

# Java Developer Summative Project

## User Guide of VVS Car Rental Portal

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**17<sup>th</sup> May 2021**

## Introduction

This document serves as a simple user guide on how to navigate and use the portal. Some simple test cases have been done as well to test certain functionalities of the portal. The Car Rental Portal is the main project requirement as the car management system while the Customer Portal is just an add-on to the main project. Both the sites are linked (sharing the same database) so any bookings made on the Customer portal will be reflected on the Car Rental Portal as well.

Both applications are currently hosted on Heroku.

Car Rental Portal → <https://vvs-car-rental.herokuapp.com>

Customer Portal → <https://vvs-customer-portal.herokuapp.com>

Here are the login credentials for the Car Rental Portal hosted on Heroku: -

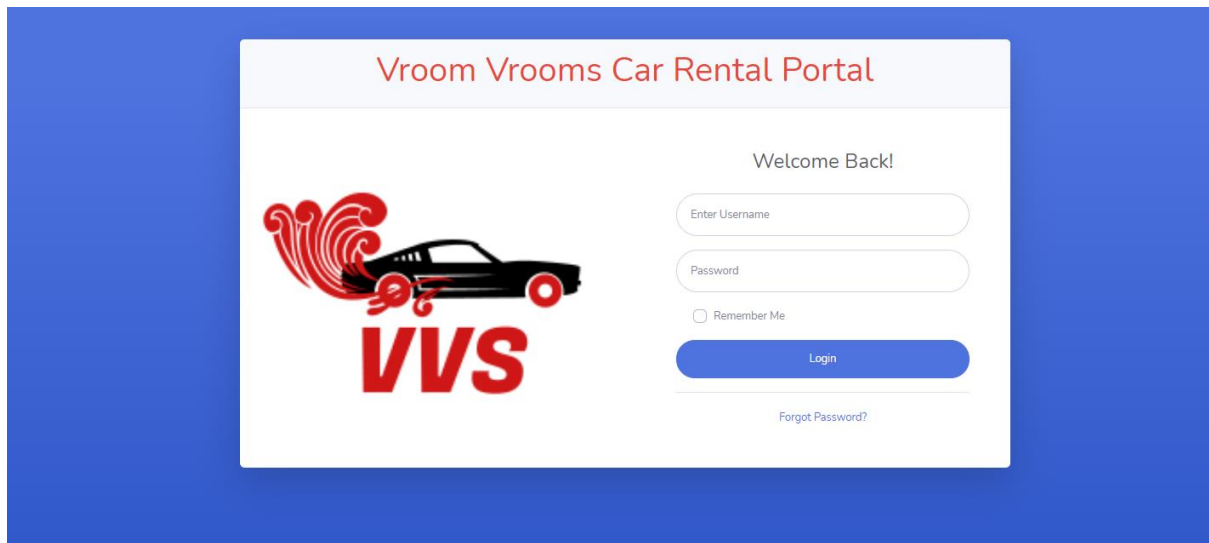
Username	Password	Roles
admin	password123	Admin
manager	password123	Manager
user2	password123	User

Do note that any new user created in the portal has a default password of “password123”. New user will be able to change their password when they login to their own account.

For local runtime of the application, do note that you will have to create a user with an Admin role in your SQL database. Application properties will also have to be edited to your own settings.

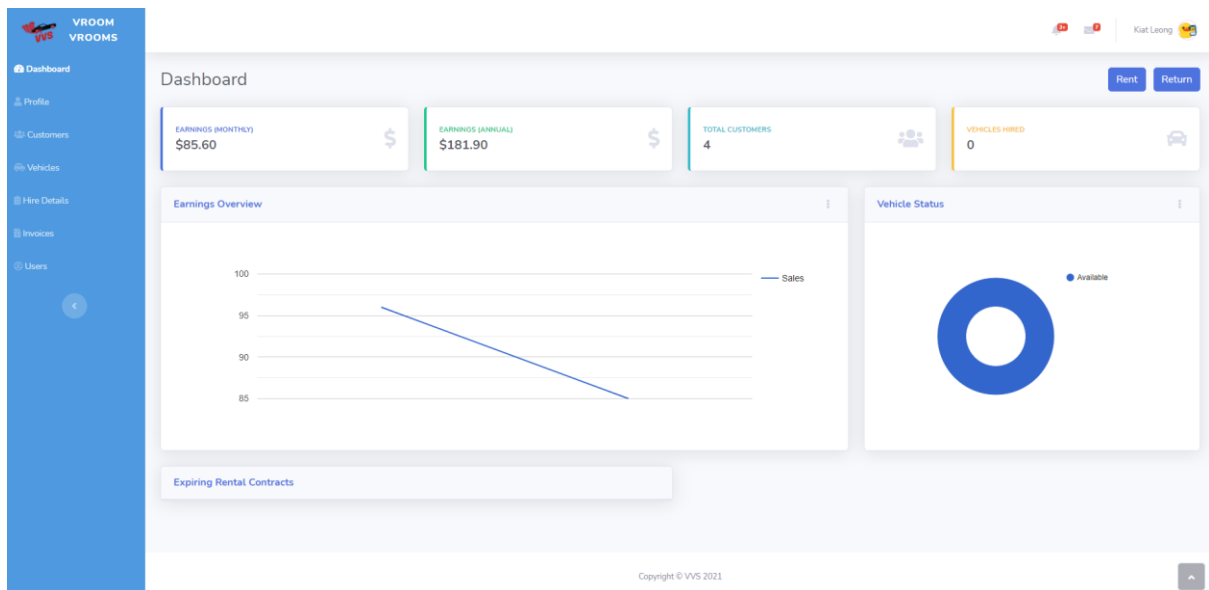
## Login Page

When the application is loaded, you will always see the login page first as login is required before accessing the portal. Login with the credentials provided in the introduction above.



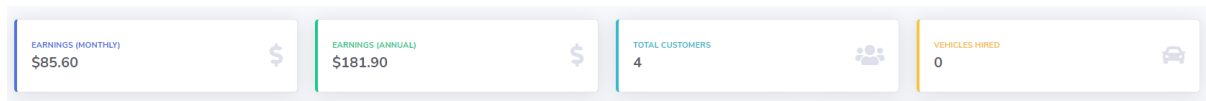
Forgot password function as of now is not working yet.

Once you are logged in, you should see the dashboard.

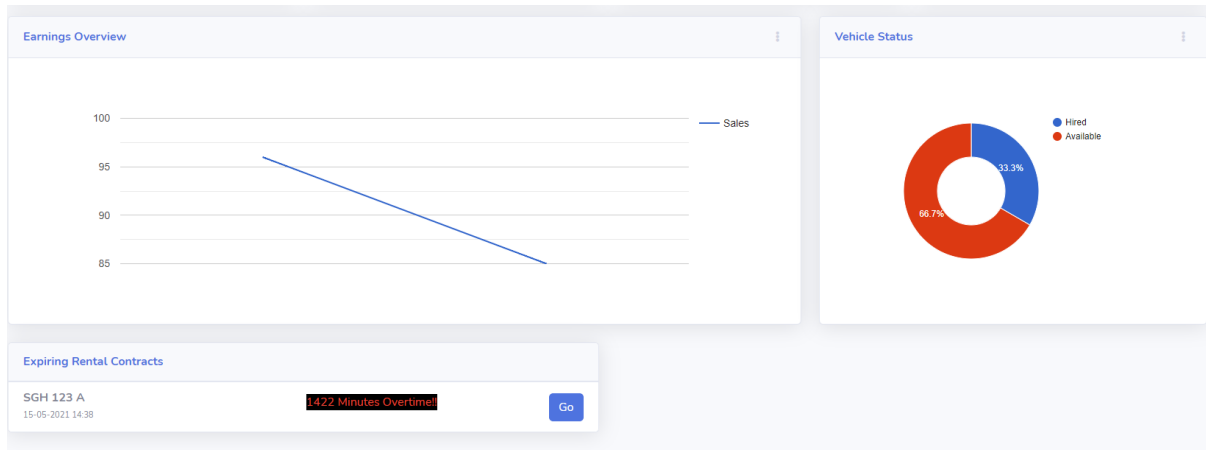


## Dashboard

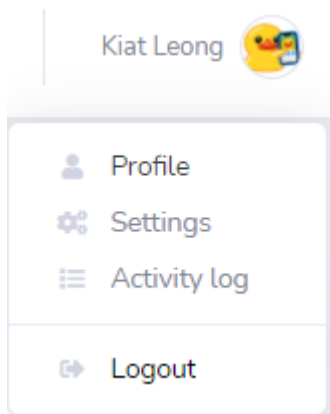
There are a few things in the dashboard. Firstly, the navigation bar is on the left, where you can navigate to different pages like customers, vehicles and invoice etc. This navigation bar will be on all pages in the application.



The 4 boxes here show the following: monthly earnings, annual earnings, total customers and vehicles. These will be updated as the values change in the database.



The next 3 boxes display earnings overview over the year, current vehicle status and expiring rental contracts. The expiring contracts will only display when the time to the end of contract is 1 hour away.




When you click on your own name, a dropdown like this will appear. Currently only the profile and logout have active links, where by profile will bring you to your profile page and logout will log you out of the application.

## Profile

Next is the profile page. This is what you should see when you navigate to the profile page.

Profile



Change Photo

Reset Password

User Settings

Username

admin

Job Title

Front Desk

Full Name

Kiat Leong

Date Of Birth

01/01/1991

Contact Settings

Address

543 Crafholic Avenue

Contact No

97979797

Email

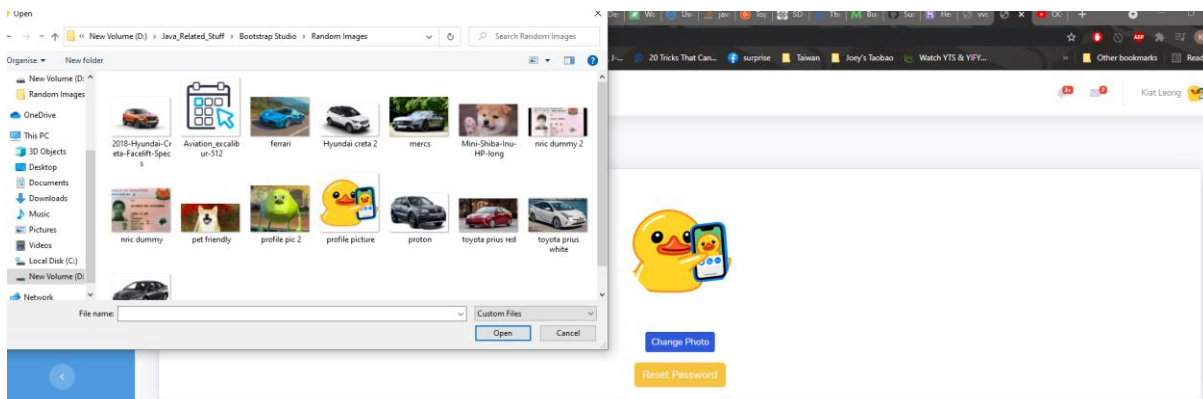
admin@vvs.com

Edit Contact


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On the profile page, user is only allowed to update his/her profile picture, password and contact settings. For the user settings, the user will have to contact the admin of the portal to update/amend the user details.

When the user clicks on change photo, a file system window will pop up, allowing user to select the picture he/she wants as his/her profile picture.

A screenshot of a web browser displaying the profile page. A Windows File Explorer window is open over the page, showing a folder named 'Random Images' containing various car and animal pictures. The profile page in the background shows the 'Change Photo' button, which has been clicked to open the file explorer. The user's profile information, including username 'admin', job title 'Front Desk', full name 'Kiat Leong', and date of birth '01/01/1991', is visible in the 'User Settings' section. The 'Contact Settings' section shows an address, contact number, and email.

Once the user selects the preferred picture, the new picture will be displayed and user has to click on "Save Photo" to save the picture.




Save Photo

Reset Password

Upon clicking save, a success message in green should appear as shown below.

Profile

The Profile Picture has been saved successfully !



Change Photo

Reset Password

When the user clicks on “Edit Contact”, the fields will become editable and the user can edit the fields in the contact settings.

Contact Settings

Save Details

Address

543 Crafftholic Avenue

Contact No


97979797

Email

admin@vvs.com

Once done, the user has to click on “Save Details” to update the settings. Upon saving, a success message in green should appear as shown below.

The Contact Details have been updated !



Change Photo

Reset Password

User Settings

Username

admin

Job Title

Front Desk

Full Name

Kiat Leong

Date Of Birth

01/01/1991

Contact Settings

Edit Contact

## Customer

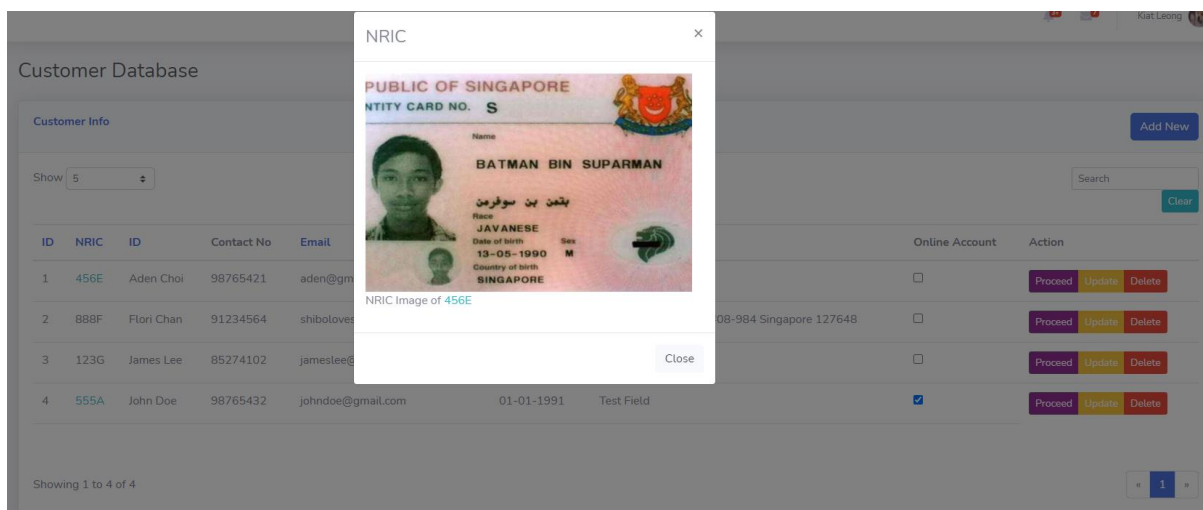
This page should display when the user navigates over to the customer page.

Customer Database								
Customer Info								Add New
Show 5				Search		Clear		
ID	NRIC	ID	Contact No	Email	Date of Birth	Address	Online Account	Action
1	456E	Aden Choi	98765421	aden@gmail.com	01-01-1991	ABC 12334	<input type="checkbox"/>	Proceed Update Delete
2	888F	Flori Chan	91234564	shibolovesyou@craftholic.com	27-01-1998	584 Craftholic Ave 1 #08-984 Singapore 127648	<input type="checkbox"/>	Proceed Update Delete
3	123G	James Lee	85274102	jameslee@gmail.com	01-01-1988	Buger St Blk 888	<input type="checkbox"/>	Proceed Update Delete
4	555A	John Doe	98765432	johndoe@gmail.com	01-01-1991	Test Field	<input checked="" type="checkbox"/>	Proceed Update Delete
Showing 1 to 4 of 4								

Here are some functions that are on this page.

First user is able to select the number of records to be displayed on the page. They are also able to search for specific records base on the columns (other than the online account). User is also able to sort the records based on the ID, NRIC, Email and Address (the words are in blue if they are sortable). Customer who has created an online account in the Customer Portal will have the online account column checked. Do note that the function for online account has not been fully developed yet (if customer has an account registered in the Car Rental Portal, the customer might not be able to create an account in the Customer Portal if their email record is found in the database.)

If there is an NRIC image attached to the customer, user will be able to view the attached NRIC by clicking on the NRIC number in the NRIC column.



In the Action column, there are 3 buttons [Proceed, Update, Delete]. Process for the proceed procedure will be described in a section later on. User will be able to update the customer record. Upon clicking Update, the customer form will be displayed. [Take note both the Add New and Update shares the same form, with the only difference being the Add New shows a new empty form where as update shows the record of the selected customer.]

Customer Form

Name

NRIC (Last 4 characters)

Upload NRIC Choose File No file chosen

Email

Address

Contact No

Date Of Birth

Submit

Cancel

User can update any of the fields in the form. Upon submitting, user will be redirected back to the customer page, with a success message displayed as shown below.

Customer Database
The Entry has been added successfully!

Customer Info
Add New

Show 5

Clear

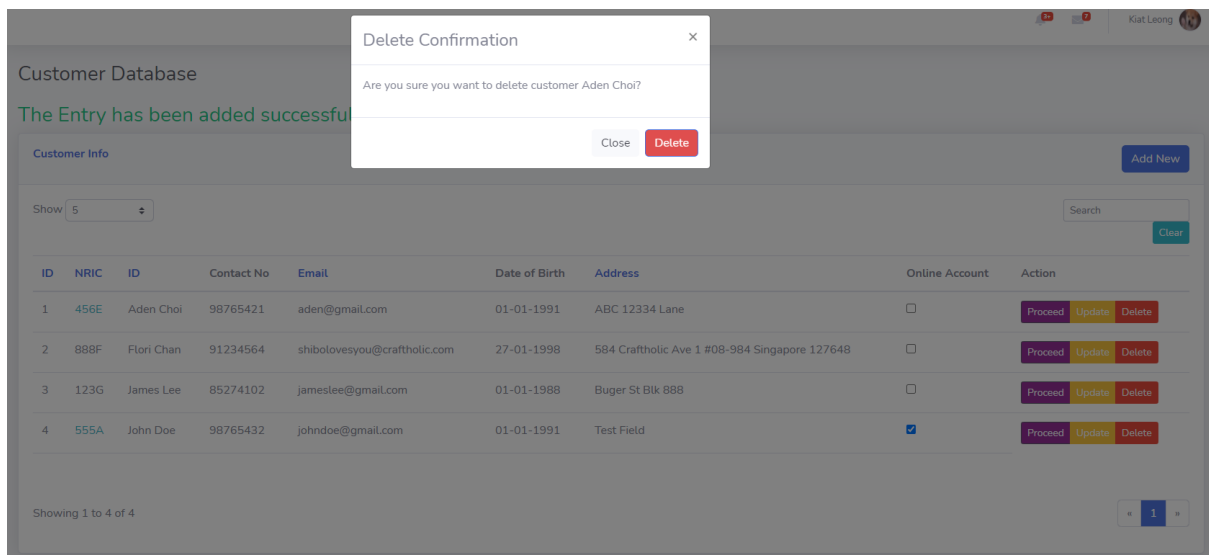
ID	NRIC	ID	Contact No	Email	Date of Birth	Address	Online Account	Action
1	456E	Aden Choi	98765421	aden@gmail.com	01-01-1991	ABC 12334 Lane	<input type="checkbox"/>	<span style="background-color: #6f42c1; color: white; padding: 2px 5px;">Proceed</span> <span style="background-color: #ffc107; color: white; padding: 2px 5px;">Update</span> <span style="background-color: #dc3545; color: white; padding: 2px 5px;">Delete</span>
2	888F	Flori Chan	91234564	shibolovesyou@craftholic.com	27-01-1998	584 Craftholic Ave 1 #08-984 Singapore 127648	<input type="checkbox"/>	<span style="background-color: #6f42c1; color: white; padding: 2px 5px;">Proceed</span> <span style="background-color: #ffc107; color: white; padding: 2px 5px;">Update</span> <span style="background-color: #dc3545; color: white; padding: 2px 5px;">Delete</span>
3	123G	James Lee	85274102	jameslee@gmail.com	01-01-1988	Buger St Blk 888	<input type="checkbox"/>	<span style="background-color: #6f42c1; color: white; padding: 2px 5px;">Proceed</span> <span style="background-color: #ffc107; color: white; padding: 2px 5px;">Update</span> <span style="background-color: #dc3545; color: white; padding: 2px 5px;">Delete</span>
4	555A	John Doe	98765432	johndoe@gmail.com	01-01-1991	Test Field	<input checked="" type="checkbox"/>	<span style="background-color: #6f42c1; color: white; padding: 2px 5px;">Proceed</span> <span style="background-color: #ffc107; color: white; padding: 2px 5px;">Update</span> <span style="background-color: #dc3545; color: white; padding: 2px 5px;">Delete</span>

Showing 1 to 4 of 4

«
1
»

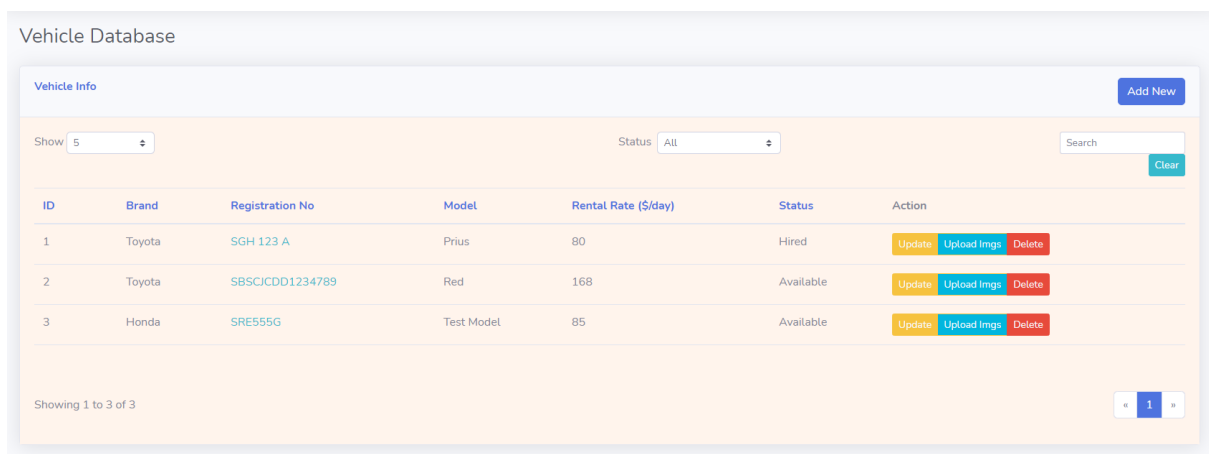
If user wants to delete a customer record, user can click on delete. (Do note, customer record cannot be deleted if the customer has at least booked a car before.)





## Vehicle

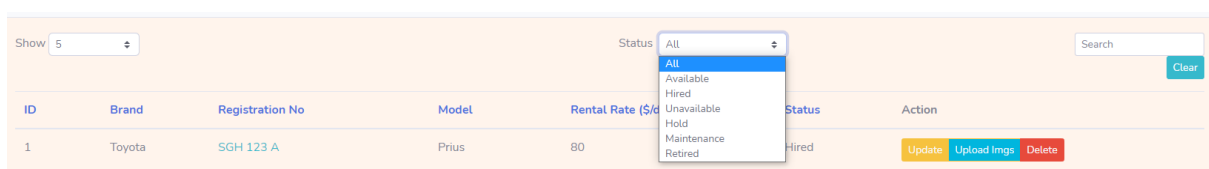
In the vehicle page, this page should be displayed upon loading.



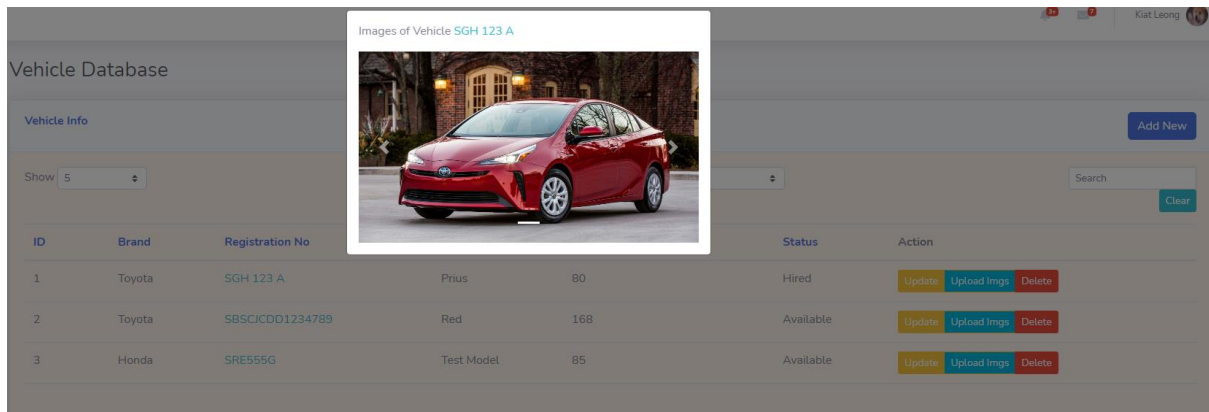
Here are the functions available in this page.

Same as before, user is able to select how many records to display per page. User is also able to search for records base on keyword typed in the search box. User can also sort the records based on the ID, Brand, Registration Number, Model, Rental Rate and Status.

In this page, user is able to filter the vehicles based on the status of the vehicles for instance, if Available is selected, only vehicles with "Available" status will be displayed on the page.



If images of the vehicles are uploaded, user is able to click on the registration number (it will be a clickable link). If there are multiple images of the vehicle, user can scroll through the images by clicking on the arrow in the carousel as shown below.



In this section, only users with Manager or Admin role are able to create new record, update or delete existing records. Adding new record and updating existing record shares the same form, where the Add New form will display an empty form and the Update will display the form with details of the selected record.

The screenshot shows the 'Vehicle Form' modal. It contains the following fields: 'Registration No' (text input with 'SGH 123 A'), 'Rental Rate (\$/day)' (text input with '80'), 'Model' (text input with 'Prius'), 'Main Image' (dropdown menu with 'toyota prius red.jpg'), 'Brand' (dropdown menu with 'Toyota'), and 'Status' (dropdown menu with 'Hired'). At the bottom, there are two large buttons: a green 'Submit' button and a red 'Cancel' button.

User can fill in the fields in the form. For the Main image field, the imaged selected in this field will be displayed in the Customer Portal. If there are no images uploaded, no option will be available for selection. Upon submission, user will be redirected back to the Vehicle page.

To upload vehicle images, user will select the Upload Imgs and the upload images form will be displayed.


Vehicle Image Upload

Registration No

SBSCJCDD1234789


Choose File

No file chosen

Image preview

Uploaded Images:

proton.png



Delete

Upload

Cancel

In here, user can upload as many pictures as they want. Uploaded images will be displayed in the uploaded images section. A preview will be shown once the file is selected.


Vehicle Image Upload

Registration No

SBSCJCDD1234789


Choose File

ferrari.jpg



Uploaded Images:

proton.png



Delete

Upload

Cancel

To save the upload, user has to click on upload. Then the image will be shown in the uploaded images section.

Vehicle Image Upload

Registration No

SBSCICDD1234789

Choose File

No file chosen

Image preview

Uploaded Images:

proton.png

Delete

ferrari.jpg

Delete

Upload

Cancel

User can also delete the image here by clicking on delete beside the image they want to delete.

Vehicle Image Upload

Registration No

SBSCICDD1234789

Choose File

No file chosen

Image preview

Uploaded Images:

proton.png

Delete

Upload

Cancel

## Hire Details

In this page, the hire details records will be shown.

Hire Details Database										
Show 5		Search								
		Clear								
ID	Vehicle Reg No	Customer Name	Employee Signed Out	Start Date	Expected End Date	Employee Signed In	End Date	Invoice ID	Status	Action
7	SBSCJCDD1234789	James Lee	Mark Lee	14-05-2021 17:00	19-05-2021 11:00			6	Confirmed	<a href="#">Return</a> <a href="#">Invoice</a>
6	SGH 123 A	Aden Choi	Kiat Leong	14-05-2021 14:38	15-05-2021 14:38				Confirmed	<a href="#">Return</a> <a href="#">Invoice</a> <a href="#">Cancel</a> <a href="#">Delete</a>
3	SGH 123 A	Aden Choi	Kiat Leong	10-03-2021 16:55	11-03-2021 16:55	Kiat Leong	11-03-2021 16:56	2		<a href="#">Invoice</a>
1	SGH 123 A	Aden Choi	Kiat Leong	10-03-2021 16:13	11-03-2021 16:13	Kiat Leong	11-03-2021 16:13	5		<a href="#">Invoice</a>
Showing 1 to 4 of 4										
										« 1 »

Same as before, user is able to select number of records to display as well as searching for records base on keyword. User is also able to sort the records base on the columns shown.

In the action column, there are 4 actions available [Amend function has not been implemented yet]. Return will bring the user to the Hire Details form where the user will input the end date of the rental.

Invoice simply means invoicing the selected record. Upon clicking, the user will be directed to an invoice form which the user has to input the invoice date. More details will be provided in later section.

Cancel means cancelling the selected booking.

Delete means deleting the booking details from the database, which only the manager and admin are allowed to do so.

## Invoice

In this page, the invoices will be shown

Invoice Database

Invoice Info

Show5

Payment StatusAll

Search

Clear

ID	Date of Issue	Customer Name	Payment Status	Hire Details ID	Total Amount	Action
6	16-05-2021 17:50	James Lee	Unpaid	7	\$719.04	<div>ViewUpdateDelete</div>
5	01-05-2021 16:29	Aden Choi	Paid	1	\$85.6	<div>ViewUpdateDelete</div>
2	10-03-2021 16:56	Aden Choi	Paid	3	\$96.3	<div>ViewUpdateDelete</div>

Showing 1 to 3 of 3

«

1

»

Other than the standard selecting number of records to be displayed as well as the search function, user is able to filter invoices base on payment status. Sorting is also available in this page.

There are 3 functions on this page, View, Update and Delete.

For View, user is able to view the invoice receipt which is shown below.

Invoice Page Back Print

INVOICE

Vroom Vrooms (Private Limited)  
123 Spring Lane #01-01  
5123456

Bill To

James Lee  
85274102

Invoice No

100006

Invoice Date

16-05-2021

Payment Status

Unpaid

Car Reg No

Description

Rental Day(s)

Rental Rate (\$)

Amount (\$)

SBSJCDD1234789

Toyota Red

14-05-2021 17:00 TO

168/day

672.0

Subtotal

672.0

GST (7%)

47.04

TOTAL

719.04

Thank you and see you again!

Served by :-

In this page, user can print the invoice by clicking the print button. This will bring up the next page, where user can then select to either print or save as pdf.

INVOICE

Vroom Vrooms (Private Limited)  
123 Spring Lane #01-01  
5123456

Bill To

James Lee  
85274102

Invoice No

100006

Invoice Date

16-05-2021

Payment Status

Unpaid

Car Reg No

Description

Rental Day(s)

Rental Rate (\$)

Amount (\$)

SBSJCDD1234789

Toyota Red

14-05-2021 17:00 TO

168/day

672.0

Subtotal

672.0

GST (7%)

47.04

TOTAL

719.04

Thank you and see you again!

Served by :-

Print

1 page

Destination

Save as PDF

Pages

All

Pages per sheet

1

Margins

Default

Options

☒ Headers and footers

☐ Background graphics

Save

Cancel

For the update function, user can update the invoice date and payment status. More details will be provided in the later section.

### Invoice Form

Date of Issue  
16/05/2021 05:50 PM

Invoice ID  
6

Total Amount w/GST (\$)  
719.04

Customer Name  
James Lee

Hire Details ID  
7

Payment Status  
Unpaid

Rental Start:  
14-05-2021 17:00

Rental End:

Late Fees (If Any):  
0

Rental Fee:  
672

Submit

Cancel

## Users

This page is only available to the Admin of the portal. So other users are not able to navigate to this page and the Users will not be shown in the navigation bar.

### Users Database

User Info

Add New

Show 5

Search

Clear

User ID	Username	Full Name	Contact No	Email	Job Title	Date Of Birth	Address	Enabled	Role	Action
1	admin	Kiat Leong	97979797	admin@vvs.com			543 Crafttholic Avenue 11	<input checked="" type="checkbox"/>	[ADMIN]	<a href="#">Update</a> <a href="#">Delete</a>
2	user2	Sarah Chan	98765432	sarah@vvs.com	Sales Rep	01-05-1995	Burger St 99 Blk 222	<input checked="" type="checkbox"/>	[USER]	<a href="#">Update</a> <a href="#">Delete</a>
3	manager	Mark Lee	87542163	marklee@vvs.com	Sales Manager	01-01-1991	Spring Lane	<input checked="" type="checkbox"/>	[MANAGER]	<a href="#">Update</a> <a href="#">Delete</a>

Showing 1 to 3 of 3

[«](#) [1](#) [»](#)

The admin will be able to add new users or update current users in the database. The admin can update any of the fields in the form.

User Form

Username

admin

Full Name

Kiat Leong

Email

admin@vvs.com

Address

543 Crafholic Avenue 11

Contact No

97979797

Date Of Birth

dd/mm/yyyy

Job Title

Job Title

Portal Role

ADMIN

Enabled

☒

Submit

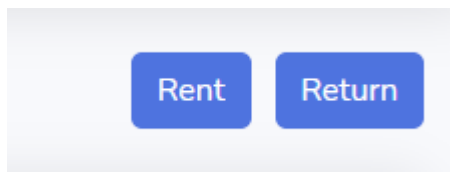
Cancel



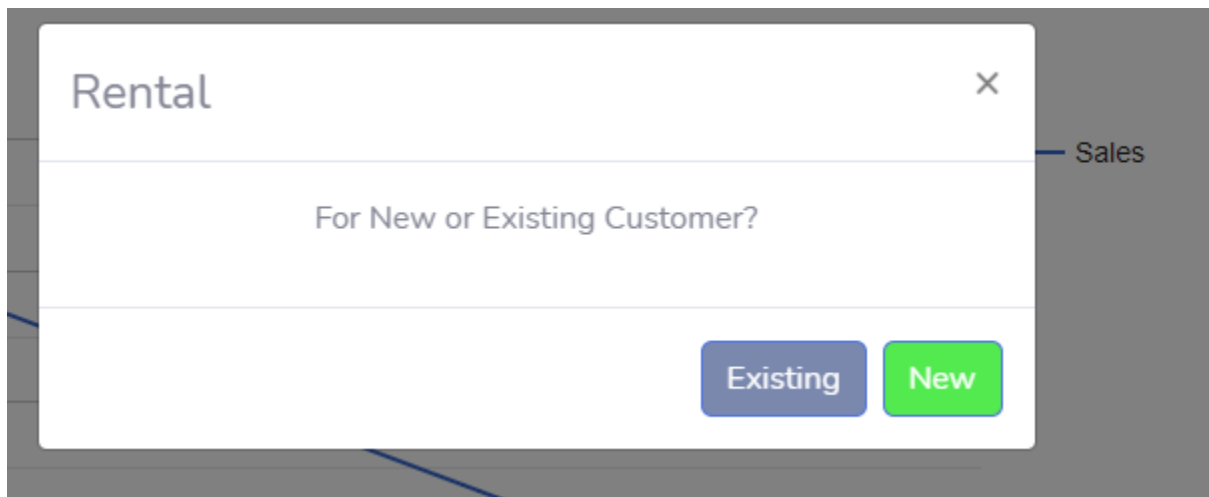
## Booking Process

### Rental

User can start the booking process in the dashboard.



Clicking Rent will bring up a pop up like this.



Selecting existing brings user to the customer page while new brings user to a new customer form. The process will start after selecting a customer.

#### Customer Database

Customer Info								Add New
Show 5		Search						Clear
ID	NRIC	Name	Contact No	Email	Date of Birth	Address	Online Account	Action
1	456E	Aden Choi	98765421	aden@gmail.com	01-01-1991	ABC 12334 Lane	<input type="checkbox"/>	Proceed Update Delete
2	888F	Flori Chan	91234564	shibolovesyou@crafttholic.com	27-01-1998	584 Crafttholic Ave 1 #08-984 Singapore 127648	<input type="checkbox"/>	Proceed Update Delete
3	123G	James Lee	85274102	jameslee@gmail.com	01-01-1988	Buger St Blk 888	<input type="checkbox"/>	Proceed Update Delete
4	555A	John Doe	98765432	johndoe@gmail.com	01-01-1991	Test Field	<input checked="" type="checkbox"/>	Proceed Update Delete
Showing 1 to 4 of 4								« 1 »

From this page, on the record of the customer that the user wants to proceed with, select Proceed.

Vehicle Database

Vehicle Info

Add New

Show 5

Search

Clear

ID	Brand	Registration No	Model	Rental Rate (\$/day)	Status	Action
2	Toyota	SBSCJDD1234789	Red	168	Available	<div>RentDelete</div>
3	Honda	SRE555G	Test Model	85	Available	<div>RentDelete</div>

Showing 1 to 2 of 2

« 1 »

In this page, select the vehicle to rent.

Hire Details Form

Car Registration No

SBSCJDD1234789

Invoice Status

New

Customer Name

Flori Chan

Start Date Of Rental

Employee Who Rented Out

Kiat Leong

Employee Who Returned

-

Submit

Cancel

May 2021

June 2021

Su	Mo	Tu	We	Th	Fr	Sa	Su	Mo	Tu	We	Th	Fr	Sa
						1			1	2	3	4	5
2	3	4	5	6	7	8	6	7	8	9	10	11	12
9	10	11	12	13	14	15	13	14	15	16	17	18	19
16	17	18	19	20	21	22	20	21	22	23	24	25	26
23	24	25	26	27	28	29	27	28	29	30			
30	31												

Time 00:00

Hour

Minute

Now

Done

Then select the start date and expected end date of the rental. If vehicle is unavailable on certain days, the dates will be blocked out.

### Hire Details Form

<p>Car Registration No</p> <div style="border: 1px solid #ccc; border-radius: 10px; padding: 5px; background-color: #f0f0f0;">SBSCJCDD1234789</div>	<p>Invoice Status</p> <div style="border: 1px solid #ccc; border-radius: 10px; padding: 5px; background-color: #f0f0f0;">New</div>
<p>Customer Name</p> <div style="border: 1px solid #ccc; border-radius: 10px; padding: 5px; background-color: #f0f0f0;">Flori Chan</div>	<p>Start Date Of Rental</p> <div style="border: 1px solid #ccc; border-radius: 10px; padding: 5px; background-color: #f0f0f0;">2021-05-21 00:00</div>
<p>Employee Who Rented Out</p> <div style="border: 1px solid #ccc; border-radius: 10px; padding: 5px; background-color: #f0f0f0;">Kiat Leong</div>	<p>Expected End Date Of Rental</p> <div style="border: 1px solid #ccc; border-radius: 10px; padding: 5px; background-color: #f0f0f0;">2021-05-23 00:00</div>
<p>Employee Who Returned</p> <div style="border: 1px solid #ccc; border-radius: 10px; padding: 5px; background-color: #f0f0f0;">-</div>	<p>Actual Return Date</p> <div style="border: 1px solid #ccc; border-radius: 10px; padding: 5px; background-color: #f0f0f0;">dd/mm/yyyy --:-- --</div>

Submit

Cancel

Upon submission, a success message will be shown as below.

Hire Details Database

The Entry has been saved successfully!

ID	Vehicle Reg No	Customer Name	Employee Signed Out	Start Date	Expected End Date	Employee Signed In	End Date	Invoice ID	Status	Action
9	SBSCJCDD1234789	Flori Chan	Kiat Leong	21-05-2021 00:00	23-05-2021 00:00				Confirmed	<a href="#" style="background-color: #007bff; color: white; padding: 2px 5px; text-decoration: none;">Return</a> <a href="#" style="background-color: #6c757d; color: white; padding: 2px 5px; text-decoration: none;">Invoice</a> <a href="#" style="background-color: #fff; border: 1px solid #6c757d; color: #6c757d; padding: 2px 5px; text-decoration: none;">Cancel</a> <a href="#" style="background-color: #dc3545; color: white; padding: 2px 5px; text-decoration: none;">Delete</a>

User can generate an invoice by selecting the invoice.

### Invoice Form

Date of Issue

Invoice ID

Total Amount w/GST (\$)

Customer Name

Hire Details ID

Payment Status

Rental Start:

21-05-2021 00:00

Rental End:

Late Fees (If Any):

0

Rental Fee:

336

Then select the date of issue and payment status before submitting. Upon submission, a success message will be displayed.

Invoice Database

The Invoice has been saved!

Invoice Info						
ID	Date of Issue	Customer Name	Payment Status	Hire Details ID	Total Amount	Action
7	17-05-2021 00:29	Flori Chan	Unpaid	9	\$359.52	<a href="#">View</a> <a href="#">Update</a> <a href="#">Delete</a>

## Return

To return a car, select return from dashboard or go to the hire details page.

Hire Details Database

ID	Vehicle Reg No	Customer Name	Employee Signed Out	Start Date	Expected End Date	Employee Signed In	End Date	Invoice ID	Status	Action
9	SBSCJDD1234789	Flori Chan	Kiat Leong	21-05-2021 00:00	23-05-2021 00:00			7	Confirmed	<a href="#">Return</a> <a href="#">Invoice</a>

From there, select return on the booking. Then in the form, fill in the actual return date and time.

## Hire Details Form

Car Registration No	Invoice Status
<input type="text" value="SBSCJCDD1234789"/>	<input type="text" value="7"/>
Customer Name	Start Date Of Rental
<input type="text" value="Flori Chan"/>	<input type="text" value="21-05-2021 00:00"/>
Employee Who Rented Out	Expected End Date Of Rental
<input type="text" value="Kiat Leong"/>	<input type="text" value="23-05-2021 00:00"/>
Employee Who Returned	Actual Return Date
<input type="text" value="Kiat Leong"/>	<input type="text" value="dd/mm/yyyy --:-- --"/>

Submit

Cancel

May 2021

↑

↓

Su	Mo	Tu	We	Th	Fr	Sa
25	26	27	28	29	30	1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22

12	59	AM
01	00	PM
02	01	
03	02	
04	03	

After submitting, click on invoice to generate or update the invoice.

## Hire Details Database

The Entry has been saved successfully!

Show <input type="text" value="5"/>										
Search <input type="text"/>										
Clear										
ID	Vehicle Reg No	Customer Name	Employee Signed Out	Start Date	Expected End Date	Employee Signed In	End Date	Invoice ID	Status	Action
9	SBSCJCDD1234789	Flori Chan	Kiat Leong	21-05-2021 00:00	23-05-2021 00:00	Kiat Leong	23-05-2021 00:59	7	Completed	Invoice

From there update/fill in the invoice date and payment status before submitting.

### Invoice Form

Date of Issue	Invoice ID		
<input type="text" value="17/05/2021 12:29 AM"/>	<input type="text" value="7"/>		
Total Amount w/GST (\$)	Customer Name		
<input type="text" value="386.27"/>	<input type="text" value="Flori Chan"/>		
Hire Details ID	Payment Status		
<input type="text" value="9"/>	<input type="text" value="Unpaid"/>		
Rental Start:	Rental End:	Late Fees (If Any):	Rental Fee:
21-05-2021 00:00	23-05-2021 00:59	25	336

Submit

Cancel