**Gym Management System**

**System Design Specification (SDS)**

**Version 7.0**

**2018/5/13**

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1. Document Change Log

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| --- | --- | --- | --- |
| ***Change Date*** | ***Changed By*** | ***Version*** | ***Change Description*** |
| 2018/4/22 | Zhenghao Wu | 1.0 | Prepared Document |
| 2018/4/23 | Qizhou Xie | 2.0 | Write Design Overview |
| 2018/4/25 | Zhenghao Wu | 3.0 | Defined Tools and Standards |
| 2018/4/26 | Zhenghao Wu | 4.0 | Update User Interface Design and Descriptions |
| 2018/4/26 | Qizhou Xie | 4.5 | Modify User Interface Descriptions |
| 2018/4/26 | Qizhou Xie | 5.0 | Add Entities Relationship Diagram |
| 2018/4/27 | Zhenghao Wu | 6.0 | Add Control Flow Diagrams |
| 2018/5/13 | Qizhou Xie | 7.0 | Make some changes to the ER diagram |
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1. Design Overview
2. Purpose:

* The purpose of this system is to provide an online platform for customers to make appointment with the coach and at the time they want. First customers need to ask staffs to create accounts for them, after requiring their account, they can make recharges through the Internet via WeChat Pay or Alipay, or they can recharge on the counter. Once it’s confirmed, staffs will help in modifying the quota. Customers are able to make appointments online and search for coaches’ information.

1. Target customers:

* Our system is made to help in reducing customers’ time waste and make staffs manage the gymnasium in an efficient way. Also it provide a platform for coaches to show their strengths.

1. Aim:

* To help in reducing customers’ time waste while making appointments and to provide a platform for them to gain coaches’ information.
* To manage the gymnasiums in an efficient way.

1. Tools and Standards

## Tools

* HTML 5
* CSS 3
* JavaScript
* jQuery
* Bootstrap 4.1
* Tabler 0.0.32
* Python 3.6
* Django 2.0
* MySQL/Maria DB

## Standards

* Testing on latest stable version of Google Chrome browser (66.0.3359.117 (64-bit) or later) and Mozilla Firefox browser (59.0.2 (64-bit) or later), no longer support IE 8 / IE 9.
* Using HTML5 Standard.
* Using UTF-8 encoding Standard.

1. User Interface Design

## Login Page

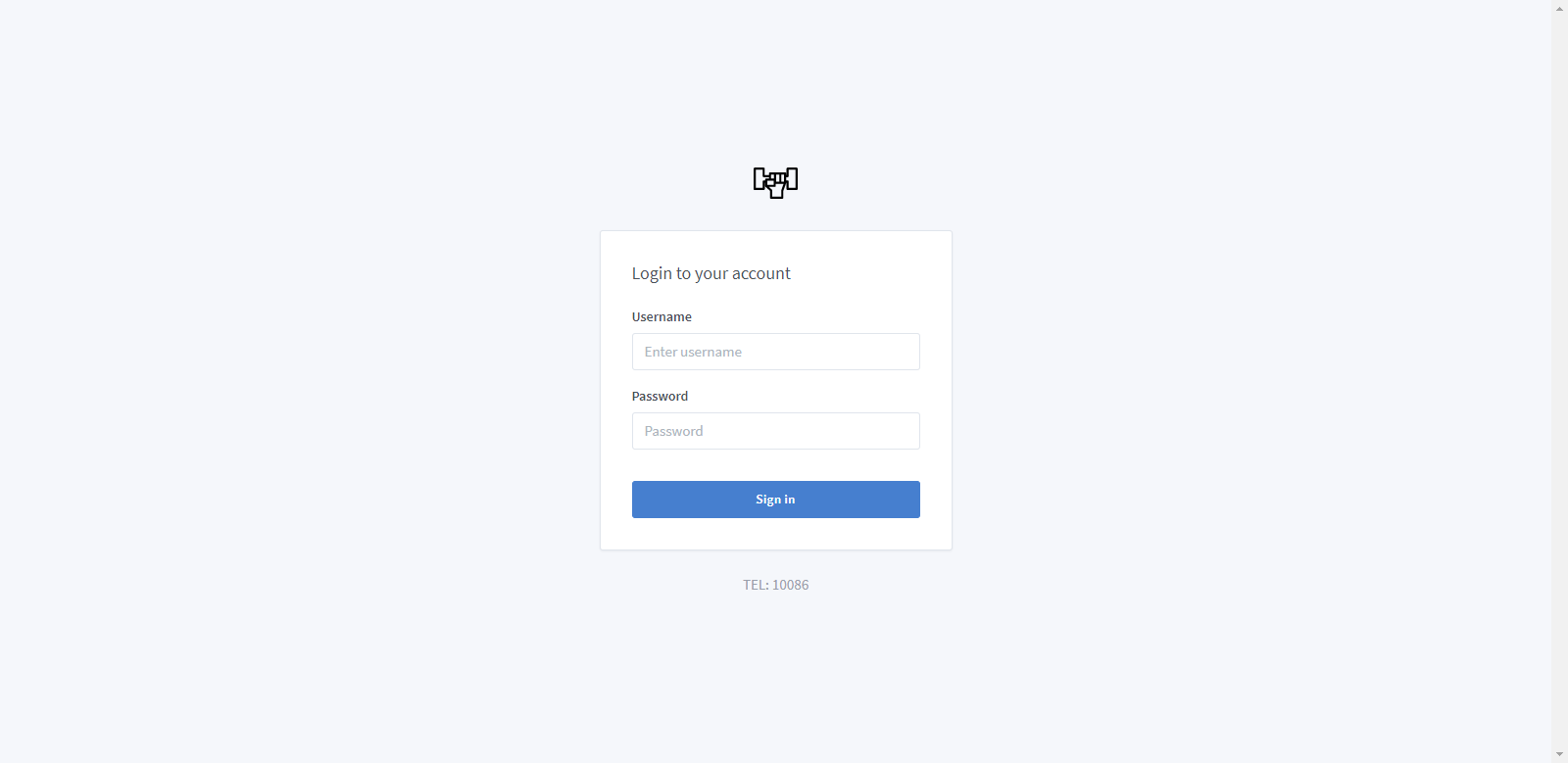


Figure 1Login page

This page is a login page. A form with a username input box, password input box, and a submit button will be displayed on the page. The password entry area will use "\*" instead of the raw input.

## Dashboard

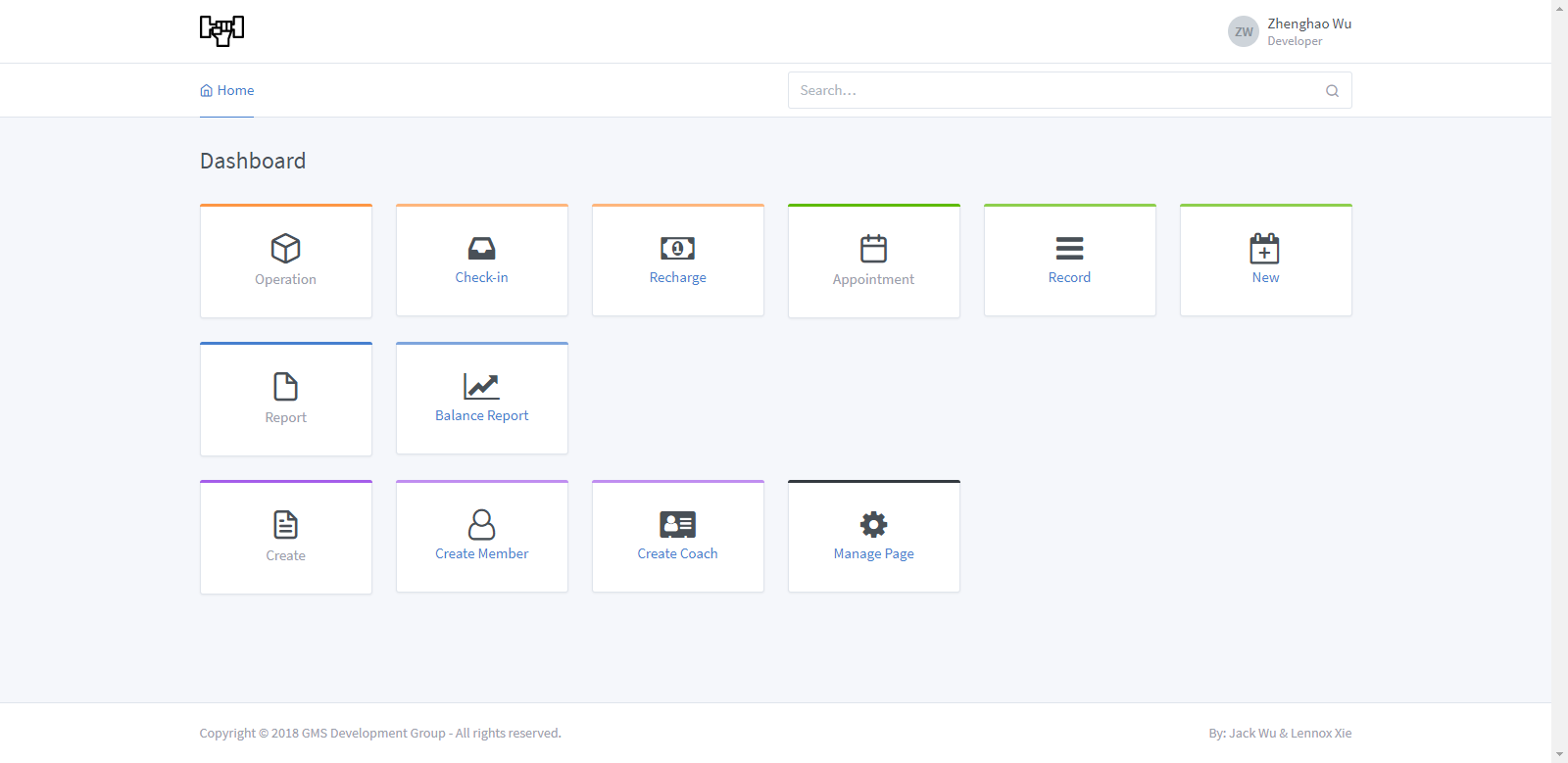


Figure Dashboard Page

After the user logs in to the Dashboard, all available functions of the current user are displayed on the page (developers and employees can access all functions; members can access all the functions under Operation's Recharge and Appointment; coaches can only use the Appointment function), click on these functions Link to access the corresponding function.

## Navigation Bar & Footer

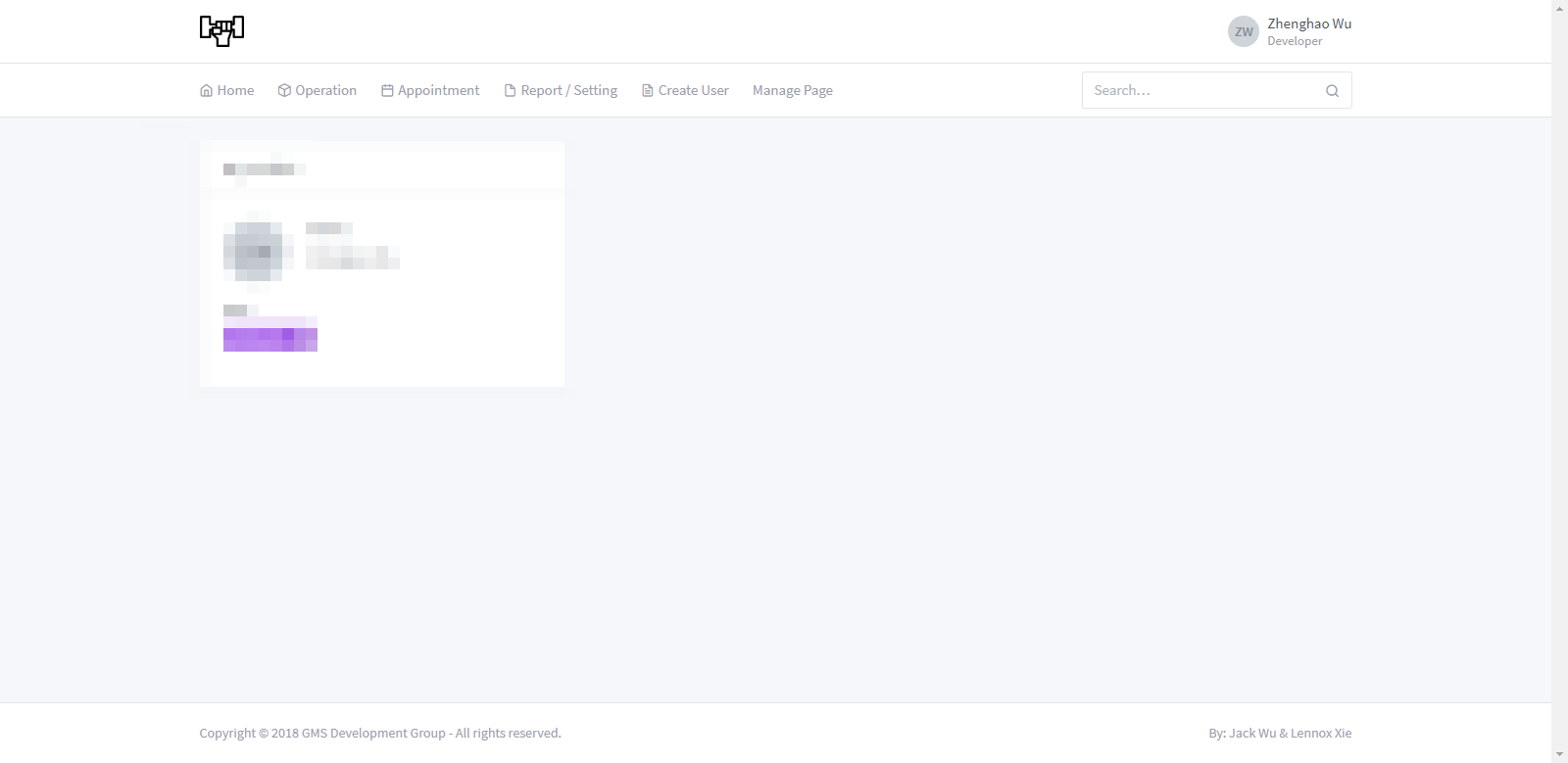


Figure Navigation Bar & Footer Design

Navigation Bar and Footer are basically the same style on each page. The system logo is displayed in the upper left corner, and the information of the currently logged-in user is displayed on the right corner. Click the user avatar to see the personal information button and exit login button. Click the logout button to end the current user's login sessions. Navigation Bar also provides classified function menus and search bar, click to enter the corresponding function page.

Footer contains copyright information and authors.

## Check-in

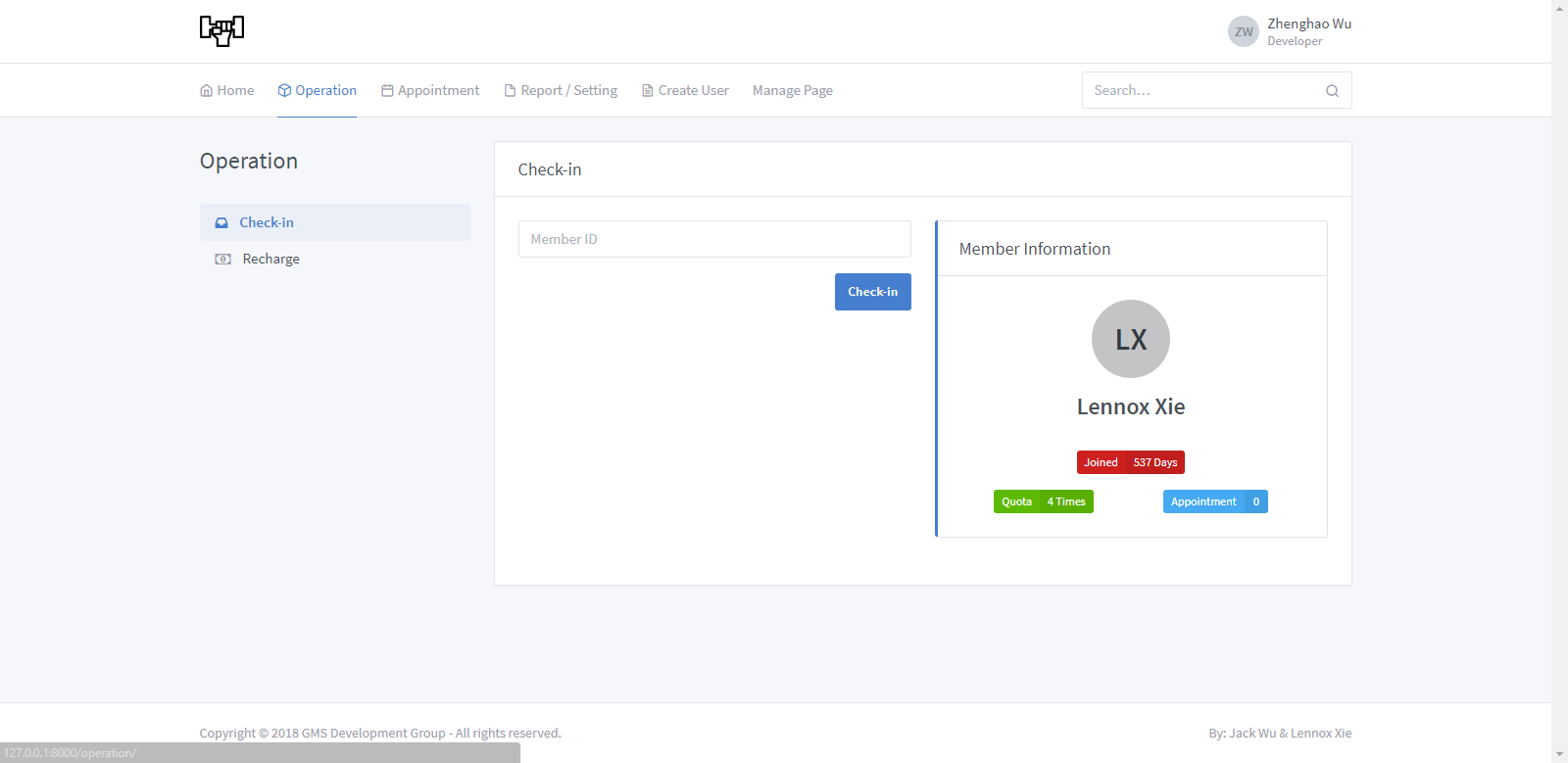


Figure Check-in page

This page only allows employees to access after login, for Check-in members and to reduce the number of Quota in the member's account. There is an input box on the page. After entering the user ID, the right Member Information column will be display that user’s information. After click Check-in bottom, a prompt box will pop up and display Check-in status, and then the page will refresh and reload.

## Recharge

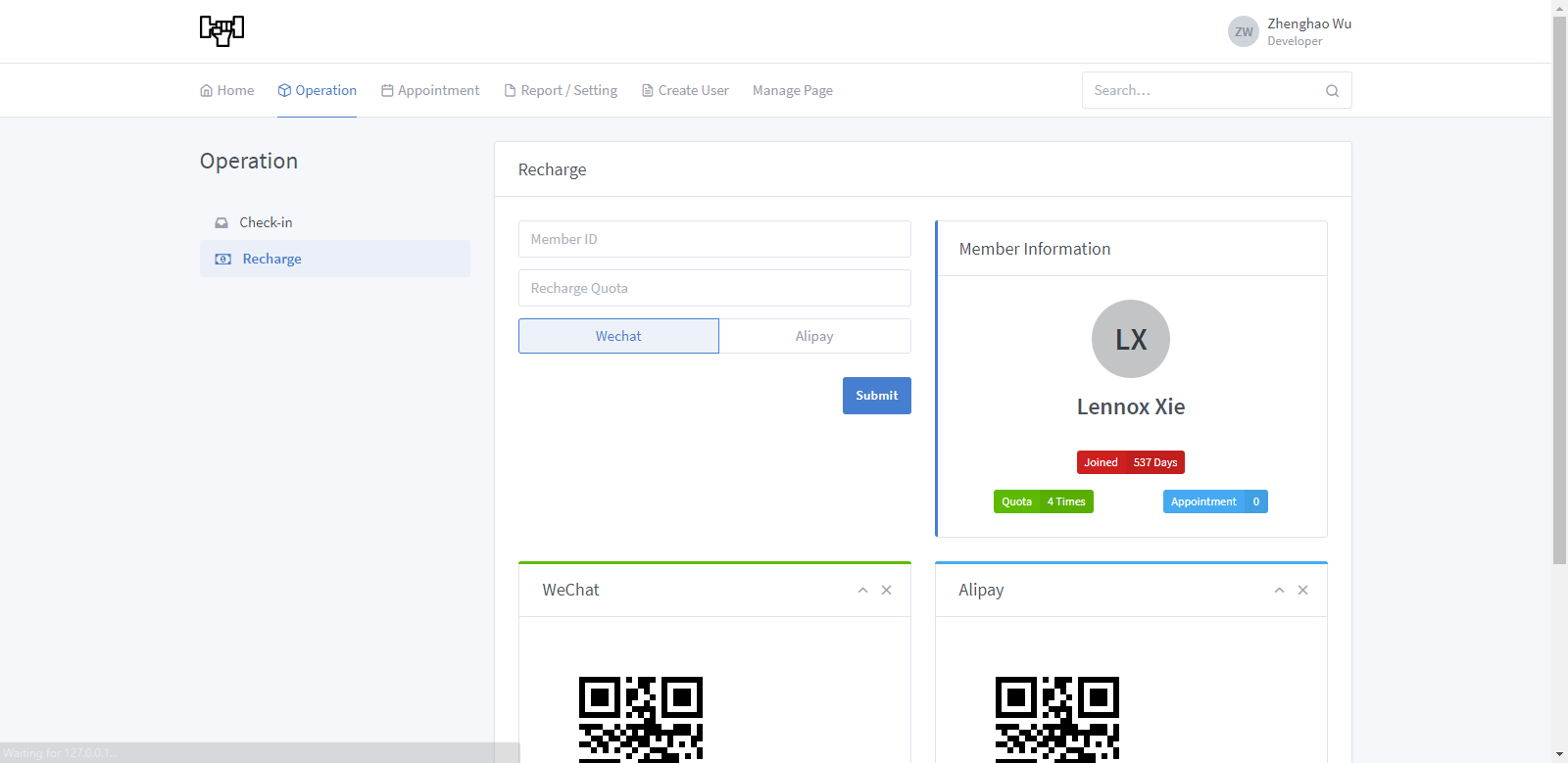


Figure Recharge Page

After login, members and employees can access to the Recharge page. A form for recharging will be displayed on the page. There will be an area for Member ID, Recharge Quota, and Payment Method. After entering the user ID, The right Member Information column will be display that user’s information. After all the information is filled in and correct, a pop-up window will pop up on the page and following information will display: the amount of money to be transferred, the QR code (displayed based on the payment method selected by the user), and the remaining transfer time, and a button for confirm the recharge.

When the transfer ends (whatever success or failure), the page is automatically refreshed and reloads the Recharge page.

## Record

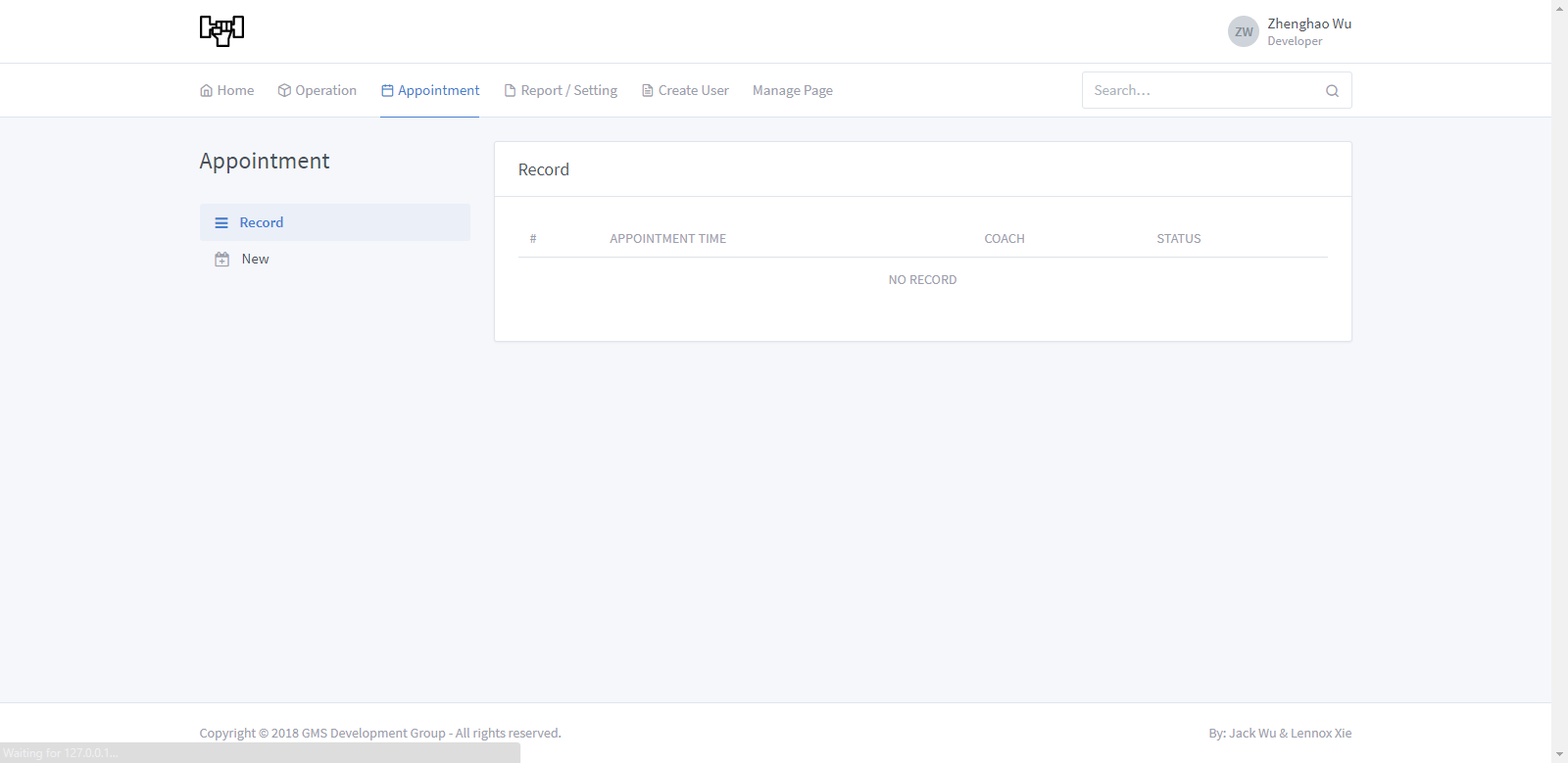


Figure Appointment Records Page

This page can be viewed by all logged in users; members can check their appointments with the coach; the coach can look up for appointments related to him; the staffs can see all the appointment records.

## Make New Appointment

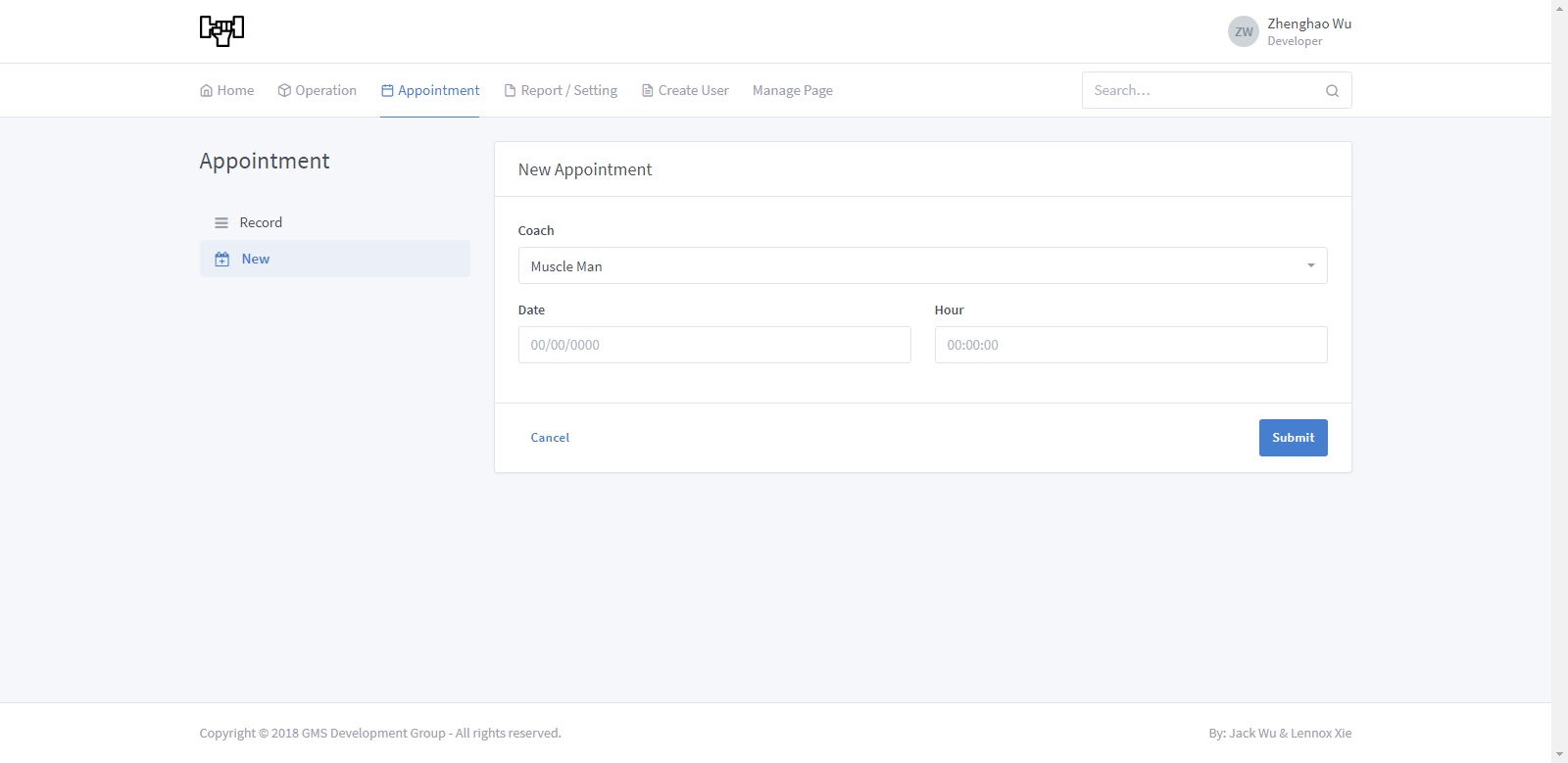


Figure Make New Appointment Page

The current page can be browsed by the logged-in members and staffs. A form is displayed on the page which contains a drop-down menu of the coach and an input-box of the date and time. After the user clicks the submit button, the application would be submit.

## Balance Report

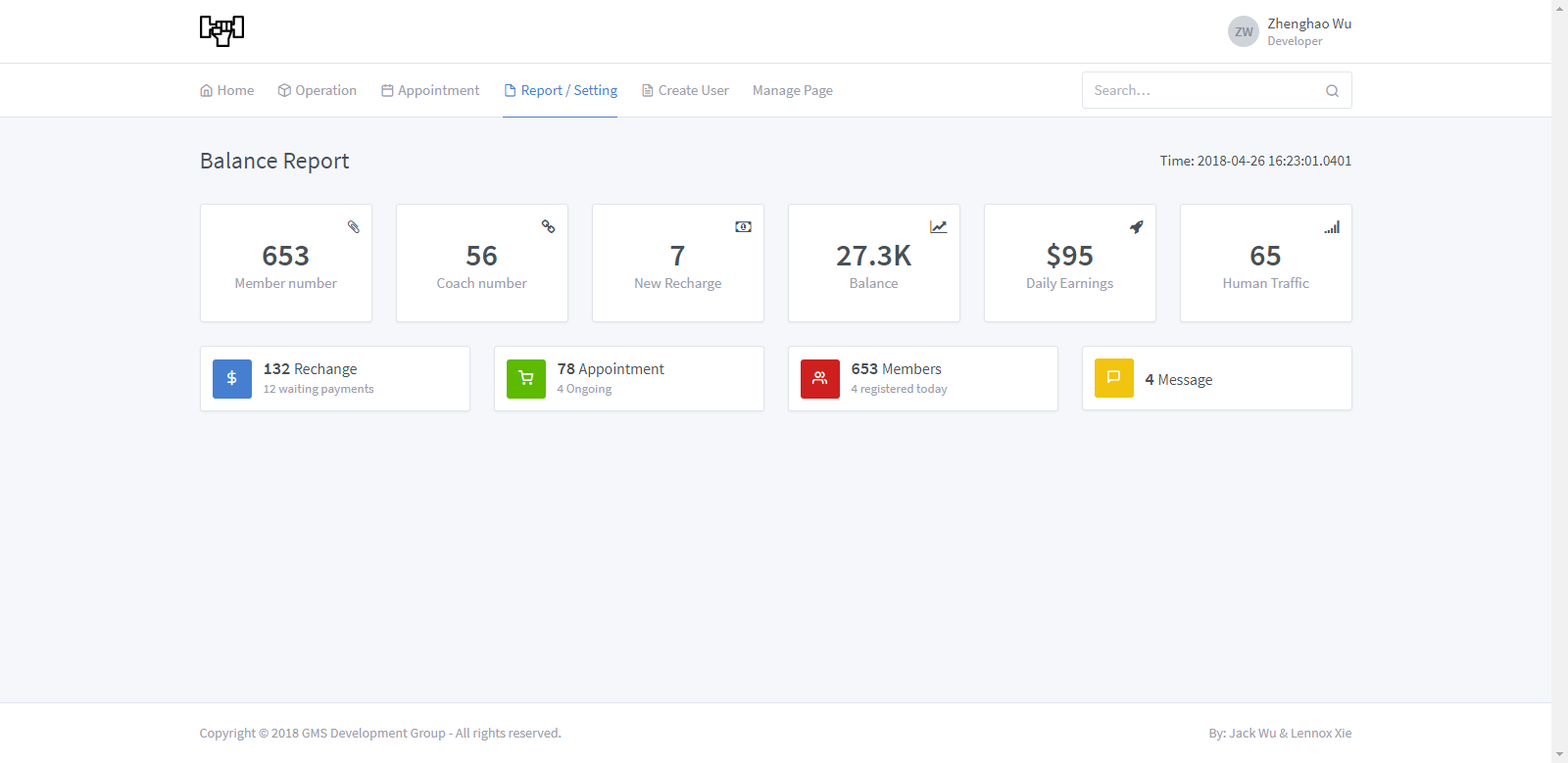


Figure 8 Balance Report

This page only allows staffs to browse after login. The page will show changing logs or status of some items in the form of numbers, and the page creation time will be displayed in the upper right corner to make it convenient for employees to leave a timestamp when printing.

## Create Member

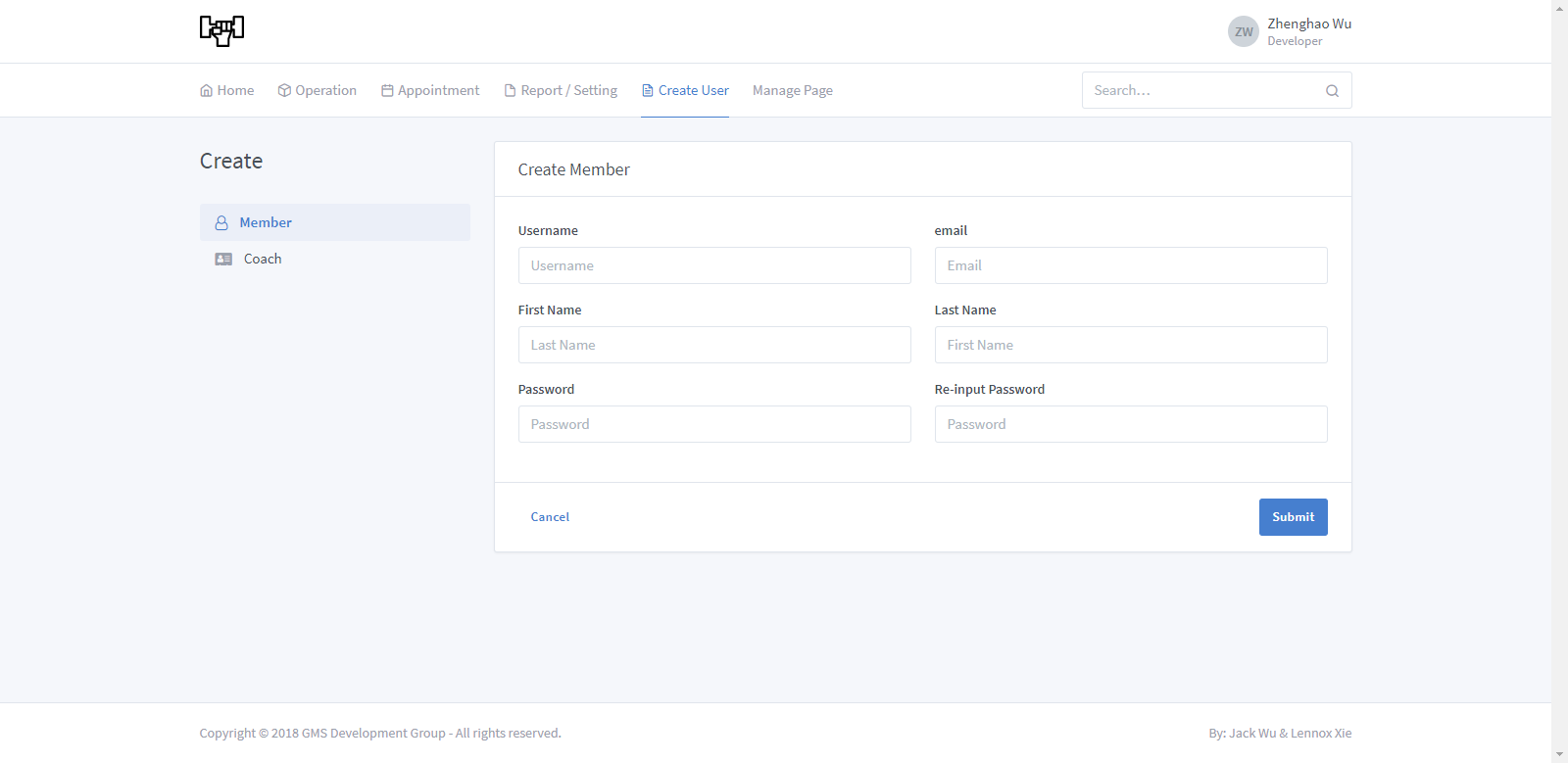


Figure Create Member Page

This page only allows staffs to browse after login, which will display a form of creating a member. The form needs to fill in the fields: username, email, first name, last name, password, the second time to enter the password. All fields of this form must be filled in correctly, and content validator will be verified when “Submit” is clicked. If the verification fails, the form will not be allowed to submit.

## Create Coach

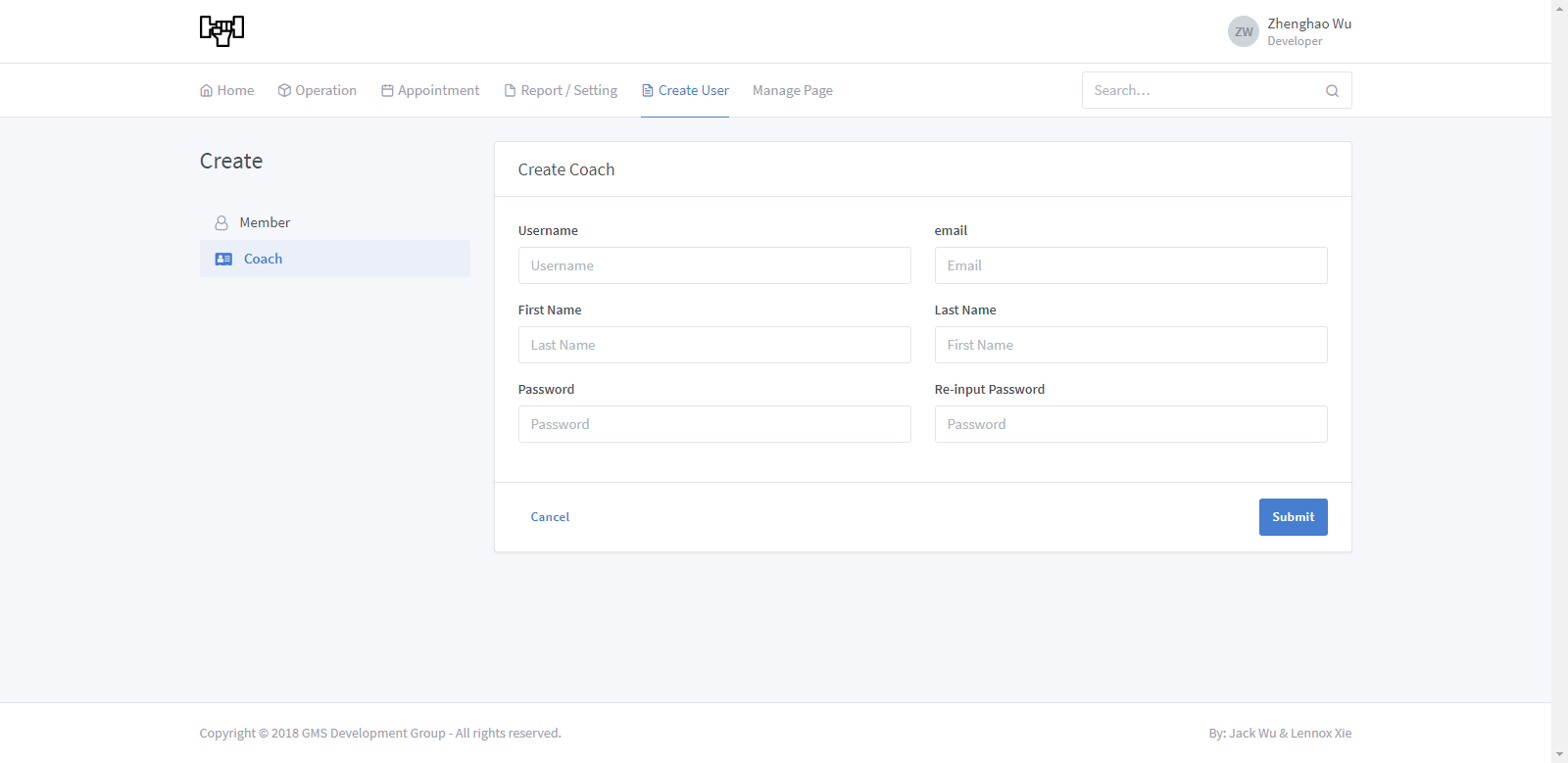


Figure Create Coach Page

This page only allows staffs to browse after login, which will display a form of creating a coach. The form needs to fill in the fields: username, email, first name, last name, password, the second time to enter the password. All fields of this form must be filled in correctly, and content validator will be verified when “Submit” is clicked. If the verification fails, the form will not be allowed to submit.

## User Info

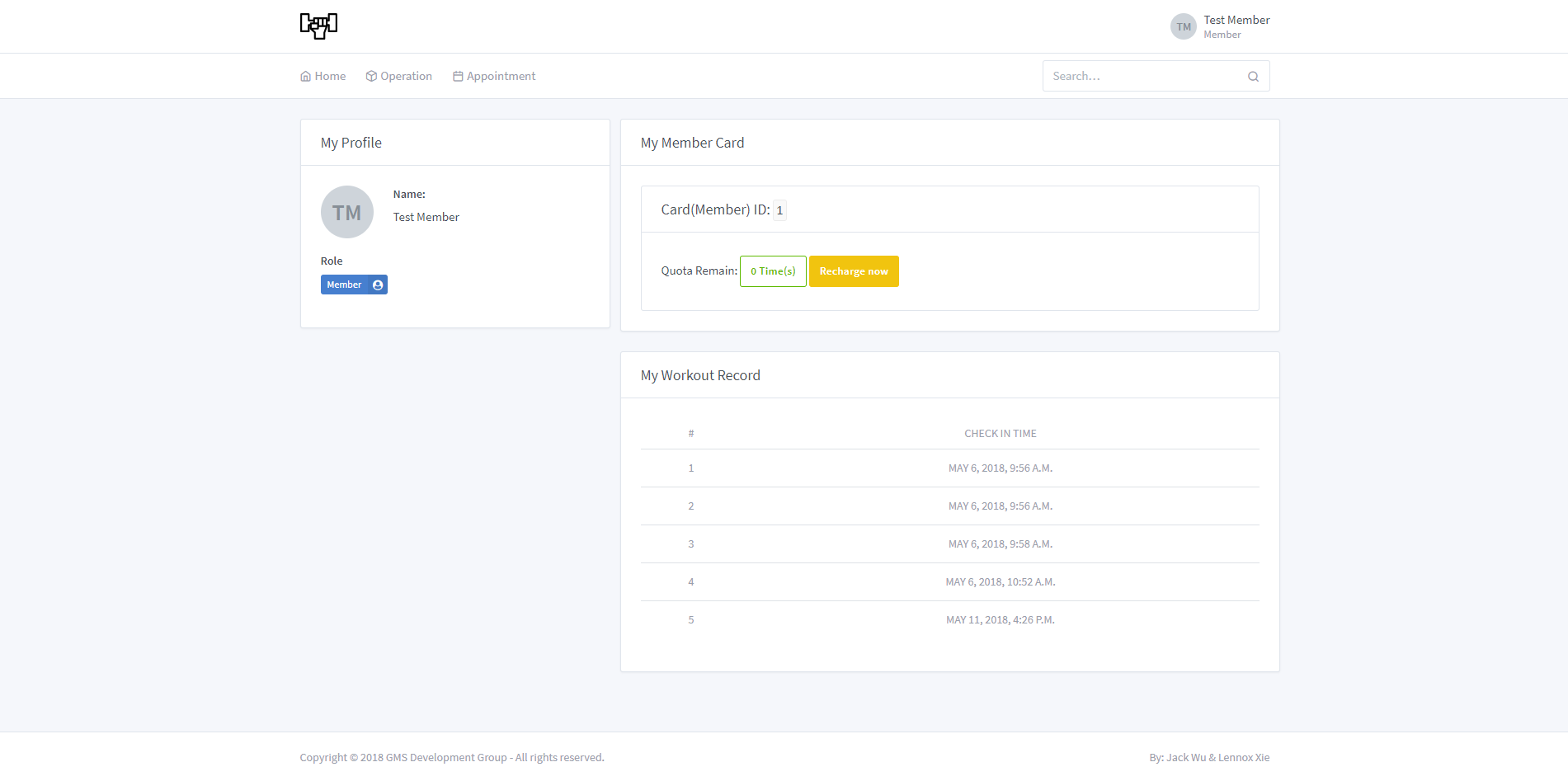


Figure User Info Page

This page will show the current user's personal information, including name and role. If the current user is a member, the membership card information (remain quota(s), Workout records) of the member is also displayed

1. Database Design

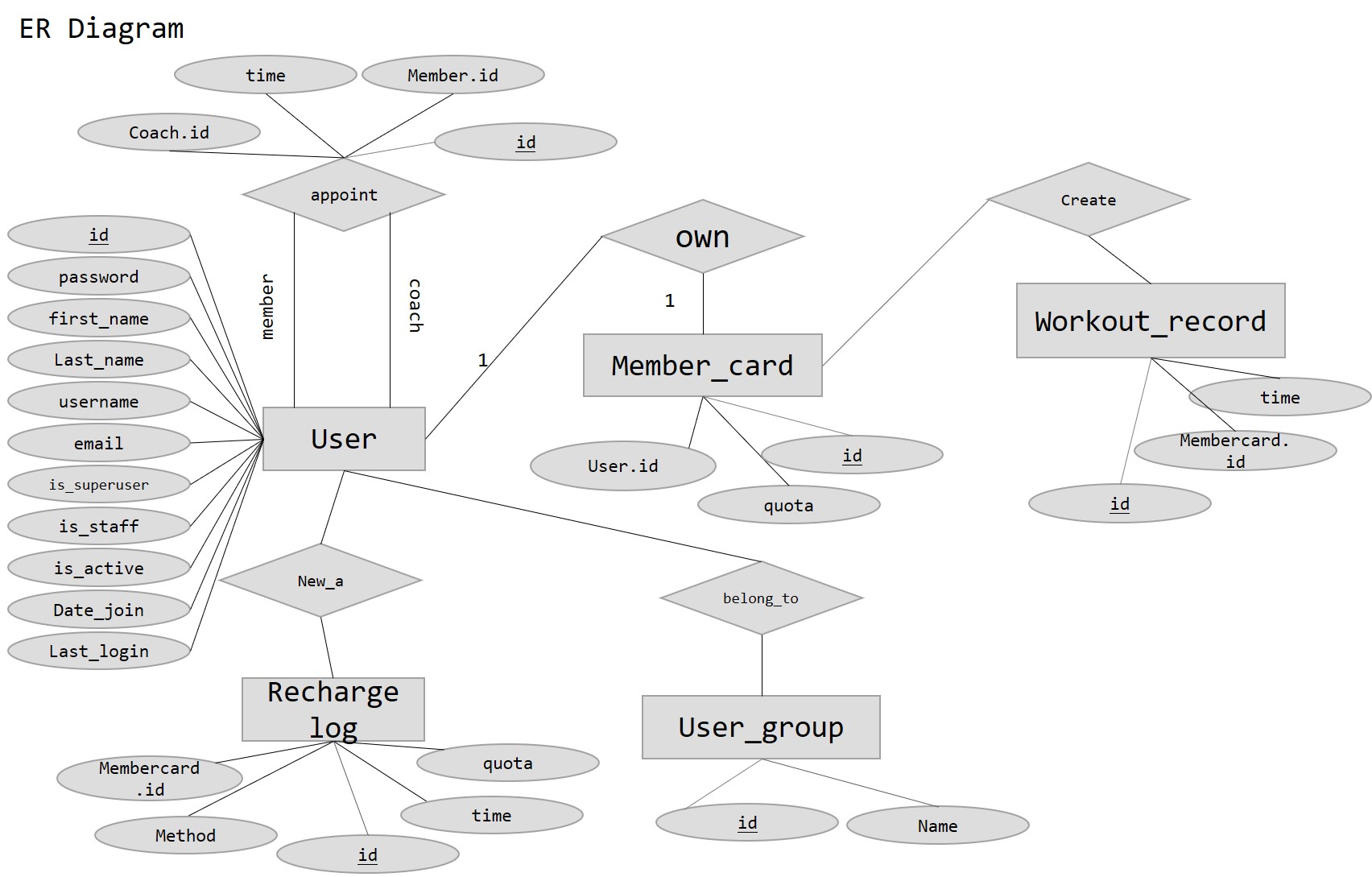
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Figure ER diagram for Gym Management System

1. Diagrams

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Figure User Authentication Control Flow diagram

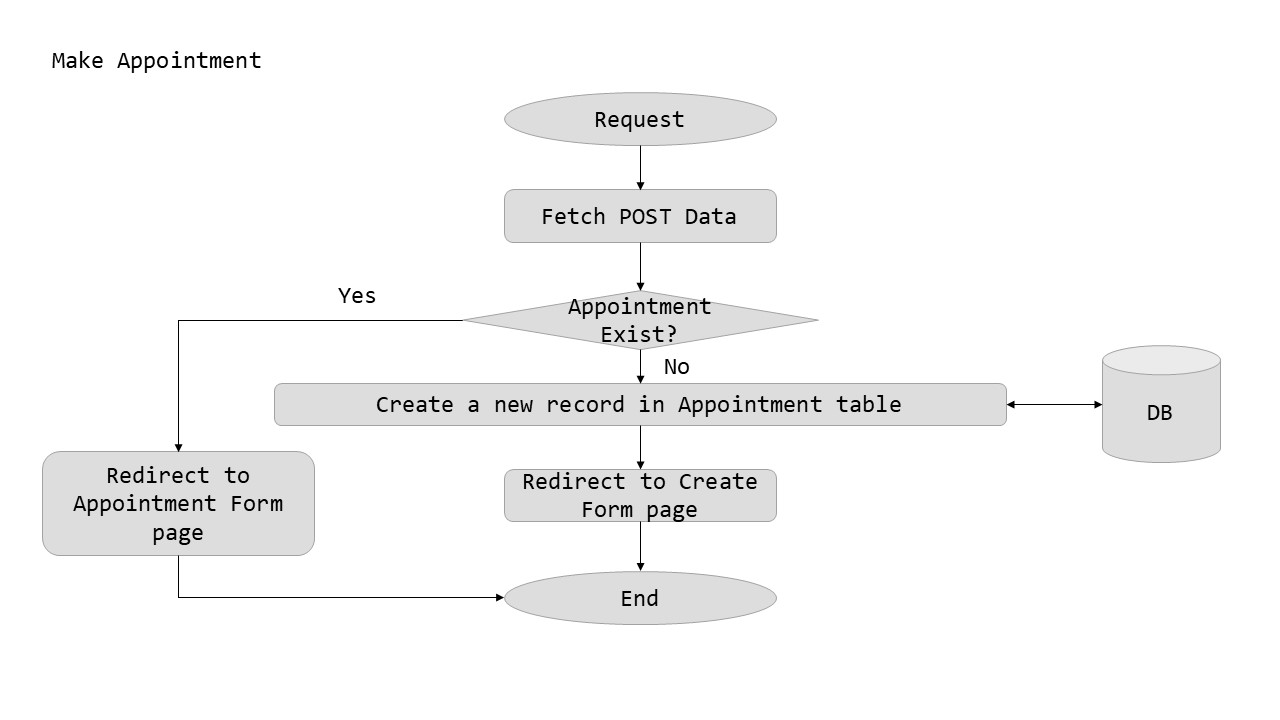


Figure Appointment Control Flow diagram

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Figure Recharge Control Flow diagram

## 

Figure Recharge Verify Control Flow diagram

## 

Figure Check - in Control Flow diagram

## 

Figure Control Flow diagram for Page render / Search / records display / Information display

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Figure Create Member / Coach Control Flow diagram