SathiGym: Automated Gym Websites and Location-Based Discovery

Abstract: In todays world where the fitness industry is booming and individuals are focusing more on their well being and health needs, than before; the demand for gyms and fitness related activities is on the rise well. To cater to this increasing interest in fitness and wellness programs by both gym operators and participants alike; having a gym management system in place has become crucial. SathiGym is a user platform that understands these requirements and provides a range of tools, for creating and managing gym websites efficiently. With SathiGyms help; gym owners can effortlessly build websites using forms even if they lack technical know how. Ensuring they have a strong online presence in no time. The layout of the platforms cards presents information, about gyms, like services offered and customer feedback in a way that helps prospective clients find and assess gyms effortlessly.

SathiGym includes location tracking technology that helps users locate gyms easily and compare choices before booking sessions directly on the platform for a smooth experience.The system follows a Browser/Server structure where JSP dynamically creates web pages and MySQL databases handle gym related data.The Eclipse IDE is employed in creating this gym management system designed to improve the fitness sector by simplifying gym activities and boosting customer interaction. Creating a website for a gym, with features, like managing data location based discovery and online booking using B/S architecture.

Keywords: Gym · data management · website creation · location-based discovery · online booking · B/S architecture

1 Introduction

1.1 Research Background

Under the background of improving living standards, residents' life happiness index, fitness has slowly become the people in the busy work one of the best way to release work pressure, so the fitness industry is developing rapidly, has become a lot of people preferred entrepreneurial direction and investment direction, but most of the gym management methods in China are still too old, and the management concept is also too traditional, which seriously restricts the development of China's fitness industry.Therefore, in the rapid development of Internet today, combining the network and IT technology has become a mainstream trend

1.2 Objective

Making it easier for gym owners to create and manage excellent websites, which will increase their online presence, is one of SathiGym's primary goals. The website also attempts to help users choose gyms based on their own preferences and geographical locations. SathiGym offers an effective platform for gym administration and member seeking by shortening the distance between gym owners and potential members. This enhances the convenience of interactions and transactions within the fitness business.

1.3 Scope

The performance and usefulness of SathiGym are improved by numerous essential features. One of the primary functions is website building, which gives gym owners automatic tools to make websites fast and simply without a lot of technical know-how. Customers can find fitness establishments using location-aware technology based on their geographical location.

1.4 Limitations

SathiGym faces numerous demanding situations that may have an effect on its overall performance and consumer revel in. The important problem is the geographic scope. This is due to the fact the performance of vicinity-based totally offerings relies upon on the availability and accuracy of location data. The platform therefore has confined customization options. Beyond computerized templates The accuracy of the fitness center region and outline relies upon at the information furnished via the health club proprietor. This can also have an effect on users' trust.

1.5 Overview

SathiGym offers a easy answer. To improve the health club seek manner for clients by growing a internet site for health club owners. With computerized website setup and which include a place-based totally seek characteristic, SathiGym provides an efficient provider to gymnasium owners and users. Makes it clean to locate, control, and engage with gyms.

2 Development Environment and Key Technologies

2.1 MyEclipse

MyEclipse is a powerful J2EE included improvement surroundings that allows the improvement of the database and J2EE. By consolidating utility servers, MyEclipse also enables platform and set up assist, and improved Java EE five and Spring capabilities.

2.2 JSP Technology

The essence of JSP is to embed the tag and Java code segments of JSP into the conventional HTML static pages, after which the JSP compiler compiles the JSP into Servlet. During access, the tomcat server receives a website request to reply to the purchaser's get right of entry to request, performs the Java code phase of the Servlet, and returns the consequences to the front give up in the shape of a static website HTML

3 Overall Design of the System

3.1 System Module Design

1. Member addition module: this module allows the addition of new customers to the club and displays member statistics.
2. Login module: This module implements the user's login function, judges the user's identity level, makes the user enter different interfaces, and returns some prompts if the information is wrong.
3. Modify the password module: This module mainly implements the function of giving the administrator to modify the new password.
4. Membership information management module: This module realizes the function of unified management of member and coach information, including viewing, modifying and deleting information.
5. Coach information management module: This module allows administrators to view, add, modify, and delete coach information.
6. Complaint information management module: This module enables administrators to view, delete, and respond to complaint information.
7. Modify personal information module: This module allows members to edit their personal information.
8. Online coach appointment module: This module enables members to select an appointment time and book a coach online (Fig. 1).

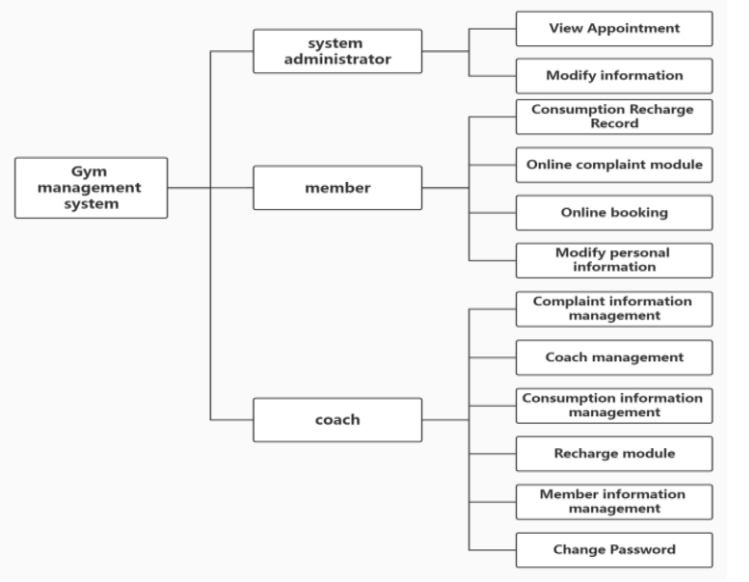

Fig. 1. System function module diagram

3.2 Member Added Module Design

Data collection occurs when the administrator logs into the add interface after a member joins the membership application. The updated member information is shown (Fig. 2) if you are a new member. The change was successful.

3.3 User Login Module Design

Considering that the actual use is related to the context of interest. The need to ensure data security is therefore a general login process that requires the system to log in first, shown in Figure 3.

3.4 Database Design

This system uses the MYSQL database to store data. The first three data tables are required to store the participants' basic information, respectively. Each participant has different rights and responsibilities. Data created by different functions must still be stored in the database. Each table is as follows... Assumptions (Table 1 and 2).

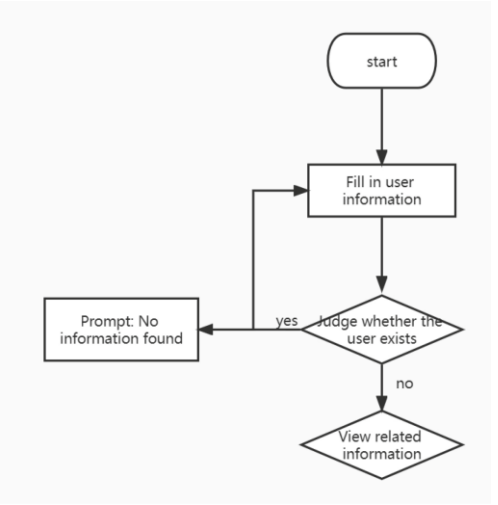

Fig. 2. Registration information flow chart

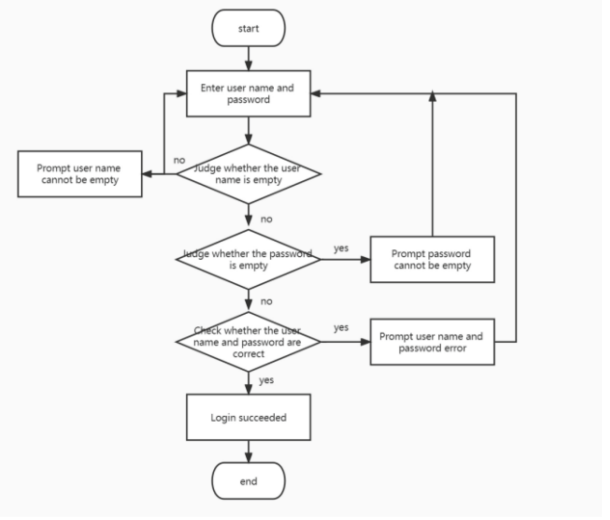

Fig. 3. Flowchart of the login information

4 System Function Realization

4.1 Login Module

When participants log in Select your login credentials first. Enter your login account and password. They log in with their account number and password stored in the database. After verification They will log into the relevant interface. Some signals are returned for invalid accounts or passwords [6], as shown in Figure 4.

Table 1. The System Administrator Table

column name	type	length	Primary key	non-null	illustration
userId	int	30	Y	Y	Primary key
userName	Varchar2	30	N	Y	user
userPw	Varchar2	30	N	Y	password

Table 2. The Member Information Sheet

Column Name	Datatype	PK	NN	UQ	B	UN	ZF	AI	G	Default/Expression
id	INT	☑	☑	☐	☐	☐	☐	☑	☐	
first_name	VARCHAR(45)	☐	☐	☐	☐	☐	☐	☐	☐	NULL
last_name	VARCHAR(45)	☐	☐	☐	☐	☐	☐	☐	☐	NULL
signup_email	VARCHAR(45)	☐	☐	☐	☐	☐	☐	☐	☐	NULL
mobile	VARCHAR(45)	☐	☐	☐	☐	☐	☐	☐	☐	NULL
address	VARCHAR(255)	☐	☐	☐	☐	☐	☐	☐	☐	NULL
confirm_password	VARCHAR(45)	☐	☐	☐	☐	☐	☐	☐	☐	NULL
dob	DATE	☐	☐	☐	☐	☐	☐	☐	☐	NULL
gender	VARCHAR(45)	☐	☐	☐	☐	☐	☐	☐	☐	NULL
		☐	☐	☐	☐	☐	☐	☐	☐	

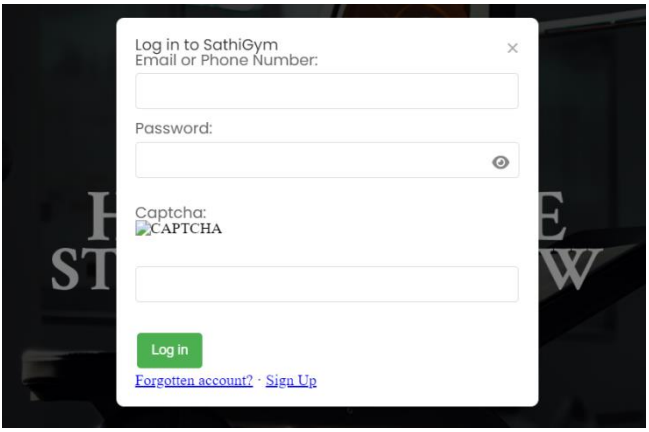

Fig. 4. Login interface

4.2 Administrator Module

Administrators are the power users of the system. It has great authority and responsibility for protecting the information of its members and instructors. Actions changed after logging in with account and password, including login password Member information management Teacher information management data management Top-up module Complaint management and message data management As shown in Figure 5.

Administrators manage member and coach information in the same way by viewing, editing, and deleting information, as shown in Figure 6.

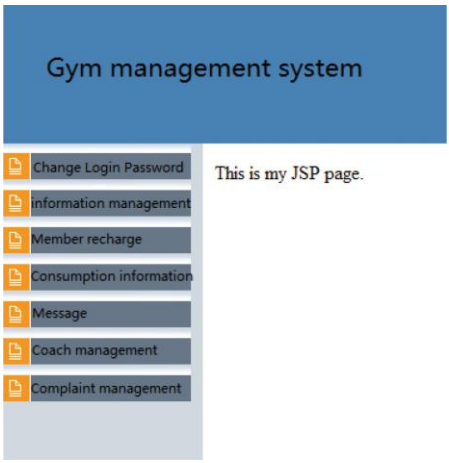

Fig. 5. Main interface of the administrator

number	type	money	card number	password	name	sex	age	telephone	Member Points	operate
1	month card	293	2018001	000000	San Liu	woman	22	13555555555	1	delete
2	Season card	250	2018002	000000	Qiang Li	man	26	13888888888	0	delete
3	annual card	1000	2018003	000000	Si Zhao	man	35	13212345678	0	delete

Add membership

Fig. 6. Member information management interface

4.3 Member Master Interface

Members use their registered account and administrator login password to join as a member. can change password Change personal information Book online Instructor Private lessons Complain about gym services.

5 A Web-Based Gym Management System Test

System testing is the final step in the software development process. The process of double-checking whether software quality functions and functions are appropriate and meet the actual application requirements [7].

5.1 System Testing Process

Test process:

1. Open the system home screen. and enter an incorrect account and password. 2. Do I test access? 3. Enter correct login information. 4. Log in successfully. 5. Test results of various functions of the test system (Figs. 7 and 8).

Module Name	test case	Expected results	Actual results	Yes or No
Login module	Username:null Password:null	An error prompt pops up: Please enter the user name	Login failed. Please enter the user name	Yes
Login module	Username:ml Password:null	An error prompt pops up: Please enter the password	Failed, prompt for password	Yes
Login module	Username:ml Password:1	An error prompt pops up:Wrong user name or password	Login failed, prompting user name or password error	Yes

Fig. 7. Record of test results

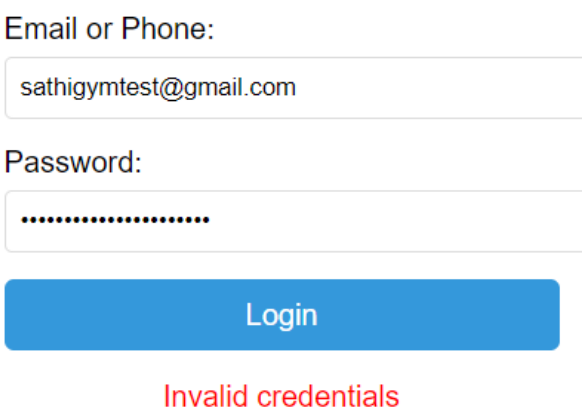

Fig. 8. Record of Test login failed

5.2 Test Results

After analyzing the above test results, Gym management systems developed on the web can generally meet the needs of customers. The top-up function in the system is not complete enough. This link needs improvement. Additionally, all basic functions are complete. And the operation is easy and the product works well.

6 Conclusions

This article will introduce SathiGym, an easy-to-use automation platform. Leverage Java and JSP technology with MySQL for backend data management to easily create a business website designed for fitness owners. This system facilitates efficient website design and location-based discovery. Significantly improves customer experience. Key benefits include ease of use, value for money, and improved gym services. However, there is currently no AI-powered attendee recognition feature to track attendance on the platform. The gym is automated. Future work will focus on expanding the optimization options. Increase data accuracy for location-based services Integrate additional features such as mobile app integration. Promote community engagement through advanced analytics and local content. By solving these problems, Sahijim aims to improve efficiency and provide better service to gym owners and customers.

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