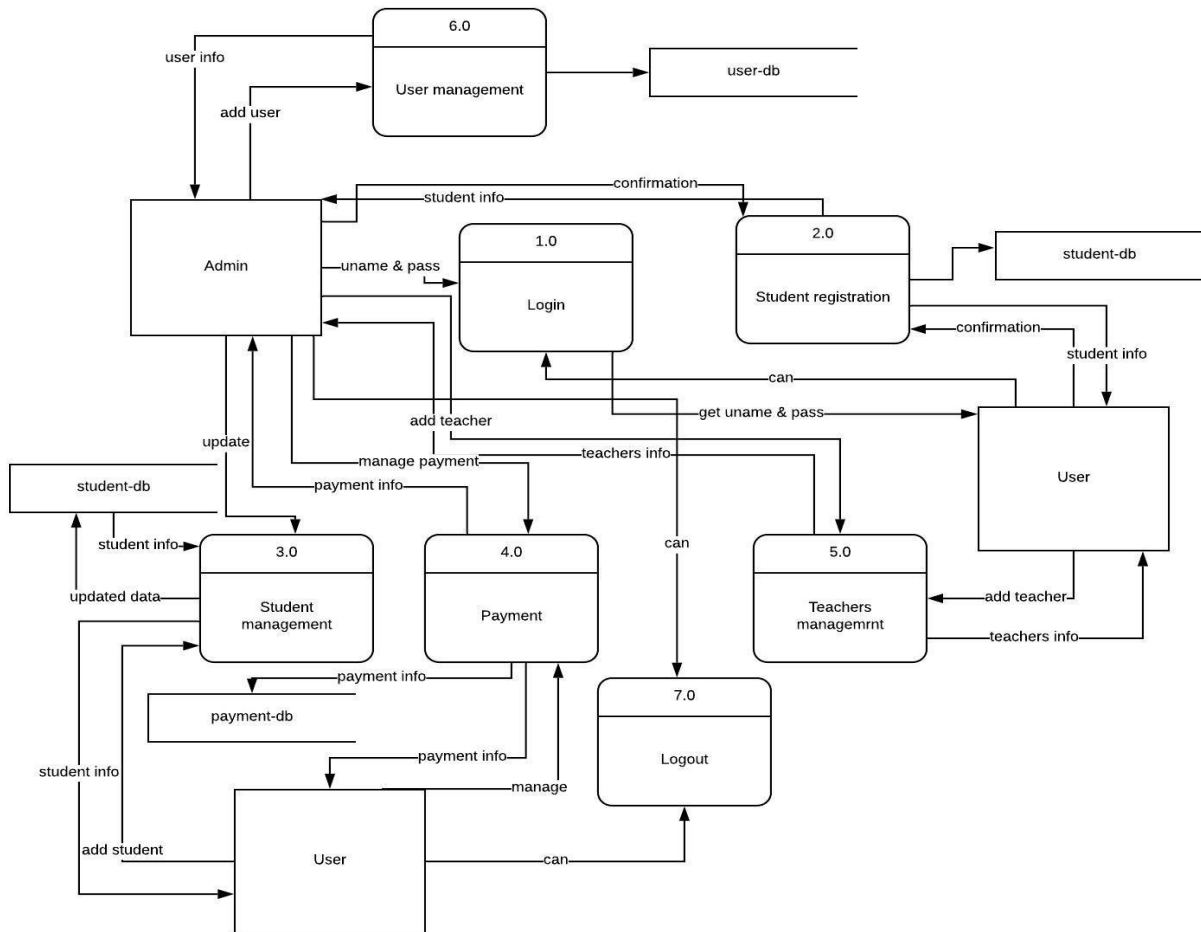
(Here I will show the context level, level 1 and level 2 diagrams of my project)



**Figure 4.1: Context Level Diagram of “Training Management System”**

This is the context level diagram of my project. There are two external entities here. One is Admin and another is user. Admin can do everything in this system. Admin can add more than one user and the user also can do everything except adding the user.

Here is the level 1 data flow diagram of Training Management System-



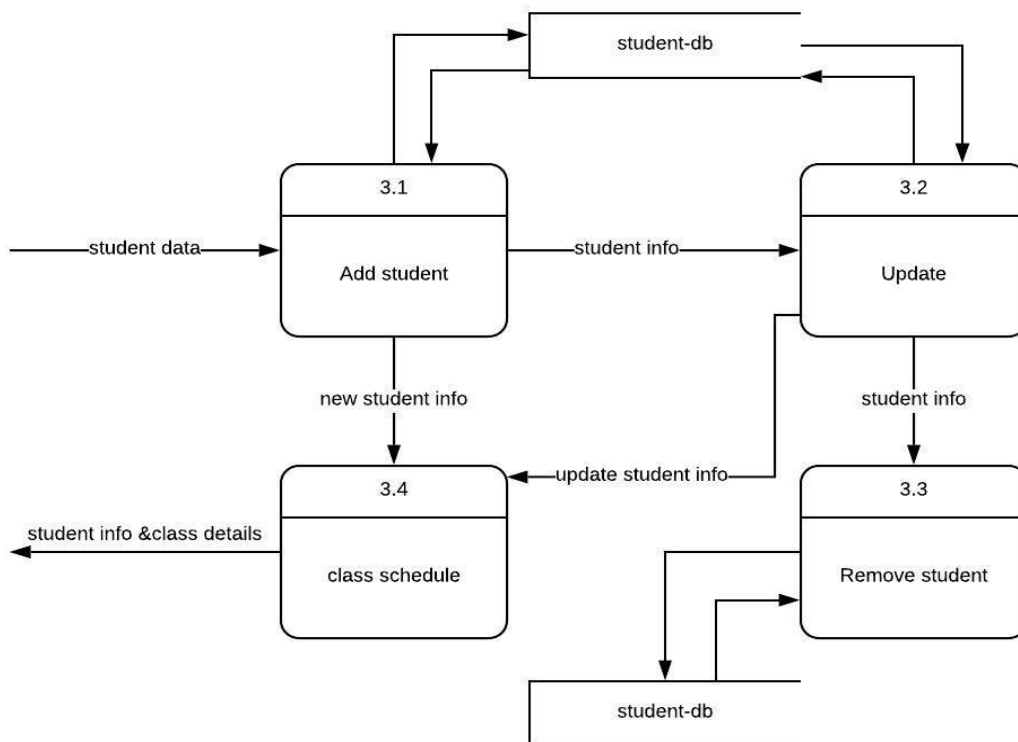
**Figure 4.2: Level 1 diagram of “Training management System”**

Here we can see that an Admin can login the system. Admin can register a student after getting the students information. Admin can add student and also can modify the student’s info. Also can



add teachers and set their classes. Admin handles all the payment processes of the students. Admin can also add users. User can do everything as admin except add a user.

Here is the level 2 diagram of Training Management System-

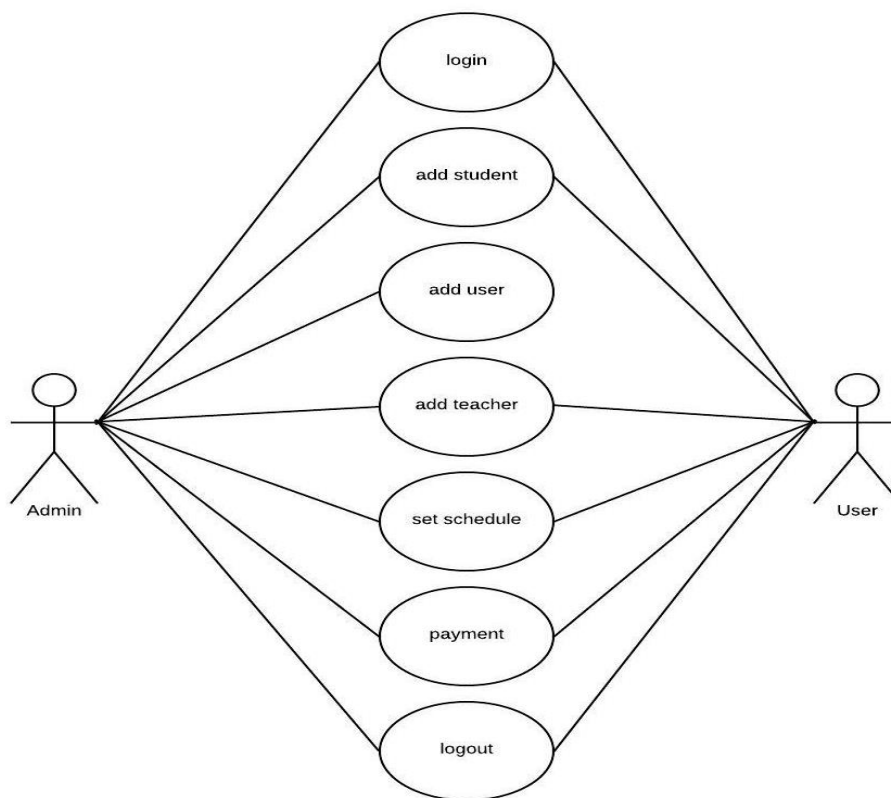


**Figure 4.3: Level 2 diagram of “Training Management System”**

For Level 2 diagram, I choose the student management process. I can divide this process into four processes. The processes are adding student, update, remove student and class schedule/ course. In this level, a student can be added after getting the student info. We can also update the student info and also can delete then after finishing their course.

#### 4.5 Use Case Diagram

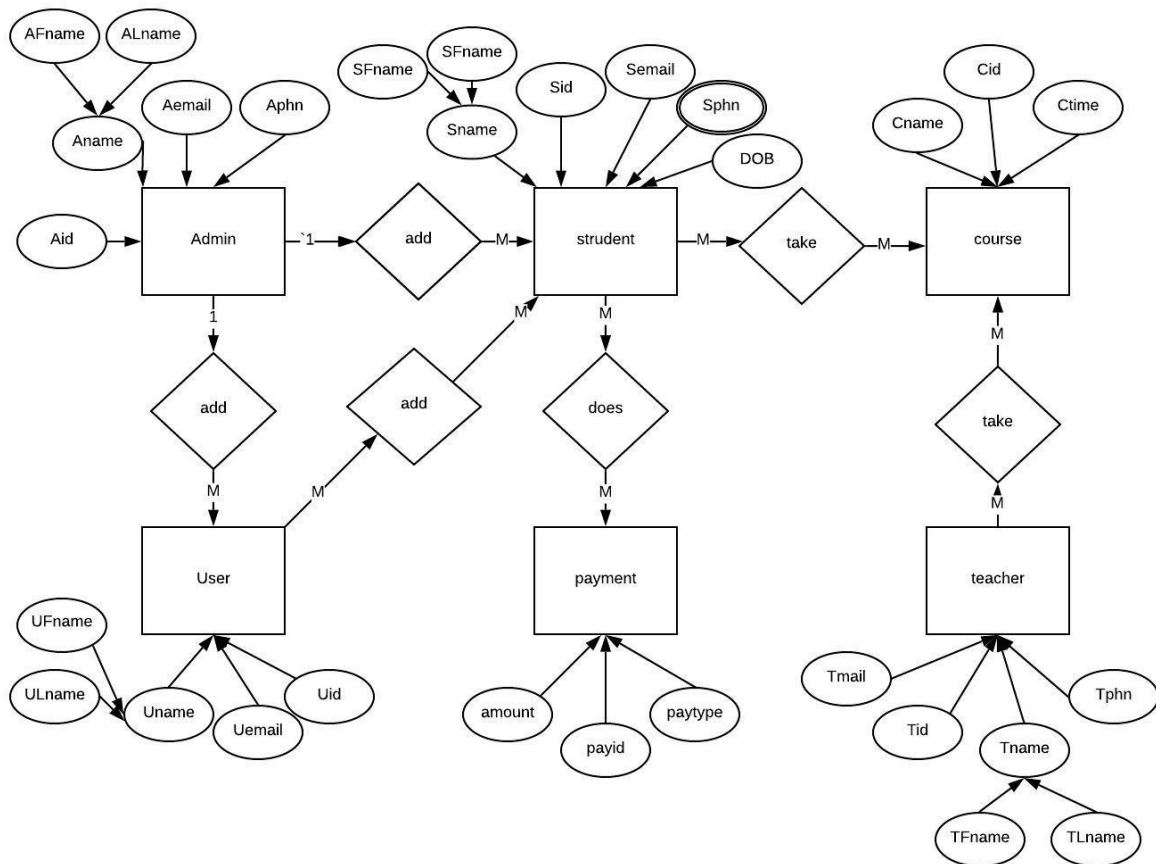
User case diagram represents the user interactions and action with the system. By using actor and action use case diagram helps to create functionality. It is a simple system needs to perform like a set of actions, functions and service.



**Figure 4.4: Use Case Diagram of “Training Management System”**

## 4.6 Entity Relationship Diagram (ERD)

An Entity Relationship Diagram is the way to represent the interrelated things. It is created with the entity types and specific relationships between entities.



**Figure 4.5: Entity Relationship Diagram of “Training Management System”**

## **4.7 Tools and Technologies**

IDE: Sublime Text 3

Front-end: Html, CSS, JavaScript, PHP, Bootstrap

Back-end: Laravel

Platform: Windows

Database: Microsoft SQL server

## **4.8 Implementation**

Implementation is the most important part of any project. In this implementation part I am going to describe all the steps which I needed for implement my system. How I implement all the functionalities and connect it with the database.

- Creating the workflow and Configuring the PC environmental
- Installing Sublime Text 3
- Start with framework and design
- Developing from front-end
- Connecting database

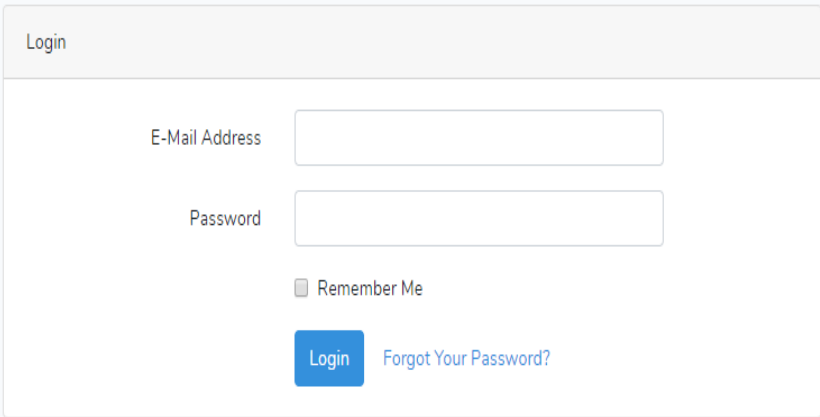
## 4.9 User Story/Feature List

Serial No	Feature List
01	Login
02	Register
03	Students Registration
04	Users Registration
05	Students Profile
06	Logout

**Table 4.1: Feature List**

### 4.9.1 Login Form

First entering the website, there will appear a login page where admin need to input the Email address and password. Then clicking on the login button admin can successfully enter the system. Here admin can save the email and password by clicking on remember me option. If admin will not do this and by any chance forget his/her password, then he/she can go to the option “Forgot Your Password?” and can give new password for login. But admin is not register her/his account yet then first he/she have to register the account.

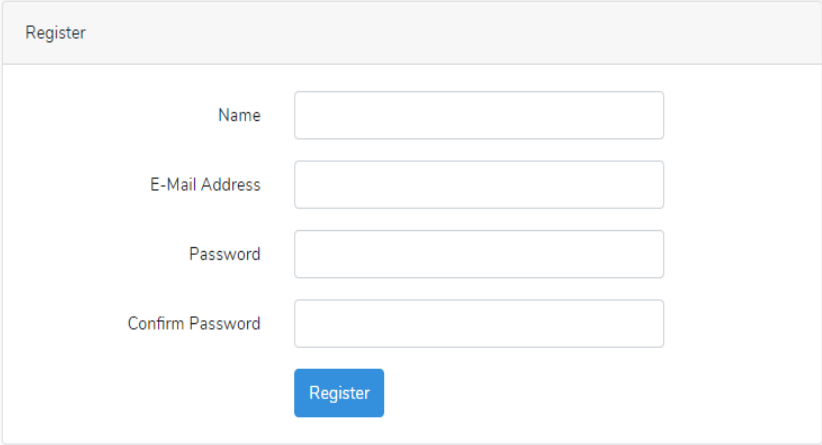


The image shows a login form titled "Login" in a light gray header. Below the header, there are two input fields: "E-Mail Address" and "Password". Below the "Password" field is a checkbox labeled "Remember Me". At the bottom of the form, there is a blue "Login" button and a link "Forgot Your Password?" in blue text.

**Figure 4.6: Login Form of “Training Management System”**

#### 4.9.2 Register Form

First admin has to register his/her account to access the system. So admin need to input his/her name, Email address, password and then confirm password. After clicking on the Register button, admin can login the system.

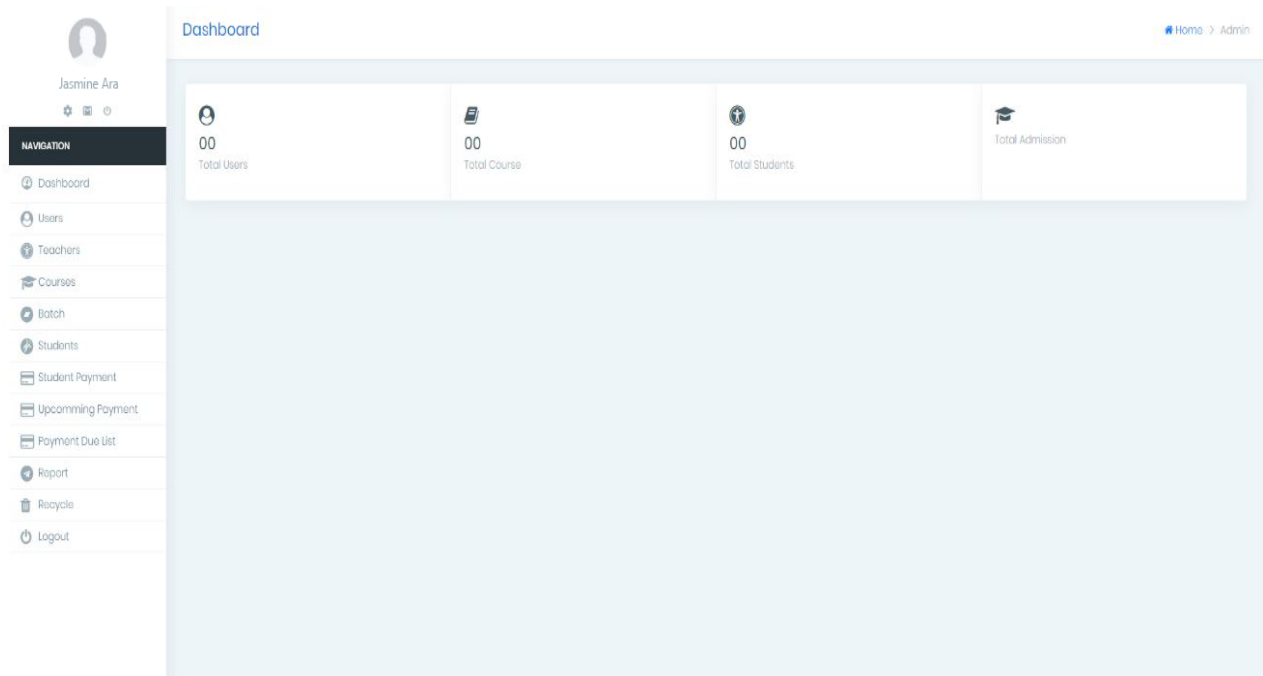


The image shows a web page with a light blue background. At the top left is the text 'Laravel' and at the top right are the links 'Login' and 'Register'. In the center is a white rectangular box with a light gray header labeled 'Register'. Inside the box, there are four input fields stacked vertically, each with a label to its left: 'Name', 'E-Mail Address', 'Password', and 'Confirm Password'. Below these fields is a blue button with the text 'Register' in white.

**Figure 4.7: Register Form of “Training Management System**

### 4.9.3 Dashboard

After successfully login the system, admin can see the Dashboard. Here admin can see total users, total courses, total students and total admission. Also can manage the payment issues by the payment option.



**Figure 4.8: Dashboard of “Training Management System”**

#### **4.9.4 Student Registration Form**

In this this system, admin can register many students. So for registration I made a registration form which I divided into two information. One is personal information and another is contact information. I personal information admin will need students name, fathers name, mothers name, date of birth, national id number, registration date, profession etc. And in personal information admin will need students present address, permanent address, email, phone number and guardians phone number. After filling up all the field and clicking on the registration button, one student will be registered.



The screenshot displays the 'Student Registration Information' form in a web application. The left sidebar shows a navigation menu with options like Dashboard, Users, Teachers, Courses, Batch, Students, Student Payment, Upcoming Payment, Payment Due List, Report, Recycle, and Logout. The main content area is titled 'Student Registration Information' and contains a section for 'Personal Information'. This section includes various input fields and dropdown menus for student details.

**Personal Information**

Student Name:\*

Father Name:\*

Mother Name:\*

Date of Birth:\*

Nationality:\*

National ID No:

Gender:\*

Religion:\*

Blood Group:\*

Marital Status:\*

Last Academic Qualification:\*

Academic Qualification

Result

Profession:

Registration Date:\*

**Figure 4.9: Student Registration Form of “Training Management System”**

This screenshot shows the continuation of the 'Student Registration Information' form, specifically the 'Contact Information' section. It follows the 'Personal Information' section and includes fields for address, contact details, and a photo upload. A 'REGISTRATION' button is visible at the bottom right of the form area.

Religion:\*

Blood Group:\*

Marital Status:\*

Last Academic Qualification:\*

Academic Qualification

Result

Profession:

Registration Date:\*

Photo: BROWSE...

**Contact Information**

Present Address:\*

Permanent Address:

Country:\*

Email:

Phone:\*

Guardian Phone:

REGISTRATION

**Figure 4.10: Student Registration Form of “Training Management System”**

#### 4.9.5 User Registration Form

Here in this system, admin can add more than one user. User can do all the work as admin except add a user. So for user registration admin will need user name, phone number. User will access the system with admin's email and password. Otherwise a user will not access the system.

The screenshot displays the 'User Registration' form within a web application. The interface includes a sidebar with a navigation menu and a top header. The sidebar, on the left, features a user profile for 'Jasmine Ara' and a 'NAVIGATION' section with links to Dashboard, Users, Teachers, Courses, Batch, Students, Student Payment, Upcoming Payment, Payment Due List, Report, Recycle, and Logout. The top header shows 'Dashboard' and a breadcrumb trail 'Home > Admin'. The main content area is titled 'User Registration' and contains the following fields: 'Name' (text input), 'Phone' (text input), 'Email' (text input with the value 'jasmineara@gmail.com'), 'Password' (password input with masked characters), 'Confirm-Password' (text input), 'User Role' (dropdown menu with 'Select User Role'), and 'Uploads' (file upload button labeled 'BROWSE...'). A blue 'REGISTRATION' button is positioned at the bottom right of the form area.

**Figure 4.11: User Registration Form of “Training Management System”**

## 4.9.6 Student Profile

After registering a student successfully, there will generate a student profile for each student. Here admin can see all the information off a student. All the personal information of the student, which courses he/she takes, students payment information and everything. So it will be very helpful for admin to see all the information of a student in one place.

The screenshot displays the 'Student Profile' page for 'Md. Rubel Mia'. The interface includes a sidebar with navigation links (Dashboard, Users, Teachers, Courses, Batch, Students, Student Payment, Upcoming Payment, Payment Due List, Report, Recycle, Logout) and a top header showing the user 'Jasmine Ara' and a 'Dashboard' link. The main content area has tabs for 'Profile', 'Course', 'Payment', and 'Installment'. The 'Profile' tab is selected, showing a student profile card with a silhouette, name, and 'Payment' button. Below this, a table lists personal information:

Personal Information		
Student ID	Phone Number	Religion
202003405	01886359893	Islam
Student Name	Email Address	Country
Md. Rubel Mia	mdrubelmia9977@gmail.com	Bangladesh
Student Father	Guardian Phone	Nationality
Ambia Khatun		Bangladeshi
Student Mother	Present Address	Student NID
Abdul Rahman	2/33 Eastern Mollika Shopping Complex.	
Date of Birth	Permanent Address	Marital Status
31 Jan, 1998	2/33 Eastern Mollika Shopping Complex.	Single
Gender	Academic Qualification	Created Date
Male	HSC	17 Mar, 2020
Blood	Profession	Creator
No Blood Record	Student	Saidul Islam Uzzal

Below the table, the 'Admission Status' is shown as 'Admitted' with a button. The 'Social Profile' section is also visible.

**Figure 4.12: Student Profile of “Training Management System”**

#### **4.10 Project Objectives**

As I build this system for a training center to make their work easier. Some objectives that I noted-

- ❖ This system will save their working time
- ❖ Working sector will be more digitalized
- ❖ Employees will be more smart to use the system in their work place
- ❖ It will maintain systematic record

#### **4.11 Limitations of my Project**

Thought I tried my best to make the system smoother and efficient. But some confusion always remains at every perfect work. Some limitations that I found is given below-

- ❖ Here I give only admin and user access but several access can be inserted in database. Students and teachers access should be given.
- ❖ As it is a web based application so sometimes it runs very slow because of the poor net connection.
- ❖ I build this system by using Laravel which I am not expert. I leaned the framework during my internship period and then implemented myself into the project.

#### **4.12 Project Conclusion**

During the project I learned so many things, I faced so many problems that made me upset. But I wasn't hopeless. I asked my mentors, my friends and my teams to conquer from that problem. Now, I think I really some elements which will help me in future to create more dynamic project for my clients and all.

## **CHAPTER 5**

### **CONCLUSION**

#### **5.1 Conclusion**

The internship program prepared me for my future and teach me how to achieve success over failures. It helped me to improve my analytical skills and also my personal skills to maintain an office environment. The internship program makes me responsible, punctual and more active than before.

I have learned about the IT industry and the strong sense of work in team and learned to maintain unity during work. While working to build on this project I goes through some demo project and I searched a lot in the web to find out something more interesting and essential. That helps me a lot to keep patience and to love my work. During that search I found some exciting kinds of elements and tools about technology that I didn't know before. After doing all the research I have successfully made my project, though it has some limitations. Every project needs to update in a regular basis. In the future if there need any kinds of improvements and all, I'll definitely improve this project features.

## **5.2 Future Goals**

As the system “Training Management System” is a web based system. But in future I want to turn it into a desktop based system. So it will be easy to interact more. I also want to make an access option for students and teachers so that they can easily see their current status their payment information's and can see their schedule. I also want to ensure the security of the system properly. If needed, then I want to change the design. I want to learn Laravel properly to add more features in this system.

## REFERENCES

- [1]2020. [Online]. Available: <https://digitalhubltd.com/aboutus/>. [Accessed: 19- Apr- 2020].
- [2]"Our Services - DigitalHubbd", *DigitalHubbd*, 2020. [Online]. Available: <http://digitalhubbd.com/our-services/>. [Accessed: 19- Apr- 2020].
- [3]"What is a Web-Based Application? - Definition from Techopedia", *Techopedia.com*, 2020. [Online]. Available: <https://www.techopedia.com/definition/26002/web-based-application>. [Accessed: 20- Apr- 2020].
- [4]"HTML5: what is it?", *TechRadar*, 2020. [Online]. Available: <https://www.techradar.com/news/internet/web/html5-what-is-it-1047393>. [Accessed: 20- Apr- 2020].
- [5]"CSS Introduction", *W3schools.com*, 2020. [Online]. Available: [https://www.w3schools.com/css/css\\_intro.asp](https://www.w3schools.com/css/css_intro.asp). [Accessed: 20- Apr- 2020].
- [6]"Laravel - Overview - Tutorialspoint", *Tutorialspoint.com*, 2020. [Online]. Available: [https://www.tutorialspoint.com/laravel/laravel\\_overview.htm](https://www.tutorialspoint.com/laravel/laravel_overview.htm). [Accessed: 21- Apr- 2020].
- [7]"History of Laravel", *W3schools*, 2020. [Online]. Available: <https://www.w3schools.in/laravel-tutorial/history/>. [Accessed: 21- Apr- 2020].
- [8]"What is Laravel Framework? | Key Concepts | Career Growth & Advantage", *EDUCBA*, 2020. [Online]. Available: <https://www.educba.com/what-is-laravel-framework/>. [Accessed: 22- Apr- 2020].

