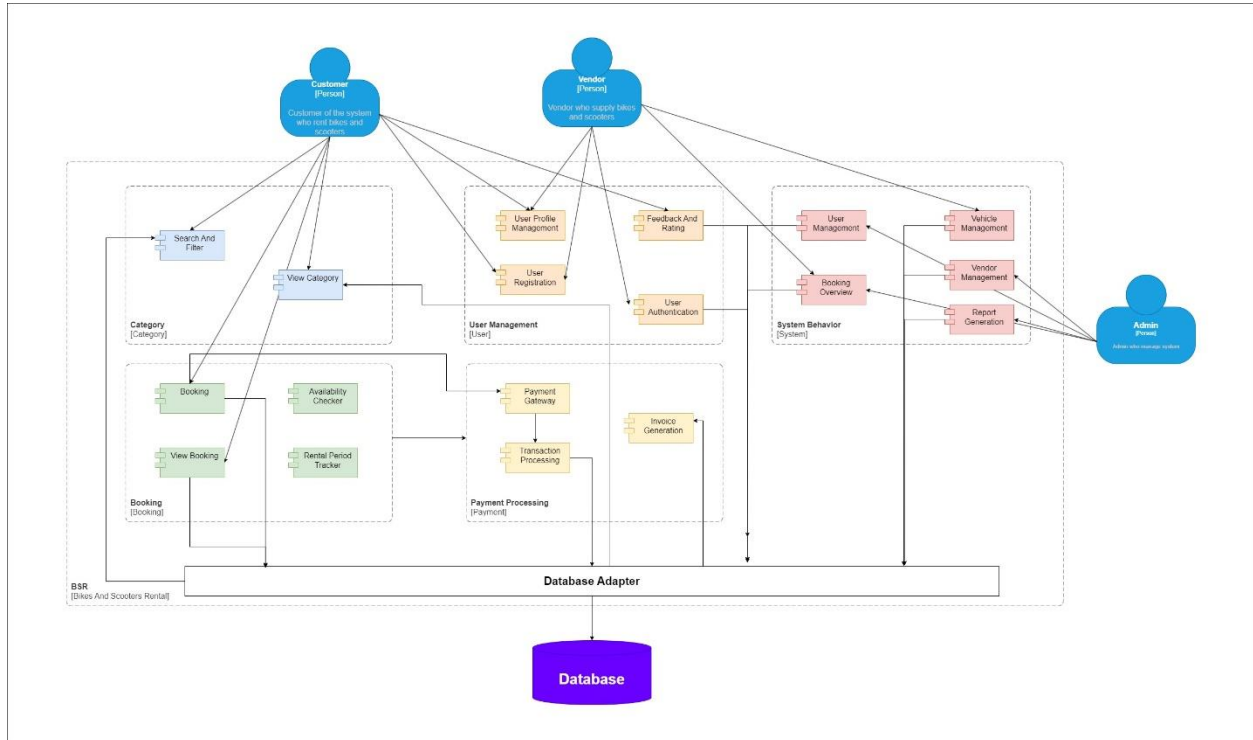


# Bikes & Scooters Rental System

## 1. C&C



### 1.1. Legend

	Actor
	Database
	Module
	Depends on

## 1.2. Prose

Users start by downloading the app on their mobile device. For those without an account, they can tap on "Sign Up," complete the necessary details, and confirm to create their account. Once registered, users can log in using their credentials. After logging in, they are taken to the main screen, where options such as Profile, Vehicle Rental, and Vehicle Return are available.

To rent a vehicle, users tap on the "Rent a Vehicle" option, select the desired rental location, pick the vehicle they want, make the payment, and confirm their booking. When it's time to return a vehicle, users head to the "Return Vehicle" section, view the list of vehicles they have rented, choose the one they wish to return, and confirm the process with a final tap..

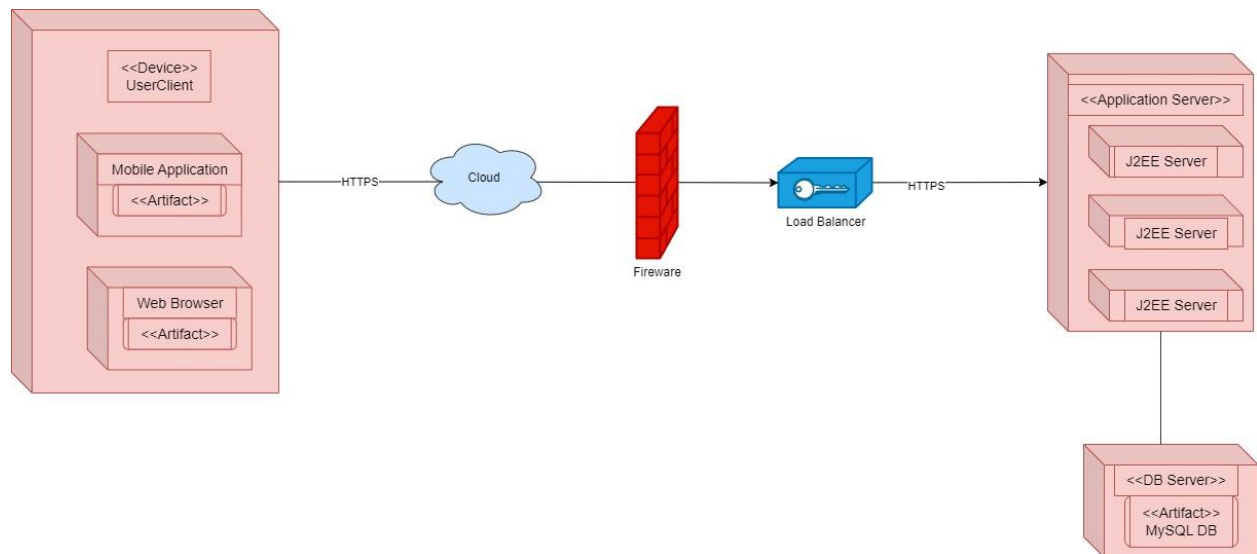
## 1.3. Roles And Responsibilities

**Actor:** Use and impact system modules.

**Module:** Providing a specific service to the system. Interacting with other modules to achieve the system's mission.

**Database:** Storing and managing the system's data. Providing data access to other modules in the system. Ensuring the data's integrity and security.

## 2. Allowcation View



## 2.1. Prose

Node is a physical hardware element. It is used to execute the artifacts, which are the software components of the system. An artifact is a physical piece of information that is used or produced by the deployment and operation of a system. The relationship is a connection between model elements.

## **2.2. Roles & Responsibility**

### **User Device:**

- Runs the web browser and displays web pages.
- Caches static resources like images and CSS files for faster access

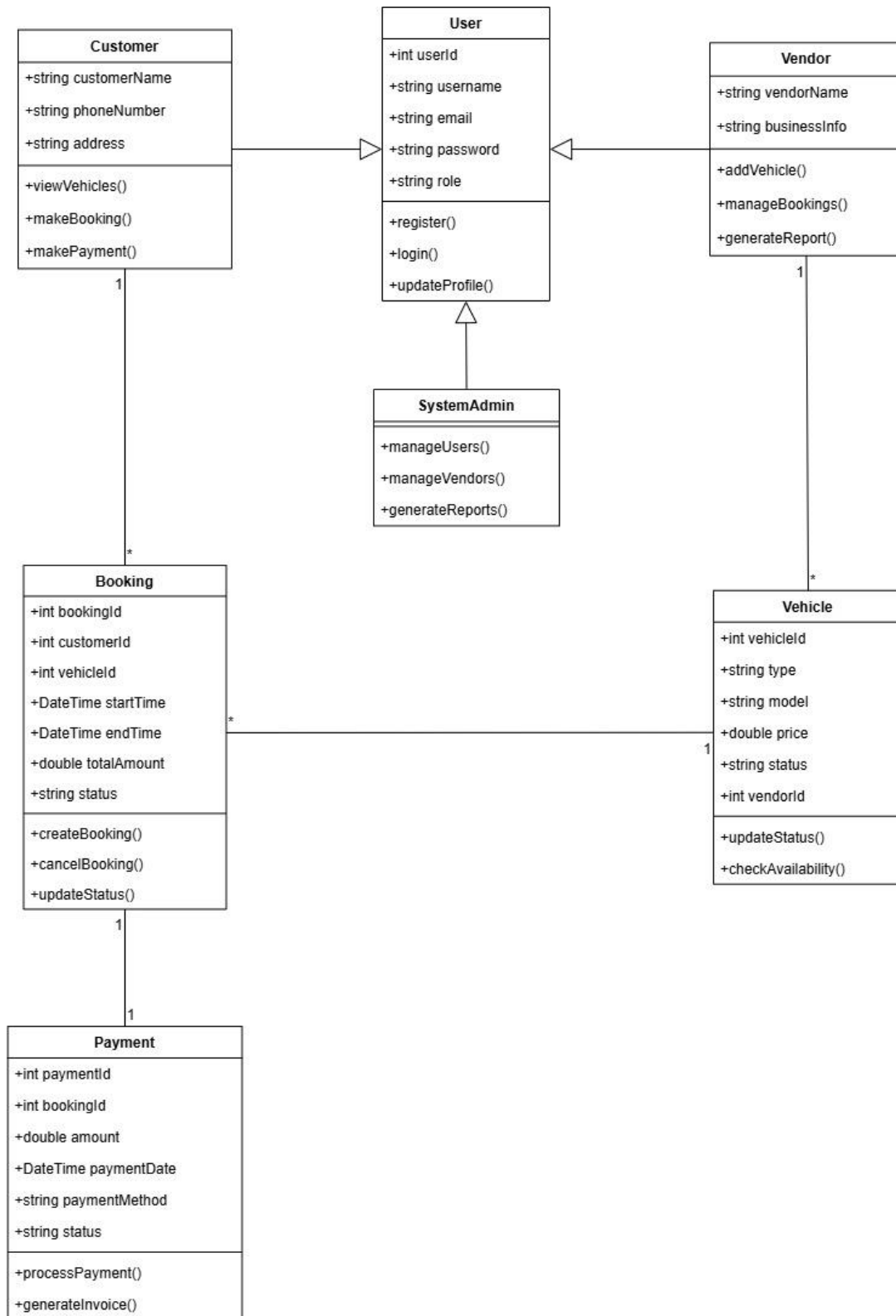
### **Application Server:**

- Hosts the web server, serving web pages and managing user sessions and authentication.
- Hosts the database server, handling requests for data access.
- Implements security features and load balances requests across servers.
- Monitors application performance and generates logs

### **Database Server:**

- Stores and manages user and application data (e.g., product, order, customer data).
- Ensures data security through encryption and access control, optimizes performance, and prevents conflicts via concurrency controls.
- Maintains backups and restores data in case of failures

### 3. Module view (class diagram)



## Description

Class	Description
<b>User</b>	Represents users in the system. Contains user details like user ID, username, email, password, and role (e.g., customer, admin, vendor). Provides methods for registering, logging in, and updating profiles
<b>Customer</b>	Inherits from User. Represents a customer who can view available vehicles, make bookings, and make payments. Contains customer-specific information like name, phone number, and address
<b>Vendor</b>	Inherits from User. Represents a vendor who provides vehicles for booking. Contains vendor-specific details like vendor name and business information. Has methods for adding vehicles, managing bookings, and generating reports
<b>SystemAdmin</b>	Inherits from User. Represents an administrator with capabilities to manage users, vendors, and generate system reports. Contains methods for managing users and vendors
<b>Vehicle</b>	Represents a vehicle available for booking. Contains attributes such as vehicle ID, type, model, price, status, and vendor ID. Has methods for updating vehicle status and checking availability
<b>Booking</b>	Represents a booking made by a customer for a specific vehicle. Contains booking ID, customer ID, vehicle ID, start time, end time, total amount, and booking status. Includes methods for creating, canceling, and updating booking status
<b>Payment</b>	Represents a payment made for a booking. Contains payment ID, booking ID, amount, payment date, payment method, and status. Provides methods for processing payments and generating invoices

## 4. ERD

