



**UTM**  
UNIVERSITI TEKNOLOGI MALAYSIA

Department of Computer Science  
Faculty of Computing

## Individual Project

### Vehicle Booking System

<b>Programme</b>	:	Bachelor of Computer Science (Data Engineering)
<b>Subject Code</b>	:	SECP3723
<b>Subject Name</b>	:	System Development Technology
<b>Session-Sem</b>	:	2023/2024-1

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**Link** : [Link Project](#)

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## **1. System introduction**

### **1.1 System overview**

The Vehicle Booking System is designed to simplify vehicle reservations for customers while also ensuring that administrators manage the vehicle inventory efficiently. It is organized around two primary user roles: customers and administrators. Customers can quickly book vehicles, view their reservation history, search for bookings, modify or cancel reservations, and keep their profiles up to date. Admins, on the other hand, have a toolkit for efficiently managing vehicle inventory, processing bookings, and diving into a dashboard packed with helpful information.

### **1.2 System Users**

#### **a) Customer**

Customers are the primary users of the system who interact with the reservation functionalities, view their booking history, and manage their profiles.

#### **b) Admin**

Admins have access to functions that involve vehicle management, booking approval, and a dashboard providing an overview of the vehicle inventory and booking information.

## 2. System Design (ERD, Use Case)

### 2.1 Use Case diagram

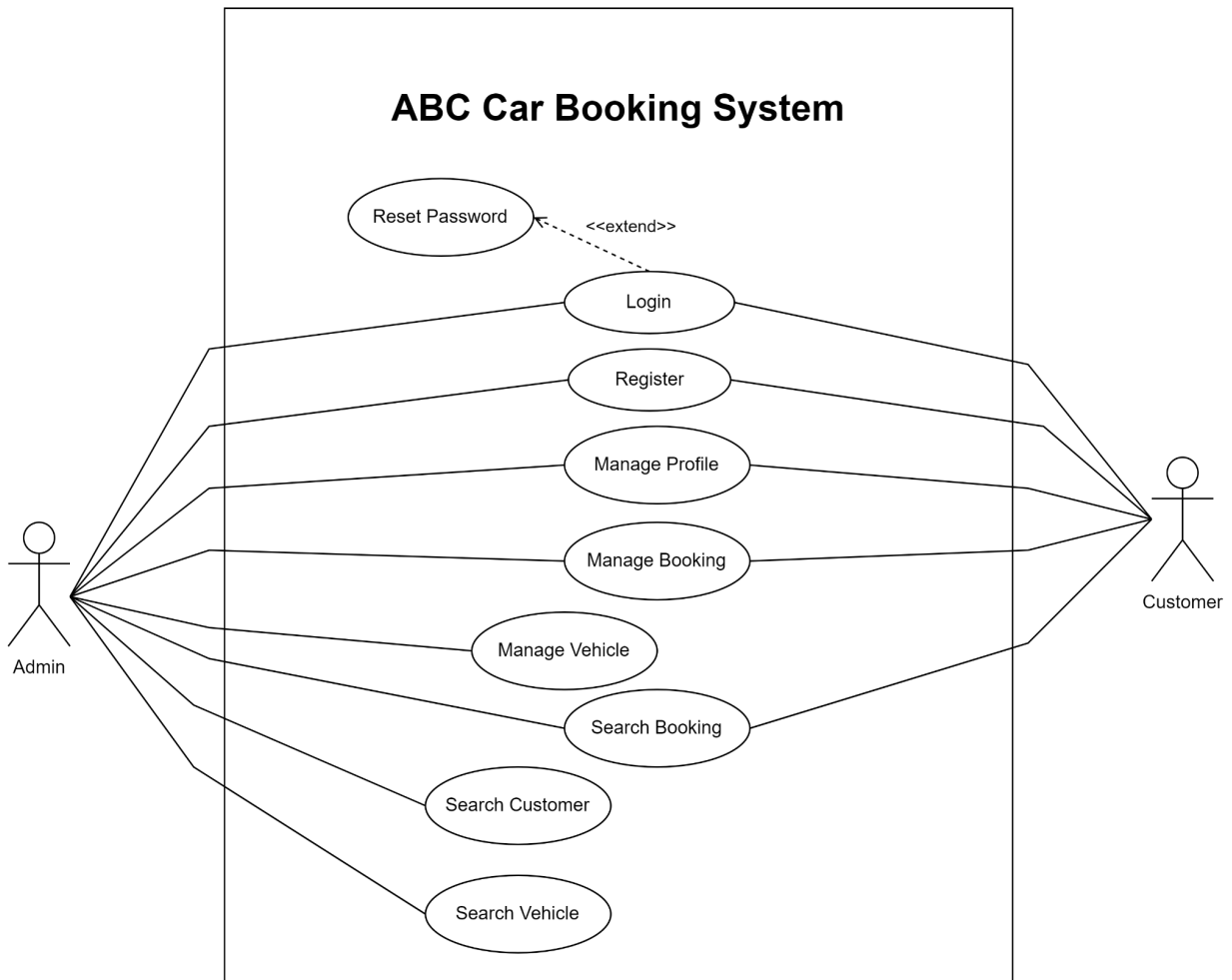


Figure 2.1 Use Case Diagram

## 2.2 Conceptual ERD

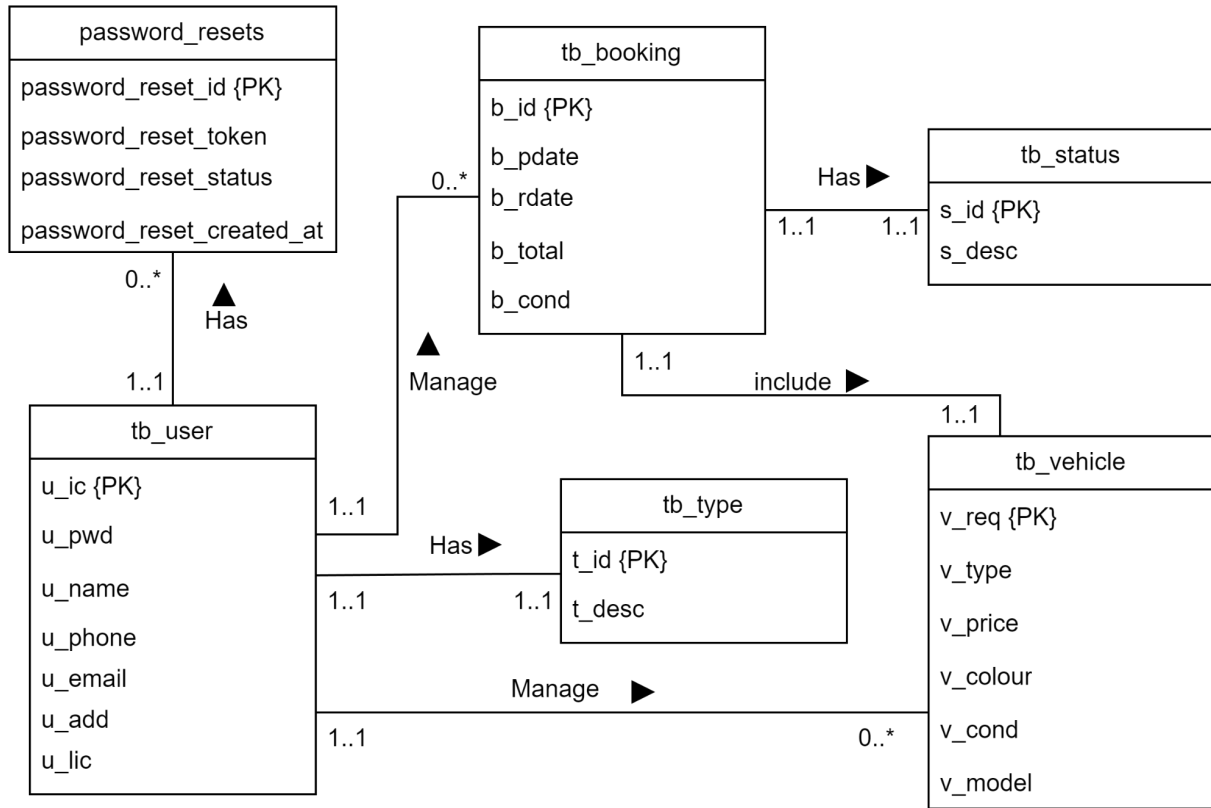


Figure 2.2 Conceptual ERD

### 3. Development Software, Language, Technology, and Tools (provide URL)

Aspect	Technology	Description
UML Diagrams	<a href="https://draw.io">draw.io</a>	draw.io, an adaptable online tool, facilitates the crafting of Unified Modeling Language (UML) diagrams. With support for various diagram types like class and use case diagrams, it serves as an excellent platform for visualizing and planning the architectural components of the Vehicle Booking System.
Database	MySQL ( <a href="https://www.phpmyadmin.net/">phpMyAdmin</a> )	MySQL, a widely used relational database management system, teams up with phpMyAdmin, a web-based management tool. This duo offers a robust and user-friendly environment for designing, organizing, and manipulating database structures and data within the AK Maju Xpress System.
System Template	Bootstrap <a href="https://startbootstrap.com/template/sb-admin#google_vignette">https://startbootstrap.com/template/sb-admin#google_vignette</a>	Leveraging the power of Bootstrap, a dynamic front-end framework, simplifies the creation of responsive and mobile-friendly web interfaces. With its pre-designed components like grids, forms, and navigation bars, Bootstrap ensures the development of visually appealing and consistent user interfaces.
Programming Languages	PHP, HTML, CSS, JavaScript, JSON	The combination of PHP for server-side scripting and HTML, CSS, JavaScript, and JSON for front-end development forms the backbone of the Vehicle Booking System. This ensemble enables the creation of dynamic and interactive web applications, fostering seamless communication between the server and the user's browser.
Hosting Provider	<a href="https://jimathosting.com/">Jimat Hosting</a>	As a dependable web hosting provider, Jimat Hosting offers a variety of hosting services. It provides the essential infrastructure for deploying and running web applications, ensuring their accessibility to users across the internet.

## 4. Database design (phpMyAdmin screenshot)

The screenshot shows the phpMyAdmin interface for the database 'akmajuxp\_farah\_db\_vbs'. The left sidebar shows the database structure with tables: password\_resets, tb\_booking, tb\_status, tb\_type, tb\_user, and tb\_vehicle. The main panel displays the 'Structure' tab for these tables.

Table	Action	Rows	Type	Collation	Size	Overhead
password_resets	Browse Structure Search Insert Empty Drop	5	InnoDB	utf8mb4_general_ci	32.0 KiB	-
tb_booking	Browse Structure Search Insert Empty Drop	7	InnoDB	utf8mb4_general_ci	64.0 KiB	-
tb_status	Browse Structure Search Insert Empty Drop	3	InnoDB	utf8mb4_general_ci	16.0 KiB	-
tb_type	Browse Structure Search Insert Empty Drop	2	InnoDB	utf8mb4_general_ci	16.0 KiB	-
tb_user	Browse Structure Search Insert Empty Drop	3	InnoDB	utf8mb4_general_ci	32.0 KiB	-
tb_vehicle	Browse Structure Search Insert Empty Drop	9	InnoDB	utf8mb4_general_ci	16.0 KiB	-
<b>6 tables</b>	<b>Sum</b>	<b>29</b>	<b>InnoDB</b>	<b>latin1_general_ci</b>	<b>176.0 KiB</b>	<b>0 B</b>

Figure 4.1 phpMyAdmin screenshot

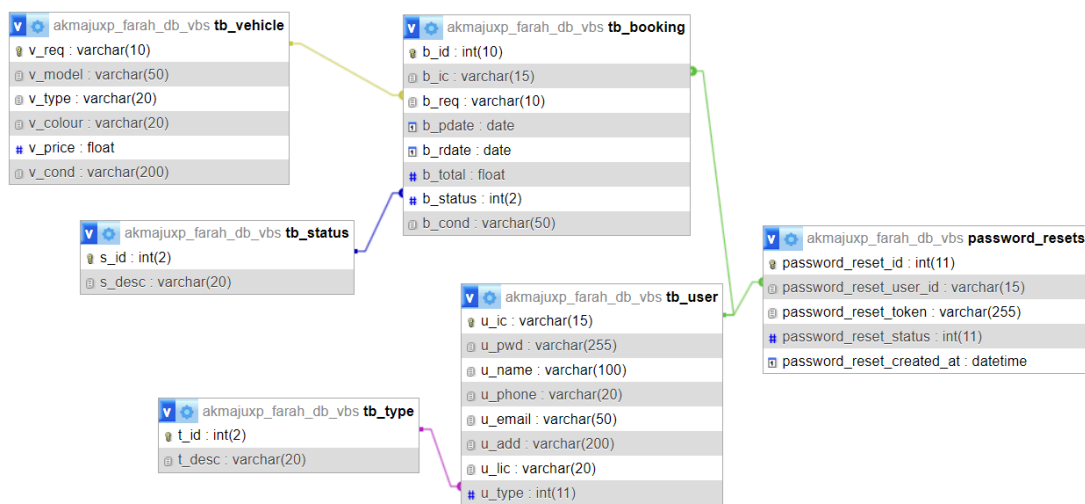


Figure 4.2 Screenshot of the designer in phpMyAdmin

## 5. Development Steps

Step	Phase	Description
1	Requirements Gathering	Identify specific requirements of customers and administrators. Define core functionalities, such as reservation processes and user roles.
2	System Design	Create Entity Relationship Diagram (ERD) for database structure. Design user interfaces with user-friendly navigation.
3	Database Setup	Implement tables for customers, vehicles, and reservations. Establish relationships between tables.
4	User Authentication and Authorization	Define user roles and set up authorization mechanisms.
5	Reservation Functionality	Develop a reservation process, considering availability and pricing. Implement modification and cancellation features.
6	Vehicle inventory	Create functionalities for managing vehicle inventory where the admin can make a vehicle inactive or active.
7	User Profiles	Design edit user profile pages with security measures.
8	Develop admin features	Implement an admin dashboard with key metrics.
	Confirmation and Verification	Implement confirmation and verification messages when customers cancel a booking and when staff delete a vehicle.
9	Security Measures	Implement measures to prevent SQL injection.
10	UI Enhancements	Refine UI based on the HCI principle. Ensure responsiveness on different devices.



## 6. System Interface for All Users

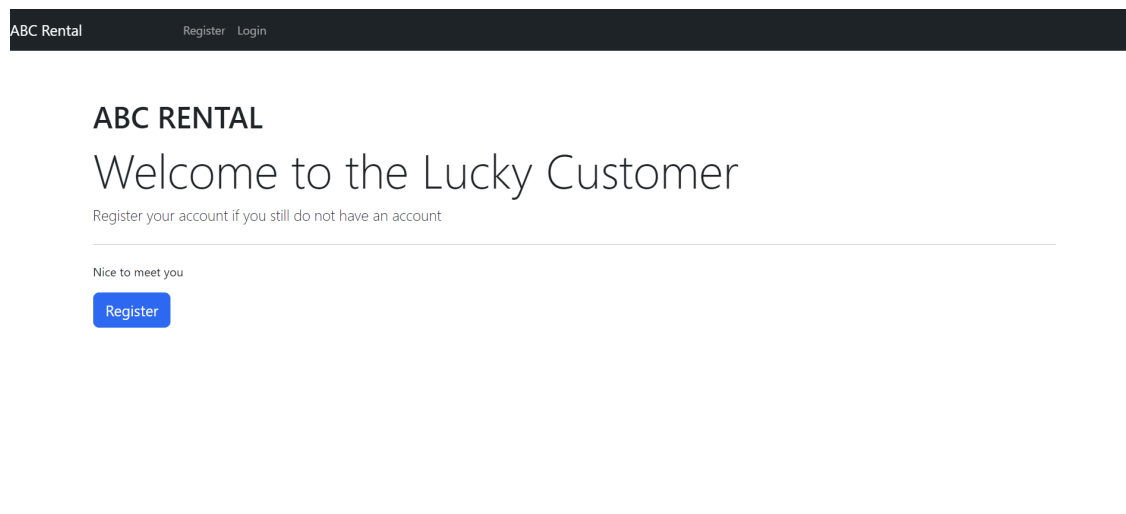
### 6.1 Index page

#### Index page:



- If click on the “ABC Car Rental System” or “Final Test” on the upper nav bar will navigate to the Car booking system
- If click “Assignment 1” on the upper nav bar will navigate to the assignment 1

#### Car booking system:



## 6.2 User Authentication

### Register:

ABC Rental

RegisterLogin

Create Account

IC Number

IC number without dash (-)

Full Name

Full name according to IC

Password

Password

Confirm Password

Confirm Password

Email Address

Enter email

We'll never share your email with anyone else.

License No

Include your License No.

Phone Number

Include your phone No.

Address

Register

Clear

### Login:

ABC Rental

RegisterLogin

Login

IC Number

Password

☐ Remember Password

[Forgot Password?](#)

Login

[Need an account? Sign up!](#)

## Forgot Password:

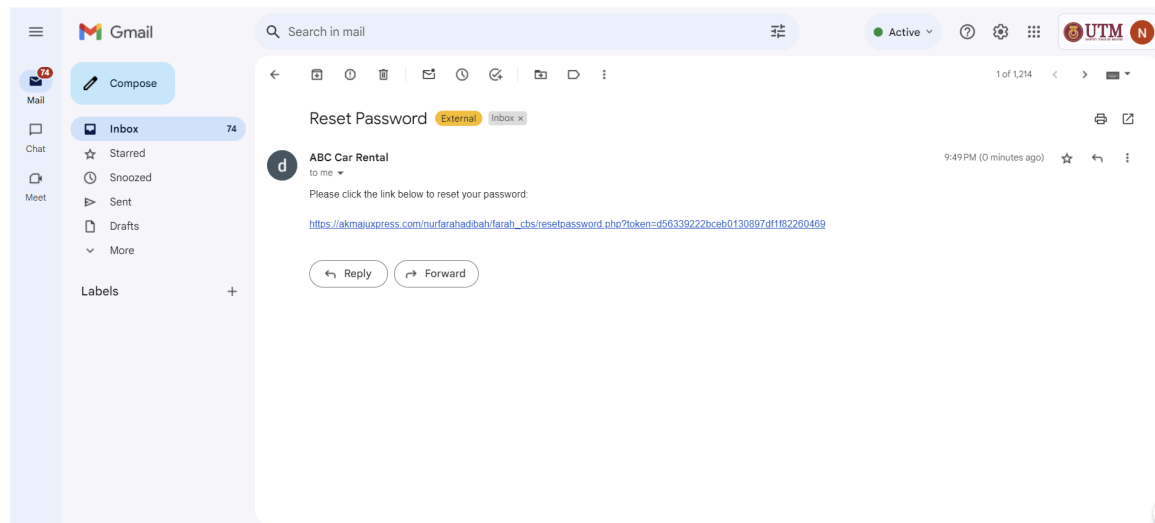
ABC Rental [Register](#) [Login](#)

### Forgot Your Password?

We get it, stuff happens. Just enter your email address below and we'll send you a link to reset your password!

Reset Password

[Create an Account!](#)  
[Already have an account? Login!](#)



## Reset Password:

ABC Rental [Register](#) [Login](#)

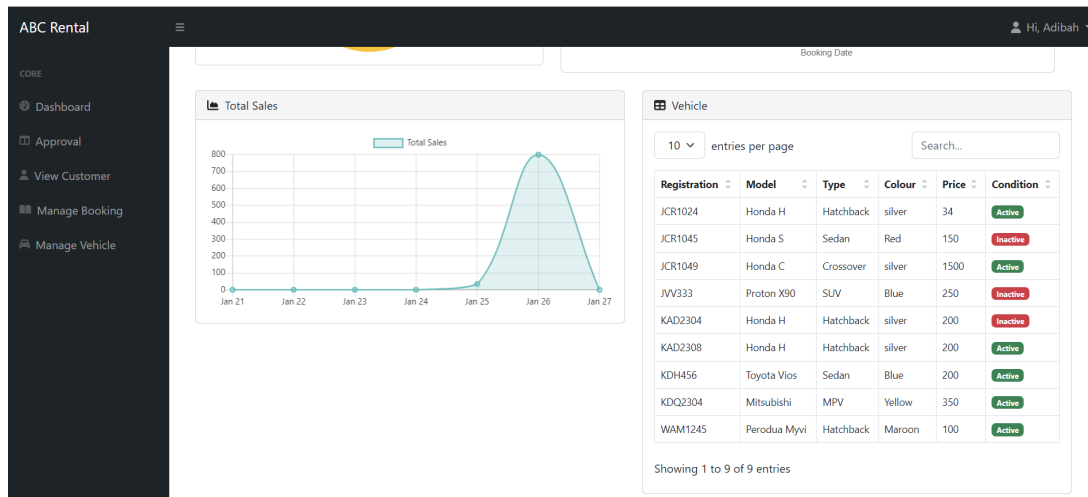
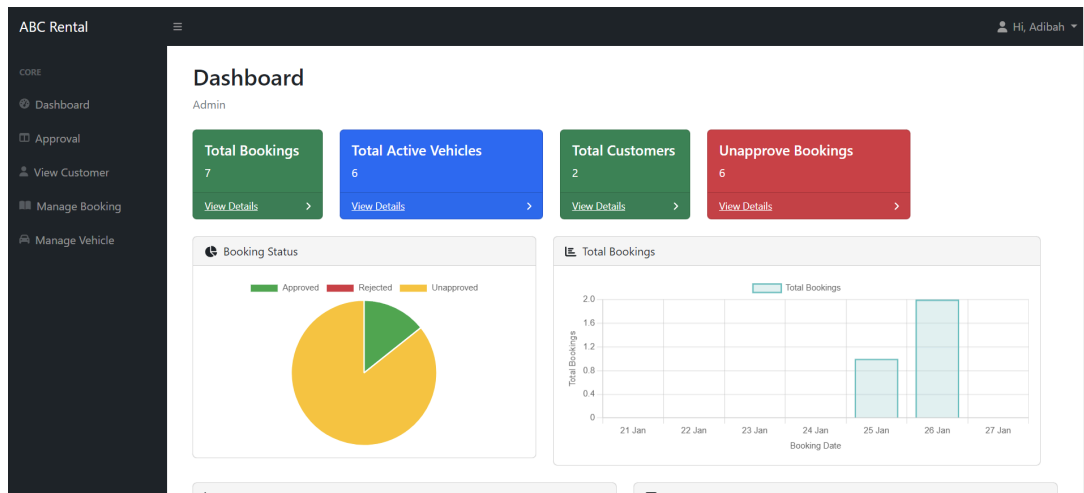
### Reset Password

Reset Password

[Back to Login](#)

## 6.2 Admin

### Admin Dashboard:



## Edit Profile:

ABC Rental

Hi, Adibah

CORE

Dashboard

Approval

View Customer

Manage Booking

Manage Vehicle

Edit Profile Form

IC Number

031215031215

Full Name

Adibah

Phone Number

0174290127

Email Address

nurfarahadibah@graduate.utm.my

License No

88787878

We'll never share your email with anyone else.

Address

Kampung Dato Syed Ahmad 2

Save

Clear

Approval:

ABC Rental

Hi, Adibah

CORE

Dashboard

Approval

View Customer

Manage Booking

Manage Vehicle

New Booking

10 entries per page

Search...

Booking ID	Customer ID	Vehicle	Pickup Date	Return Date	Total Rent	Operation
152	030303121215	Honda H	2024-01-28	2024-01-30	68	Approval
153	030303121215	Toyota Vios	2024-01-26	2024-01-28	400	Approval
154	031215151515	Honda H	2024-01-25	2024-01-26	34	Approval
155	031215151515	Toyota Vios	2024-01-26	2024-01-28	400	Approval
156	031215151515	Mitsubishi	2024-01-28	2024-01-31	1050	Approval
157	031215151515	Honda C	2024-01-28	2024-01-30	3000	Approval

Showing 1 to 6 of 6 entries

ABC Rental

Hi, Adibah

CORE

Dashboard

Approval

View Customer

Manage Booking

Manage Vehicle

Bookings Details

Booking ID	152
User ID	030303121215
User Name	Farah Adibah
Vehicle ID	JCR1024
Vehicle Model	Honda H
Pickup Date	2024-01-28
Return Date	2024-01-30
Price Per Day	34
Total Price	68
Approval	Approved
	Approval

Manage Booking:

ABC Rental

CORE

Dashboard

Approval

View Customer

Manage Booking

Manage Vehicle

Hi, Adibah

Current Booking

10 entries per page

Search...

Booking ID	Customer ID	Vehicle	Pickup Date	Return Date	Total Rent	Status	Condition	Operation
151	030303121215	Honda S	2024-02-04	2024-02-06	300	Active	Approved	Update
152	030303121215	Honda H	2024-01-28	2024-01-30	68	Cancelled	Approved	Update

Showing 1 to 2 of 2 entries

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Customer Info:

ABC Rental

CORE

Dashboard

Approval

View Customer

Manage Booking

Manage Vehicle

Hi, Adibah

Customer Details

10 entries per page

Search...

Name	Phone	Email	IC
Farah Adibah	0174290123	diebah.work111@gmail.com	030303121215
Aiman Tino	0174290145	aimantino@gmail.com	031215151515

Showing 1 to 2 of 2 entries

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## Manage Vehicle:

ABC Rental

Hi, Adibah

CORE

Dashboard

Approval

View Customer

Manage Booking

Manage Vehicle

Vehicle Details

Add Vehicle

10 entries per page

Search...

Registration	Model	Type	Colour	Price	Condition	Operation
JCR1024	Honda H	Hatchback	silver	34	Active	<div><div></div><div></div><div></div></div>
JCR1045	Honda S	Sedan	Red	150	Inactive	<div><div></div><div></div><div></div></div>
JCR1049	Honda C	Crossover	silver	1500	Active	<div><div></div><div></div><div></div></div>
JVW333	Proton X90	SUV	Blue	250	Inactive	<div><div></div><div></div><div></div></div>
KAD2304	Honda H	Hatchback	silver	200	Inactive	<div><div></div><div></div><div></div></div>
KAD2308	Honda H	Hatchback	silver	200	Active	<div><div></div><div></div><div></div></div>
KDH456	Toyota Vios	Sedan	Blue	200	Active	<div><div></div><div></div><div></div></div>

## Add Vehicle:

ABC Rental

Hi, Adibah

CORE

Dashboard

Approval

View Customer

Manage Booking

Manage Vehicle

Add Vehicle Form

Registration number

Vehicle registration number without space

Model

Enter the model of the vehicle

Type

Select car type

Colour

Enter the colour of the vehicle

Price Per Day (RM)

Enter the price per day (RM)

Save

Clear



## Edit Vehicle:

ABC Rental Hi, Adibah

CORE

- Dashboard
- Approval
- View Customer
- Manage Booking
- Manage Vehicle

### Edit Vehicle Form

Registration number	Model
JCR1024	Honda H
Type	Colour
Hatchback	silver
Price Per Day (RM)	
34	
<button>Save</button>	<button>Clear</button>

## Delete Vehicle Confirmation:

ABC Rental Hi, Adibah

CORE

- Dashboard
- Approval
- View Customer
- Manage Booking
- Manage Vehicle

10 entries per page Search...

Registration	Model	Type	Colour	Price	Condition	Operation
JCR1024	Honda H	Hatchback	silver	34	Active	<button>Edit</button> <button>Delete</button> <button>Check</button>
JCR1045	Honda H	Hatchback	silver	34	Inactive	<button>Edit</button> <button>Delete</button> <button>Check</button>
JCR1049	Honda H	Hatchback	silver	34	Active	<button>Edit</button> <button>Delete</button> <button>Check</button>
JVW333	Proton	Hatchback	silver	34	Inactive	<button>Edit</button> <button>Delete</button> <button>Check</button>
KAD2304	Honda H	Hatchback	silver	34	Inactive	<button>Edit</button> <button>Delete</button> <button>Check</button>
KAD2308	Honda H	Hatchback	silver	34	Active	<button>Edit</button> <button>Delete</button> <button>Check</button>
KDH456	Toyota	Hatchback	silver	34	Active	<button>Edit</button> <button>Delete</button> <button>Check</button>
KDQ2304	Mitsubishi	MPV	Yellow	350	Active	<button>Edit</button> <button>Delete</button> <button>Check</button>
WAM1245	Perodua Myvi	Hatchback	Maroon	100	Active	<button>Edit</button> <button>Delete</button> <button>Check</button>

Showing 1 to 9 of 9 entries

Are you sure you want to inactivate this vehicle?

You might't be able to revert this!

Yes, delete it! Cancel

Activate Vehicle Confirmation:

ABC Rental

Hi, Adibah

10

entries per page

Search...

Registration	Model	Type	Colour	Price	Condition	Operation
JCR1024	Honda H	Hatchback	silver	34	Active	<div><div></div><div></div><div></div></div>
JCR1045	Honc				Inactive	<div><div></div><div></div><div></div></div>
JCR1049	Honc				Active	<div><div></div><div></div><div></div></div>
JWV333	Prot				Inactive	<div><div></div><div></div><div></div></div>
KAD2304	Honc				Inactive	<div><div></div><div></div><div></div></div>
KAD2308	Honc				Active	<div><div></div><div></div><div></div></div>
KDH456	Toyot				Active	<div><div></div><div></div><div></div></div>
KDQ2304	Mitsubishi	MPV	Yellow	350	Active	<div><div></div><div></div><div></div></div>
WAM1245	Perodua Myvi	Hatchback	Maroon	100	Active	<div><div></div><div></div><div></div></div>

Showing 1 to 9 of 9 entries

i

Are you sure?

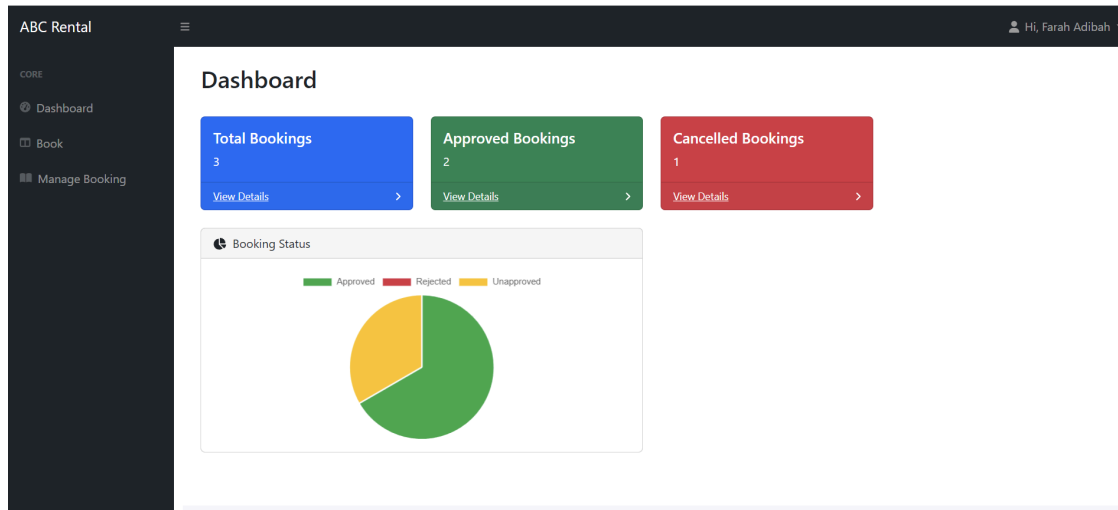
Do you want to activate this vehicle?

Yes, activate it!

Cancel

## 6.2 Customer

### Dashboard:



### Booking Form:

The booking form is titled "Booking Form" and includes a "Modify Form" section with the following fields:

- Select vehicle: Honda S, RM150
- Select Pickup Date: 04/02/2024
- Select Return Date: 06/02/2024

Buttons: [Modify](#) (Yellow), [Reset](#) (Black)

Booking Details:

ABC Rental

Hi, Aleysha

CORE

Dashboard

Book

Manage Booking

Thank You for your booking. Here's your booking details

Customer ID: 1212121212

Vehicle: JCR1024

Pickup date: 2024-01-27

Return date: 2024-02-03

Duration: 7

Total Price: 238

Status: Received

Manage Booking, View Current and Past Reservation:

ABC Rental

Hi, Farah Adibah

CORE

Dashboard

Book

Manage Booking

Add Booking

Booking

10 entries per page

Search...

Booking ID	Vehicle	Pickup Date	Return Date	Total Rent	Status	Condition	Operation
151	Honda S	2024-02-04	2024-02-06	300	Approved	Active	<div><div></div><div></div></div>
152	Honda H	2024-01-28	2024-01-30	68	Approved	Cancelled	<div><div></div><div></div></div>
153	Toyota Vios	2024-01-26	2024-01-28	400	Received	Active	<div><div></div><div></div></div>

Showing 1 to 3 of 3 entries

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## Cancel Booking Confirmation:

The screenshot shows the ABC Rental dashboard with a modal dialog for canceling a booking. The dashboard includes a sidebar with navigation links (Dashboard, Book, Manage Booking), a top bar with the user name 'Hi, Farah Adibah', and a main content area with a table of bookings. The modal dialog is centered and contains a warning icon, the text 'Are you sure?', a warning message, and two buttons: 'Yes, cancel it!' and 'Cancel'.

ABC Rental

Hi, Farah Adibah

CORE

Dashboard

Book

Manage Booking

Add Booking







Booking

10 entries per page

Booking ID	Vehicle
151	Honda S
152	Honda H
153	Toyota Vios

Showing 1 to 3 of 3 entries

Search...

Status	Condition	Operation
Approved	Active	 
Approved	Cancelled	 
Received	Active	 

Are you sure?

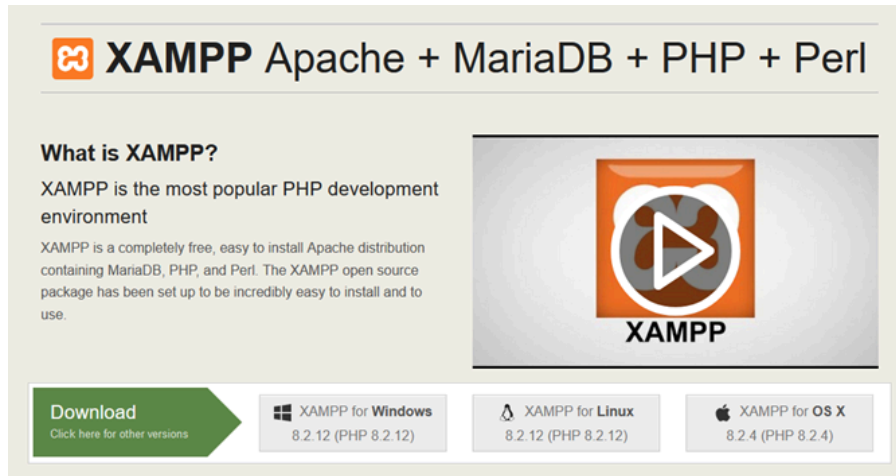
You will not be able to recover this booking!

Yes, cancel it! Cancel

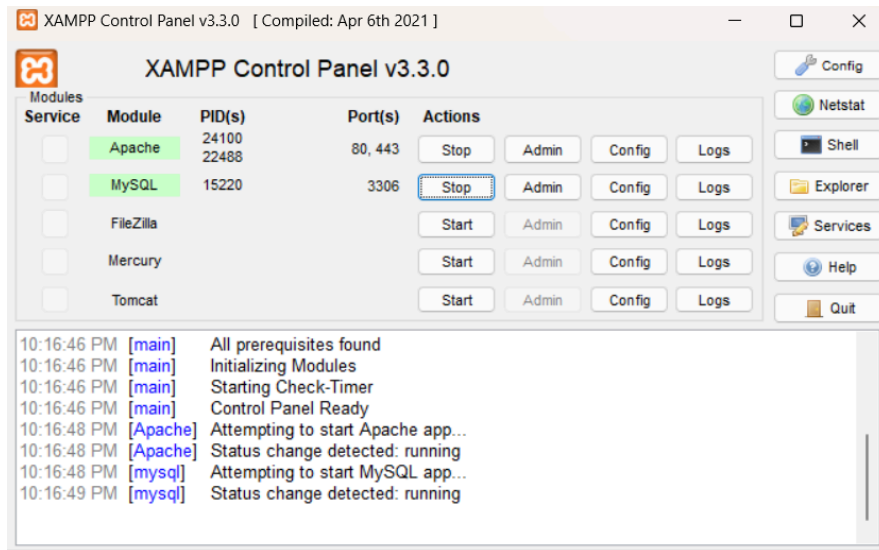
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## 7. Localhost Setup (<http://localhost/nurfarahadibah/>)

### 1. Download Local Server environment

















### 2. Start local server



3. Verify setup (<http://localhost>)

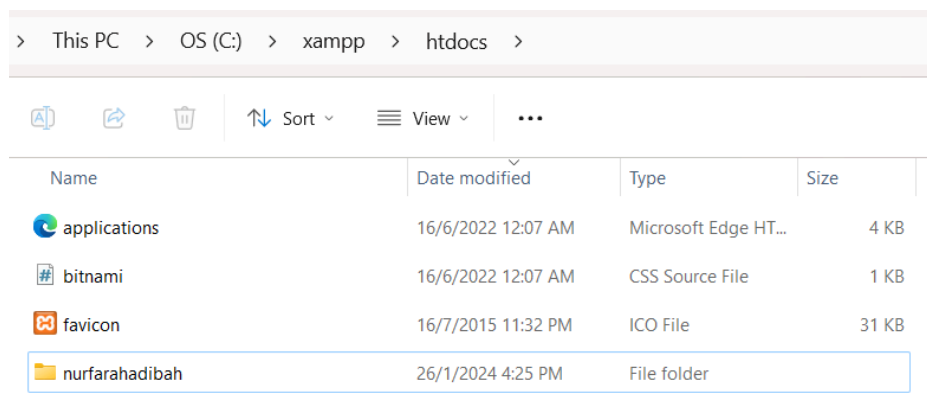
## Index of /

<a href="#">Name</a>	<a href="#">Last modified</a>	<a href="#">Size</a>	<a href="#">Description</a>
 <a href="#">Farah/</a>	2024-01-23 19:52	-	
 <a href="#">akmaju/</a>	2024-01-10 23:34	-	
 <a href="#">akmaju2/</a>	2024-01-10 23:34	-	
 <a href="#">applications.html</a>	2022-06-16 00:07	3.5K	
 <a href="#">bitnami.css</a>	2022-06-16 00:07	177	
 <a href="#">cbs/</a>	2024-01-22 03:46	-	
 <a href="#">cbs_old/</a>	2024-01-21 14:00	-	
 <a href="#">dashboard/</a>	2023-11-19 19:10	-	
 <a href="#">farah_cbs/</a>	2024-01-25 21:36	-	
 <a href="#">favicon.ico</a>	2015-07-16 23:32	30K	
 <a href="#">img/</a>	2024-01-10 20:52	-	
 <a href="#">nurfarahadibah/</a>	2024-01-26 16:11	-	
 <a href="#">webalizer/</a>	2024-01-10 20:52	-	
 <a href="#">xampp/</a>	2024-01-10 20:52	-	

Apache/2.4.58 (Win64) OpenSSL/3.1.3 PHP/8.2.12 Server at localhost Port 80

- Click nurfarahadibah

4. Document Root: C:\xampp\htdocs



5. Download the db\_cbs.sql and create a new database in <http://localhost/phpmyadmin/> with db\_cbs as its name.

## 8. URL

Webhosting: [Link](#)

Localhost: [Link](#)

## 9. User credentials

Admin	Customer
IC: 031215031215	IC: 030303121215
Password: farah101	Password: farahfarah