



UNIVERSITY  
OF WOLLONGONG  
AUSTRALIA














## ISIT307 A2 Report: GoBike Web Application

Name	UOW ID	Email	Assignment
Jarren Png	8378174	jpgng006@mymail.sim.edu.sg	A2

**Table of Contents**

<a href="#">Table of Contents</a>	<a href="#">1</a>
<a href="#">1. List of Website Files</a>	<a href="#">2</a>
<a href="#">1.1. Description of Files</a>	<a href="#">2</a>
<a href="#">2. SQL Database (database.php)</a>	<a href="#">3</a>
<a href="#">2.1 GoBike Database</a>	<a href="#">3</a>
<a href="#">2.2 Bikes Table</a>	<a href="#">3</a>
<a href="#">2.3 Users Table</a>	<a href="#">3</a>
<a href="#">2.4 Rentals Table</a>	<a href="#">4</a>
<a href="#">3. Registration and Login (registration.php, login.php, logout.php)</a>	<a href="#">5</a>
<a href="#">4. User Main Interface (list_bikes.php)</a>	<a href="#">6</a>
<a href="#">5. Rental (start_rental.php)</a>	<a href="#">6</a>
<a href="#">6. Search (search_bikes.php)</a>	<a href="#">7</a>
<a href="#">7. Return Bike (end_rental.php)</a>	<a href="#">8</a>
<a href="#">8. Admin Bike Management (admin_bikes.php)</a>	<a href="#">9</a>
<a href="#">9. Bike Editing (edit_bike.php)</a>	<a href="#">10</a>
<a href="#">10. Admin Rental Management (admin_rentals.php)</a>	<a href="#">11</a>

## 1. List of Website Files

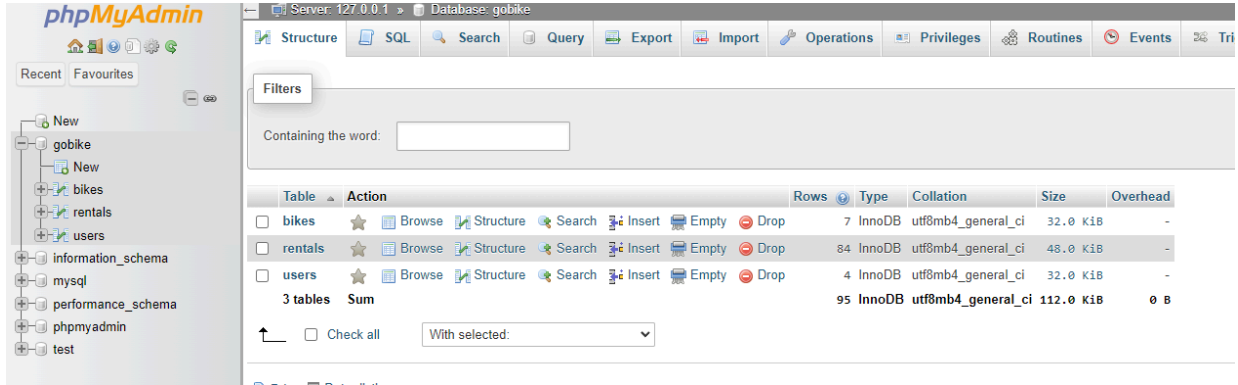
Name	Date modified	Type	Size
 admin_bikes.php	20-Aug-24 4:59 PM	PHP Source File	4 KB
 admin_rentals.php	20-Aug-24 5:02 PM	PHP Source File	18 KB
 database.php	18-Aug-24 11:00 PM	PHP Source File	1 KB
 edit_bike.php	20-Aug-24 5:04 PM	PHP Source File	4 KB
 end_rental.php	20-Aug-24 5:05 PM	PHP Source File	1 KB
 gobike.sql	20-Aug-24 5:14 PM	SQL Source File	7 KB
 list_bikes.php	20-Aug-24 5:07 PM	PHP Source File	21 KB
 login.php	20-Aug-24 4:58 PM	PHP Source File	3 KB
 logout.php	20-Aug-24 4:58 PM	PHP Source File	1 KB
 register.php	20-Aug-24 4:57 PM	PHP Source File	4 KB
 search_bikes.php	20-Aug-24 5:08 PM	PHP Source File	2 KB
 start_rental.php	20-Aug-24 5:08 PM	PHP Source File	1 KB
 style.css	20-Aug-24 5:09 PM	CSS Source File	5 KB

### 1.1. Description of Files

File	Description
register.php	User registration form for users to sign up.
login.php	Login form to authenticate users based on user type.
logout.php	Logs the user out by destroying the current session.
list_bikes.php	Main user interface for users to browse, rent and return bikes.
start_rental.php	Starts bike rental and inserts data into the database.
end_rental.php	Ends bike rental and inserts data into the database.
search_bikes.php	Retrieves and displays the list of bikes based on search terms.
admin_bikes.php	Admin page for admins to view, insert and edit bikes.
edit_bike.php	Handles the functionality of editing bikes.
admin_rentals.php	Admin dashboard for managing rentals and other features.
database.php	Handles the connection to the SQL database (phpMyAdmin).
style.css	Handles the stylesheet of the entire project.

## 2. SQL Database (database.php)

### 2.1 GoBike Database



The screenshot shows the phpMyAdmin interface for a database named 'gobike'. The left sidebar shows a tree view with 'gobike' selected, containing sub-items 'bikes', 'rentals', and 'users'. The main panel displays the 'Structure' tab for the 'gobike' database. It lists three tables: 'bikes' (7 rows), 'rentals' (84 rows), and 'users' (4 rows). Each table has columns for 'Table', 'Action' (Browse, Structure, Search, Insert, Empty, Drop), 'Rows', 'Type', 'Collation', 'Size', and 'Overhead'.

Table	Action	Rows	Type	Collation	Size	Overhead
bikes	Browse Structure Search Insert Empty Drop	7	InnoDB	utf8mb4_general_ci	32.0 KiB	-
rentals	Browse Structure Search Insert Empty Drop	84	InnoDB	utf8mb4_general_ci	48.0 KiB	-
users	Browse Structure Search Insert Empty Drop	4	InnoDB	utf8mb4_general_ci	32.0 KiB	-
<b>3 tables Sum</b>		<b>95</b>	<b>InnoDB</b>	<b>utf8mb4_general_ci</b>	<b>112.0 KiB</b>	<b>0 B</b>

The database includes 3 tables - bikes, rentals and users.

### 2.2 Bikes Table

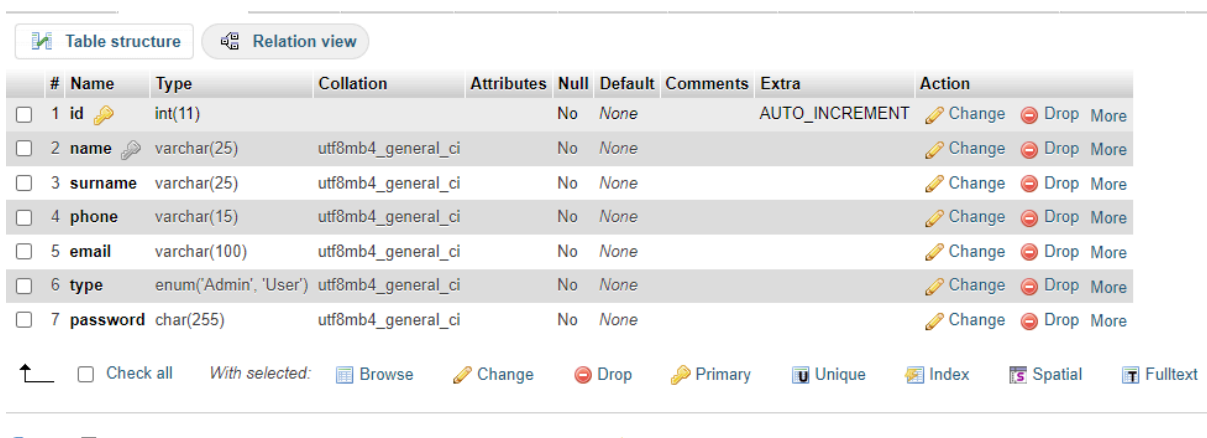


The screenshot shows the 'Table structure' view for the 'bikes' table. It lists four columns: 'bike\_id' (int(11), AUTO\_INCREMENT), 'renting\_location' (varchar(100)), 'description' (text), and 'cost\_per\_hour' (decimal(10,2)). Each column has 'Change', 'Drop', and 'More' actions.

#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
1	bike_id	int(11)			No	None		AUTO_INCREMENT	Change Drop More
2	renting_location	varchar(100)	utf8mb4_general_ci		No	None			Change Drop More
3	description	text	utf8mb4_general_ci		Yes	NULL			Change Drop More
4	cost_per_hour	decimal(10,2)			No	None			Change Drop More

The bikes table has 4 columns - bike\_id, renting\_location, description and cost\_per\_hour.

### 2.3 Users Table

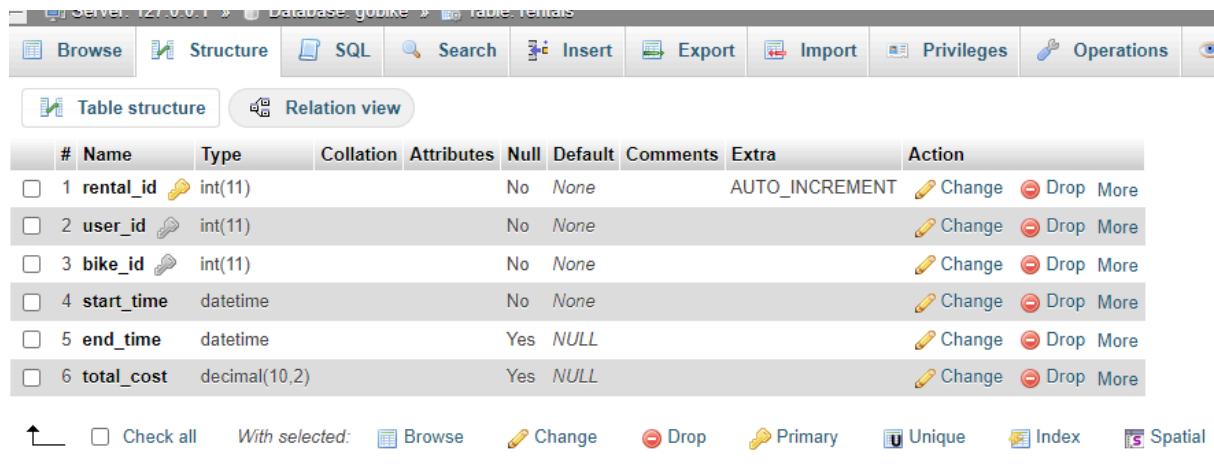


The screenshot shows the 'Table structure' view for the 'users' table. It lists seven columns: 'id' (int(11), AUTO\_INCREMENT), 'name' (varchar(25)), 'surname' (varchar(25)), 'phone' (varchar(15)), 'email' (varchar(100)), 'type' (enum('Admin', 'User')), and 'password' (char(255)). Each column has 'Change', 'Drop', and 'More' actions.

#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
1	id	int(11)			No	None		AUTO_INCREMENT	Change Drop More
2	name	varchar(25)	utf8mb4_general_ci		No	None			Change Drop More
3	surname	varchar(25)	utf8mb4_general_ci		No	None			Change Drop More
4	phone	varchar(15)	utf8mb4_general_ci		No	None			Change Drop More
5	email	varchar(100)	utf8mb4_general_ci		No	None			Change Drop More
6	type	enum('Admin', 'User')	utf8mb4_general_ci		No	None			Change Drop More
7	password	char(255)	utf8mb4_general_ci		No	None			Change Drop More

The users table has 7 columns - id, name, surname, phone, email, type and password.

## 2.4 Rentals Table



The screenshot shows the MySQL Table Structure window for the 'rentals' table. The table has 6 columns: rental\_id (int(11), primary key, auto-increment), user\_id (int(11), foreign key), bike\_id (int(11), foreign key), start\_time (datetime), end\_time (datetime), and total\_cost (decimal(10,2)). The 'end\_time' and 'total\_cost' columns are set to NULL by default. The interface includes tabs for Table structure and Relation view, and a toolbar with icons for Check all, With selected, Browse, Change, Drop, Primary, Unique, Index, and Spatial.

#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
<input type="checkbox"/>	1 rental_id	int(11)			No	None		AUTO_INCREMENT	Change  Drop  More
<input type="checkbox"/>	2 user_id	int(11)			No	None			Change  Drop  More
<input type="checkbox"/>	3 bike_id	int(11)			No	None			Change  Drop  More
<input type="checkbox"/>	4 start_time	datetime			No	None			Change  Drop  More
<input type="checkbox"/>	5 end_time	datetime			Yes	NULL			Change  Drop  More
<input type="checkbox"/>	6 total_cost	decimal(10,2)			Yes	NULL			Change  Drop  More

☐ Check all With selected: Browse Change Drop Primary Unique Index Spatial

The rentals table has 6 columns - rental\_id, user\_id, bike\_id, start\_time, end\_time and total\_cost. These user\_id and bike\_id are foreign keys based on the users and bikes table, and the end\_time and total\_cost of the rentals are set to NULL by default as this information will be updated later when we end a rental.

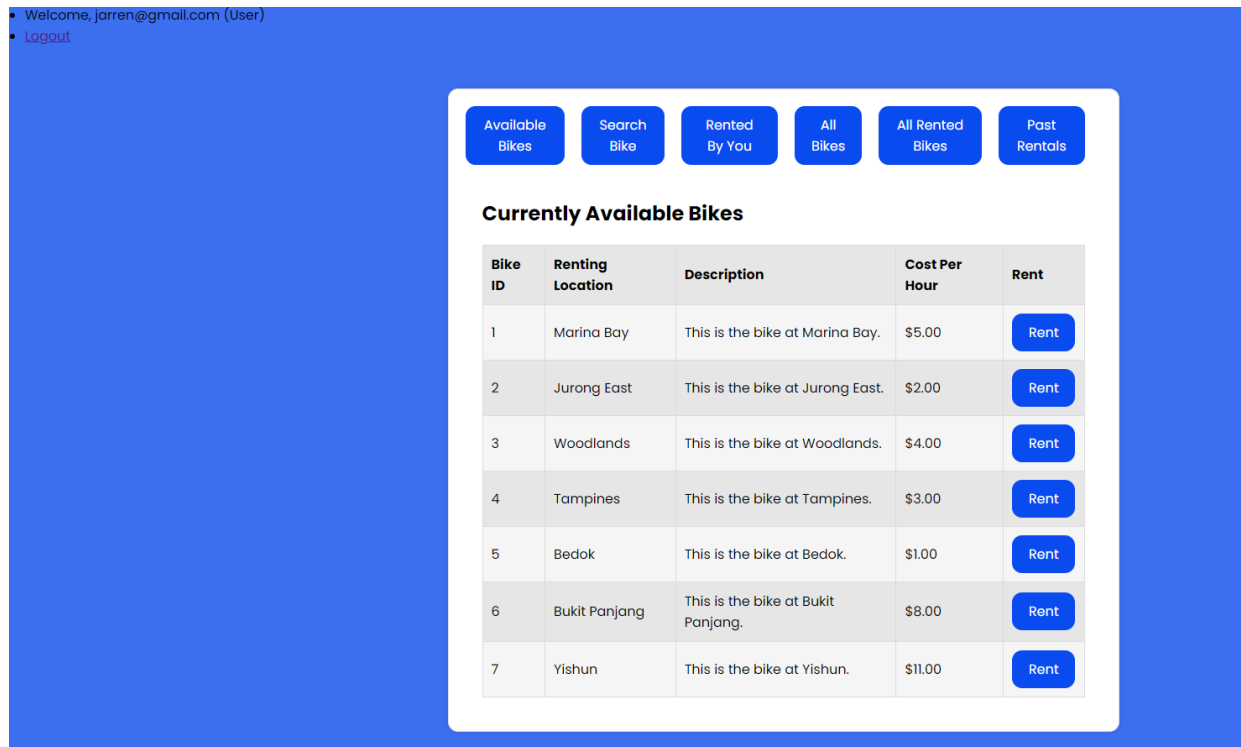
### 3. Registration and Login (registration.php, login.php, logout.php)

The image displays two web forms side-by-side. The left form is the registration page, titled 'Register'. It includes input fields for Name, Surname, Phone, Email, and Password. Below these is a 'User Type' dropdown menu currently set to 'User'. A blue 'Register' button is at the bottom, with a link 'Already have an account? Login' below it. The right form is the login page, titled 'Login'. It includes input fields for Email and Password, and a 'User Type' dropdown menu currently set to 'User'. A blue 'Login' button is at the bottom, with a link 'Don't have an account? Register' below it.

This is the registration screen where users can input their information into the respective fields to be signed up as either a user or admin.

They will then be sent to the login page, where they can either login as a user or admin. If the user is a normal user and they choose "Admin" user type, the login will fail. Logging in will take the user to different pages depending on the account type. The user will be able to logout at any point once they are logged in.

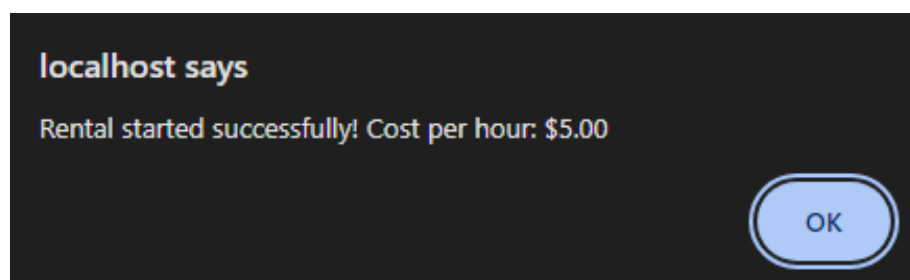
#### 4. User Main Interface (list\_bikes.php)



This is the main interface for the user to browse, rent and return bikes. They can switch from tab to tab to navigate the website.

#### 5. Rental (start\_rental.php)

Firstly, they can rent the bike of their choosing by clicking the Rent button on the list of available bikes. A success alert will then be shown.



6. Search (search\_bikes.php)

The user can also rent a bike via the “Search Bike” tab.

Available BikesSearch BikeRented By YouAll BikesAll Rented BikesPast Rentals

Search for a Bike

Bike ID:

1

Renting Location:

Description:

Search

Bike ID	Renting Location	Description	Cost Per Hour	Rent
1	Marina Bay	This is the bike at Marina Bay.	\$5.00	<div>Rent</div>

The user can then see this record in the “All Rented Bikes” tab. The user can see if another user has booked another bike as well.

Available BikesSearch BikeRented By YouAll BikesAll Rented BikesPast Rentals

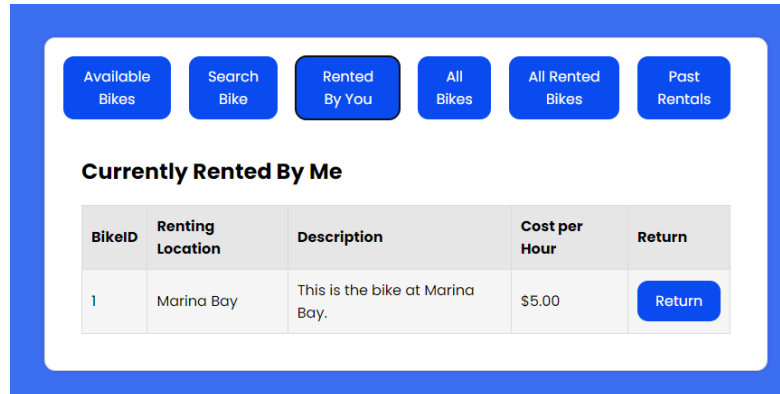
All Rented Bikes

Bike ID	Renting Location	Description	Rented By	Start Time
1	Marina Bay	This is the bike at Marina Bay.	jarren@gmail.com	2024-08-21 00:59:07
2	Jurong East	This is the bike at Jurong East.	johnpng@gmail.com	2024-08-21 01:00:24

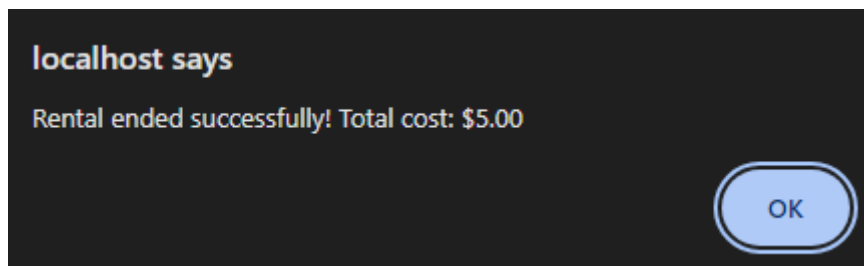


## 7. Return Bike (end\_rental.php)

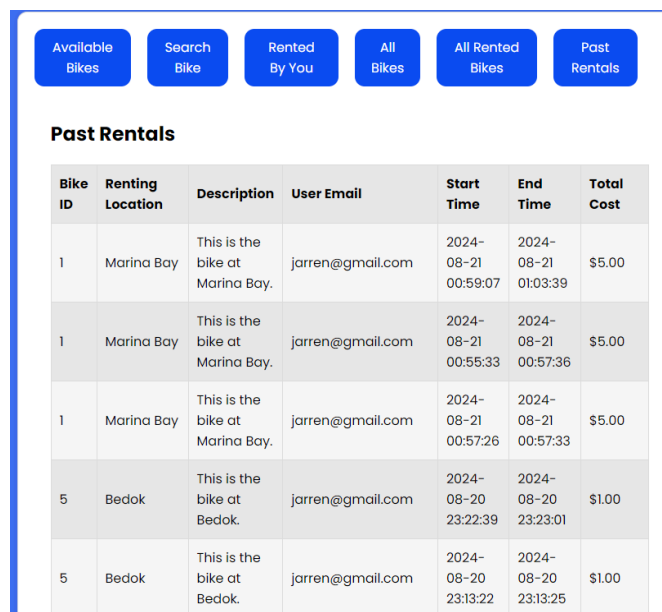
To return the bike, the user can press the “Rented By You” tab to view the bike that the user has booked.



Users will get this alert after clicking on the Return button. The total cost is calculated based on the cost per hour of the bike and how long it has been between the start\_time and end\_time. If the time elapsed is less than an hour or between hours, the total cost will automatically round up to the cost of the nearest hour.



The user can then see their own and others' records in the “Past Rentals” tab.



8. Admin Bike Management (admin\_bikes.php)

Welcome, admin@gmail.com (Admin)

Logout

Rental Management

Insert New Bike

Renting Location:

Description:

Cost per Hour:

Add Bike

Existing Bikes

Bike ID	Renting Location	Description	Cost per Hour	Actions
1	Marina Bay	This is the bike at Marina Bay.	5.00	Edit
2	Jurong East	This is the bike at Jurong East.	2.00	Edit
3	Woodlands	This is the bike at Woodlands.	4.00	Edit
4	Tampines	This is the bike at Tampines.	3.00	Edit

This is the page that admin users get sent to after logging in. The admin is able to insert new bikes into the database by inputting the information into the fields, as well as view the existing bikes. The admin can also click on Rental Management to be sent to that page.

Insert New Bike

Renting Location:

Description:

Cost per Hour:

Add Bike

6	Bukit Panjang	This is the bike at Bukit Panjang.	8.00	Edit
7	Yishun	This is the bike at Yishun.	11.00	Edit
8	Orchard	This is the bike at Orchard.	13.00	Edit

## 9. Bike Editing (edit\_bike.php)

The admin can then edit any of the bikes by clicking the “Edit” button beside the bike. They will be sent to the specific bike’s page and be able to edit the information about the bike. After clicking the Update Bike button, they will be sent back to the Bike Management page with the changes in place.

### Edit Bike

Renting Location:

Description:

Cost per Hour:

8	Orchard Boulevard	This is the bike at Orchard Boulevard.	15.00	<input type="button" value="Edit"/>
---	-------------------	--	-------	-------------------------------------

## 10. Admin Rental Management (admin\_rentals.php)

Welcome, admin@gmail.com (Admin)  
[Logout](#)

### Manage Rentals

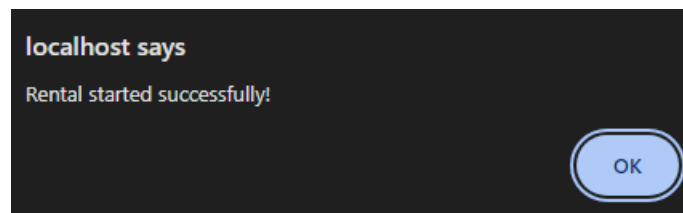
Start Rental End Rental All Bikes Available Bikes Unavailable Bikes  
Search Bike Search User All Users Current Users

#### Start a Rental

User Email:  Bike Name:

On this page, the admin can browse bikes, rentals and users. Firstly, the admin is able to start a rental for any user using any available bike using dropdown lists.

Once rental is started, they will receive a success message.



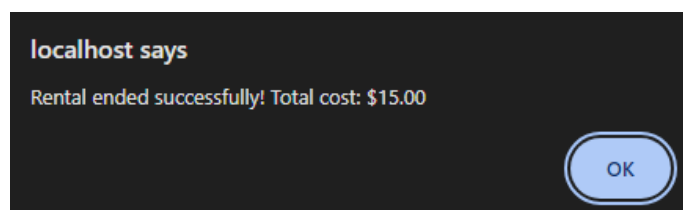
The admin can then end the rental in the “End Rental” tab, where they can choose from dropdown lists of the existing rentals. They will then also receive a success message.

### Manage Rentals

Start Rental End Rental All Bikes Available Bikes Unavailable Bikes  
Search Bike Search User All Users Current Users

#### End a Rental

User Email:  Bike Name:



The admin can also view a list of all bikes, all available bikes, and unavailable bikes.

### Manage Rentals

[Start Rental](#) [End Rental](#) [All Bikes](#) [Available Bikes](#) [Unavailable Bikes](#)

[Search Bike](#) [Search User](#) [All Users](#) [Current Users](#)

#### All Bikes

Bike ID	Location	Description	Cost per Hour
1	Marina Bay	This is the bike at Marina Bay.	5.00
2	Jurong East	This is the bike at Jurong East.	2.00
3	Woodlands	This is the bike at Woodlands.	4.00
4	Tampines	This is the bike at Tampines.	3.00
5	Bedok	This is the bike at Bedok.	1.00
6	Bukit Panjang	This is the bike at Bukit Panjang.	8.00
7	Yishun	This is the bike at Yishun.	11.00
8	Orchard Boulevard	This is the bike at Orchard Boulevard.	15.00

### Manage Rentals

[Start Rental](#) [End Rental](#) [All Bikes](#) [Available Bikes](#) [Unavailable Bikes](#)

[Search Bike](#) [Search User](#) [All Users](#) [Current Users](#)

#### Available Bikes

Bike ID	Location	Description	Cost per Hour
1	Marina Bay	This is the bike at Marina Bay.	5.00
2	Jurong East	This is the bike at Jurong East.	2.00
3	Woodlands	This is the bike at Woodlands.	4.00
4	Tampines	This is the bike at Tampines.	3.00
5	Bedok	This is the bike at Bedok.	1.00
6	Bukit Panjang	This is the bike at Bukit Panjang.	8.00
7	Yishun	This is the bike at Yishun.	11.00

### Manage Rentals

[Start Rental](#) [End Rental](#) [All Bikes](#) [Available Bikes](#) [Unavailable Bikes](#)

[Search Bike](#) [Search User](#) [All Users](#) [Current Users](#)

#### Unavailable Bikes

Bike ID	Location	Description	Cost per Hour
8	Orchard Boulevard	This is the bike at Orchard Boulevard.	15.00

The admin can also search for either a bike or user using a search box.

## Manage Rentals

[Start Rental](#)[End Rental](#)[All Bikes](#)[Available Bikes](#)[Unavailable Bikes](#)[Search Bike](#)[Search User](#)[All Users](#)[Current Users](#)

### Search Bike

[Search Bike](#)

Bike ID	Location	Description	Cost per Hour
3	Woodlands	This is the bike at Woodlands.	4.00

## Manage Rentals

[Start Rental](#)[End Rental](#)[All Bikes](#)[Available Bikes](#)[Unavailable Bikes](#)[Search Bike](#)[Search User](#)[All Users](#)[Current Users](#)

### Search User

[Search User](#)

User ID	Name	Surname	Email
11	jarren	png	jarren@gmail.com

The admin can also view a list of all users and users who are currently renting a bike.

## Manage Rentals

Start Rental

End Rental

All Bikes

Available Bikes

Unavailable Bikes

Search Bike

Search User

All Users

Current Users

### All Users

User ID	Name	Surname	Email
11	jarren	png	jarren@gmail.com
12	admin	png	admin@gmail.com
13	john	png	johnpng@gmail.com
14	Lily	Png	lily@gmail.com
15	admin2	png	admin2@gmail.com

## Manage Rentals

Start Rental

End Rental

All Bikes

Available Bikes

Unavailable Bikes

Search Bike

Search User

All Users

Current Users

### Users with Active Rentals

User ID	Name	Surname	Email
11	jarren	png	jarren@gmail.com