

**CLASSROOM BOOKING SYSTEM**

**BY**

**Md. Asraful Hoque**

**ID No: 153-15-6625**

This Report Presented in Partial Fulfillment of the Requirements for the Degree of  
Bachelor of Science in Computer Science and Engineering

Supervised by

**Md. Sazzadur Ahamed**

Senior Lecturer

Department of CSE

Daffodil International University

Co-Supervised by

**Ms. Most.Hasna Hena**

Senior Lecturer

Department of CSE

Daffodil International University



**DAFFODIL INTERNATIONAL UNIVERSITY**

**DHAKA, BANGLADESH**

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## **APPROVAL**

This Project/internship titled “**CLASSROOM BOOKING SYSTEM**”, submitted by Name: **Md. Asraful Hoque**, ID No: **153-15-6625** to the Department of Computer Science and Engineering, Daffodil International University has been accepted as satisfactory for the partial fulfillment of the requirements for the degree of B.Sc. in Computer Science and Engineering and approved as to its style and contents. The presentation has been held on 13th September, 2019.

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**Dr. Syed Akhter Hossain**  
**Professor and Head**  
Department of Computer Science and Engineering  
Faculty of Science & Information Technology  
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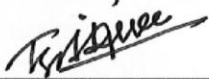
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Department of Computer Science and Engineering  
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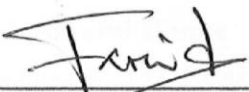
**Internal Examiner**



---

**Shah Md. Tanvir Siddiquee**  
**Assistant Professor**  
Department of Computer Science and Engineering  
Faculty of Science & Information Technology  
Daffodil International University

**Internal Examiner**



---

**Dr. Dewan Md. Farid**  
**Associate Professor**  
Department of Computer Science and Engineering  
United International University

**External Examiner**

## DECLARATION

I hereby declare that, this project has been done by me under the supervision of **MD. ASRAFUL HOQUE, CLASSROOM BOOKING SYSTEM, Department of CSE** at Daffodil International University. I also declare that neither this project nor any part of this project has been submitted elsewhere for award of any degree or diploma.

**Supervised by:**



---

**Md. Sazzadur Ahamed**  
Senior Lecturer  
Department of CSE  
Daffodil International University

**Co- Supervised by:**



---

**Ms. Most. Hasna Hena**  
Senior Lecturer  
Department of CSE  
Daffodil International University

**Submitted by:**



---

**Md. Asraful Hoque**  
Id Number: 153-15-6625  
Department of CSE  
Daffodil International University

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## **ABSTRACT**

Room booking system become very complex when the booking of the room in large building. Here I have created a web application with room booking. Students will book a room if the room is empty. All students cannot book any room, only CR can do it. A CR of any section can use this application. CR can use date, day and time for booking any room. CR will not be able to book a room during class hours according to the routine. All information will be added by the department.

Administrator will be added department information, teacher information, course information and also added date and time of the empty room. Not only a student, but also a teacher also booked a room by using specifies information. For booked room a teacher also has to an account and he or she can book room after logged in their account.

Here a student cannot access all things. Students and teachers can only see empty room lists, booking status, book empty room option. An admin can access all things. An admin will add departments, add courses, add users, add empty rooms. Admin can control all user. Add, delete, edit option are controlled by admin.

There are no option given user for change their password. For changing their password, they have to come in department and share their reason then department will change their password.

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# CHAPTER 1

## INTRODUCTION

### 1.1 Introduction

It's an online era, in this age it's totally unbelievable to operate any office by using hand writing paper. The "CLASSROOM BOOKING SYSTEM" has been develop to override the problems prevailing in the practicing manual system. Online is the best way for sending file, to communication each other and to do anything quickly. There was a time when people believe a lot in paper but now this time people believe in online. So the office work is done in online now.

In student life we should be use time in proper way, because it's the valuable moment for learning. But despite being a technology, for doing a small job we waste a lot of time. I am going to create a website to reduce waste of time. This site name is "Classroom booking system".

### 1.2 Motivation

In our country students are increase day by day, but with students growth classroom increase is not seen. So a few break in a classroom are completed many department classes. We all know that teachers need some extra classes because of some occasional issue or lack of proper classes. Sometime And for taking extra classes, the class teacher sometimes asks students to look for a blank classroom. To find a blank classroom, students have to look up all the department's class routine.

Although it is difficult to find a classroom, it is doubtful whether this classroom has been booked for any other department. Occasionally we have to sign papers in our department to book a class room. Specially there is no online classrooms booking system in our university. So our class CR face many problem for booked any room. I have seen very closely to face this problem. So we decided to make an Classroom Booking System site as our final project.

### **1.3 Objectives**

- To avoid manual and repetitive work.
- To provide a website that can allows a user to search and booking a room or cancel room over the internet at a time.
- To reduce waste of time.
- Improving decision making
- Both students and teachers will benefit from this.

### **1.4 Expected Outcome**

- connect everyone in online
- Enable Easier access to information
- Provide a new platform for students and teachers.
- A good way to improve your time without wasting time.
- enable easier to get perfect result.

## **CHAPTER 2**

### **BACKGROUND**

#### **2.1 Introduction**

php is a very popular demandable language. almost 80 percent website are made by php. Laravel is based on php language framework. Our project is based on php and Laravel framework. Any teacher or student can book the free room easily with this system. Also, the user interface is good for use. Security also a big issue. We have used SSL in our project to make it secure. Our system is highly secure .to book a system a user have to select a room for booking. If there is no room available there will be show no room available . User can book a desire room. the notification will go to the department . If the authority think they should approve the room, the maintainer will approve the system. Another notification will go to the user for his booking confirmation. This is a well organized system to manage room for the student. Again if the authority think the room should not book and they want to change the system they can change it any time . Also they can band a unusual user for random activity. So to fix the problem she/he have to go to the department. Nice and organized way they can handle the room. also the time complexity is a big issue. My software will give good performance in real time. If the user book the room , another user cannot book the room. He might be find no room found message or there will be no room displayed.

#### **2.2 Research summery**

Class booking system is a important in any institute like university, school and college. When a teacher want to book a room for class he/she have to go to the authority for booking. the register check the list manually and find the room. When a lot of room need to find out it is difficult to handle this situation. But we can manage this system easily by this database relation system.

Any teachers can find this free room easily with this software. It will save time and complexity. also use this system is too easy to manage and handle the room booking system. if anyone want to find this room he need to login and book his desire room.

## 2.3 challenges

At the first moment the project was very hard for me, because I did not have any knowledge about this, also i had to learn a lot of things to implement this project. I have learned learn JavaScript, HTML, CSS for frontend, also knowing php for basic concept was not so easy. Knowing Laravel framework because all the resource in YouTube was not sufficient form. Also, another big problem code. I was alone. So, I had debugged many code errors. That was most challenging for me. I had to go different website for those error fixing.

Also, I had learned composer. It helped me lot to develop this website. relational database was most complex for me, because i had to think different logic to implement this project. Another challenge was graphical interface. Because if I was not able to make a awesome graphical interface, no user will love to use this software.

To make a graphical interface friendly, i have first designed a theme in photoshop so i can make it easy when i design this software with HTML, CSS. I know this is not a big project, but it was challenging for me to implement this project. The source was not too easy to collect all data. I have discussed with my teacher to make this project user friendly for our university.

## 2.4 Project Resource:

- php
- Laravel framework
- php raw
- MySQL database
- Database Design
- Web design
- Relational database
- Data collection
- Testing
- Work flow (model)

### **2.4.1 php:**

Raw coding means basic coding in programming language. We can implement any website using php and develop any website. php is a popular web language. almost more than 80% website are build with php language. php can combine with web script language like JavaScript ,html and CSS. To implement a website first a developer have to know the core php. because without knowing this he cannot understand the basic syntax of the language. This is for all programming. a user have to learn the basic programming. it develop him to know the logic about the program.

### **2.4.2 Laravel framework:**

At this present moment Laravel is one of the most popular framework .This framework is based on php. We know more then 80% website based on php. Before 2015 coordinator was the most popular framework in php. but at present moment Laravel rapidly increase. With using this Laravel we can develop different website or web application as well as mega project. Laravel is providing source code with. User can use this frame work totally free. They don't have to pay any money. Laravel also have provided instruction manual in their website, user can easy understand Laravel structure. Laravel is following MVC structure. But at present user can only use two platform for solving many problem. Laravel has provided two class, one is eloquent another is query builder. For data passing if we use eloquent then model must be use. Controller can use for basic functionality.to create a URL first we have to go to the route to create the view, and define a custom URL. The different route can show the string as a output or it can go to the controller function. The controller can simply load a view page and it can return a simple string.

### **2.4.3 MySQL database:**

MySQL is a powerful database management system. Almost all the website use this database management system. It is a fast database system. to execute this system we have to use MySQL system. its works using different query. Linux, UNIX and Windows in various platform MySQL are run. MySQL are open source software. MySQL is uses Structured Query Language (SQL). SQL is use for adding, accessing and managing content in a database. It use for processing, proven reliability, ease and flexibility. For php application MySQL is very essential.

#### **2.4.4 Relational database:**

The relational database means how the table are connected each other. the relation can be one to one , one to many, many to many. For example a teacher teach 50 students in a class. to solve a problem every student must have to go the teachers classroom. But the student cannot go to the other teacher to fixed their problem .this kind of relation is called one to many. All the student are connected to the teacher, this is called the relational database.

Another example we can say about e commerce web site. in a ecommerce website a developer need to create a backend system , in this backend system their must be a category system as well as manufacture system. the supper admin can manage all the manufacture and category. if the admin and super admin add a product first he had to select the category and manufacturer. The supper admin is actually inserting category id and manufacture id. this is also a relational database.

#### **2.4.5 Web design:**

bootstrap is a popular framework for web application. it also help to make a website responsive. Responsivity is a very important factor in web application like android, iPhone, smart tv and many more. Different device need layout for different content. All the layout in row coding is highly difficult for designer. Now a days all the user do not use laptop or desktop. They love to visited those website by using smart phone. if this site is not responsive then user will no get interactive. so we use bootstrap 4 to implement this project. we have use JavaScript and ajax.it helps the web application faster and reliable.

#### **2.4.6 Data collection**

For created this application we needed three category one is Administrator (department), teacher another is students. Firstly we need to add the all the departments. Then add all the faculty members. Teachers also can booked a room. For that they have to need an account and when department create an account for teachers in user there have an option name 'rules'. In rules when they select 'teachers' option then this account goes to two way one is user account and another is teacher account.

After adding teacher then add to course or subject. Here need to fill up three field course code, course name, teacher. This data connect in course name course code and teacher. Another important option is room. Department can add all the empty room here. Students can see all the empty room here but they cannot add any room.

In room option here need to room number, building , another important filled is 'Room Availability'. In here filled up there option day, time from, time to. For this data collection I have to help for google adding some real data in daffodil international university website.

### **2.4.7 Testing**

In testing part have being facing so many problem. Matching date and time is big challenge for me. In software testing we have to need to check is all of the part is working or not. If working then we have to check is working in perfect way or not that means what I want is it working this way. And also check by the wrong information.

In many time I face so much error. When I add date and time for searching empty room but all of the room that are entered all are coming in font. Also check is this application Is first or not. Then check all the contents are right or not. All the edit , view, delete option is working perfectly or not.



# CHAPTER 3

## REQUIREMENT SPECIFICATION

### 3.1 Business Process Modeling

Business process modeling define that how the system work. Data flow diagram work only the characteristic of the methodology. In this diagram i want to show business model using Data Flow Diagram. Data Flow diagram describes that how data is working or processed through a system.

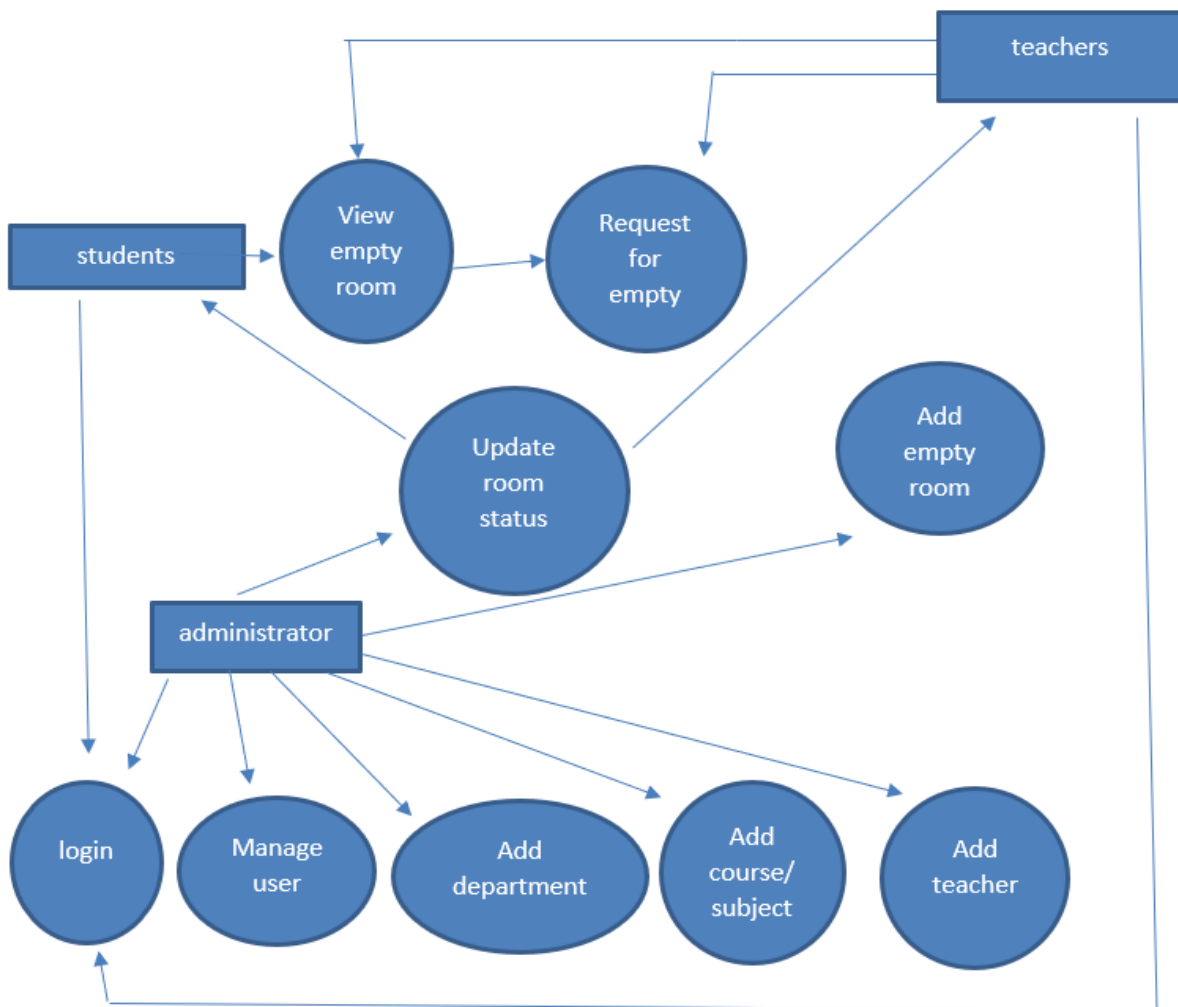


Figure 3.1: Data flow diagram of the system

## 3.2 Requirement Collection and Analysis

In application development requirement collection and analysis is one of the primary conditions. There are two types of condition in development one is the functional requirement and another is non-functional requirement.

**Functional Requirement:** In my system it should have many functional requirement like add department, add course/subject, add teacher, add rooms, update room status and a login system where some authenticate person can access. Student can search for empty room and find room within some specific time.

**Non-functional Requirement:** For optimize performance, smoother operation, memory consuming, being more efficient we use non-functional requirement.

## 3.3 Use Case Modeling and Description

Use case defines the system that are required features. This system cannot be used successfully without this features. In this system we need to find empty room. For finding empty room, first we have to insert empty rooms. We actually need empty classroom for doing extra classes. For this some information also needed like department information, subject information, teachers information.

In this diagram three options are available for three rules. There are administrator, faculty teachers and students(CR). This options are login, find room, and logout. And another options are controlled by administrator. They can add delete or update any user, department, subject, room, teachers, room status.

Student can view all empty rooms. View and edit booking status that are provided by the administrator. And search for empty room and request for that room for some small range of time.



Figure 3.3: Use case diagram of the system

### 3.4 Design Requirements

Two design are required for building a web application one is front-end design and another is back-end design. By use this design we can run our system in responsible way. Some points are given below that I follow:

**User Friendly:** Every web application should be user friendly. Because if the websites isn't user friendly then the user don't use this application in second time. My application is user friendly, every content are understandable and run very first. User can easily booked any room that they needed.

**Compatible to various web browser:** Now this time there are lot of web browser are available. All of the web browser are not supported all application. For that the reason is web version. My web application are supported by every web browser.

**Efficient:** As light as possible I tried to keep my application to run faster. We tried to keep those feature that are helpful for all students. Now I discuss some important feature:

- This system contain three types of user like admin, teachers, students.
- admin will control all system. They will control all user and see all user activity.
- Only admin can edit delete and update all menu.
- For use this application students and teachers must be log in.
- After update students and teachers can show is the classroom is booked or not.
- If admin approve room then user can use those room otherwise, they cannot.

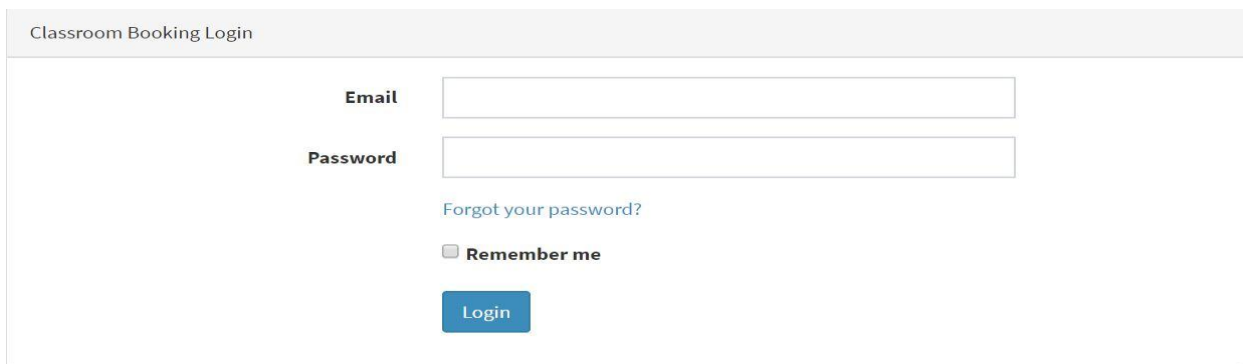
## CHAPTER 4

### DESIGN SPECIFICATION

For building an application firstly we select a niche that means I will work on this. After selection niche then we have work core functionality of this niche. Then we have to a plan to design and working methodology of this application. After that we will make a perfect design for this application. Design specification discuss about this matter that how a design will be developed for a system. Now this time I will show the font-end and back end design of my classroom booking system web application and admin panel. And in this section we will discuss about many tool and platforms.

#### 4.1 Front-end Design

Front-end design means which design that we can see with our eyes. The font-end design are making by HTML, CSS, and JavaScript. In our web application I can use little bit HTML, CSS, and JavaScript. Because we've been doing a lot of work on the back end here. HTML are using for manage the content in application and CSS use for designing this contents and also make a better look. Here I use bootstrap 4 for responsive my application. Use JavaScript for working application in a smooth way, looking good and also user friendly. Because of using bootstrap user can access this application in any device. They can see all of contents in this application by using desktop, tab or mobile phones.



Classroom Booking Login

Email

Password

[Forgot your password?](#)

Remember me

Login

Figure 4.1.1: User and admin login page

This is login page in classroom booking system. Firstly everyone have to login first then they entered in the main dashboard. Every students cannot login, in every section one student have one Gmail and one password for login. This system will be controlled by admin. Here also given an option of forget password. If anyone forget their password then they can use forget password option and by using this they can reset their password.

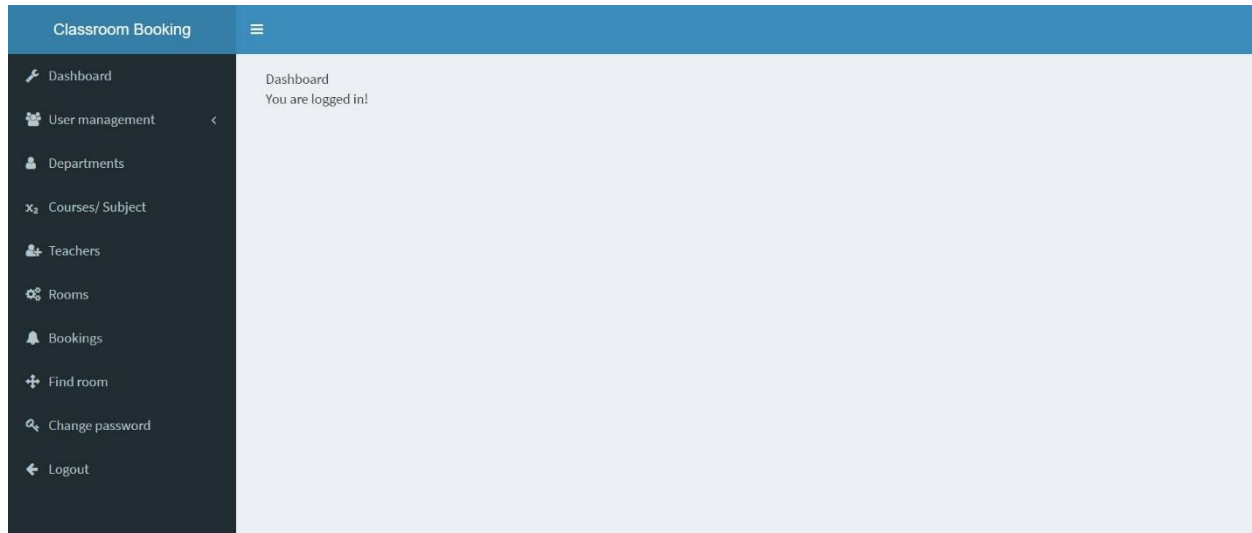


Figure 4.1.2: Admin dashboard

This is admin dashboard of my project. Here every option can controlled by the admin. User cannot use all the feature of this dashboard. Here admin manage all the user. They can add and remove user. If user face some problem then they have to discuss admin about this matter. Admin will add department, add students and add teachers. From all of the works important work is adding empty room. They can find empty room by using the all department class routine. A classroom cannot use in all time. Some time in a day, a classroom have free for 4 or five hours. In example , Saturday the classroom free for 3 hours. Admin can entry those empty in that are free some specified time.

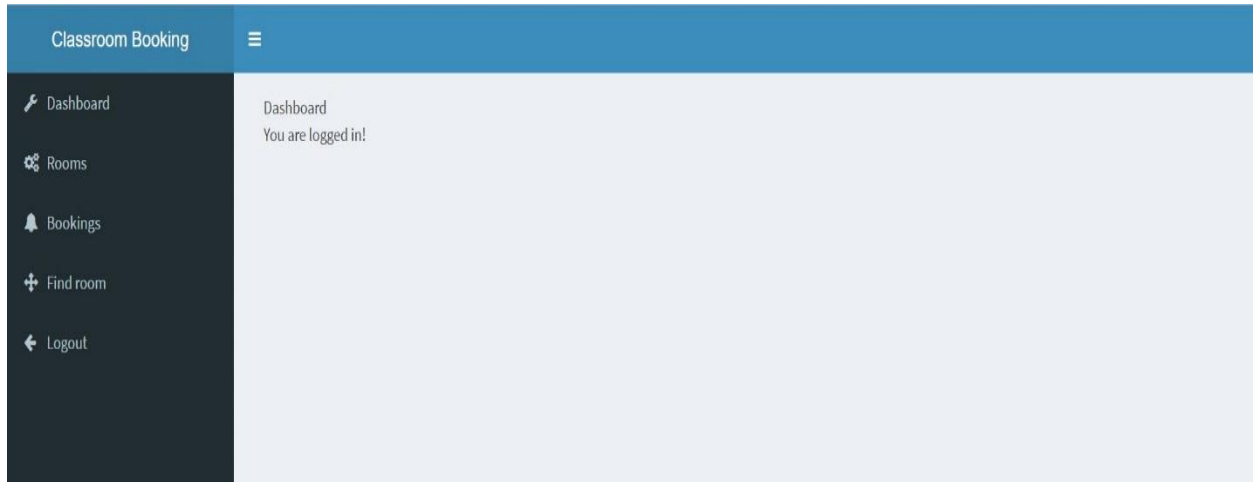


Figure 4.1.3: User dashboard

This is user dashboard. User can access only those option after login. In this room option they can see all the empty room that are entry by the admin. Also given booking option. In this option they can see that requested booking room is approved or not. Another important option is find room. For booking any room they have to choose this option.

The image shows a form titled 'Users' for adding a new user. The form is contained within a light gray box. It has a 'Create' label at the top left. The form fields are: 'Name\*' (text input), 'Email\*' (text input), 'Password\*' (text input), and 'Role\*' (dropdown menu with 'Administrator (department)' selected). To the right of the form is a 'Department\*' dropdown menu with 'Please select' as the current selection. A red 'Save' button is located at the bottom left of the form.

Figure 4.1.4: Add user option

This is user creation page. In this page all option will mandatory filled up. Without one option all option are same. In rule option three sub option are given one is administrator(department), teachers and another is students. If user select teachers option, they can see some extra field. That is designation. If user select students option then they get also some extra fields that are student id, batch and section. After finish that work press save then one user create in users option.

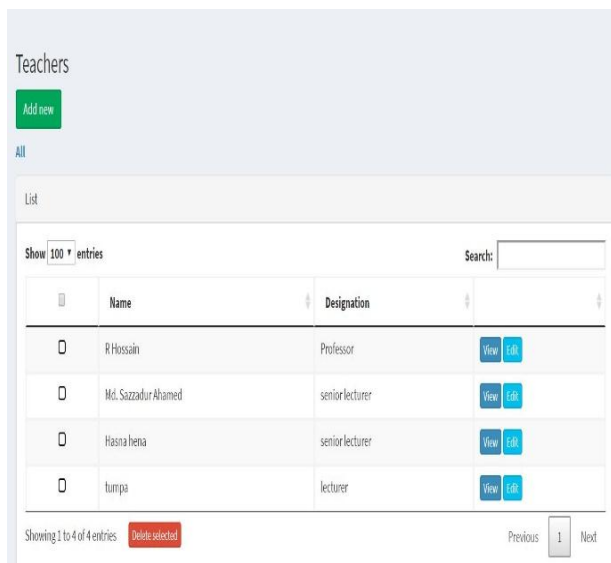


Figure 4.1.5: Add teachers

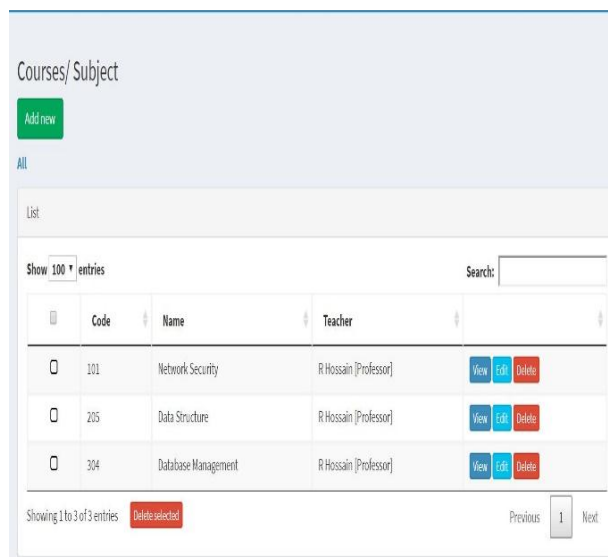


Figure 4.1.6: Add subjects

Here given teachers and course/subject option in my project. This two option are related each others. Firstly admin add to teachers then course or subject. Because in course option there is a teacher field. If admin cannot entry teachers, then when they filled up course option cannot find teacher for those subjects. In teacher field designation also come with teachers name, it will helpful for identifying teachers.



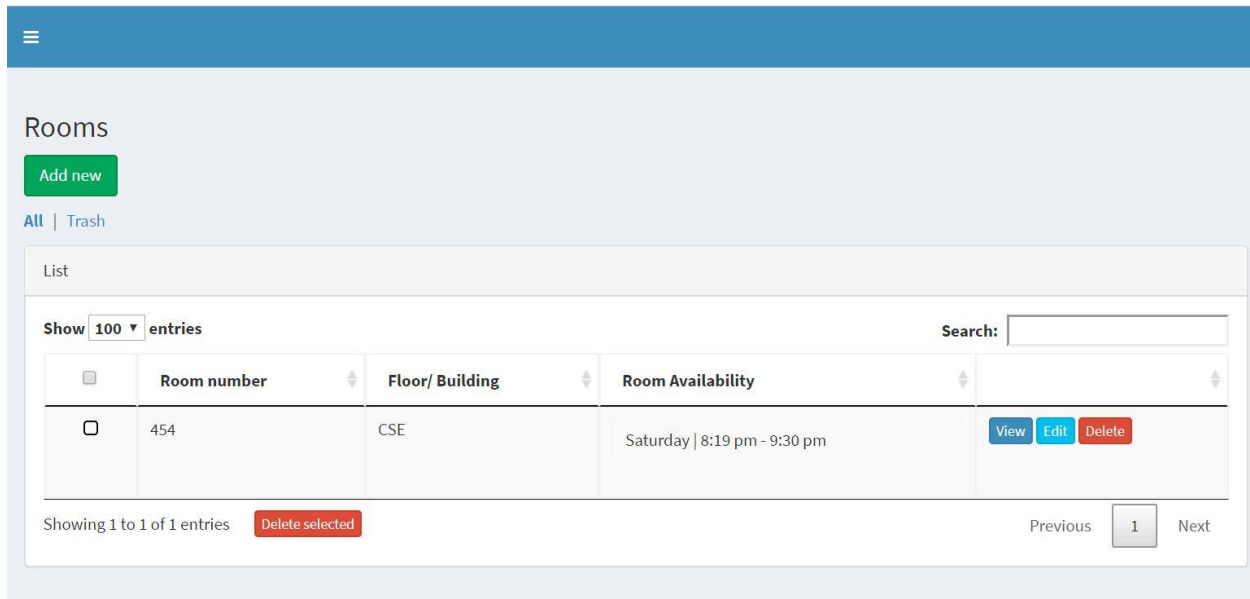


Figure 4.1.7: Add room option

Here given a category name room. This category are available both admin and user dashboard. But user can use add new option that means user cannot entry new empty room. Only admin can do this. User can only view the empty room. User can only view room numbers, class are empty in which floor, which date and time the classroom will become empty.

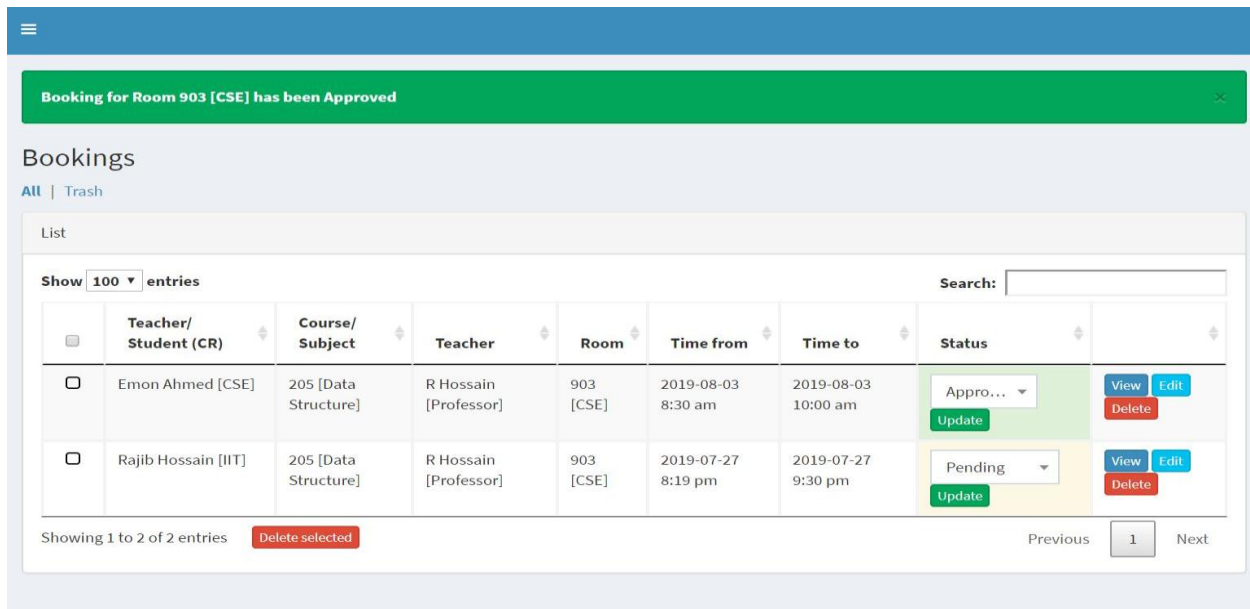
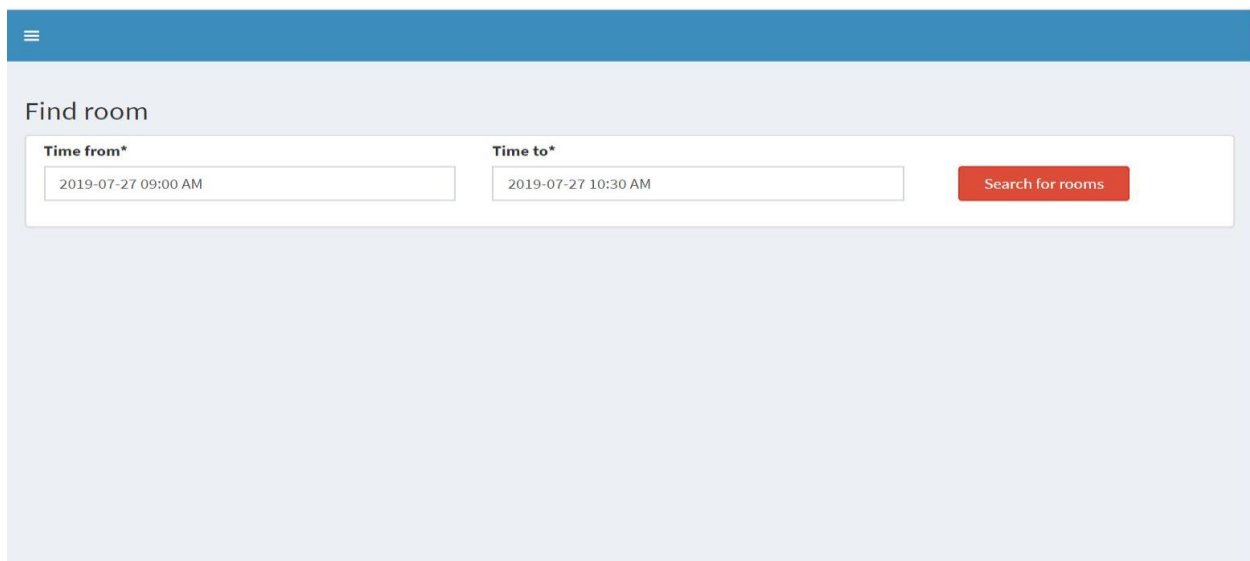


Figure 4.1.8: Booking information

This is booking category. It's also available both user and admin dashboard. Without booking status all column are same both users and admin. This booking category is related with teachers or students name, course or subject, room number and floor. When a user booking a room then this request appeared in administrator. If administrator think that they can deserve this room then administrator approve this room for user and update this status.

In the other site when administrator update room status, user can see that is their booking room became approve or not. If approve booking status, they can confirm that this room is booking by their and no body cannot book this room in this time.



The image shows a web interface for finding rooms. At the top, there is a blue header with a white hamburger menu icon. Below the header, the text 'Find room' is displayed. Underneath, there is a search form with two input fields: 'Time from\*' containing '2019-07-27 09:00 AM' and 'Time to\*' containing '2019-07-27 10:30 AM'. To the right of these fields is a red button with the text 'Search for rooms'.

Figure 4.1.9: Room finding option

Another important and useful category is find room. Users can use this for searching empty room. Here given an option 'time from' and 'time to'. In time from option users will be given time those time they want to start their class and in time to field they will be given which time, when they finish their class. In room category user can add all empty room for every day. If users date and time match with those empty rooms date and time then here will view that rooms are available for users. But if the room booked by someone then will show that room are unable for anotherone. If any rooms are not available in this range then here do not show any rooms.

Change password

Edit

Current password

New password

New password confirmation

Save

Figure 4.1.10: Change password option

Here also given change password option. But user cannot use this option. Only admin can use this option. If users need to change their password then they have to contact with department.

## 4.2 Back-end Design

Back-end design part is very important for this application because all the logical part are including here. Another part also join in back-end part like server side language, database management security authentication, data backup. In my back-end part I used php. In php I use Laravel framework. I use ajax here it is a server side language and for saving data information I use MySQL database.

For the reason of open source I use php. Most of the operating system like Linux, Solaris, Unix, windows, MAC OS can be used php. Many of the popular web application build on the based of php. MySQL is also open source that uses Structure Query(SQL). For adding, accessing and managing content in a database SQL is the most popular language. It is easy and flexible for use. That's why I use MySQL database.

XAMPP is also a simple and lightweight for developer to create local web server for testing and developing processes. XAMPP is also a cross platform. It makes transitioning from a local test server to alive server extremely easy as well.

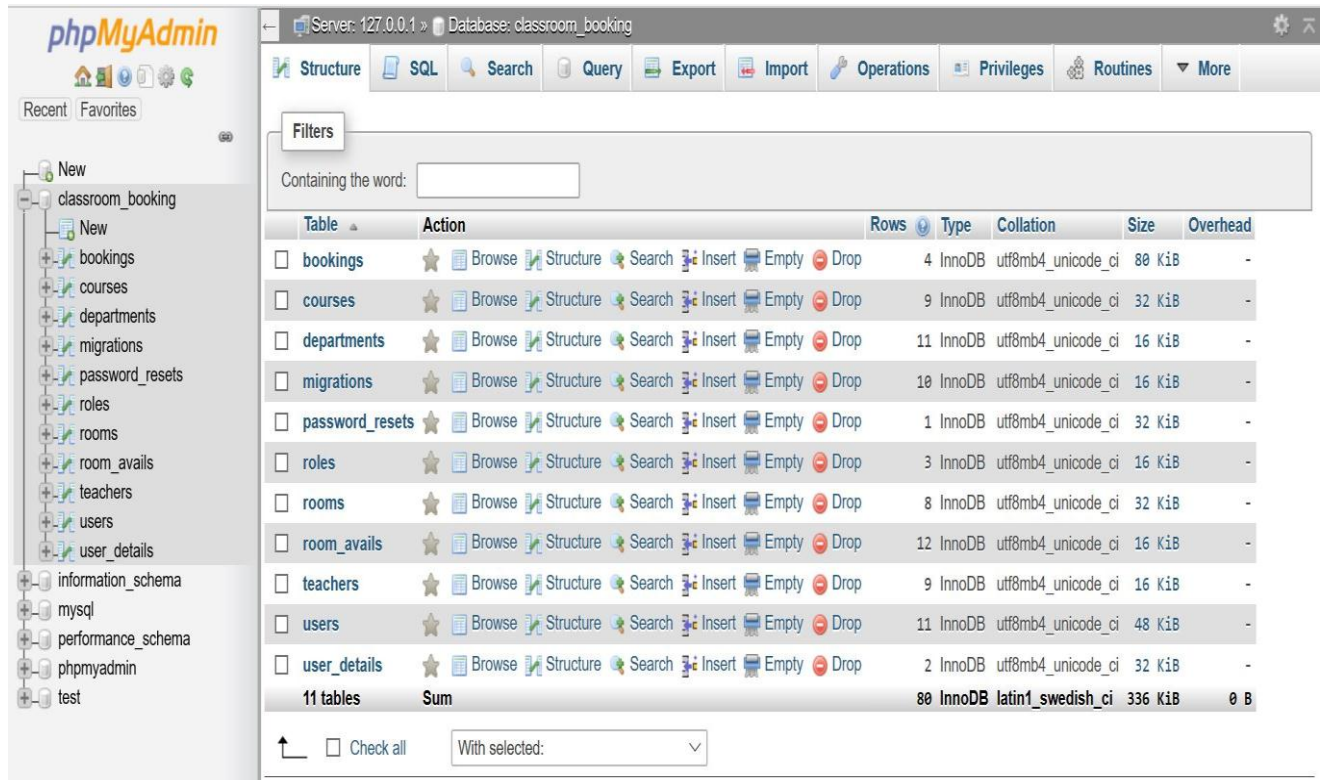


Figure 4.2.1: classroom booking database

The main data database name for this project is classroom\_booking. Here I have 11 table.

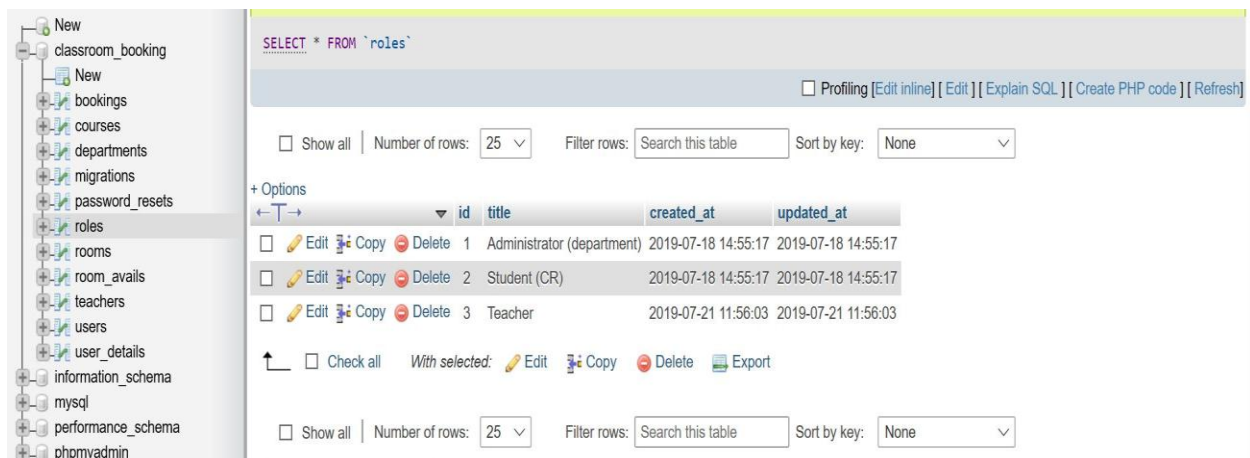


Figure 4.2.2: rules database table

In my project I am given three rules administrator(department), student(CR), teacher. With student, teacher also booking room at any time. For that teacher have to an account. Here student and teacher dashboard are same.

id	role_id	department_id	name	email	password
1	1	1	Rajib Hossain	rajibhossain.php@gmail.com	\$2y\$10\$zCnyFjRkPlUBEmw7PhDn1uOSKzKQbbDb8MHocq
2	2	1	Emon Ahmed	emon@gmail.com	\$2y\$10\$BxhCXzTvH186CLKCZa1E2.x0FDap58ygiIY5li9GO2
10	3	2	R Hossain	rhossain.php@gmail.com	\$2y\$10\$UG26ZMqUESOlwEcU9WLuap1VKG6gAl/S3Z0HZf
11	3	1	Md. Sazzadur Ahamed	sazzad.cse@diu.edu.bd	\$2y\$10\$IL5Wpk5vdZ60icLVoGnsqu3rI4Iibh.Yw76hWTb31AP.
14	3	1	Ms. Refath Ara Hossain	refath.cse@diu.edu.bd	\$2y\$10\$TSXAT15gulEzAWia.DFI0iSyGzIixQ2DPn5f4IOOR..
15	3	1	Ms. Farhana Arin	farhana.cse@diu.edu.bd	\$2y\$10\$2dRQpIlg6ucMVPH8OHed8uPE64h/O1xjmwyhDz0fe
16	3	1	Mr. Ahmed Al Marouf	marouf.cse@diu.edu.bd	\$2y\$10\$Z7cnzsMmPo7cXg1zOizWyeEFDlg3QYEnm.OMQC
17	3	1	Mr. Md. Al Maruf	maruf.cse@diu.edu.bd	\$2y\$10\$2vepPntOD/M0OsgnJEShyuTppqNdwIRJ2mTx9JNs
18	3	1	Ms. Tasnim Ahmed	tasnim.cse@diu.edu.bd	\$2y\$10\$P7jVDLL8g/FT70Y3Ri05OxY0cLOrdIppqJgz6QCkc/K
19	3	1	Rubaiya Hafiz	rubaiya.cse@diu.edu.bd	\$2y\$10\$5fBuXr2PVb6tjIb2FenO9x6mykeyot6SIJuKFTXz
20	3	1	Moushumi Zaman Bonny	bonny.cse@diu.edu.bd	\$2y\$10\$2a24KeR0jQAIvOt82xZ9uicRrUR6VL3jWf5y96rY...

Figure 4.2.3: users database table

In user database admin can manage all users. Admin can delete or edit anyone from here. All create account can show here. Every user have a Gmail name and password. By using this he/she can enter into main dashboard.

id	name	created_at	updated_at
1	CSE	2019-07-18 14:55:17	2019-07-18 14:55:17
2	IIT	2019-07-18 14:55:17	2019-07-18 14:55:17
3	EEE	2019-07-18 14:55:17	2019-07-18 14:55:17
4	Software Engineering	2019-07-28 09:07:20	2019-07-28 09:07:20
5	Pharmacy	2019-07-28 09:07:37	2019-07-28 09:07:37
6	Nutrition and Food Engineering	2019-07-28 09:07:47	2019-07-28 09:07:47
7	Architecture	2019-07-28 09:08:02	2019-07-28 09:08:02
8	Civil Engineering	2019-07-28 09:08:11	2019-07-28 09:08:11
9	English	2019-07-28 09:08:21	2019-07-28 09:08:21
10	Law	2019-07-28 09:08:30	2019-07-28 09:08:30
11	Business Studies	2019-07-28 09:08:47	2019-07-28 09:08:47

Figure 4.2.4: departments database table

Here will be given all faculty name. Only admin can control this portion.

	id	room_number	floor	description	time_from	time_to	created_at	updated_at	deleted_at
<input type="checkbox"/>	1	101	CSE	NULL	NULL	NULL	2019-07-18 14:55:17	2019-07-28 09:11:13	NULL
<input type="checkbox"/>	2	902	CSE	NULL	NULL	NULL	2019-07-18 14:55:17	2019-07-28 09:11:25	NULL
<input type="checkbox"/>	3	902	IIT	NULL	NULL	NULL	2019-07-18 14:55:17	2019-07-28 09:11:43	2019-07-28 09:11:43
<input type="checkbox"/>	4	602	CSE	NULL	NULL	NULL	2019-07-28 09:10:51	2019-07-28 09:10:51	NULL
<input type="checkbox"/>	5	103	DT-5	NULL	NULL	NULL	2019-07-28 09:12:29	2019-07-28 09:12:29	NULL
<input type="checkbox"/>	6	901	DT-5	NULL	NULL	NULL	2019-07-28 09:14:44	2019-07-28 09:14:44	NULL
<input type="checkbox"/>	7	303	DT-5	NULL	NULL	NULL	2019-07-28 09:16:36	2019-07-28 09:16:36	NULL
<input type="checkbox"/>	8	601	CSE	NULL	NULL	NULL	2019-07-28 09:17:18	2019-07-28 09:17:18	NULL

Figure 4.2.5: room database table

	id	user_id	name	desig	created_at	updated_at
<input type="checkbox"/>	6	10	R Hossain	Professor	2019-07-21 14:23:03	2019-07-21 14:23:03
<input type="checkbox"/>	7	11	Md. Sazzadur Ahamed	Senior lecturer	2019-07-23 09:58:02	2019-07-23 09:58:02
<input type="checkbox"/>	9	14	Ms. Refath Ara Hossain	Lecturer	2019-07-28 08:52:24	2019-07-28 08:52:24
<input type="checkbox"/>	10	15	Ms. Farhana Irin	Lecturer	2019-07-28 08:53:21	2019-07-28 08:53:21
<input type="checkbox"/>	11	16	Mr. Ahmed Al Marouf	Lecturer	2019-07-28 08:54:28	2019-07-28 08:54:28
<input type="checkbox"/>	12	17	Mr. Md. Al Maruf	Lecturer	2019-07-28 08:55:03	2019-07-28 08:55:03
<input type="checkbox"/>	13	18	Ms. Tasnim Ahmed	Lecturer	2019-07-28 08:56:23	2019-07-28 08:56:23
<input type="checkbox"/>	14	19	Rubaiya Hafiz	Lecturer	2019-07-28 08:57:11	2019-07-28 08:57:11
<input type="checkbox"/>	15	20	Moushumi Zaman Bonny	Senior lecturer	2019-07-28 08:59:42	2019-07-28 08:59:42

Figure 4.2.6: teachers database table

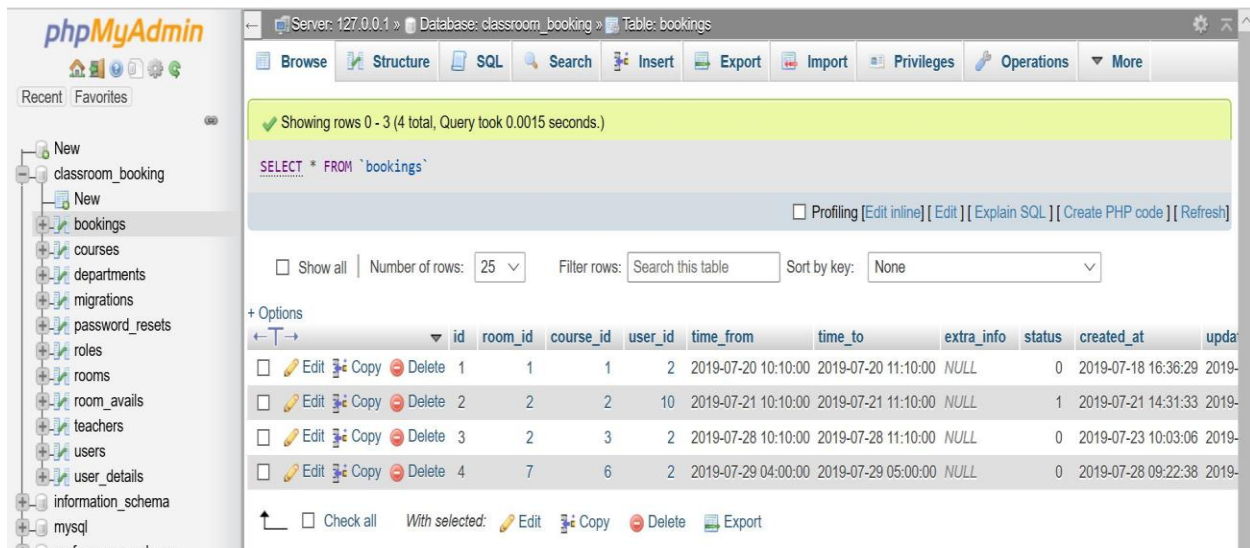


Figure 4.2.7: booking database table

### 4.3 Interaction Design and UX

An interaction design is a way that discusses between system and user. To understand the user problem or for knowing user requirements we use interaction design. Not only finding the problem but also I find this problem solution. It also focuses that user experience to use this application. In our application admin can add department, course, teacher, empty room. User can see all empty rooms and can book any room. All the home contents are user friendly.

For UX we have tested it by twelve people. In those people ten are said that this application is very helpful and user friendly. When I share all think about my project somebody said that it's user friendly but admin can use some problem when routine update some day later.

So we can say that this application are user friendly.

## **4.4 Implementation Requirements**

It's a web application and dynamic project. For building this application we needed a server. As a server I used xampp for apache server. And for my data store I used MySQL database. And for complete this project I needed a text editor. As a text editor I use NetBeans. In NetBeans I write code in html, CSS, JavaScript, jQuery, php. Before run the project firstly I have to know that xampp is running or not. After all working done and I upload my site in server for excess everywhere.

## **CHAPTER 5**

### **IMPLEMENTATION AND TESTING**

After planning one point will come that is implementation and then testing. In this session I will discuss about implementation and testing in my project. Testing is require for knowing all the function of the project is working successfully or not.

#### **5.1 Implementation of Database**

In web application we store our all data in database. For that firstly install DBMS on the required hardware then create the database and load the data. Before implementation define the name of database then create the database and tables. In database data will decorate in column. One field can taken one categorize data. We can control our data by using code. We can edit, delete, insert data in our database.



## 5.2 Implementation of Front-end Design

For the front-end design we use html and CSS. Html use for design the web contents and CSS use for style all things. Front-end design means which design that we can see with our eyes. The front-end design are making by HTML, CSS, and JavaScript. In our web application i can use little bit HTML, CSS, and JavaScript. HTML are using for manage the content in application and CSS use for designing this contents and also make a better look. Here for responsive my web application I use bootstrap 4 version. Use JavaScript for working application in a smooth way, looking good and also user friendly. Because of using bootstrap user can access this application in any device.

## 5.3 Milestones and deadlines

Table 5.1: Milestones and deadlines

Milestone	Developer	Deadline	Status
Completing Users with Roles, Departments	Asraful Hoque	July 3, 2019	COMPLETED
Teachers & Courses	Asraful Hoque	July 12, 2019	COMPLETED
Rooms	Asraful Hoque	July 14, 2019	COMPLETED
Searching & Booking rooms	Asraful Hoque	July 22, 2019	COMPLETED
Debugging, Testing & Deploying	Asraful Hoque	July 25, 2019	COMPLETED

## 5.4 Testing Implementation

Table 5.2: Testing

Test case	Test input	Expected outcome	Obtained outcome	Pass / Fail	Tested date
1. Login	Various browser use for login	Login successfully	Successful login	Pass	07-25-19
2. Add department	Department name	Department name add successfully	Successfully added department name	Pass	07-25-19
3. Add course	Course code and name	Course code and name added successfully	Successfully added course code and name	Pass	07-26-19
4. Update user information	User information	User information updated successfully	Successfully updated user information	Pass	07-26-19
5. Add teacher	Teacher's information save	Teacher's information save successfully	Successfully add Teacher's information	Pass	07-27-19
6. Add empty rooms	Input empty room one by one	Empty rooms add successfully	Successfully added empty rooms	Pass	07-28-19
7. Update rooms status	Room status	Room status update successfully	Successfully update room status.	Pass	07-30-19
8. Internet connection	Connect through internet	Connect internet properly	Successfully connected	Pass	07-30-19

## **CHAPTER 6**

### **CONCLUSION AND FUTURE SCOPE**

#### **6.1 Discussion and Conclusion**

Finally, I completed my “classroom booking system” project. This project was a real learning experience for me. For finish this project I faced so many problem because I had little bit knowledge about php language and it’s working methodology. I think this project will help all university students and teachers for finding empty and request for that. I have been trying my best for implementing my idea. This system has made as user friendly as far as possible.

It was really a great learning experience for me and I can think a lot of smarter things now.

#### **6.2 Scope for Further Developments**

- More categories will be added.
- I will add more information about our organization.
- I will try to be more user friendly.
- In future I will be added chatbot, where user can communicate with admin for any needed.

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